

Safety Program Requirements

McDonald Electric, Inc.

Title	Program Requirements	Training Requirements
Access to Employee Exposure and Medical Records	<ul style="list-style-type: none"> • Identify what records must be maintained • Maintain employee's records confidentially • Ensure access to records by employees, as required • Inform employees of their rights, complete pg. 6 (file name: Access to Employee Exposure and Medical Records FORM), employees need access 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Access to Employee Exposure and Medical Records <p>Employees must be informed of what records are kept, their location, and how to access them.</p> <p>Frequency: initial, annual</p>
Accident Investigation and Reporting	<ul style="list-style-type: none"> • Determine who will investigate accidents, this may include supervisors, management, and employees • Determine accident and near miss reporting procedures • Inform employees of the work-related injuries and illness procedures and their rights to report • Complete accident report as needed, pg. 11– 13 (file name: Accident, Incident, Near Miss Investigation Report FORM) • Note additional state requirements for: AK, HI, WA 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Accident investigation (Supervisor) • Accident Reporting
Aerial Lift	<ul style="list-style-type: none"> • Identify the tasks that require an aerial lift • Write and communicate workplace specific procedures that outline the operation, and limitations, of aerial lifts • Maintain manufacturer's requirements, limits and documentation • Conduct documented daily inspections prior to use, pg. 7 (file name: Aerial Lift Operator Checklist FORM) • Implement fall arrest systems as required • Annually evaluate the aerial lift program to assure it is relevant and functioning properly • Note additional state requirements for: MI 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Aerial Lift - Personal Fall Arrest System <p>Users in operating controls and safe use. (Paychex can provide for classroom education, not skills requirement)</p> <p>Frequency: initial, update as required</p>
Back Safety in the Workplace	<ul style="list-style-type: none"> • Identify risk factors for back injury in the operations <ul style="list-style-type: none"> • Repetitive or prolonged activities • Awkward postures • Unusual size or weight objects • Implement any required controls to minimize or eliminate hazards 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Back Safety • Back Care (Medical)

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Bloodborne Pathogen	<ul style="list-style-type: none"> • Determine exposures • Provide PPE • Ensure housekeeping requirements are documented, pg. 8 (file name: Cleaning and Disinfecting Schedule FORM), employees need access • Write an Exposure Control Plan and post in the workplace, pg. 9 – 11 (file name: Exposure Control Plan FORM), employees need access • Ensure exposure incident process is followed if exposure occurs (written report, medical surveillance) pg. 12 (file name: BLOODBORNE PATHOGEN Exposure Incident Report FORM) • Ensure Hepatitis vaccines are offered and documented, pg. 14 (file name: Hepatitis B Vaccine Statement FORM) if employee declines vaccine have complete form • Safer medical device review annually, pg. 15 (file name: Safer Medical Device Use Evaluation) • Maintain Sharps Injury Log, pg. 16 (file name: Sharps Injury Log FORM) • 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Bloodborne Pathogens including Personal Protective Equipment • • <p>Employees with exposure or potential exposure. Frequency: initial, Annual training shall be provided within one year of their previous training</p>
CA IIPP Safety Management	<ul style="list-style-type: none"> • Conduct a safety Inspection to evaluate workplace conditions recognizing unsafe work practices and conditions and identify improvement areas, pg. 13-16 (file name: General Hazard Assessment FORM) • Complete a written Injury and Illness Prevention Program, pg. 18-22 (file name: IIPP FORM), employees need access • Develop an action plan, based on priority levels to implement controls for identified hazards • Maintain the program and schedule periodic reviews to look at each critical component in your IIPP to determine what is working and what changes, if any are needed 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • IIPP California <p>Information or training is required for all workplaces</p> <p>Frequency: initial, update as needed</p>
Compressed Gas	<ul style="list-style-type: none"> • Ensure storage areas are identified and inspected frequently • Cylinders must be secure and prevented from tipping • Cylinders must be labeled • Cylinders must be stored properly • Note additional state requirements for: MI 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Compressed Gas <p>Employees who handle cylinders.</p> <p>Frequency: initial, update as required</p>

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<p>Confined Space Entry (Permit Required)</p>	<ul style="list-style-type: none"> • Develop procedures for atmospheric testing, pg. 17 (file name: Confined Space Atmospheric Testing FORM) • Assess confined spaces to determine if permit is required, pg. 18 (file name: Confined Space Entry Assessment FORM) • Ensure permits are established and posted and that conditions of entry have been met, pg. 20 – 22 (file name: Confined Space Entry Permit FORM) • Identify any confined and maintain a listing of these spaces, pg. 23 (file name: Confined Space List FORM) • Write and communicate policies and procedures including safe entry requirements, pg. 24 - 25 (file name: Confined Space Written Program FORM) • Audit (annually) permits to ensure effectiveness of procedures • Retain entry permits for at least one year beyond termination of the job or permit • Identify rescue procedures, team members and responsibilities, and provide equipment necessary (rescue, personal protective, safe lighting etc.) • Note additional state requirements for: AK, MD, MI, MN, OR, VA 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Confined Space Entry <p>Entrants, Attendants, and their supervisors, in entry hazards, communications, and emergency response. (Paychex can provide general entry training, not space specific hazards)</p> <p>Frequency: initial, and per space, update as required</p>
<p>Construction Safety</p>	<ul style="list-style-type: none"> • Access each construction job to identify its potential health and safety risks and communicate the identified hazards to employees • Review operations for additional activities which could impact both contractors and employees • Write and communicate policies and procedures • Conduct compliance audits when contractors are on site • Note additional state requirements for: CA, HI, MI, MN, NC, NV, OR, UT, VT 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Overview – Construction <p>Employees will be trained on safety policies and procedures as well as the hazards posed by their work assignment.</p>

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Electrical (Comprehensive) >50V	<ul style="list-style-type: none"> • Review hazards and determine level of exposures • Provide testing supplies and safety equipment • Provide warning and alerting devices to protect employees from contact with energy hazards • Write and communicate policies and procedures, pg. 10 – 12 (file name: Electrical Safety Written Program (Example) FORM), employees need access • Note additional state requirements for: AK, MI, MN, OR 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Electrical Safety <p>Hazard recognition and protective measures. Competent person for Ground Fault Protection in Construction. (Paychex can provide general awareness training, not qualification or high voltage exposure)</p> <p>Frequency: initial, update as required</p>
Electrical (General)	<ul style="list-style-type: none"> • Review hazards and determine level of exposures • Ensure electrical services are contracted with licensed electricians, if only cord and plug equipment hazards are encountered by employees. Otherwise ensure that safeguards, equipment, and training is provided to employees who encounter other electrical hazards • Ensure electrical safety requirements are being met • Note additional state requirements for: MN 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Electrical Safety
Emergency Action, Evacuation and Fire Prevention	<ul style="list-style-type: none"> • Identify and evaluate fire hazards • Identify and evaluate exit routes • Provide emergency equipment as needed • Write and communicate policies and procedures including Emergency Action and Fire Prevention Programs, pg. 12 (file name: Emergency Action Plan FORM), employees need access • Review program at least annually • Annual and monthly fire extinguisher inspections • Note additional state requirements for: MI, OR 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Emergency Action • Fire Extinguisher <p>Emergency Action training required for all employees in exiting areas, relocation safe-spot, and (as appropriate) fire hazards.</p> <p>Fire Extinguisher training required if an employee is required to use fire extinguishers, training required annually. (Paychex can provide only voluntary use fire extinguisher training)</p> <p>Frequency: initial, update as required, annual for some businesses</p>
Ergonomics and MSD	<ul style="list-style-type: none"> • Evaluate the need for an ergonomics program • Implement controls to minimize or eliminate repetitive or force trauma tasks • Note additional state requirements for: CA, ME 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Office Ergonomics • General Industry Ergonomics

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Eye Wash Station and Safety Shower	<ul style="list-style-type: none"> • Assess area hazards to determine where eye wash stations and safety showers are required • Ensure appropriate signs are placed to indicate the location of eye wash stations and safety showers, and operating instructions are placed at the units • Conduct inspections of safety equipment, pg. 10 or 11 (file name Activation and Inspection Eye Wash Station FORM or Activation and Inspection Safety Shower Station FORM) 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Eyewash and Safety Shower <p>All employees and supervisors who are exposed to, work with or near corrosive or injurious materials must be instructed on the use.</p> <p>Frequency: initial, update as required</p>
Fall Protection	<ul style="list-style-type: none"> • Evaluate hazards falls are evaluated in the workplace • Ensure fall hazards are controlled through guardrail systems or that employees have appropriate training and equipment • Ensure fall protection is inspected prior to use, pg. 12 – 13 (file name: Fall Protection Equipment Inspection Checklist FORM) • Note additional state requirements for: KY, OR, WA 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Fall Protection General Industry Awareness • Fall Protection Construction Awareness <p>Users of systems, components, and inspection</p> <p>Frequency: initial, update as required</p>
First Aid and Emergency Response	<ul style="list-style-type: none"> • Determine if on-site first aid or emergency response teams or designated and trained personnel are required (if ambulance or EMT/fire department is more than 3-4 minutes away) • Establish agreements with local ambulance or fire/EMT services to provide emergency medical response, if appropriate • Write and communicate policies and procedures • Note additional state requirements for: KY 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • First Aid (Basic) <p>Only required for: Response Teams certified 1st aid/CPR and Bloodborne Pathogens. Other training as required by responsibilities. (Paychex can provide general awareness and BBP, but not certified 1st Aid or CPR)</p> <p>Frequency: initial, CPR every two years.</p>
Flammable Liquids	<ul style="list-style-type: none"> • Evaluate operations for presence of flammable and combustible liquids • Determine and implement correct storage and dispensing requirements • Determine protective measures and emergency response procedures • Ensure containers are clearly labeled and inspected before use • Arrange for appropriate waste disposal • Note additional state requirements for: MN 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Flammable Liquids for Container

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Forklift - Power Industrial Truck and Electrical Pallet Jack	<ul style="list-style-type: none"> • Ensure operators inspect equipment each work shift the lift is used, pg. 11 or 16 (file names: Forklift Operator Daily Inspection Checklist FORM or Pallet Jack Operator Daily Inspection Checklist FORM) • Ensure forklift operators are issued licenses (renewed every 3 years) • Ensure operators are evaluated on the operation of vehicle, pg. 12 or 17 (file names: Forklift Operator Evaluation Assessment FORM or Pallet Jack Operator Evaluation FORM) • Note additional state requirements for: CA, MI, MN, OR, SC 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Forklift • Forklift, Order Picker and PFAS • Pallet Jack-Electrical <p>Operators for inspection and safe use requirements. (Paychex can provide for classroom education, not skills requirement)</p> <p>Frequency: initial, 3 years</p>
General Safety Awareness	<ul style="list-style-type: none"> • Document any site specific General Safety Rules not covered by any other section of the safety manual, pg. 12 (file name: General Safety Rules FORM), employees need access • Ensure New Employee are given safety training prior to starting work • Note additional state requirements for: CA, HI, OR 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • General Safety Orientation
Hand and Portable Power Tools	<ul style="list-style-type: none"> • Inspect tools before use to ensure they are in good operating condition • Note additional state requirements for: MI, MN 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Hand and Portable Power Tools
Hazard Communication	<ul style="list-style-type: none"> • Determine if hazardous chemicals are present in the workplace • Ensure a Hazardous Chemical Inventory List is maintained, pg. 7 (file name: Chemical Inventory List FORM) • Ensure the availability of a Safety Data Sheet (SDS) for each hazardous chemical or mixture in the workplace, employees need access • Ensure proper labeling of chemical containers • Complete a written hazard communication program, pg. 9 - 10 (file name: Hazard Communication Written Program FORM), employees need access • Develop a process to evaluate and document any new hazards or changes • Ensure proper Personal protective equipment is identified • Note additional state requirements for: AK, HI, MD, MI, MN, NC, NM, TN, VT, WA 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Hazard Communication <p>SDS content, Labeling requirements, Right to Know</p> <p>Frequency: initial, update as required</p>

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Hazardous Waste Operations and Emergency Response	<ul style="list-style-type: none"> • Prepare and communicate written hazardous waste program <ul style="list-style-type: none"> • These procedures should include protective equipment and controls, locations of use and storage, spill and clean-up processes and hazard control information for each waste stream • Develop and implement a written safety and health program for employees involved in hazardous waste operations <ul style="list-style-type: none"> • The program needs to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations • Designate a specific area for hazardous waste storage • Institute a medical surveillance program for employees engaged in the handling of hazardous wastes, as needed or required • Note additional state requirements for: NC 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Paychex does not provide this certified HAZWOPER level training <p>Storage and handling, emergency response.</p> <p>Frequency:initial, annual update</p>
Job Hazard Analysis	<ul style="list-style-type: none"> • Ensure hazards of tasks and activities are evaluated and controlled 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • JHA Job Hazard Analysis
Lockout/Tagout	<ul style="list-style-type: none"> • Evaluate the potential hazards of specific equipment • Inform absent employee of lock removal, pg. 12 (file name: LOTO Absent Employee Lock Removal Procedure FORM) • Establish a written program and procedures for each piece or type of equipment, pg. 16 – 17 (file name: LOTO Written Procedure FORM), employees need access • Perform annual procedure inspections, pg. 18 (file name: LOTO Written Procedure Inspection Certificate FORM) • Communicate with contractors, as required • Evaluate all new equipment (or changes to old equipment) and processes for LO/TO capability • Note additional state requirements for: MI 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Lockout Tagout <p>3 levels: Authorized, Affected and Others</p> <p>Frequency:initial, update as required</p>

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Machine Guarding	<ul style="list-style-type: none">• Identify risk factors for machinery operations• Ensure original guards or equivalent measures are in place• Ensure safeguarding practices are implemented for any non-routine task where existing guarding practices are insufficient to protect operators• Note additional state requirements for: MN, OR	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none">• Machine Guarding <p>Operators where guards must be removed, and specific to forging equipment operators.</p> <p>Frequency: initial, update as required</p>
Noise Exposure and Hearing Conservation	<ul style="list-style-type: none">• Determine where noise levels exist above regulatory levels, conduct monitoring• Appoint a Hearing Conservation Coordinator• Establish a written Noise Exposure and Hearing Conservation Program, pg. 10 (Hearing Conservation Program Responsibilities)• Establish engineering controls, administrative controls or protective equipment requirements (in that order) to reduce or eliminate the health and safety effects of noise• Notify employees exposed at or above action levels• Ensure employees in noise zones receive baseline and annual audiograms• Record any noise related hearing loss as required on OSHA recordkeeping forms• Ensure protective equipment and materials are available, as needed or required• Post copy of hearing regulation and signs in area where hearing protection must be used, pg. 17 – 25 (file name: Text of Noise and Hearing Conservation Standard FORM)• Note additional state requirements for: WA	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none">• Hearing Protection <p>Users in hazards of noise, types of protection, equipment use</p> <p>Frequency: initial, annual</p>

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OSHA Recordkeeping	<ul style="list-style-type: none"> • Determine if recordkeeping standards apply • Maintain appropriate records: OSHA 300 pg. 11 (file name: OSHA_300_Log), 300A pg. 12 (file name: OSHA_300A_Log) and 301 pg.13 (file name: OSHA_301 or equivalent form) • Notify OSHA within 8 hours of fatalities and within 24 hours of work related inpatient hospitalization, amputation, or loss of an eye • Post appropriate summaries of the OSHA recordkeeping forms from Feb 1 – April 30 • Encourage employees to report any incidents (injuries, illnesses, and near-miss incidents) • Report the contents and summaries of these documents upon being notified in writing by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses • Retain log and summary of all recordable occupational injuries and illnesses (OSHA 300 and OSHA 300A or equivalent) for 5 years • Note additional state requirements for: CA, MI, OR 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • OSHA Recordkeeping (Supervisor)
Personal Protective Equipment	<ul style="list-style-type: none"> • Conduct an annual documented personal protective equipment assessment to identify risk factors for employee exposures, pg. 8 (file name: Certificate of Hazard Assessment FORM), employees need access • Provide protective equipment, as required • Note additional state requirements for: MI, MN, OR 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Personal Protective Equipment <p>(Equipment dependent) Users of equipment in use, storage and protection limits.)</p> <p>Frequency: initial, update as required</p>

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Portable Ladder Safety	<ul style="list-style-type: none"> • Ensure the appropriate type of ladder is selected based on the nature of the project • Ensure ladder inspections are performed, pg. 7 (file name: Ladder Safety Checklist FORM) • Ensure ladders are properly repaired and maintained in accordance with regulatory standards or are properly disposed of when they are found to be defective (and or are removed from service) • Note additional state requirements for: CA, MI, OR 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Ladder Safety <p>Users of ladders in inspection and equipment use</p> <p>Frequency: initial, update as required</p>
Respiratory Protection	<ul style="list-style-type: none"> • Evaluate the need for respiratory protection • Determine filter change out schedule, pg. 19 (file name: Respirator Filter Change Out Schedule FORM) • Document voluntary respirator use, pg. 20 (file name: Respirator Information for Voluntary Use FORM) • Ensure respirator users are medically fit to use the equipment and perform the duties required, pg. 22 – 26 (file name: Respirator Medical Evaluation Questionnaire FORM) • Provide NIOSH-approved respirators, suitable to the hazard • Train and fit-test employees who use respirators, pg. 28 (file name: Respirator Selection And Fit Testing Record FORM) • Evaluate the facility and program at least annually to ensure it is effective and appropriate • Establish and maintain the written program and documentation required, pg. 68 – 73 (file name: Respiratory Protection Written Program) • Note additional state requirements for: AK 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Respirators – Air Purifying Respirators • Respirators – Filtering Facepieces • Respirators – Supplied Air Respirator <p>Users trained in requirements, medical issues, cleaning and inspection. (Paychex can provide for classroom education, not fit testing)</p> <p>Frequency: initial, annual</p>
Safe Driving	<ul style="list-style-type: none"> • Inspect vehicles prior to operation 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Safe Driving
Safety Checklist	<ul style="list-style-type: none"> • Routine safety inspections and audit of workplace 	<p>No OSHA trainings apply</p>

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Safety Meeting and Committee Charter	<ul style="list-style-type: none"> • If required, establish a safety committee • Meet on a regular basis (at least quarterly) to discuss safety issues or concerns appropriate to the workplace • Ensure notes are taken at committee meetings and actions and activities are documented. Where corrective actions are required, ensure follow up is completed., pg. 9 –10 (file name: Safety Committee Task Sheet FORM) • Note additional state requirements for: NC, OR, WA 	Available but not required training: <ul style="list-style-type: none"> • Safety Committee Members
Scissors Lift	<ul style="list-style-type: none"> • Identify the tasks that require a scissor lift • Maintain manufacturers requirements, limits and documentation • Conduct daily inspections prior to use, recommended to document inspections, pg. 6 (file name: Scissor Lift Operator Daily Checklist FORM) • Ensure only trained operators use lift equipment, pg. 7 (file name: Scissor Lift Operator Performance Evaluation FORM) 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Scissor Lifts <p>Users in operating controls and safe use. (Paychex can provide for classroom education, not skills requirement)</p> <p>Frequency: initial, update as required</p>
Silica	<ul style="list-style-type: none"> • Determine silica exposure levels of concern • Implement exposure monitoring program for each effected employee. • Utilize engineering and work practice Controls to reduce silica exposure wherever feasible • Establish and Implement a Silica Exposure Control Plan, pg. 16 (file name: Silica Exposure Control Plan) • Implement a medical surveillance program, as needed • Provide personal protective equipment, as needed • Maintain exposure records • General Industry: Post Signs and limit access where required 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Silica Safety Awareness <p>Employees exposed above established limits.</p> <p>Frequency:initial, annual</p>

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Stairways and Fixed-Ladder Industrial	<ul style="list-style-type: none"> • Implement, communicate, and enforce stairway and fixed-ladder safety policies • Ensure fixed ladders and stairs are maintained in good, useable condition, free from obstacles, storage and debris • Ensure any new or existing installations meet the regulatory requirements for strength, durability, rung and cage spacing, etc. • Provide equipment for lifting or lowering materials and equipment to ensure safe use of fixed ladder • Provide adequate lighting 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Ladder Safety <p>Employees will be informed in the recognition of hazards for fix ladder use.</p> <p>Frequency: initial, update as needed</p>
Trenching and Shoring	<ul style="list-style-type: none"> • Determine the type of protective system to be used • Ensure a competent person supervises the installation of the system • Ensure trenches and excavations are inspected daily and after any weather events that may impact the safety of the excavation • Ensure soils-testing is performed daily by a competent person • Ensure trenches and excavations are protected if left unattended • Note additional state requirements for: MI, SC, VA 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Construction Excavation Trenching and Shoring <p>Entrant and Supervisor training, collapse prevention methods. (Paychex can provide general awareness training, but not competent person requirements)</p> <p>Frequency: initial, update as required</p>
Walking and Working Surfaces	<ul style="list-style-type: none"> • Ensure aisles and passageways are of the proper width and appropriately maintained • Ensure all wall, floor, stairways are adequately protected • Ensure floors are not overloaded, and that load limits are indicated • Enforce housekeeping rules • Ensure materials are properly stored and not obstructing aisles, passageways, stairways or other areas where they could cause a hazard • Note additional state requirements for: MI, MN, OR 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Slips Trips and Falls • Walking and Working Surfaces

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Welding, Cutting, Brazing	<ul style="list-style-type: none"> • Based on fire potentials of plant facilities, establish areas for cutting and welding, and establish procedures for cutting and welding • Develop, implement, and communicate Hot Work Permit program, as applicable, pg. 18 – 19 (file name: Hot Work Permit FORM) • Advise all contractors about flammable materials or hazardous conditions, as applicable • Provide resources (fire watchers, equipment, barriers, etc.) as needed or required • Determine the combustible materials and hazardous areas present or likely to be present in the work location, and protective methods to be used • Ensure adequate ventilation • Note additional state requirements for: MI, OR 	<p>REQUIRED TRAINING:</p> <ul style="list-style-type: none"> • Welding <p>Welders require training in the specific type of welding performed, fire protection and Lockout/Tagout.</p> <p>Frequency: initial, update as required</p>
Working in Extremes Temperatures	<ul style="list-style-type: none"> • Monitor workplace temperatures • Ensure employees and supervisors are able to recognize early signs and symptoms of cold and heat intolerance • Provide engineering controls, work practices and protective equipment to reduce exposure levels to the lowest achievable level • Ensure the availability of water or other appropriate beverages to employees • Note additional state requirements for: CA, WA 	<p>Available but not required training:</p> <ul style="list-style-type: none"> • Extreme Temperature - Cold • Extreme Temperature - Heat

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Safety Manual

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SAFETY AND HEALTH POLICY STATEMENT

Safety and health in our company must be a part of every operation, and is every employee's responsibility.

We maintain a safety and health program conforming to the best practices of businesses in our industry. To be successful, such a program must embody the proper attitudes toward injury and illness prevention and requires cooperation in all safety and health matters between employees at all levels. Only through a cooperative effort can an effective safety and health program be established and preserved.

The safety and health of every employee is a high priority. Management accepts responsibility for providing a safe working environment and employees are expected to take responsibility for performing work in accordance with safe standards and practices. Safety and health is only achieved through teamwork. Everyone must join together in promoting safety and health and taking every reasonable measure to assure safe working conditions in the company.

PROGRAM OVERVIEW

ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS

REGULATORY STANDARD: OSHA 29CFR1910.1020 and 1913.10

INTRODUCTION

Records that pertain in any way to exposures or to employee specific health information must be maintained confidentially by the company. Employees must understand what records are kept, why, and how to access these records. This would include medical exams, facility surveys for air contaminants, noise surveys, hearing exams, etc.

TRAINING

Employees informed on the types of records, location, and access procedures.

ACTIVITIES

- Identify what records must be maintained
- Maintain employee records confidentially
- Ensure access to records by employees, as required

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- 7. Definitions**

ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS PROGRAM

1. **Purpose.** This document provides written guidance for specific exposure monitoring, testing results, medical surveillance, and similar documents required by OSHA regulations with regard to employee-specific information. Records that contain health related information specific to an employee or employee exposure must be maintained for specific timeframes.
2. **Scope.** Applies to any medical or exposure monitoring records, and medical surveillance monitoring records maintained by the company.

3. Responsibilities

3.1 Area Management:

- 3.1.1 Determines what records must be maintained. (Reference Recordkeeping Requirements for Medical and Exposure Records form)
- 3.1.2 Ensures medical and exposure records are maintained confidentially.
- 3.1.3 Ensures employees have access to medical and exposure records.

3.2 Employees:

- 3.2.1 Understand where records are kept, why they are required, and how to access them.

3.3 Safety Representative must (as needed):

- 3.3.1 Assist in the implementation of this program.

4. Procedure

4.1 Access Rules.

- 4.1.1 Employee access to records must be provided within 15 working days from the date of request.
 - 4.1.1.1 Except for trade secrets, employers are to disclose the specific chemical identity [chemical name and Chemical Abstract Service (CAS) number] of materials for which exposure records are requested
 - 4.1.1.2 Requests need not be in writing, unless trade secret information is involved in the request.
 - 4.1.1.3 Delays of more than 15 days must be documented in writing and the employee informed (also in writing) of the reason for the delay and include the date of release of the record.

- 4.1.1.4 Access may be to employees to whom the records pertain or to that employee's legal representative. The records of other employees are not to be considered part of this information, unless the information is part of objective data evaluations.
- 4.1.2 OSHA may access these records at any time without written consent of the employee.
 - 4.1.2.1 OSHA representatives must govern the records in accordance with their policy which includes
- 4.1.3 Health professionals (physicians, occupational health nurses, industrial hygienists, toxicologists, and epidemiologists) who require information for non-emergency medical treatment may request access to medical records with the written consent of the patient or their legal representative.
- 4.1.4 Health professionals (physicians, occupational health nurses, industrial hygienists, toxicologists, and epidemiologists) who require information for emergency or medical treatment of an exposed employee will be granted immediate access to pertinent information about the exposure without delay.
 - 4.1.4.1 If trade secret information is part of this record, confidentiality agreements may be obtained at a future point, however, immediate information will be transmitted as it pertains to the emergency medical treatment.
- 4.1.5 Employers must inform their workers initially and at least annually of their rights to access to medical and exposure records.

5. Safety Information

5.1 Records Retention:

- 5.1.1 Exposure records are generally required to be maintained for 30 years.
- 5.1.2 Medical records are generally required to be maintained for the duration of employment plus 30 years.
- 5.1.3 Biological and Chemical monitoring results are generally maintained for the duration of employment plus 30 years.
- 5.1.4 First aid records and experimental toxicological research records are excluded from the 30-year retention requirements.
- 5.1.5 Safety Data Sheets and Chemical Inventory Information is generally not required to be maintained, provided the specific information on chemical name, manufacturer and date is maintained in the exposure record.
- 5.1.6 Personal medical records for short-term employees (less than one year) do not have to be retained if they are provided to the employee on termination

- 5.1.7 X-rays (except chest x-rays) may be microfilmed for easier storage. Chest x-rays must be maintained in their original condition.

5.2 Copies of Records

- 5.2.1 Employees are entitled to view their records at any time.

- 5.2.2 One copy of the record will be provided within 15 days of a written request at no charge to the employee.

- 5.2.2.1 X-rays may be viewed at the site or at a convenient off-site location.

5.3 Transfer of Records

- 5.3.1 Should the company cease to do business during the record retention time frame, the company will contact OSHA to determine the disposition of the records.

- 5.3.1.1 OSHA may request the records be forwarded to OSHA for retention, or

- 5.3.1.2 OSHA may request disposal of the records. If disposal is determined, complete destruction of the record through incineration or shredding is required.

6. Training and Information

Employees must be informed of the types of records maintained by the company, who maintains these records, and the process for accessing their personal records.

7. Definitions.

- *Access* – The right to read, examine, and copy.
- *Exposure Record* - Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained; or Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;

- *Medical Record* – Documentation concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including: Questionnaires or histories, medical examination results or laboratory test results (including x-rays), medical opinions, descriptions of treatments and prescriptions, detailed first aid descriptions, and employee medical complaints. Health insurance claims and voluntary employee assistance program information (drug or alcohol counseling, and/or personal counseling programs) are not considered part of the medical record if they are maintained in a separate system, nor are voluntary employee assistance program information.
- *Objective Data Evaluations* - a type of exposure evaluation using area or personnel sampling where the data is representative of employee exposures in the work environment.
- *Trade Secret* – Confidential information that pertains to the chemical make up of a substance or mixture that, when disclosed, will have a negative impact on the company's business activities with regard to trademarked or similarly protected products.

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ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS (OSHA 1910.1020)

Employees and their designated representative have a right of access to relevant exposure and medical records; and to provide representatives of OSHA a right of access to these records to fulfill responsibilities under the Occupational Safety and Health Act.

Employee medical records include: medical exams, facility surveys for air contaminants, noise surveys, hearing examinations, etc.

Location of records and availability

All exposure and medical records are on file in the _____. A copy of the records is available to the employee and an employee representative. All requests must be in writing, including the employee's signature.

Person responsible for maintaining records

The _____ is responsible for maintaining and providing access to records and to provide information on employee's rights of access of their records.

Location and availability of Section 1910.1020

A copy of section 1910.1020 and its appendices are located on the OSHA website (http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10027) or are printed and posted, and available to employees in the workplace at the following location:

_____.

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RELEASE OF MEDICAL OR EXPOSURE RECORDS CONSENT FORM

I, _____, hereby authorize
(full name of worker/patient)

_____ to release to
(organization holding the medical records)

_____ the following records:
(organization authorized to receive information)

(Describe the specific information desired to be released).

I give my permission for this medical information to be used for the following purpose:

but I do not give permission for any other use or re-disclosure of this information.

This release consent expires on: _____
(date)

ONLY the above listed information is authorized to be released. No other information
pertaining to my records is authorized for release.

Full name (printed) of Employee or Legal Representative

Signature of Employee or Legal Representative

Date of Signature: _____

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Recordkeeping Requirements For Exposure and Medical Records

This listing outlines the requirements for recordkeeping for employee exposure and medical records for the regulations listed in the General Industry Standards			
Topic or Record Type	Regulatory Citation	Frequency of Monitoring or Records	Duration of Recordkeeping
Incident Reports	1904	As Incident Occurs	5 years
Training Records	General	As deemed by specific regulation	Until superseded unless otherwise noted
Injury and Illness Logs (300/300A)	1904	Annual	5 years
Noise Monitoring Results	1910.95	Annual	2 years
Noise and Hearing Audiograms	1910.95	Annual	Duration of employment
Process Safety for Highly Hazardous Chemicals	1910.119	As Incident Occurs	5 years
Hazardous Waste Operations and Emergency Response for exposures above PEL	1910.120	Annual or as deemed by physician	Duration of employment plus 30 years
Respirator Use Medical Evaluations	1910.134	Annual	Duration of employment plus 30 years
Respirator Use Fit Test	1910.134	Annual	Until superseded
Commercial Diving Incident and Injury Reports	1910.401-441	As Incident Occurs	Duration of employment plus 30 years
Commercial Diving Medical Records	1910.440	Annual	5 years then to OSHA
Commercial Diving Dive Records	1910.440	Per Dive	1 year
Commercial Diving Decompression Evaluation	1910.440	Per Dive	5 years then to OSHA
Commercial Diving Equipment Evaluations and Inspections	1910.440	Per Use	Until superseded
Air Contaminants Exposures above PEL	1910.1000	Annual or as deemed by physician	Duration of employment plus 30 years
Asbestos Exposure Monitoring	1910.1001	Per Job	30 years
Asbestos Employee Exposures	1910.1001	Per Employee	Duration of employment plus 30 years
Asbestos Training Records	1910.1001	Annual	Duration of employment plus 1 year

Recordkeeping Requirements For Exposure and Medical Records

13 Carcinogens 4-nitrobiphenyl; alpha-Naphthylamine; Methyl chloromethyl ether; 3,3'-Dichlorobenzidine (& salts); bis-Chloromethyl ether; beta-Naphthylamine; Benzidine; 4-Aminodiphenyl; Ethyleneimine; beta-Propiolactone; 2-Acetylaminofluorene; 4-Dimethylaminoazobenzene; N-Nitrosodimethylamine	1910.1003 -1006	Annual	Duration of employment
Vinyl Chloride Monitoring and Medical Surveillance Reports	1910.1007	Annual	Duration of employment plus 20 years (not less than 30 years)
Inorganic Arsenic Monitoring and Medical Surveillance Reports	1910.1008	Annual	Duration of employment plus 20 years (not less than 40 years)
Lead Monitoring and Medical Surveillance Reports	1910.1025	Annual	Duration of employment plus 20 years (not less than 40 years)
Lead Exposure Medical Removal	1910.1025	As occurs	Duration of employment
Cadmium Exposure Monitoring	1910.1027	Annual	30 years
Cadmium Exposure Medical Surveillance	1910.1027	Annual	Duration of employment plus 30 years
Cadmium Exposure Training	1910.1027	Annual	1 year
Benzene Exposure Monitoring	1910.1028	Annual	30 years
Benzene Exposure Medical Surveillance	1910.1028	Annual	Duration of employment plus 30 years
Coke Oven Emission Monitoring and Medical Surveillance	1910.1029	Annual	Duration of employment plus 20 years (not less than 40 years)

Recordkeeping Requirements For Exposure and Medical Records

Bloodborne Pathogens Training	1910.1030	Annual	3 years
Bloodborne Pathogens Exposure Incident Reports which include Hepatitis B Vaccine Status	1910.1030	As occurs	5 years (if no reported health effect) Duration of employment plus 30 years (if reported health effect)
Bloodborne Pathogens Sharps Injury Log	1910.1030	Annual	5 years
Cotton Dust Exposure Monitoring and Medical Surveillance	1910.1043	Annual	20 years
1,2-dibromo-3-chloropropane Exposure Monitoring and Medical Surveillance	1910.1044	Annual	Duration of employment plus 20 years (not less than 40 years)
Acrylonitrile Exposure Monitoring and Medical Surveillance	1910.1045	Annual	Duration of employment plus 20 years (not less than 40 years)
Ethylene Oxide (EtO) Exposure Monitoring	1910.1047	Annual	30 years
Ethylene Oxide (EtO) Medical Surveillance	1910.1047	Annual	Duration of employment plus 30 years
Formaldehyde Exposure Monitoring	1910.1048	Annual	30 years
Formaldehyde Medical Surveillance Records	1910.1048	Annual	Duration of employment plus 30 years
Methylenedianiline Exposure Monitoring	1910.1050	Annual	30 years
Methylenedianiline Medical Surveillance Records and Medical Removal Records	1910.1050	Annual	Duration of employment plus 30 years
1,3-Butadiene Exposure Monitoring Records	1910.1051	Annual	30 years
1,3-Butadiene Medical Surveillance Records	1910.1051	Annual	Duration of employment plus 30 years

Recordkeeping Requirements For Exposure and Medical Records

Methylene Chloride Exposure Monitoring Records	1910.1052	Annual	30 years
Methylene Chloride Medical Surveillance Records	1910.1052	Annual	Duration of employment plus 30 years
Ionizing Radiation (X-ray) Programs	1910.1096	Per program	3 years after superseded date
Ionizing Radiation (X-ray) Surveys	1910.1096	Annual or as needed	3 years
Ionizing Radiation (X-ray) License Agreements; Planned Special Exposures; Individual Monitoring Results; and Waste Disposal Records	1910.1096	Per company	3 years after termination of license agreement
Ionizing Radiation (X-ray) Individual Monitoring Results and Public Individual Monitoring Results	1910.1096	Annual or as needed	3 years after termination of license agreement
Laboratory Safety Chemical Exposure Monitoring	1910.1450	As deemed by specific chemical or regulation	Duration of employment plus 30 years

- Part Title: Occupational Safety and Health Standards
 - Subpart: Z
 - Subpart Title: Toxic and Hazardous Substances
 - **Standard Number: 1910.1020**
 - Title: Access to employee exposure and medical records.
-

1910.1020(a)

"Purpose." The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records; and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees, their representatives, and the Assistant Secretary is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. Each employer is responsible for assuring compliance with this section, but the activities involved in complying with the access to medical records provisions can be carried out, on behalf of the employer, by the physician or other health care personnel in charge of employee medical records. Except as expressly provided, nothing in this section is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.

1910.1020(b)

"Scope and application."

1910.1020(b)(1)

This section applies to each general industry, maritime, and construction employer who makes, maintains, contracts for, or has access to employee exposure or medical records, or analyses thereof, pertaining to employees exposed to toxic substances or harmful physical agents.

1910.1020(b)(2)

This section applies to all employee exposure and medical records, and analyses thereof, of such employees, whether or not the records are mandated by specific occupational safety and health standards.

1910.1020(b)(3)

This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including on an in-house or contractual (e.g., fee-for-service) basis. Each employer shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which records are made or maintained.

1910.1020(c)

"Definitions."

1910.1020(c)(1)

"Access" means the right and opportunity to examine and copy.

1910.1020(c)(2)

"Analysis using exposure or medical records" means any compilation of data or any statistical study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

1910.1020(c)(3)

"Designated representative" means any individual or organization to whom an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

1910.1020(c)(4)

"Employee" means a current employee, a former employee, or an employee being assigned or transferred to

work where there will be exposure to toxic substances or harmful physical agents. In the case of a deceased or legally incapacitated employee, the employee's legal representative may directly exercise all the employee's rights under this section.

1910.1020(c)(5)

"Employee exposure record" means a record containing any of the following kinds of information:

1910.1020(c)(5)(i)

Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;

1910.1020(c)(5)(ii)

Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;

1910.1020(c)(5)(iii)

Safety Data Sheets indicating that the material may pose a hazard to human health; or

1910.1020(c)(5)(iv)

In the absence of the above, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.

1910.1020(c)(6) 1910.1020(c)(6)(i)

"Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including:

1910.1020(c)(6)(i)(A)

Medical and employment questionnaires or histories (including job description and occupational exposures),

1910.1020(c)(6)(i)(B)

The results of medical examinations (pre-employment, pre-assignment, periodic, or episodic) and laboratory tests (including chest and other X-ray examinations taken for the purpose of establishing a base-line or detecting occupational illnesses and all biological monitoring not defined as an "employee exposure record"),

1910.1020(c)(6)(i)(C)

Medical opinions, diagnoses, progress notes, and recommendations,

1910.1020(c)(6)(i)(D)

First aid records,

1910.1020(c)(6)(i)(E)

Descriptions of treatments and prescriptions, and

1910.1020(c)(6)(i)(F)

Employee medical complaints.

1910.1020(c)(6)(ii)

"Employee medical record" does not include medical information in the form of:

1910.1020(c)(6)(ii)(A)

Physical specimens (e.g., blood or urine samples) which are routinely discarded as a part of normal medical practice, or

1910.1020(c)(6)(ii)(B)

Records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (e.g., social security number, payroll number, etc.), or

1910.1020(c)(6)(ii)(C)

Records created solely in preparation for litigation which are privileged from discovery under the applicable rules of procedure or evidence; or

1910.1020(c)(6)(ii)(D)

Records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.

1910.1020(c)(7)

"Employer" means a current employer, a former employer, or a successor employer.

1910.1020(c)(8)

"Exposure" or "exposed" means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (e.g., accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.

1910.1020(c)(9)

"Health Professional" means a physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist, providing medical or other occupational health services to exposed employees.

1910.1020(c)(10)

"Record" means any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, microfilm, X-ray film, or automated data processing).

1910.1020(c)(11)

"Specific chemical identity" means a chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

1910.1020(c)(12) 1910.1020(c)(12)(i)

"Specific written consent" means a written authorization containing the following:

1910.1020(c)(12)(i)(A)

The name and signature of the employee authorizing the release of medical information,

1910.1020(c)(12)(i)(B)

The date of the written authorization,

1910.1020(c)(12)(i)(C)

The name of the individual or organization that is authorized to release the medical information,

1910.1020(c)(12)(i)(D)

The name of the designated representative (individual or organization) that is authorized to receive the released information,

1910.1020(c)(12)(i)(E)

A general description of the medical information that is authorized to be released,

1910.1020(c)(12)(i)(F)

A general description of the purpose for the release of the medical information, and

1910.1020(c)(12)(i)(G)

A date or condition upon which the written authorization will expire (if less than one year).

1910.1020(c)(12)(ii)

A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless the release of future information is expressly authorized, and does not operate for more than one year from the date of written authorization.

1910.1020(c)(12)(iii)

A written authorization may be revoked in writing prospectively at any time.

1910.1020(c)(13)

"Toxic substance or harmful physical agent" means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo - or hyperbaric pressure, etc.) which:

1910.1020(c)(13)(i)

Is listed in the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) which is incorporated by reference as specified in Sec. 1910.6; or

1910.1020(c)(13)(ii)

Has yielded positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer; or

1910.1020(c)(13)(iii)

Is the subject of a Safety Data Sheet kept by or known to the employer indicating that the material may pose a hazard to human health.

1910.1020(c)(14)

"Trade secret" means any confidential formula, pattern, process, device, or information or compilation of information that is used in an employer's business and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

1910.1020(d)

"Preservation of records."

1910.1020(d)(1)

Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

1910.1020(d)(1)(i)

"Employee medical records." The medical record for each employee shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that the following types of records need not be retained for any specified period:

1910.1020(d)(1)(i)(A)

Health insurance claims records maintained separately from the employer's medical program and its records,

1910.1020(d)(1)(i)(B)

First aid records (not including medical histories) of one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and the like which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job, if made on-site by a non-physician and if maintained separately from the employer's medical program and its records, and

1910.1020(d)(1)(i)(C)

The medical records of employees who have worked for less than (1) year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.

1910.1020(d)(1)(ii)

"Employee exposure records." Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

1910.1020(d)(1)(ii)(A)

Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year so long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and

1910.1020(d)(1)(ii)(B)

Safety Data Sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years(1); and

Footnote(1) Safety Data Sheets must be kept for those chemicals currently in use that are effected by the Hazard Communication Standard in accordance with 29 CFR 1910.1200(g).

1910.1020(d)(1)(ii)(C)

Biological monitoring results designated as exposure records by specific occupational safety and health standards shall be preserved and maintained as required by the specific standard.

1910.1020(d)(1)(iii)

"Analyses using exposure or medical records." Each analysis using exposure or medical records shall be preserved and maintained for at least thirty (30) years.

1910.1020(d)(2)

Nothing in this section is intended to mandate the form, manner, or process by which an employer preserves a record so long as the information contained in the record is preserved and retrievable, except that chest X-ray films shall be preserved in their original state.

1910.1020(e)

"Access to records" -

1910.1020(e)(1)

"General."

1910.1020(e)(1)(i)

Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner. If the employer cannot reasonably provide access to the record within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

1910.1020(e)(1)(ii)

The employer may require of the requester only such information as should be readily known to the requester and which may be necessary to locate or identify the records being requested (e.g. dates and locations where the employee worked during the time period in question).

1910.1020(e)(1)(iii)

Whenever an employee or designated representative requests a copy of a record, the employer shall assure that either:

1910.1020(e)(1)(iii)(A)

A copy of the record is provided without cost to the employee or representative,

1910.1020(e)(1)(iii)(B)

The necessary mechanical copying facilities (e.g., photocopying) are made available without cost to the employee or representative for copying the record, or

1910.1020(e)(1)(iii)(C)

The record is loaned to the employee or representative for a reasonable time to enable a copy to be made.

1910.1020(e)(1)(iv)

In the case of an original X-ray, the employer may restrict access to on-site examination or make other suitable arrangements for the temporary loan of the X-ray.

1910.1020(e)(1)(v)

Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that

1910.1020(e)(1)(v)(A)

An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and

1910.1020(e)(1)(v)(B)

An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

1910.1020(e)(1)(vi)

Nothing in this section is intended to preclude employees and collective bargaining agents from collectively bargaining to obtain access to information in addition to that available under this section.

1910.1020(e)(2)

"Employee and designated representative access" -

1910.1020(e)(2)(i)

"Employee exposure records."

1910.1020(e)(2)(i)(A)

Except as limited by paragraph (f) of this section, each employer shall, upon request, assure the access to each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, an exposure record relevant to the employee consists of:

1910.1020(e)(2)(i)(A)(1)

A record which measures or monitors the amount of a toxic substance or harmful physical agent to which the employee is or has been exposed;

1910.1020(e)(2)(i)(A)(2)

In the absence of such directly relevant records, such records of other employees with past or present job duties or working conditions related to or similar to those of the employee to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents to which the employee is or has been subjected, and

1910.1020(e)(2)(i)(A)(3)

Exposure records to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents at workplaces or under working conditions to which the employee is being assigned or transferred.

1910.1020(e)(2)(i)(B)

Requests by designated representatives for unconsented access to employee exposure records shall be in writing and shall specify with reasonable particularity:

1910.1020(e)(2)(i)(B)(1)

The record requested to be disclosed; and

1910.1020(e)(2)(i)(B)(2)

The occupational health need for gaining access to these records.

1910.1020(e)(2)(ii)

"Employee medical records."

1910.1020(e)(2)(ii)(A)

Each employer shall, upon request, assure the access of each employee to employee medical records of which the employee is the subject, except as provided in paragraph (e)(2)(ii)(D) of this section.

1910.1020(e)(2)(ii)(B)

Each employer shall, upon request, assure the access of each designated representative to the employee medical records of any employee who has given the designated representative specific written consent. Appendix A to this section contains a sample form which may be used to establish specific written consent for access to employee medical records.

1910.1020(e)(2)(ii)(C)

Whenever access to employee medical records is requested, a physician representing the employer may recommend that the employee or designated representative:

1910.1020(e)(2)(ii)(C)(1)

Consult with the physician for the purposes of reviewing and discussing the records requested,

1910.1020(e)(2)(ii)(C)(2)

Accept a summary of material facts and opinions in lieu of the records requested, or

1910.1020(e)(2)(ii)(C)(3)

Accept release of the requested records only to a physician or other designated representative.

1910.1020(e)(2)(ii)(D)

Whenever an employee requests access to his or her employee medical records, and a physician representing the employer believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the employer may inform the employee that access will only be provided to a designated representative of the employee having specific written consent, and deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the employer shall assure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.

1910.1020(e)(2)(ii)(E)

A physician, nurse, or other responsible health care personnel maintaining employee medical records may delete from requested medical records the identity of a family member, personal friend, or fellow employee who has provided confidential information concerning an employee's health status.

1910.1020(e)(2)(iii)

Analyses using exposure or medical records.

1910.1020(e)(2)(iii)(A)

Each employer shall, upon request, assure the access of each employee and designated representative to each analysis using exposure or medical records concerning the employee's working conditions or workplace.

1910.1020(e)(2)(iii)(B)

Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

1910.1020(e)(3)

"OSHA access."

1910.1020(e)(3)(i)

Each employer shall, upon request, and without derogation of any rights under the Constitution or the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 "et seq.," that the employer chooses to exercise, assure the prompt access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.

1910.1020(e)(3)(ii)

Whenever OSHA seeks access to personally identifiable employee medical information by presenting to the employer a written access order pursuant to 29 CFR 1913.10(d), the employer shall prominently post a copy of the written access order and its accompanying cover letter for at least fifteen (15) working days.

1910.1020(f)

"Trade secrets."

1910.1020(f)(1)

Except as provided in paragraph (f)(2) of this section, nothing in this section precludes an employer from deleting from records requested by a health professional, employee, or designated representative any trade secret data which discloses manufacturing processes, or discloses the percentage of a chemical substance in mixture, as long as the health professional, employee, or designated representative is notified that information has been deleted. Whenever deletion of trade secret information substantially impairs evaluation of the place where or the time when exposure to a toxic substance or harmful physical agent occurred, the employer shall provide alternative information which is sufficient to permit the requesting party to identify where and when exposure occurred.

1910.1020(f)(2)

The employer may withhold the specific chemical identity, including the chemical name and other specific identification of a toxic substance from a disclosable record provided that:

1910.1020(f)(2)(i)

The claim that the information withheld is a trade secret can be supported;

1910.1020(f)(2)(ii)

All other available information on the properties and effects of the toxic substance is disclosed;

1910.1020(f)(2)(iii)

The employer informs the requesting party that the specific chemical identity is being withheld as a trade secret; and

1910.1020(f)(2)(iv)

The specific chemical identity is made available to health professionals, employees and designated representatives in accordance with the specific applicable provisions of this paragraph.

1910.1020(f)(3)

Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a toxic substance is necessary for emergency or first-aid treatment, the employer shall immediately disclose the specific chemical identity of a trade secret chemical to the treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (f)(4) and (f)(5), as soon as circumstances permit.

1910.1020(f)(4)

In non-emergency situations, an employer shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under paragraph (f)(2) of this section, to a health professional, employee, or designated representative if:

1910.1020(f)(4)(i)

The request is in writing;

1910.1020(f)(4)(ii)

The request describes with reasonable detail one or more of the following occupational health needs for the information:

1910.1020(f)(4)(ii)(A)

To assess the hazards of the chemicals to which employees will be exposed;

1910.1020(f)(4)(ii)(B)

To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;

1910.1020(f)(4)(ii)(C)

To conduct pre-assignment or periodic medical surveillance of exposed employees;

1910.1020(f)(4)(ii)(D)

To provide medical treatment to exposed employees;

1910.1020(f)(4)(ii)(E)

To select or assess appropriate personal protective equipment for exposed employees;

1910.1020(f)(4)(ii)(F)

To design or assess engineering controls or other protective measures for exposed employees; and

1910.1020(f)(4)(ii)(G)

To conduct studies to determine the health effects of exposure.

1910.1020(f)(4)(iii)

The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information would not enable the health professional, employee or designated representative to provide the occupational health services described in paragraph (f)(4)(ii) of this section;

1910.1020(f)(4)(iii)(A)

The properties and effects of the chemical;

1910.1020(f)(4)(iii)(B)

Measures for controlling workers' exposure to the chemical;

1910.1020(f)(4)(iii)(C)

Methods of monitoring and analyzing worker exposure to the chemical; and

1910.1020(f)(4)(iii)(D)

Methods of diagnosing and treating harmful exposures to the chemical;

1910.1020(f)(4)(iv)

The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and

1910.1020(f)(4)(v)

The health professional, employee, or designated representative and the employer or contractor of the services of the health professional or designated representative agree in a written confidentiality agreement that the health professional, employee or designated representative will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (f)(7) of this section, except as authorized by the terms of the agreement or by the employer.

1910.1020(f)(5)

The confidentiality agreement authorized by paragraph (f)(4)(iv) of this section:

1910.1020(f)(5)(i)

May restrict the use of the information to the health purposes indicated in the written statement of need;

1910.1020(f)(5)(ii)

May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,

1910.1020(f)(5)(iii)

May not include requirements for the posting of a penalty bond.

1910.1020(f)(6)

Nothing in this section is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.

1910.1020(f)(7)

If the health professional, employee or designated representative receiving the trade secret information decides that there is a need to disclose it to OSHA, the employer who provided the information shall be informed by the health professional prior to, or at the same time as, such disclosure.

1910.1020(f)(8)

If the employer denies a written request for disclosure of a specific chemical identity, the denial must:

1910.1020(f)(8)(i)

Be provided to the health professional, employee or designated representative within thirty days of the request;

1910.1020(f)(8)(ii)

Be in writing;

1910.1020(f)(8)(iii)

Include evidence to support the claim that the specific chemical identity is a trade secret;

1910.1020(f)(8)(iv)

State the specific reasons why the request is being denied; and,

1910.1020(f)(8)(v)

Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.

1910.1020(f)(9)

The health professional, employee, or designated representative whose request for information is denied under paragraph (f)(4) of this section may refer the request and the written denial of the request to OSHA for consideration.

1910.1020(f)(10)

When a health professional, employee, or designated representative refers a denial to OSHA under paragraph (f)(9) of this section, OSHA shall consider the evidence to determine if:

1910.1020(f)(10)(i)

The employer has supported the claim that the specific chemical identity is a trade secret;

1910.1020(f)(10)(ii)

The health professional employee, or designated representative has supported the claim that there is a medical or occupational health need for the information; and

1910.1020(f)(10)(iii)

The health professional, employee or designated representative has demonstrated adequate means to protect the confidentiality.

1910.1020(f)(11) 1910.1020(f)(11)(i)

If OSHA determines that the specific chemical identity requested under paragraph (f)(4) of this section is not a "bona fide" trade secret, or that it is a trade secret but the requesting health professional, employee or designated representatives has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means for complying with the terms of such agreement, the employer will be subject to citation by OSHA.

1910.1020(f)(11)(ii)

If an employer demonstrates to OSHA that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical identity, the Assistant Secretary may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health needs are met without an undue risk of harm to the employer.

1910.1020(f)(12)

Notwithstanding the existence of a trade secret claim, an employer shall, upon request, disclose to the Assistant Secretary any information which this section requires the employer to make available. Where there is a trade secret claim, such claim shall be made no later than at the time the information is provided to the Assistant Secretary so that suitable determinations of trade secret status can be made and the necessary protections can be implemented.

1910.1020(f)(13)

Nothing in this paragraph shall be construed as requiring the disclosure under any circumstances of process or percentage of mixture information which is a trade secret.

1910.1020(g)

"Employee information."

1910.1020(g)(1)

Upon an employee's first entering into employment, and at least annually thereafter, each employer shall inform current employees covered by this section of the following:

1910.1020(g)(1)(i)

The existence, location, and availability of any records covered by this section;

1910.1020(g)(1)(ii)

The person responsible for maintaining and providing access to records; and

1910.1020(g)(1)(iii)

Each employee's rights of access to these records.

1910.1020(g)(2)

Each employer shall keep a copy of this section and its appendices, and make copies readily available, upon request, to employees. The employer shall also distribute to current employees any informational materials concerning this section which are made available to the employer by the Assistant Secretary of Labor for Occupational Safety and Health.

1910.1020(h)

"Transfer of records."

1910.1020(h)(1)

Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.

1910.1020(h)(2)

Whenever an employer is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, the employer shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.

Part Title: Occupational Safety and Health Standards

Subpart: Z

Subpart Title: Toxic and Hazardous Substances

Appendix A – See “Access to Employee Exposure and Medical Records – Release of Medical or Exposure Records Consent Form”

Part Title: Occupational Safety and Health Standards

Subpart: Z

Subpart Title: Toxic and Hazardous Substances

Standard Number: 1910.1020 App B

Title: Availability of NIOSH registry of toxic effects of chemical substances (RTECS)(Non-mandatory)

The final standard, 29 CFR 1910.1020, applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents (paragraph (b)(2)). The term "toxic substance or harmful physical agent" is defined by paragraph (c)(13) to encompass chemical substances, biological agents, and physical stresses for which there is evidence of harmful health effects. The regulation uses the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) as one of the chief sources of information as to whether evidence of harmful health effects exists. If a substance is listed in the latest printed RTECS, the regulation applies to exposure and medical records (and analyses of these records) relevant to employees exposed to the substance.

It is appropriate to note that the final regulation does not require that employers purchase a copy of RTECS, and many employers need not consult RTECS to ascertain whether their employee exposure or medical records are subject to the rule. Employers who do not currently have the latest printed edition of the NIOSH RTECS, however, may desire to obtain a copy. The RTECS is issued in an annual printed edition as mandated by section 20(a)(6) of the Occupational Safety and Health Act (29 U.S.C. 669(a)(6)).

The introduction to the 1980 printed edition describes the RTECS as follows:

"The 1980 edition of the Registry of Toxic Effects of Chemical Substances, formerly known as the Toxic Substances list, is the ninth revision prepared in compliance with the requirements of Section 20(a)(6) of the Occupational Safety and Health Act of 1970 (Public Law 91-596). The original list was completed on June 28, 1971, and has been updated annually in book format. Beginning in October 1977, quarterly revisions have been provided in microfiche. This edition of the Registry contains 168,096 listings of chemical substances; 45,156 are names of different chemicals with their associated toxicity data and 122,940 are synonyms. This edition includes approximately 5,900 new chemical compounds that did not appear in the 1979 Registry.(p. xi)

"The Registry's purposes are many, and it serves a variety of users. It is a single source document for basic toxicity information and for other data, such as chemical identifiers and information necessary for the preparation of safety directives and hazard evaluations for chemical substances. The various types of toxic effects linked to literature citations provide researchers and occupational health scientists with an introduction to the toxicological literature, making their own review of the toxic hazards of a given substance easier. By presenting data on the lowest reported doses that produce effects by several routes of entry in various species, the Registry furnishes valuable information to those responsible for preparing safety data sheets for chemical substances in the workplace. Chemical and production engineers can use the Registry to identify the hazards which may be associated with chemical intermediates in the development of final products, and thus can more readily select substitutes or alternate processes which may be less hazardous. Some organizations, including health agencies and chemical companies, have included the NIOSH Registry accession numbers with the listing of chemicals in their files to reference toxicity information associated with those chemicals. By including foreign language chemical names, a start has been made toward providing rapid identification of substances produced in other countries.(p xi)

"In this edition of the Registry, the editors intend to identify "all known toxic substances" which may exist in the environment and to provide pertinent data on the toxic effects from known doses entering an organism by any route described.(p xi)

"It must be reemphasized that the entry of a substance in the Registry does not automatically mean that it must be avoided. A listing does mean, however, that the substance has the documented potential of being harmful if misused, and care must be exercised to prevent tragic consequences. Thus the Registry lists many substances that are common in everyday life and are in nearly every household in the United States. One can name a variety of such dangerous substances: prescription and non-prescription drugs; food additives; pesticide concentrates, sprays, and dusts; fungicides; herbicides, paints; glazes, dyes; bleaches and other household cleaning agents; alkalis; and various solvents and diluents. The list is extensive because chemicals have become an integral part of our existence."

The RTECS printed edition may be purchased from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 (202-783-3238).

Some employers may desire to subscribe to the quarterly update to the RTECS which is published in a microfiche edition. An annual subscription to the quarterly microfiche may be purchased from the GPO (Order the "Microfiche Edition, Registry of Toxic Effects of Chemical Substances"). Both the printed edition and the microfiche edition of RTECS are available for review at many university and public libraries throughout the country. The latest RTECS editions may also be examined at the OSHA Technical Data Center, Room N2439 - Rear, United States Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210 (202-523-9700), or at any OSHA Regional or Area Office (See, major city telephone directories under United States Government - Labor Department).

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TRAINING ATTENDANCE ROSTER

ACCESS TO EXPOSURE AND MEDICAL RECORDS

Access to Employee Exposure and Medical Records Training Includes:

- Purpose of Regulation
- What is access
- What records are kept and for how long
- How to access records
- Company and employee rights
- Trade secret protections
- Transfer and disposal of records
- Release consent for records

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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Accident Investigation and Reporting

PROGRAM OVERVIEW

ACCIDENT INVESTIGATION AND REPORTING SAFETY PROGRAM

REGULATORY STANDARD: General Duty Clause

INTRODUCTION

The accident investigation and reporting program is a tool used to ensure notification of accidents and assist in the correction action process. Accident investigation is primarily a fact-finding procedure - the facts revealed are used to prevent recurrences of similar accidents in the future.

TRAINING

- Supervisors should be trained in accident investigation
- Employees should be trained on when and how to report accidents and incidents

ACTIVITIES

- Determine who is a part of the Accident Investigation Team, which may include supervisors, management, and employees
- Determine accident and near miss reporting procedures
- Inform employees of the work-related injuries and illness procedures and their rights to report
- OSHA Recordkeeping, forms 300 and 301 or equivalent
- Injury trending

FORMS

- Accident, Incident, or Near Miss Investigation Report
- Training Attendance Roster - Accident Investigation
- Training Attendance Roster – Accident Reporting

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

ACCIDENT INVESTIGATION AND REPORTING SAFETY PROGRAM

1. **Purpose.** Accidents and Incidents result from a failure of people, equipment, supplies, or surroundings. A successful accident investigation determines not only what happened, but also attempts to find out how and why the accident occurred. Investigations are an effort to prevent a similar or perhaps more disastrous sequence of events. The company will review and evaluate this safety program:
 - 1.1 When changes occur that prompt revision of this document (within the company or to regulatory documents)
 - 1.2 When facility operational changes occur that require a revision of this document
2. **Scope.** This program applies to the total workplace regardless of the number of workers employed or the number of work shifts.
3. **Responsibilities**
 - 3.1 Management:
 - 3.1.1 Ensure supervisors are trained in accident investigation, as needed or required.
 - 3.1.2 Inform employees of the company's work-related injury or illness procedures and the employees' rights to report work-related injuries and illnesses.
 - 3.1.3 Provide resources, as needed or required, to implement corrective actions based on results of incident investigations.
 - 3.1.4 Review incident reports and any incident trends to establish corrective and preventive actions.
 - 3.1.5 Communicate incident information to other areas of the company where similar incidents may occur, and implement preventive actions to eliminate the potential for future incidents.
 - 3.1.6 Maintain required documentation.
 - 3.1.7 Train appropriate personnel to review and implement Job Hazard Analysis and Trend Analysis as needed.
 - 3.2 Supervisor
 - 3.2.1 Provide or arrange for adequate medical treatment for any injured employee.
 - 3.2.2 Promptly investigate any incidents or near miss incidents that occur.
 - 3.2.3 Provide recommendations to management on corrective actions to prevent recurrence of similar incidents.

3.3 Employees

- 3.3.1 Promptly report incidents or near misses that occur.
- 3.3.2 Report hazardous conditions to your supervisor.
- 3.3.3 Participate in incident investigations, as needed or required.

4. Procedure

- 4.1 Inform employees of the company's work-related injury or illness procedures and the employees' rights to report work-related injuries and illnesses without fear of being discriminated against in any manner or fear of being discharged. Post the OSHA "It's The Law" worker rights poster.
- 4.2 Accident Investigation Team Composition. Supervisors, in conjunction with the safety officer as needed or required, are primarily responsible for the investigation of accidents and incidents. In addition, members of the safety committee or a separate Accident Investigation Team may serve as incident investigators.
- 4.3 Hazard Reporting:
 - 4.3.1 Hazards or potential hazards identified by employees will immediately be reported to management or supervision.
 - 4.3.1.1 Person reporting hazard
 - Notify department Supervisor of the hazard.
 - Initiate lock-out/tag-out, if required, on the machine.
 - 4.3.1.2 Supervisor
 - Notify all affected workers of hazard.
 - Notify Maintenance Department of hazard, if required.
 - Ensure hazard is properly marked and controlled until corrected.
- 4.4 Accident Investigation, Analysis and Reporting. Accident investigation is primarily a fact-finding procedure; the facts revealed are used to prevent recurrences of similar accidents. The focus of accident investigation will be to prevent future accidents and injuries to increase the safety and health of all our employees.
 - 4.4.1 Immediate concerns:
 - 4.4.1.1 Ensure any injured person receives proper care.

- 4.4.1.2 Ensure co-workers and personnel working with similar equipment or in similar jobs are aware of the situation. This is to ensure that procedural problems or defects in certain models of equipment do not exist.
- 4.4.1.3 Start the investigation promptly.
- 4.4.2 Accident Investigation and Reporting Form. OSHA Form 301 (or a standardized investigation report form which details specific company requirements for investigation) will be used to gather data to determine causes and corrective actions. As a minimum the form will contain the following areas of concern.
 - 4.4.2.1 Injured employee's name and any other identifier
 - 4.4.2.2 Employee's address
 - 4.4.2.3 Date and time of injury
 - 4.4.2.4 Shift and department
 - 4.4.2.5 Sex/DOB
 - 4.4.2.6 Length of service (hire date) and length of time at specific job
 - 4.4.2.7 Time shift started
 - 4.4.2.8 Physician's and hospital name (if transported)
 - 4.4.2.9 Indication if employee was hospitalized as an in-patient (i.e. overnight)
 - 4.4.2.10 Type of injury
 - 4.4.2.11 Body part or body system injured
 - 4.4.2.12 Resulting fatalities (date of death)
 - 4.4.2.13 Occupation or task being performed just prior to being injured
 - 4.4.2.14 Description and analysis of accident
 - 4.4.2.15 Indication of the object or substance that directly harmed the employee
 - 4.4.2.16 Name of person completing form, their title, phone number and the date

- 4.4.3 Additional information that is recommended on the form is:
 - 4.4.3.1 Time shift started
 - 4.4.3.2 Overtime length when injury occurred
 - 4.4.3.3 Action taken to prevent recurrence
 - 4.4.3.4 Employee's statement
 - 4.4.3.5 Witnesses' statement
 - 4.4.3.6 Employer's statement
 - 4.4.3.7 Name of person(s) reviewing form and date of review
- 4.5 Accident Investigation Review Team. A member of management responsible will review all Incident Reports for the department/section involved ensuring pertinent information is transmitted to all concerned and remedial action(s) taken.
- 4.6 Accident Investigation Final Report. The report will include but is not limited to the following:
 - 4.6.1 Investigation report form and pertinent data
 - 4.6.2 Photographs/drawings/exhibits of scene
 - 4.6.3 Narrative of accident
 - 4.6.4 Sequence of events
 - 4.6.5 Contributing information
 - 4.6.6 Findings and recommendations of review team
 - 4.6.7 Action items and completion dates
 - 4.6.8 Responsible persons
 - 4.6.9 Follow-up procedures to ensure completion
 - 4.6.10 Distribution list
- 4.7 Safety and Job Hazard Analysis. The company will identify through the use of information sources, screening and job surveys any activities that place employees at risk. After any accident or near miss, the task or job in question will have a job hazard analyses routinely performed by a qualified person(s). This analysis will help to verify that all required actions are being taken to determine if risk factors for a work position have been reduced or eliminated to the maximum extent feasible.

- 4.7.1 Workstation Analysis. Workstation analysis will be conducted to identify risk factors present in each job or workstation.

5. Safety Information:

- 5.1 Administrative Controls. Once data has been gathered from the Incident Report, administrative controls will be used where needed to eliminate or reduce the frequency and severity of accidents and near misses. Examples of administrative controls include the following:
- 5.1.1 Reducing the production rates and or line speeds where possible.
 - 5.1.2 Providing rest pauses to relieve fatigued muscle-tendon groups.
 - 5.1.3 Increasing the number of employees assigned to a task to alleviate severe conditions, especially in lifting heavy objects.
 - 5.1.4 Using job rotation and as a preventive measure, not as a response to physical symptoms. The principle of job rotation is to alleviate physical fatigue and stress of a particular set of muscles and tendons by rotating employees among other jobs that use different muscle-tendon groups. If rotation is utilized, the job analyses must be reviewed to ensure that the same muscle-tendon groups are not used when they are rotated.
 - 5.1.5 Providing sufficient numbers of standby/relief personnel to compensate for foreseeable upset conditions on the line (e.g., loss of workers).
 - 5.1.6 Job enlargement. Having employees perform broader functions which reduce the stress on specific muscle groups while performing individual tasks.
 - 5.1.7 Machine maintenance/guarding. Ensure regular maintenance is performed on machines and/or tools used by employees are properly guarded and that maintenance is routinely performed.
 - 5.1.8 Employee training. Ensure all employees are properly trained in the hazards associated with the job before work is performed unsupervised.
- 5.2 Medical Management. The Safety Officer or other designated person will manage the safety program. Employees of each work shift should have access to health care providers or designated alternates in order to facilitate treatment, surveillance activities, and recording of information. During an accident investigation the medical management safety program will, as a minimum, address the following issues:
- 5.2.1 Injury and illness recordkeeping
 - 5.2.2 Early recognition of problems such as strains and muscle fatigue that could lead to accidents
 - 5.2.3 Systematic evaluation and referral

- 5.2.4 Conservative treatment after an accident
- 5.2.5 Conservative return to work after an accident
- 5.2.6 Systematic monitoring
- 5.2.7 Recordability criteria. The accident must be work related. Simply stated, unless the illness was caused solely by a non-work-related event or exposure off-premises, the case is presumed to be work related.
- 5.2.8 Occupational injuries. Injuries are caused by instantaneous events in the work environment. To keep recordkeeping determinations as simple and equitable as possible, back cases are classified as injuries even though some back conditions may be triggered by an instantaneous event and others develop as a result of repeated trauma. Any occupational injury involving any of the following circumstances is to be recorded on the OSHA-Form 300:
 - 5.2.8.1 Medical treatment resulting from significant injury/illness as diagnosed by a physician or other licensed health care professional
 - 5.2.8.2 Loss of consciousness
 - 5.2.8.3 Restriction of work or motion
 - 5.2.8.4 Contaminated needle stick or sharp exposure
 - 5.2.8.5 Work related tuberculosis infection
 - 5.2.8.6 Cases of medical removal as required under specific OSHA Regulatory Standard
 - 5.2.8.7 Transfer to another job
- 5.2.9 When an incident is recorded on the OSHA Form 300, that same incident must also be recorded on OSHA Form 301.
- 5.2.10 Periodic Workplace Walk-throughs. Supervisors, in conjunction with the Safety Officer or Health Care provider as needed or required, will conduct periodic, systematic workplace walk-throughs on a monthly basis (OSHA recommended) to remain knowledgeable about operations and work practices, to identify potential light duty jobs, and to maintain close contact with employees. Safety Officers and Health care providers also should be involved in identifying accident risk factors in the workplace as part of the Accident Investigation Team. A record will be kept documenting the date of the walk-through, area(s) visited, accident risk factors recognized, and action initiated to correct identified problems. Follow-up will be initiated and documented to ensure corrective action is taken when indicated.

5.3 Accident Trend Analysis

- 5.3.1 The information gathered from incident investigations, OSHA logs and hazard reports will help to identify areas or jobs where potential accident or injury conditions could or do exist. This information may be shared with anyone in the company since employees' personal identifiers are not solicited. The analysis of medical records (e.g., sign-in logs and individual employee medical records) may reveal areas or jobs of concern, but it may also identify individual workers who require further follow-up. The information gathered while analyzing medical records will be of a confidential nature, therefore care must be exercised to protect the individual employee's privacy.
- 5.3.2 The information gained from the trend analysis may help determine the effectiveness of the various safety programs initiated to decrease accidents in our facility.
- 5.3.3 Employee survey or Job Hazard Analysis. A survey may be used to provide a standardized measure of the extent of progress in reducing work-related accidents for each area of the plant or facility. This will determine which jobs are exhibiting problems and measure progress of the overall safety program.
 - 5.3.3.1 Design of the survey. A survey of employees will be conducted to measure employee awareness of work-related accident and to report the location, frequency, and type of accidents likely to occur.
 - 5.3.3.2 Surveys normally will not include an employee's personal identifiers. This is to encourage employee participation in the survey.
 - 5.3.3.3 Frequency. Surveys will be conducted anytime deemed necessary by the Accident Investigation Team. Conducting the survey should help detect any major change in the prevalence, incidence, and/or location of reported and unreported accidents.
- 5.3.4 List of Jobs. The company will compile a list of jobs, tasks and activities. This listing should be prioritized, based on the risk factors for type of injury (s) sustained. Jobs will be analyzed to determine the physical procedures used in the performance of each job including lifting requirements, postures, handgrips, frequency of repetitive motion, and general safety requirements of the job. This information will assist health care providers in recommending assignments to light or restricted duty jobs. Supervisors should periodically review and update the lists.

6. Training and Information

- 6.1 The purpose of accident investigation training and education is to ensure those members of the Accident Investigation Team and all of our employees are sufficiently informed about the Accident Investigation Safety Program.

- 6.1.1 Employees should be adequately trained about the company's Accident Investigation Safety Program. Proper training will allow managers, supervisors, and employees to understand the procedures to follow to report an accident, hazards associated with a job or production process, their prevention and control, and their medical consequences.
- 6.1.2 Training program design. The program will be designed and implemented by the Safety Officer, Senior Manager or other designated person. Appropriate special training will be provided for personnel responsible for administering the program.
- 6.1.3 Learning level. The safety program will be presented in language and at a level of understanding appropriate for the individuals being trained. It will provide an overview of the potential risk of illnesses and injuries, their causes and early symptoms, the means of prevention, and treatment.
- 6.1.4 Training for affected employees will consist of both general and specific job training:
 - 6.1.4.1 General Training. Employees will be given formal instruction on the hazards associated with their jobs and with their equipment. This will include information on the varieties of hazards associated with the job, what risk factors cause or contribute to them, how to recognize and report hazardous conditions, and how to prevent accident with their respective jobs. This instruction will be repeated for each employee as necessary.
 - 6.1.4.2 Job-Specific Training. New employees and reassigned workers will receive an initial orientation and hands-on training before being placed in a full-production job. Each new hire will receive a demonstration of the proper use of and procedures for all tools and equipment before assignment.
- 6.1.5 Training for Supervisors. Supervisors are responsible for ensuring that employees follow safe work practices and receive appropriate training to enable them to do this. Supervisors therefore will undergo training comparable to that of the employees. Such additional training as will enable them to recognize and correct hazardous work practices, proper accident reporting/investigation requirements, and to reinforce the company safety program.
- 6.1.6 Training for Managers. Managers will be made aware of their safety and health responsibilities and will receive sufficient training pertaining to issues at each workstation and in the production process as a whole so that they can effectively carry out their responsibilities.
- 6.1.7 Training for Engineers and Maintenance Personnel. Plant engineers and maintenance personnel will be trained in the prevention and correction of job hazards through job and workstation design and proper maintenance, both in general and as applied to the specific conditions of the facility.

6.2 Employee Training and Education. Health care providers will participate in the training and education of all employees, as needed or required. This training will be reinforced during workplace walk-throughs and the individual health surveillance appointments. All new employees will be given such education during orientation. This demonstration of concern along with the distribution of information should facilitate early recognition of accident conditions before their development, an elimination or reduction in accidents, and increased likelihood of compliance with recognition, prevention, and control.

7. Definitions.

- *Accident* - An injury or substance exposure that results in a detrimental health effect to an individual.
- *Incident* – An event that results in an accident, near miss or property damage.
- *Near Miss* – An avoided accident. An incident that could have occurred, but due to mitigating circumstances (or luck) did not occur.

ACCIDENT, INCIDENT OR NEAR MISS INVESTIGATION REPORT

PART 1 IDENTIFICATION INFORMATION

Employee Name	
Date of Accident	Time: AM PM
Occupation	Shift
Department	SS#:
Employee Home Address:	Date of Birth:
	Date of Hire
	Gender: Male ___ Female ___

PART 2 SUPPLEMENTARY INFORMATION

Company			
Mailing Address			
City	State	Zip	
Telephone ()			
Accident Location	<input type="checkbox"/> Same as establishment?	<input type="checkbox"/> On premises?	(Check if applies)
Location Where Accident Occurred (if different from above):			
Remarks:			
Was injured person performing regular job at time of accident? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Describe activity the person was doing just before they were injured:			
Length of Service: With Employer		On this job	
Time shift started	AM PM	Overtime?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Name and address of physician:			
City	State	Zip	
Employee treated in an emergency room? ___ Yes ___ No.		Employee hospitalized overnight? ___ Yes ___ No	
If hospitalized, name and address of hospital:			
City	State	Zip	
Fatality? <input type="checkbox"/> Yes <input type="checkbox"/> No		If Yes, date of death	

PART 3 ACCIDENT TREE

NATURE OF INJURY OR ILLNESS:			PART OF BODY AFFECTED:			
Operation Location:	Operation Task:	Employee Task:	Employee Body Position/Activity	Agency	Preceding Situation or Event	Type of Accident

PART 4 DESCRIPTION AND ANALYSIS

Fully describe accident:

What factors led to the accident (from Part 3/Tree)?

MACHINERY/EQUIPMENT INVOLVED

Manufacturer

Equip. age

Serial No.

Model

Function

Location

Has machine/equipment been modified? ☐ Yes ☐ No

If so, when?

Was it guarded? ☐ Yes ☐ No

If Yes, describe guarding and how it functions to provide element of safety desired:

Was guarding properly:

Constructed?

☐ Yes

☐ No

Installed?

☐ Yes

☐ No

Adjusted?

☐ Yes

☐ No

If No to any of above, explain:

Was there any mechanical failure? ☐ Yes ☐ No

If yes, explain:

If construction related, date of contract:

Is firm

☐ General Contractor

☐ Subcontractor

Name of other contractors

List any weather conditions that contributed to the incident:

TRAINING

Did employee receive specific training or instructions relating to safety and health on the job being performed?

☐ Yes ☐ No

Type:

Instructed by:

When instructed:

Length of training:

PERSONAL PROTECTIVE EQUIPMENT		
Did employee use any protective equipment for the job or task performed? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Type:		
Did equipment fail? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If so, describe:		
CORRECTIVE ACTIONS:		
Were any corrective or preventive actions put into place due to the incident? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If so, list them:		
Action Taken	Expected Result	Expected Completion Date
Were corrective actions followed through to completion? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If so, list results and dates:		
Action Taken	Expected Result	Expected Completion Date
STATEMENTS CONCERNING ACCIDENT		
EMPLOYEE STATEMENT CONCERNING ACCIDENT		
Name	Title	Date
SUPERVISOR/EMPLOYER'S STATEMENT		
Name	Title	Date
WITNESS STATEMENT		
Name	Title	Date
SAFETY COMMITTEE COMMENTS		
Name	Title	Date
ATTACH ADDITIONAL COMMENTS, REPORTS AND PHOTOS ON NEXT PAGE		

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TRAINING ATTENDANCE ROSTER ACCIDENT INVESTIGATION	
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Accident Investigation Training for Supervisors Includes:

- Getting the facts
- Investigation procedures
- Interviews and statements
- Photography and Diagrams
- Corrective Actions

- Accident Investigation Training for Supervisors Includes:***
- Getting the facts
 - Investigation procedures
 - Interviews and statements
 - Photography and Diagrams
 - Corrective Actions

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

[illegible]

Name of Interpreter, if utilized: _____

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TRAINING ATTENDANCE ROSTER ACCIDENT REPORTING

Accident Reporting Training for Employees Includes:

- Why do accidents happen
- What to report and when
- When to call for help
- Emergency Contact information

INSTRUCTOR:

DATE:

LOCATION:

**NAME (Please Print)
FIRST - MI - LAST**

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized:

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PROGRAM OVERVIEW

AERIAL LIFT SAFETY PROGRAM

REGULATORY STANDARD OSHA – 29 CFR 1926.453

INTRODUCTION

Aerial Lift includes boom-supported aerial platforms, such as cherry pickers or bucket trucks. This safety program is intended to address the issues of employee training, safety requirements, maintenance, and general operation of Aerial Lift.

TRAINING

Employees trained prior to use in both a classroom component and an assessment of the operator performance with the equipment.

ACTIVITIES

- Identify the tasks that require an aerial lift
- Write and communicate workplace specific procedures that outline the operation, and limitations, of aerial lifts
- Maintain manufacturer's requirements, limits and documentation
- Conduct documented daily inspections prior to use
- Implement, maintain, and inspect fall arrest systems as required
- Annually evaluate the aerial lift program to assure it is relevant and functioning properly

FORMS

- Aerial Lift Operator Checklist
- Aerial Lift Operator Evaluation Assessment
- Aerial Lift Training Wallet Cards
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

AERIAL LIFT SAFETY PROGRAM

1. **Purpose.** This document defines the process for managing Aerial Lift.
2. **Scope.** Applies to all locations where Aerial Lift are used or maintained. This procedure covers operator selection, training, equipment operations, and maintenance.

3. Responsibilities

3.1. Management will:

- 3.1.1. Identify the tasks that require an aerial lift.
- 3.1.2. Assure the correct type of equipment is purchased.
- 3.1.3. Document workplace specific procedures that outline the operation, and limitations, of Aerial Lift.
- 3.1.4. Assure operators are trained.
- 3.1.5. Annually evaluate the aerial lift program to assure it is relevant and functioning properly.

4. Procedure.

4.1. Aerial Lift Requirements

- 4.1.1. Any use of an aerial lift must be in accordance with the requirements and limits identified in the owner's manual from the manufacturer. Develop and document appropriate workplace specific rules and procedures, where required.
- 4.1.2. Aerial Lift may be "field modified" for uses other than those intended by the manufacturer, provided the modifications have been verified in writing by the manufacturer or by any other equivalent entity to be in conformity with all applicable provisions of ANSI A92.2 – 1969 and OSHA 1926.453 and to be at least as safe as the equipment was before modification.
- 4.1.3. The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.
- 4.1.4. Articulating boom and extensible boom platforms, designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls must be plainly marked as to their function.
- 4.1.5. Manufacturers' manuals are available and stored in the weatherproof containers on the lifts or in the mobile units.
- 4.1.6. The aerial lift must have a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when a spotter is used.

4.2. Lift Operations

- 4.2.1. Ensure that equipment is inspected each day prior to use to determine that controls are in safe working condition.
- 4.2.2. Fall arrest system lanyards must be used and attached to the anchor point on the floor of the basket or the boom of the lift. Securing the lanyard to an adjacent pole, structure, or equipment, or to the railings of the basket while working from an aerial lift shall NOT be permitted. If employees are required to leave the basket and are subjected to a fall hazard, a second lanyard must be used to ensure that fall protection requirements are continuous.
- 4.2.3. Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- 4.2.4. Full body harnesses (as part of a personal fall arrest system) will be worn and a lanyard attached to the boom or basket when working.
- 4.2.5. The manufacturer's boom and basket weight limits shall not be exceeded.
- 4.2.6. The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline provided they can be safely installed.
- 4.2.7. The base or body of the aerial lift truck shall not be moved when the boom is elevated in a working position with employees in the basket, except for equipment which is specifically designed for this type of operation.
- 4.2.8. Climbers (or similar spiked shoes) may not be worn while performing work from the aerial lift.
- 4.2.9. Never allow an aerial lift to be used as a crane or material-lifting device.
- 4.2.10. A hard hat shall be worn at all times when operating Aerial Lift.
- 4.2.11. Entry gates or chains shall be closed before operating the lift.
- 4.2.12. For aerial lifts that have both upper and lower controls, the lower controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
- 4.2.13. Before moving an aerial lift for travel, the boom must be inspected to see that it is properly cradled and outriggers are in the stowed position.
- 4.2.14. When moving the vehicle in reverse, the signal alarm must be audible above the surrounding noise level or a spotter must be used to signal that it is safe.

- 4.2.15. When required to exit or climb out of an elevated aerial lift to a location not otherwise protected by guardrails, floor, or other continuous means of fall protection, operators shall use a second shock-absorbing lanyard to connect to the new location before disconnecting from the aerial lift. When entering an aerial lift from an unprotected location, operators shall connect a shock-absorbing lanyard to the anchorage point in the aerial lift before entering.
- 4.2.16. Employees should not position themselves between overhead hazards, such as joists and beams, and the rails of the basket. If such positioning is required, the fall protection system must account for the shorter distance to the hazard in case of a fall.
- 4.2.17. Never override hydraulic, mechanical, or electrical safety devices.
- 4.2.18. Always treat power lines, wires and other conductors as energized, even if they are down or appear to be insulated.
- 4.2.19. Operators shall maintain safe distances from electrical power lines, conductors or bus bars. Operators must allow for boom or platform movement or electrical line sway or sag. Operators shall follow minimum safe approach distances (MSAD). At no time will an operator position the bucket closer than 10' from any electrical source.

MSAD (Minimum Safe Approach Distance) to Energized (Exposed or Insulated)
Power Lines

Voltage Range (Phase to Phase) Minimum Safe Approach Distance

0 to 300V	10'
Over 300 to 50KV	10'
Over 50KV to 200KV	15'
Over 200KV to 350KV	20'
Over 350KV to 500KV	25'
Over 500KV to 750KV	35'
Over 750KV to 1000KV	45'

4.3. Records and Documentation:

- 4.3.1. Workplace specific training (initial and retraining) records. An Operator Evaluation Form must be retained.
- 4.3.2. Training records for current operators must be retained for the duration they will operate the lift. Records should be retained for 3 years after this point.
- 4.3.3. Documentation of daily lift inspection must be maintained.

5. Safety Information.

- 5.1. Fuel tanks may not be filled while the engine is running.
- 5.2. Fuel caps must be in place before starting.
- 5.3. Liquid fuels such as gasoline and diesel fuel must be handled in accordance with NFPA standards for Flammable and Combustible Liquids.
- 5.4. The operator must conduct a safety / circle check of the vehicle to determine hazards.
- 5.5. The operator must conduct a worksite inspection.
- 5.6. Perform electrical system safety tests on aerial lift devices per ANSI/SIA A92.2 requirements.
- 5.7. Inspect hydraulic and pneumatic system components (Busting Safety Factor) on aerial lift devices per ANSI/SIA A92.2 requirements.
- 5.8. Conduct welding operations on aerial lift devices per Automotive Welding Society (AWS) Standards.

6. Training and Information.

- 6.1. Training must occur before operators are allowed to operate an aerial lift unsupervised, and such operations may not endanger either the operators or the trainee.
 - 6.1.1. Initial information (classroom, discussion)
 - 6.1.2. Evaluation and instruction on the operation of the aerial lift at the workplace.
- 6.2. Initial Training must provide for:
 - 6.2.1. Operation training provides skills and knowledge related to the lift the operator is authorized to drive. These include: inspections, controls, vehicle stability and capacity and any specific operating limitations.
 - 6.2.2. An evaluation of the operator, in the workplace, performing typical aerial lift tasks must occur initially.

7. Definitions.

- 7.1. *Aerial Lift* – Aerial Lift include the following types of devices used to elevate personnel to job-sites above ground, extensible boom platforms, aerial ladders, articulating boom platforms and vertical towers. The equipment may be powered or manually operated and are deemed to be Aerial Lift whether or not they are capable of rotating about a substantially vertical axis.

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AERIAL LIFT OPERATOR CHECKLIST

Items to Be Inspected	OK
Emergency controls are in proper working condition (Emergency Stop Device and emergency lowering function)	<input type="checkbox"/>
Safety devices are functional (Foot pedal, spring lock, etc.)	<input type="checkbox"/>
All safety indicator lights work properly and notion alarms are functional	<input type="checkbox"/>
Fire extinguisher on platform	<input type="checkbox"/>
All controls function properly, are clean and clearly labeled	<input type="checkbox"/>
Ground operating controls successfully over-ride the aerial controls	<input type="checkbox"/>
Fuel level is acceptable and the system is not leaking	<input type="checkbox"/>
Hydraulic level is acceptable and the system is not leaking	<input type="checkbox"/>
Are there any loose or missing parts (Bolts, fasteners, braces, brackets, etc.)	<input type="checkbox"/>
Work platform is clean, dry and clear of debris	<input type="checkbox"/>
Tires, wheels, and lug nuts are in good condition	<input type="checkbox"/>
No defects such as cracked welds, damaged control cables, damaged wire harness or other obvious damage	<input type="checkbox"/>
Slide pad is not worn down	<input type="checkbox"/>
Braking devices are operating properly	<input type="checkbox"/>
The manufacturer's operations manual is stored on the lift (in all languages of the operators)	<input type="checkbox"/>
Boom and lift pivot pins are in good working order	<input type="checkbox"/>
All switch and mechanical guards are in good condition and properly installed	<input type="checkbox"/>
Platform gate and Guardrails are in place and in good condition	<input type="checkbox"/>
Other personal protective devices are in good condition	<input type="checkbox"/>
Stabilizers, outriggers and/or extending axles function properly	<input type="checkbox"/>
Working lights are operational	<input type="checkbox"/>
Control Markings are in place and legible	<input type="checkbox"/>
All manufacturer required inspections of all hydraulic control relief valves and other manufacturer requirements have been completed within the required time period (Check inspection sticker on equipment for validation)	<input type="checkbox"/>
Battery indicator shows an acceptable level remaining	<input type="checkbox"/>
Is the total load within the rated capacity	<input type="checkbox"/>
AERIAL LIFT INSPECTED BY:	
Signature:	Date:
Aerial lift is safe to operate?	___ Yes No
Comments:	

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AERIAL LIFT OPERATOR EVALUATION ASSESSMENT

This form (or its equivalent) must be retained for records management

Equipment Operated (make/model):

Name of Operator:

Employee Identification#:

Date:

Signature of Operator:

Signature of Evaluator:

YES	NO	Activity	YES	NO	Activity
<input type="checkbox"/>	<input type="checkbox"/>	Performs pre-shift checks			
UNDERSTANDS CONTROLS					
<input type="checkbox"/>	<input type="checkbox"/>	Forward/reverse	<input type="checkbox"/>	<input type="checkbox"/>	Service brake
<input type="checkbox"/>	<input type="checkbox"/>	Steering technique	<input type="checkbox"/>	<input type="checkbox"/>	Instrumentation
<input type="checkbox"/>	<input type="checkbox"/>	Parking brakes	<input type="checkbox"/>	<input type="checkbox"/>	Attachment
TRUCK HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops	<input type="checkbox"/>	<input type="checkbox"/>	Smooth/controlled turns
<input type="checkbox"/>	<input type="checkbox"/>	Inching/plugging	<input type="checkbox"/>	<input type="checkbox"/>	Clears obstacles safely
<input type="checkbox"/>	<input type="checkbox"/>	Approach is square	<input type="checkbox"/>	<input type="checkbox"/>	Proper maneuvering speed
<input type="checkbox"/>	<input type="checkbox"/>	Proper traveling height	<input type="checkbox"/>	<input type="checkbox"/>	Looks in travel direction
PARKING PROCEDURES					
<input type="checkbox"/>	<input type="checkbox"/>	Lowers lift to lowest level	<input type="checkbox"/>	<input type="checkbox"/>	Dismounts safely
<input type="checkbox"/>	<input type="checkbox"/>	Truck in neutral	<input type="checkbox"/>	<input type="checkbox"/>	Uses wheel chocks on ramps
<input type="checkbox"/>	<input type="checkbox"/>	Applies parking brake	<input type="checkbox"/>	<input type="checkbox"/>	Turns off fuel supply
<input type="checkbox"/>	<input type="checkbox"/>	Power shut off			
LOAD HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Lift/lower technique	Comments:		
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops			
<input type="checkbox"/>	<input type="checkbox"/>	Proper truck speed			
SAFETY					
<input type="checkbox"/>	<input type="checkbox"/>	Uses horn as required	<input type="checkbox"/>	<input type="checkbox"/>	Uses proper operational speed
<input type="checkbox"/>	<input type="checkbox"/>	Wears PFAS, as needed	<input type="checkbox"/>	<input type="checkbox"/>	Stops at major intersections
<input type="checkbox"/>	<input type="checkbox"/>	Uses intersection mirrors, as	<input type="checkbox"/>	<input type="checkbox"/>	Yields right-of-way

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Aerial Lift Training

Wallet Cards

INSTRUCTIONS FOR USE

1. Designate a Trainer/Certifier to conduct the training and testing of all company Aerial Lift Operators.
2. Operator signature is the operator of the lift, the Certified Signature is the person who administered the practical exam.

COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
AERIAL LIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A LIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE



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TRAINING ATTENDANCE ROSTER AERIAL LIFT	
---	--

Aerial Lift Training Includes:

- Definition
- Common hazards
- Safe Operating Rules
- Inspections

- Definition
- Common hazards
- Safe Operating Rules
- Inspections

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

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PROGRAM OVERVIEW

BACK SAFETY IN THE WORKPLACE PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1903. (General Duty Clause)
OSHA - 29 CFR 1910.151 (Medical Services)
Best Practices - Ergonomics

INTRODUCTION

Outlines the methods for identifying back disorder risk factors and for implementing protective measures to prevent back injuries.

TRAINING

Recommended for most workplaces

ACTIVITIES

- Identify risk factors for back injury in the operations
 - Repetitive or prolonged activities
 - Awkward postures
 - Unusual size or weight objects
- Implement any required controls to minimize or eliminate hazards.

FORMS

- Training Attendance Roster, as needed

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

BACK SAFETY IN THE WORKPLACE PROGRAM

1. **Purpose.** This safety program is designed to establish clear company goals and objectives with regard to back safety and will be communicated to all required personnel. The company will review and evaluate this safety program:

- 1.1 When changes occur to 29 CFR that prompt revision of this document
- 1.2 When facility operational changes occur that require a revision of this document
- 1.3 When there is an accident or close-call that relates to this area of safety
- 1.4 Review the safety program any time these procedures fail

2. **Scope.** This program applies to the total workplace regardless of the number of workers employed or the number of work shifts

3. Responsibilities

3.1.1 Management and Supervisor:

- 3.1.1.1 Evaluate the workplace for potential back safety issues
- 3.1.1.2 Implement controls and awareness training to prevent back injuries
- 3.1.1.3 Review this program and needed.

3.1.2 Employees:

- 3.1.2.1 Follow workplace rules and procedures
- 3.1.2.2 Immediately report injuries or symptoms of back disorders

4. Procedure

- 4.1 Back Disorder Risk Factors. Identification of hazards will be based on risk factors such as conditions of a job process, workstation, or work methods that contribute to the risk of developing problems associated with back disorders. Not all of these risk factors will be present in every job containing stressors nor is the existence of one of these factors necessarily sufficient to cause a back injury. Supervisors will use the following known risk factors to isolate and report suspected problem areas:

- 4.1.1 Repetitive and/or prolonged activities
- 4.1.2 Bad body mechanics such as:
 - 4.1.2.1 Continued bending over at the waist
 - 4.1.2.2 Continued lifting from below the knuckles

- 4.1.2.3 Continued lifting above the shoulders
- 4.1.2.4 Twisting at the waist
- 4.1.2.5 Twisting at the waist while lifting
- 4.1.2.6 Lifting or moving objects of excessive weight
- 4.1.2.7 Lifting or moving object of asymmetric size
- 4.1.2.8 Prolonged sitting with poor posture
- 4.1.2.9 Lack of adjustable :
 - 4.1.2.9.1 Chairs
 - 4.1.2.9.2 Footrests
 - 4.1.2.9.3 Body supports
 - 4.1.2.9.4 Work surfaces at workstations
- 4.1.2.10 Poor grips on handles
- 4.1.2.11 Slippery footing
- 4.1.2.12 Frequency of movement
- 4.1.2.13 Duration and pace
- 4.1.2.14 Stability of load
- 4.1.2.15 Coupling of load
- 4.1.2.16 Type of grip
- 4.1.2.17 Reach distances
- 4.1.2.18 Work height

4.2 Safe Lifting Techniques. First, use a pushcart or other material-handling device! Second, ask a co-worker for help if no device is available! If you must lift alone here are some tips. Before starting to lift or carry anything, check your entire walkway to make sure your footing will be solid. Your shoes should give you good balance, support and traction. Keep loads as close to your body as possible. The following situations show basic lifting techniques to avoid injury:

- 4.2.1 Lifting or lowering from a high place
 - 4.2.1.1 Stand on a platform instead of a ladder

- 4.2.1.2 Lift the load in smaller pieces, if possible
- 4.2.1.3 Slide the load as close to yourself as possible before lifting
- 4.2.1.4 Grip firmly and slide it down
- 4.2.1.5 Get help when you need it to avoid injury
- 4.2.2 Lifting from hard-to-get-at places
 - 4.2.2.1 Get as close to the load as possible
 - 4.2.2.2 Keep back straight, stomach muscles tight
 - 4.2.2.3 Push buttocks out behind you
 - 4.2.2.4 Bend your knees
 - 4.2.2.5 Use leg, stomach, and buttock muscles to lift -- not your back
- 4.2.3 Lifting drums, barrels, and cylinders
 - 4.2.3.1 Use mechanical assists
 - 4.2.3.2 Always be aware that loads can shift
 - 4.2.3.3 Get help if load is too heavy
- 4.2.4 Awkward objects
 - 4.2.4.1 Bend your knees with feet spread
 - 4.2.4.2 Grip the top outside and bottom inside corners
 - 4.2.4.3 Use your legs to lift, keeping back straight
- 4.2.5 Shoveling
 - 4.2.5.1 Make sure your grip and balance are solid
 - 4.2.5.2 Tighten your abdomen as you lift
 - 4.2.5.3 Keep the shovel close to your body
 - 4.2.5.4 Use the strength of your thigh muscles to bring you to an upright position
 - 4.2.5.5 Increase your leverage by keeping your bottom hand low and toward the blade

4.2.6 General safety tips

- 4.2.6.1 Don't lift objects over your head
- 4.2.6.2 Don't twist your body when lifting or setting an object down
- 4.2.6.3 Don't reach over an obstacle to lift a load
- 4.2.6.4 Pace yourself to avoid fatigue

5. Safety Information.

5.1 Job Hazard Analysis and Work Station Analysis Surveys. Job hazard analysis surveys will be routinely performed by a qualified person for jobs that put workers at risk. This analysis survey will help to verify risk factors and to determine if risk factors for a work position have been reduced or eliminated to the extent feasible.

5.1.1 Upper extremities. For upper extremities three (3) measurements of repetitiveness will be reviewed:

- 5.1.1.1 Total hand manipulations per cycle.
- 5.1.1.2 The cycle time.
- 5.1.1.3 The total manipulations or cycles per work shift.

5.1.2 Force measurements. Force measurements will be noted as an estimated average effort and a peak force (unless quantitative measurements are feasible). They will be recorded as "light," "moderate," or "heavy".

5.1.3 Tools. Tools will be checked for excessive vibration and weight. (The NIOSH criteria document on hand/arm vibration should be consulted.) The tools, personal protective equipment, and dimensions and adjustability of the workstation will be noted for each job hazard analysis.

5.1.4 Postures. Hand, arm, and shoulder postures and movements will be assessed for levels of risk.

5.1.5 Lifting Hazards. Workstations having tasks requiring manual materials handling will have the maximum weight-lifting values calculated. (The NIOSH *Work Practices Guide for Manual Lifting* should be used for basic calculations.)

5.1.6 Videotape Method. The use of videotape, where feasible, will be used as a method for analysis of the work process. Slow-motion videotape or equivalent visual records of workers performing their routine job tasks will be used where practical to determine the demands of the task on the worker and how each worker actually performs each task. A task analysis log/form will be used to break down the job into components that can be individually analyzed.

5.2 Hazard Prevention and Control. Company management understands that engineering solutions, where feasible, are the preferred method of control for ergonomic hazards. The focus of this safety program is to make the job fit the person, not to make the person fit the job. This is accomplished by redesigning the workstation, work methods, or tools to reduce the demands of the job. Such as high force, repetitive motion, and awkward postures. This safety program will whenever possible research into currently available controls and technology. The following examples of engineering controls will be used as models for workstation design and upgrade.

5.2.1 Workstation Design. Workstations when initially constructed or when redesigned will be adjustable in order to accommodate the person who actually works at a given workstation. It is not adequate to design for the "average" or typical worker. Workstations should be easily adjustable and either designed or selected to fit a specific task so that they are comfortable for the workers using them. The workspace should be large enough to allow for the full range of required movements especially where hand held tools are used. Examples include:

- 5.2.1.1 Adjustable fixtures on work tables so that the position of the work can be easily manipulated.
- 5.2.1.2 Workstations and delivery bins that can accommodate the heights and reach limitations of various-sized workers.
- 5.2.1.3 Work platforms that move up and down for various operations.
- 5.2.1.4 Mechanical or powered assists to eliminate the use of extreme force.
- 5.2.1.5 Suspension of heavy tools.
- 5.2.1.6 The use of diverging conveyors off of main lines so that certain activities can be performed at slower rates.
- 5.2.1.7 Floor mats designed to reduce trauma to the legs and back.

5.2.2 Design of Work Methods. Traditional work method analysis considers static postures and repetition rates. This will be supplemented by addressing the force levels and the hand and arm postures involved. The tasks will be altered where possible to reduce these and the other stresses. Examples of methods for the reduction of extreme and awkward postures include the following:

- 5.2.2.1 Enabling the worker to perform the task with two hands instead of one.
- 5.2.2.2 Conforming to the NIOSH *Work Practices Guide for Manual Lifting*.

- 5.2.3 Excessive force. Excessive force in any operation can result in both long-term problems for the worker and increased accident rates. Ways to reduce excessive force will be continually emphasized by first line supervisors and employees. Examples of methods to reduce excessive force include:
- 5.2.3.1 The use of automation devices.
 - 5.2.3.2 The use of mechanical devices to aid in removing scrap from work areas.
 - 5.2.3.3 Substitution of power tools where manual tools are now in use.
 - 5.2.3.4 The use of articulated arms and counter balances suspended by overhead racks to reduce the force needed to operate and control power tools.
- 5.2.4 Repetitive motion. All efforts to reduce repetitive motion will be pursued. Examples of methods to reduce highly repetitive movements include:
- 5.2.4.1 Increasing the number of workers performing a task.
 - 5.2.4.2 Lessening repetition by combining jobs with very short cycle times, thereby increasing cycle time. (Sometimes referred to as "job enlargement.")
 - 5.2.4.3 Using automation where appropriate.
 - 5.2.4.4 Designing or altering jobs to allow self-pacing, when feasible.
 - 5.2.4.5 Designing or altering jobs to allow sufficient rest pauses.
- 5.3 Administrative Controls. Administrative controls should be used to reduce the duration, frequency, and severity of exposures to ergonomic stressors that can cause back injury. Examples of administrative controls include the following:
- 5.3.1 Reducing the total number of repetitions per employee by such means as decreasing production rates and limiting overtime work.
 - 5.3.2 Providing rest pauses to relieve fatigued muscle-tendon groups. The length of time needed depends on the task's overall effort and total cycle time.
 - 5.3.3 Increasing the number of employees assigned to a task to alleviate severe conditions, especially in lifting heavy objects.
 - 5.3.4 Using job rotation, with caution and as a preventive measure, not as a response to symptoms. The principle of job rotation is to alleviate physical fatigue and stress of a particular set of muscles and tendons by rotating employees among other jobs that use different muscle-tendon groups. If rotation is utilized, the job analyses must be reviewed to ensure that the same muscle-tendon groups are not used when they are rotated.

- 5.3.5 Providing sufficient numbers of standby/relief personnel to compensate for foreseeable upset conditions on the line (e.g., loss of workers).
- 5.3.6 Job enlargement. Having employees perform broader functions which reduce the stress on specific muscle groups while performing individual tasks.

6. Training and Information

- 6.1 Types of training. Supervisors will determine whether training required for specific jobs will be conducted in a classroom or on-the-job. The degree of training provided shall be determined by the complexity of the job and the associated hazards.
 - 6.1.1 Initial Training. Prior to job assignment the company shall provide training to ensure that the hazards associated with pre-designated job skills are understood by employees. Also the knowledge and skills required for the safe application and usage of work place procedures and equipment is acquired by all employees. The training shall include the following:
 - 6.1.1.1 Each affected employee shall receive training in the recognition of back injury hazards involved with a particular job, and the methods and means necessary for safe work.
 - 6.1.1.2 Training course content. All new and current workers, who work in areas where there is reasonable likelihood of back injury, will be kept informed through continuing education programs. Initial and refresher training will, as a minimum, cover the following:
 - 6.1.1.2.1 Back hazards associated with the job.
 - 6.1.1.2.2 Lifting techniques.
 - 6.1.1.2.3 Potential health effects of back injury.
 - 6.1.1.2.4 Back injury precautions.
 - 6.1.1.2.5 Proper use of protective clothing and equipment.
 - 6.1.1.2.6 Use of engineering controls.
 - 6.1.1.3 Responsibility. Employees are responsible for following proper work practices and control procedures to help protect their health and provide for the safety of themselves and fellow employees, including instructions to immediately report to the Supervisor any significant back injury.

6.1.2 Refresher Training. Scheduled refresher training will be conducted on an as needed basis.

6.1.2.1 Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in equipment or processes that present a new hazard, or when their work takes them into other hazard areas.

6.1.2.2 Additional retraining shall also be conducted whenever a periodic inspection reveals, or when there is reason to believe that there are deviations from or inadequacies in the employee's knowledge of known hazards and use of equipment or procedures.

6.1.2.3 The retraining shall reestablish employee proficiency and introduce new equipment, new lifting procedures or revised control methods and procedures.

6.1.3 Verification. The company shall verify that employee training has been accomplished and is being kept up to date. The verification shall contain a synopsis of the training conducted, each employee's name, and dates of training.

6.2 New Employee Acclimatization Period. Supervisors will ensure that new or transferred employees are allowed an appropriate acclimatization period. New and returning employees will be gradually integrated into a full work schedule as appropriate for specific jobs and individuals. Employees will be assigned to an experienced trainer for job training and evaluation during this period. Employees reassigned to new jobs should also have an acclimatization period.

7. Definitions.

➤ *None at this time*

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TRAINING ATTENDANCE ROSTER BACK SAFETY	
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Back Safety Training Includes:

- Types of Injuries and Causes
- Risk Assessment and Planning
- Safe Lifting Techniques
- Special Lifting Hazards

- Types of Injuries and Causes
- Risk Assessment and Planning
- Safe Lifting Techniques
- Special Lifting Hazards

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

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PROGRAM OVERVIEW

BLOODBORNE PATHOGEN SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.1030

INTRODUCTION

This program is designed to assist in the evaluation and control of potentially infectious materials. Companies who have employees with actual or potential exposures to another person's blood or bodily fluids must comply with the requirements. This program does not address requirements for research laboratories and production facilities covered under 1910.1030(e).

TRAINING

Employees with actual or potential exposures must be trained initially and annually.

ACTIVITIES

- Determine exposures
- Provide Personal Protective Equipment
- Write an Exposure Control Plan and post in the workplace
- Ensure exposure incident process is followed if exposure occurs (written report, medical surveillance, sharps log)
- Ensure Hepatitis B vaccines are offered and documented
- Ensure housekeeping requirements are documented

FORMS

- Cleaning and Disinfecting Schedule
- Exposure Control Plan
- Exposure Incident Report
- Hepatitis B Vaccine Statement
- Safer Medical Device Use Evaluation Form
- Sharps Injury Log
- Text of the BBP Standard
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Bloodborne Pathogen Safety Program

1. **Purpose.** The company ensures the safety of its employees, the community, and the environment through the effective management of biohazards, where employees may be “reasonably anticipated” to come into contact with biohazards as a result of performing their job duties. This procedure assists in compliance with Federal Regulation 29CFR1910.1030.
2. **Scope.** Applies to all locations within company buildings or facilities where exposures to biological hazards may occur, and all company employees who may have exposures to biological agents.

3. Responsibilities

3.1 Management and Supervisor:

- 3.1.1 Determine where exposures are present.
- 3.1.2 Ensure employees are trained, based on their level of exposure to blood or Bloodborne pathogens.
- 3.1.3 Implement a regular cleaning and disinfection schedule.
- 3.1.4 Write and implement an exposure control Plan.
- 3.1.5 Ensure vaccinations and treatments are available, as needed or required. The Hepatitis vaccine series must be offered to employees within 10 days of a job assignment with actual or potential exposure. Vaccines must be provided at a reasonable time and place and at no charge or cost to the employee.
- 3.1.6 Ensure waste containers are properly labeled, handled and disposed.
- 3.1.7 Maintain a sharps injury log.
- 3.1.8 Determine appropriate personnel responsible for evaluating safer medical devices.

3.2 Employees

- 3.2.1 Follow established written procedures
- 3.2.2 Attend training, as needed or required
- 3.2.3 Participate, as needed or required, in the evaluation of safer medical devices.

4. Procedure

- 4.1 Determine where exposures or potential exposures exist.
- 4.2 Provide controls to eliminate or reduce exposures.
- 4.3 Train employees initially and annually.
- 4.4 Exposure Incident Report. Assure medical and exposure records are maintained for each employee who has any exposure event (sharps, blood contact with mucous membranes, etc). These records include:
 - 4.4.1 Name and Social Security Number of the exposed employee
 - 4.4.2 Copy of the employee's Hepatitis B Vaccination status
 - 4.4.3 Documentation of:
 - 4.4.3.1 Routes of exposure
 - 4.4.3.2 Circumstances of exposure
 - 4.4.3.3 Source of contaminant (if known)
 - 4.4.3.4 Results of all exam, testing, and follow-up procedures
 - 4.4.3.5 Listing of PPE used
 - 4.4.3.6 Written opinion of the healthcare provider
 - 4.4.4 Copy of any other documentation provided to the healthcare professional responsible for post-exposure follow up.
- 4.5 Exposure Control Plan. Document, maintain, and make accessible to employees a written Exposure Control Plan. Review and update the Exposure Control Plan at least annually. This includes:
 - 4.5.1 Exposure Determination
 - 4.5.2 Methods of Compliance
 - 4.5.3 Hepatitis B vaccination
 - 4.5.4 Post-Exposure Evaluation and Follow-up
 - 4.5.5 Communication of Hazards to Employees
 - 4.5.6 Recordkeeping

- 4.5.7 Procedure for the evaluation of circumstances surrounding exposure incidents,
- 4.6 Personal Protective Equipment (PPE) - When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices.
- 4.6.1 Use. The employer shall ensure that the employee uses appropriate personal protective equipment.
- 4.6.2 Accessibility. The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.
- 4.6.3 Cleaning, Laundering, and Disposal. The employer shall clean, launder, and dispose of personal protective equipment and at no cost to the employee.
- 4.6.4 Repair and Replacement. The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.
- 4.6.5 PPE shall be removed prior to leaving the work area.
- 4.6.6 When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.
- 4.7 The appropriate type of PPE must be provided and worn based on the job specific hazards as designated in the Exposure Control Plan including gloves, masks, eye protection, face shields, gowns, aprons, surgical caps, hoods, shoe covers, and other protective body clothing.
- 4.8 Safer Medical Device Evaluation. Consider, where appropriate to their use, effective engineering controls including "safer medical devices" to reduce the risk of injury from needles or other sharp medical instruments.
- 4.8.1 At least annually hold discussions, reviews or other forums regarding the use of "safer medical devices" that reduce the risk of exposure incidents which include:
- 4.8.1.1 The use of such devices should be evaluated and, where appropriate, implemented.
- 4.8.1.2 These discussion sessions must be documented and records kept up-to-date.

- 4.8.1.3 Sessions must include employees who use needles and other sharps (such as medical staff, lab technicians, housekeeping staff, maintenance workers and other persons who may have exposure to or come into contact with contaminated sharps).
- 4.8.1.4 Documentation must be made available to regulators during an inspection or audit upon request.

4.9 Provide waste management and a regular cleaning and disinfection schedule.

4.10 Sharps Injury Log. Record all needle-stick/sharps injury cases involving exposures (percutaneous injuries or “under the skin” needle-sticks) from contaminated sharps on a “Sharps Injury Log” for OSHA record keeping and recording. Needle-stick injuries from a new or unused needle do not need to be recorded. This log includes:

4.10.1 The type and brand of device involved in the incident

4.10.2 The department or work area where the incident occurred

4.11 An explanation of the circumstances and how the incident occurred.

5. Safety Information

5.1 Post appropriate signs where biohazards are present (including waste containers).

5.2 Assure a system is in place for periodic medical evaluations for any exposed employee. Medical evaluations where there is doubt as to whether or not an exposure has occurred (i.e., a needle-stick injury where the source contaminant can not be identified) are recommended at a minimum of 3 year intervals.

5.3 Assure all medical and biological waste materials are managed in accordance with all Federal, State and Local regulations.

5.4 Maintain records for the following durations:

5.4.1 Sharps Injury Log (5 years)

5.4.2 Training records (3 years)

5.4.3 Medical exposure records (duration of employment plus 30 years)

5.4.4 Bio-Medical Waste disposal (3 years), if not on a manifest. If on a manifest (7 years).

6. Training and Information

6.1 Initial and annual training requirements for employees

- 6.1.1 Train all employees and Supervisors with exposures or potential exposures to assure they understand their responsibilities and safeguards/controls implemented.

6.2 Training includes:

- 6.2.1 Information on the location of a written copy of the text of the Bloodborne Pathogens regulation (can be electronic provided it remains accessible to employees at all times).
- 6.2.2 An explanation of the Exposure Control Plan.
- 6.2.3 Information on how bloodborne pathogens and diseases can be contracted by employees during their work.
- 6.2.4 An explanation of the modes of transmission of bloodborne pathogens.
- 6.2.5 How exposures can occur and be prevented (controls used, PPE, etc.)
- 6.2.6 Information on the Hepatitis B vaccine
- 6.2.7 Whom to contact at the company and what to do (and what to expect) if an employee has an exposure.
- 6.2.8 Information on post-exposure evaluation
- 6.2.9 An explanation of signs and labels.
- 6.2.10 An opportunity for interactive questions and answers

6.3 Training records are maintained for 3 years and include:

- 6.3.1 Training Attendance Roster
- 6.3.2 Date of training
- 6.3.3 Contents or summary of the training
- 6.3.4 Names and qualifications of persons conducting the training
- 6.3.5 Name and job titles of the employees attending

7. Definitions.

- *Biohazards/Bloodborne Pathogens* - Infectious agents (human pathogens), materials from human sources or primates that may contain pathogens, and organism-produced toxins, venom, allergens, etc. that causes disease in humans.
- *Exposure Control Plan* - A written program that outlines the exposures that are present (or potentially present) in the workplace and the steps taken to eliminate or control those exposures.
- *OPIM* - Other Potentially Infectious Materials, such as contaminated waste, tissue samples, Human body fluids, including: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
- *Potentially Exposed* - An exposure that can reasonably occur at some time.
- *Safer Medical Devices* - Sharps with engineering control devices that provide injury protection, such as syringes with sliding sheaths to shield the needle after use, retracting needles or catheters, or other protective housings.
- *Sharps* - a non-needle sharp or needle device used for withdrawing blood or body fluids, accessing a vein or artery or administering medication or other fluids.
- *Universal Precautions* - An approach to infection control. According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

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Cleaning and Disinfecting Schedule			YEAR: _____
Frequency	Job Title or Service Company Name	Location/Areas Serviced:	Method/Description of services provided:
Examples: Weekly	XYZ cleaning service	Offices and Waiting Room	Vacuum, Dust, Wash windows
After each patient	Nurse	Patient care room	Linen change, sharps disposal, general disinfection

Completed by: _____ Date: _____

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EXPOSURE CONTROL PLAN

Do not use or consider the use of any PPE when making determinations for #s 1, 2 and 3

1) The listing of job classifications (by job title or group) that have actual workplace exposures is:

2) The listing of job classifications (by job title or group) that have potential workplace exposures is:

3) The listing of tasks or jobs and procedures where exposures may occur is:

All employees at the company are required to observe and use "Universal Precautions" to reduce or eliminate contact with blood or other potentially infectious material (OPIM). At the company, all blood or body fluids are considered infectious unless medical-test results indicate otherwise.

The company provides hand and skin washing facilities and requires employees to wash their hands (or other exposed skin) with soap and water:

- a. after exposures (includes flushing of mucus membranes such as eyes or nose, when appropriate);
- b. after removal of gloves or other hand protective PPE; and recommends frequent washing throughout the work shift.

The company may require the use of engineering controls, such as specific ventilations systems to reduce or control exposures.

- a. Controls will be examined and maintained at least annually to ensure they remain effective
- b. Personal Protective Equipment may be required to supplement exposure controls

Personal protective equipment (PPE) will be used where physical controls are not provided or where controls do not fully eliminate exposures. The company requires the items checked:

<input type="checkbox"/> Gloves (List type required)	<input type="checkbox"/> Masks
•	<input type="checkbox"/> Respirators
•	<input type="checkbox"/> Special Shoes or Shoe Coverings
•	<input type="checkbox"/> Other Protective Clothing:
•	•
<input type="checkbox"/> Safety Glasses	•
<input type="checkbox"/> Face Shield	•
<input type="checkbox"/> Lab Coats	•
<input type="checkbox"/> Protective Sleeves	•

Contaminated needles will be properly disposed of and will not be bent, broken, sheared, or recapped without the use of a specific medical device designed for that purpose.

- a. Disposal containers will be: puncture resistant; labeled or color-coded; leak-proof; closed during transport, shipping or storage; placed in secondary containers (which meet these requirements) if the primary container does leak or become punctured.

The company prohibits eating, drinking, smoking or applying cosmetics (including lotions or salves), or handling contact lenses in areas where there is a likelihood of exposure. Specific refrigeration or storage devices where blood or OPIM is kept may not be used to store food, or drink.

The company employees are required, whenever possible, to perform their duties with a minimum of splashing, splattering, or spraying of blood or OPIM.

- a. Mouth pipetting of blood or OPIM is prohibited.
- b. Wear the proper personal protective equipment to shield you from exposure (gloves, facemask, eye protection and coveralls).
- c. Mopping of spilled material tends to splash and spread fluids around. Instead, use an absorbent first, then collect the material into a dust pan and deposit it into a biohazard bag or container.
- d. Wash the floor, equipment or any contaminated surface with soap and water followed by a disinfectant. Unless otherwise designated by specific procedure, 10% bleach in water solution will be used to decontaminate equipment and other surfaces. Where decontamination and cleaning can not occur immediately, signs will be posted on and/or near the equipment to warn other employees of potential exposure.

The company employees who have exposures to biological hazards and Bloodborne pathogens are offered the HBV vaccine series. (The vaccine must be administered by a licensed health care professional during the employee's work hours. The company pays for the vaccine series, with no upfront costs or out-of-pocket expenses incurred by the employee. Time to travel to or from the vaccination location is provided by the company at no cost to the employee.) Records are maintained at the company with regard to vaccination completion or a statement of refusal of the vaccine, and employees are required to provide such records to the company.

- a. Employees with potential exposures may be offered the vaccine series as well, based on the likelihood of exposure. In such cases, the above requirements apply.
- b. The vaccine series will be offered within 10 days of initial assignment.
- c. If the employee initially declines hepatitis B vaccination but at a later date decides to accept the vaccination, the employer shall make available hepatitis B vaccination at that time.

Should an exposure incident occur at the company, the corporation will provide (at no cost to the employee) a medical evaluation and follow up which includes:

- a. Documentation of the route(s) of exposure (inhalation, injection, ingestion) and the circumstances of the exposure;
- b. Where feasible, identification of the source of the contamination (including possible testing of blood from consenting individuals) and any test results;
- c. Collection and testing of the exposed employees blood (should they consent);
- d. Protective equipment to prevent other exposures;
- e. Counseling; and
- f. A copy of the health-care provider's written opinion.

Biohazard warning labels are affixed to regulated waste containers and storage devices used for blood and OPIM. These biohazard labels meet the regulatory requirements.

- a. Signs may also be posted, and are required if the facility does research with or handles known HIV or HBV materials. These signs meet the regulatory requirements for Biohazard signs and are posted at the entrance to these work areas.

Employees with exposures are trained upon initial assignment, when job duties change or exposure levels increase *and* every year (within one year of the previous training date) thereafter. Training includes:

- a. Information on the location of a written copy of the text of the Bloodborne Pathogens regulation (can be electronic, provided it remains accessible to employees at all times).
- b. A general explanation of the signs and symptoms of bloodborne diseases.
- c. An explanation of this exposure control plan
- d. Information on how Bloodborne pathogens and diseases can be contracted by employees during their work at the company. (example: general patient care, surgery, dressing changes, injections).
- e. How exposures are prevented at the company (Controls used, types of PPE, etc.).
- f. Whom to contact at the company and what to do (and what to expect) if an employee has an exposure. This information is as follows:

Whom to Contact: _____ Phone Number: _____

What to do: Wash the affected area. Report the incident. Receive follow up and evaluation services as outlined in this exposure plan.

Other Information specific to the company: _____

The persons who are responsible for evaluating the use of "Safety Medical Devices" meet annually, keep records of their meetings and are listed by name or job title as follows:

Medical records for this standard are maintained as follows:

Record Name	Where Kept	Responsible Person	How Long Kept
Sharps Injury Log	Main Office	Safety Officer	5 Years
Medical Exposure Records	Main Office	Safety Officer	Employment plus 30 years
BBP Training Records	Main Office	Safety Officer	3 years
Meeting Minutes from persons evaluating the use of safer medical devices	Main Office	Safety Officer	Until superseded
Waste records or manifests	Main Office	Safety Officer	7 years
Process Specific Procedures	Main Office and work area	Safety Officer	Until superseded

Completed by: _____ Date: _____

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EXPOSURE INCIDENT REPORT

(Routes and Circumstances of Exposure to Bloodborne Pathogens)
Form To Be Completed By Supervisory Personnel

Report # _____

Facility:

Supervisors Name:

Date Reported:

Related Operating Procedures Reviewed:

Yes ☐

No ☐

All Affected Employees Notified:

Yes ☐

No ☐

Employee Information:

Employee's Name

Date

Date of Birth

SS#

Job Title

Telephone (Business)

(Home)

Date of Exposure

Time of Exposure

AM PM

Hepatitis B Vaccination Completed Series

Yes ☐

No ☐

Location of Incident

Bodily Exposure Information:

Part of body to which exposure occurred (describe fully):

Decontamination:

Describe the method(s) of decontamination used

☐ Soap & water

☐ Disinfectant

☐ Towelettes

☐ 10% Bleach solution

Other (describe):

Describe what job duties were performed when the exposure incident occurred.

Describe the circumstances under which the potential exposure incident occurred.

What body fluid(s) or specific chemicals were involved in the exposure incident?			
Describe route of exposure (e.g., skin contact, inhalation, ingestion).			
Describe any Personal Protective Equipment (PPE) in use at time of exposure incident.			
Did PPE fail? No <input type="checkbox"/> Yes <input type="checkbox"/> If yes, describe how.			
(For Bloodborne Pathogen Exposure) Identification of source individual(s) (Names)			
ACKNOWLEDGMENT			
Employee Name:		Supervisor Name:	
Signature:		Supervisor Signature:	
Date:		Time:	
<u>REPORT FORM RETENTION INFORMATION</u>			<u>ATTACHMENTS</u>
Permanent Retention File:	Location:	*Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date Filed:	Filed By:		

HEPATITIS B VACCINE STATEMENT

 ATTESTMENT STATEMENT:

I have received the Hepatitis B Vaccine Series.

Date of vaccine (if known): _____

 DECLINATION STATEMENT:

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee Printed Name	Employee's Signature	Date
If Declining the vaccine, statement should be witnessed:		
Witness Printed Name	Witness Signature	Date

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SAFER MEDICAL DEVICE USE EVALUATION				YEAR: _____
Date Evaluated	Type of Device	Device Brand Name	Manufacturer	Brief Description of positive or negative features:

Completed by: _____ Date: _____

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SHARPS INJURY LOG *				YEAR: _____
Date and Time of Incident or Report #	Type of Device (e.g. syringe, suture needle)	Device Brand Name	Work Area Where Injury Occurred	Brief Description of How the Injury Occurred and Body Part Injured (e.g. procedure being done, task being performed, etc.)

* - California facilities must enter an incident report number cross-referencing the Exposure Incident Report Form to ensure the California Sharps Injury Log requirements are compliant.

Completed by: _____ Date: _____

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TEXT OF THE BLOODBORNE PATHOGEN REGULATION

1910 Occupational Safety and Health Standards
Subpart Z Toxic and Hazardous Substances **1910.1030** Bloodborne Pathogens.

Exposure Control

Exposure Control Plan.

- 1 Each employer having an employee(s) with occupational exposure shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure. The Exposure Control Plan shall contain at least the following elements:
 - The exposure determination
 - The schedule and method of implementation for Methods of Compliance, HIV and HBV Research Laboratories and Production Facilities, Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, Communication of Hazards to Employees, and (h) Recordkeeping, of this standard, and
 - The procedure for the evaluation of circumstances surrounding exposure incidents
- 2 Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees.
- 3 The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans shall also:
 - Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and
 - Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.
- 4 An employer, who is required to establish an Exposure Control Plan, shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.
- 5 The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

Exposure Determination.

- 1 Each employer who has an employee(s) with occupational exposure shall prepare an exposure determination. This exposure determination shall contain the following:
 - A list of all job classifications in which all employees in those job classifications have occupational exposure;
 - A list of job classifications in which some employees have occupational exposure, and
 - A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.
- 2 This exposure determination shall be made without regard to the use of personal protective equipment.

Methods of Compliance

General. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

Engineering and Work Practice Controls.

- 1 Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.
- 2 Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.
- 3 Employers shall provide hand washing facilities which are readily accessible to employees.
- 4 When provision of hand washing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
- 5 Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.
- 6 Employers shall ensure that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.

- 7 Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as noted below. Shearing or breaking of contaminated needles is prohibited.
- 8 Contaminated needles and other contaminated sharps shall not be bent, recapped or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.
- 9 Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.
- 10 Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:
 - Puncture resistant;
 - Labeled or color-coded in accordance with this standard;
 - Leak proof on the sides and bottom; and
 - In accordance with the requirements set forth for reusable sharps.
- 11 Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
- 12 Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are present.
- 13 All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.
- 14 Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.
- 15 Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.
- 16 The container for storage, transport, or shipping shall be labeled or color-coded and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding is required when such specimens/containers leave the facility.
- 17 If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.
- 18 If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.
- 19 Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.
- 20 A readily observable label in accordance with paragraph (g)(1)(i)(H) shall be attached to the equipment stating which portions remain contaminated.
- 21 The employer shall ensure that this information is conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

Personal Protective Equipment

Provision. When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Use. The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

Accessibility. The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

Cleaning, Laundering, and Disposal. The employer shall clean, launder, and dispose of personal protective equipment, at no cost to the employee.

Repair and Replacement. The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

- 1 If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.
- 2 All personal protective equipment shall be removed prior to leaving the work area.
- 3 When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.
- 4 Gloves. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified; and when handling or touching contaminated items or surfaces.
- 5 Disposable (single use) gloves such as surgical or examination gloves, shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.
- 6 Disposable (single use) gloves shall not be washed or decontaminated for re-use.
- 7 Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.
- 8 If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

- Periodically reevaluate this policy;
- Make gloves available to all employees who wish to use them for phlebotomy;
- Not discourage the use of gloves for phlebotomy; and
- Require that gloves be used for phlebotomy in the following circumstances:
 - When the employee has cuts, scratches, or other breaks in his or her skin;
 - When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and
 - When the employee is receiving training in phlebotomy.

Masks, Eye Protection, and Face Shields. Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

Gowns, Aprons, and Other Protective Body Clothing. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

- 1 Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopaedic surgery).

Housekeeping

General. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The employer shall determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

- 1 All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.
- 2 Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.
- 3 Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

- 4 All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.
- 5 Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.
- 6 Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

Regulated Waste

- 1 Contaminated Sharps Discarding and Containment. Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:
 - Closable;
 - Puncture resistant;
 - Leak proof on sides and bottom; and
 - Labeled or color-coded.
- 2 During use, containers for contaminated sharps shall be:
 - Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);
 - Maintained upright throughout use; and
 - Replaced routinely and not be allowed to overfill.
- 3 When moving containers of contaminated sharps from the area of use, the containers shall be:
 - Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;
 - Placed in a secondary container if leakage is possible. The second container shall be:
 - Closable;
 - Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
 - Labeled or color-coded.
- 4 Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

Other Regulated Waste Containment

- 1 Regulated waste shall be placed in containers which are:
 - Closable;
 - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
 - Labeled or color-coded; and
 - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
- 2 If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:
 - Closable;
 - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
 - Labeled or color-coded; and
 - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
- 3 Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

Laundry.

- 1 Contaminated laundry shall be handled as little as possible with a minimum of agitation.
- 2 Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

- 3 Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.
- 4 Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.
- 5 The employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.
- 6 When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded.

HIV and HBV Research Laboratories and Production Facilities.

This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

Research laboratories and production facilities shall meet the following criteria:

Standard Microbiological Practices. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

Special Practices.

- 1 Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.
- 2 Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leak proof, labeled or color-coded container that is closed before being removed from the work area.
- 3 Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.
- 4 When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with this standard.
- 5 All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.
- 6 Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.
- 7 Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.
- 8 Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
- 9 Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.
- 10 Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.
- 11 All spills shall be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.

- 12 A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.
- 13 A bio-safety manual shall be prepared or adopted and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.
- 14 Containment Equipment.
- 15 Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.
- 16 Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.
- 17 HIV and HBV research laboratories shall meet the following criteria:
 - Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.
 - An autoclave for decontamination of regulated waste shall be available.
- 18 HIV and HBV production facilities shall meet the following criteria:
 - The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-door clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.
 - The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination.
 - Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.
 - Access doors to the work area or containment module shall be self-closing.
 - An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.
 - A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

Training Requirements. Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified later in this standard.

Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up

General.

- 1 The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.
- 2 The employer shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:
 - Made available at no cost to the employee;
 - Made available to the employee at a reasonable time and place;
 - Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and
 - Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified.
- 3 The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

Hepatitis B Vaccination.

- 1 Hepatitis B vaccination shall be made available after the employee has received the training required and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

- 2 The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.
- 3 If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the employer shall make available hepatitis B vaccination at that time.
- 4 The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the required statement.
- 5 If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available.
- 6 Post-exposure Evaluation and Follow-up. Following a report of an exposure incident, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:
 - Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;
 - Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;
 - The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the employer shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.
 - When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
 - Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.
 - Collection and testing of blood for HBV and HIV serological status;
 - The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.
 - If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.
 - Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;
 - Counseling; and
 - Evaluation of reported illnesses.

Information Provided to the Healthcare Professional.

- 1 The employer shall ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.
- 2 The employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:
 - A copy of this regulation;
 - A description of the exposed employee's duties as they relate to the exposure incident;
 - Documentation of the route(s) of exposure and circumstances under which exposure occurred;
 - Results of the source individual's blood testing, if available; and
 - All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

Healthcare Professional's Written Opinion. The employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

- 1 The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.
- 2 The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:
 - That the employee has been informed of the results of the evaluation; and
 - That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- 3 All other findings or diagnoses shall remain confidential and shall not be included in the written report.
- 4 Medical Recordkeeping. Medical records required by this standard shall be maintained.

Communication of Hazards to Employees

Labels and Signs

Labels.

- 1 Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials, except as indicated.
- 2 Labels required by this section shall include the following legend:



- 3 These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.
- 4 Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.
- 5 Red bags or red containers may be substituted for labels.
- 6 Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements.
- 7 Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.
- 8 Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.
- 9 Regulated waste that has been decontaminated need not be labeled or color-coded.
- 10 Signs.
- 11 The employer shall post signs at the entrance to work areas specified in paragraph (e), HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:



- (Name of the Infectious Agent)
 - (Special requirements for entering the area)
 - (Name, telephone number of the laboratory director or other responsible person.)
12. These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color.

Information and Training.

- 1 Employers shall ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours.
- 2 Training shall be provided as follows:
- 3 At the time of initial assignment to tasks where occupational exposure may take place;
- 4 Within 90 days after the effective date of the standard; and
- 5 At least annually thereafter.
- 6 For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided.
- 7 Annual training for all employees shall be provided within one year of their previous training.

- 8 Employers shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.
- 9 Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.
- 10 The training program shall contain at a minimum the following elements:
 - An accessible copy of the regulatory text of this standard and an explanation of its contents;
 - A general explanation of the epidemiology and symptoms of bloodborne diseases;
 - An explanation of the modes of transmission of bloodborne pathogens;
 - An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;
 - An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
 - An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
 - Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
 - An explanation of the basis for selection of personal protective equipment;
 - Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
 - Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
 - An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
 - Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;
 - An explanation of the signs and labels and/or color coding required; and
 - An opportunity for interactive questions and answers with the person conducting the training session.
- 11 The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.
- 12 Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.
 - The employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.
 - The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
 - The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

Recordkeeping

Medical Records.

- 1 The employer shall establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020.
- 2 This record shall include:
 - The name and social security number of the employee;
 - A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination;
 - A copy of all results of examinations, medical testing, and follow-up procedures;
 - The employer's copy of the healthcare professional's written opinion; and
 - A copy of the information provided to the healthcare professional.

- 3 Confidentiality. The employer shall ensure that employee medical records are:
 - Kept confidential; and
 - Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.
- 4 The employer shall maintain the records required for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.1020.

Training Records.

- 1 Training records shall include the following information:
 - The dates of the training sessions;
 - The contents or a summary of the training sessions;
 - The names and qualifications of persons conducting the training; and
 - The names and job titles of all persons attending the training sessions.
- 2 Training records shall be maintained for 3 years from the date on which the training occurred.

Availability.

- 1 The employer shall ensure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.
- 2 Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.
- 3 Employee medical records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.
- 4 Transfer of Records.
- 5 The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).
- 6 If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three months prior to their disposal and transmit them to the Director, if required by the Director to do so, within that three month period.
- 7 Sharps injury log.
- 8 The employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:
 - The type and brand of device involved in the incident,
 - The department or work area where the exposure incident occurred, and
 - An explanation of how the incident occurred.
- 3 The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR 1904.
- 4 The sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

Dates

Effective Date. The standard shall become effective on March 6, 1992.

- 1 The Exposure Control Plan required by this section shall be completed on or before May 5, 1992.
- 2 Information and Training and Recordkeeping shall take effect on or before June 4, 1992.
- 3 Engineering and Work Practice Controls, Personal Protective Equipment, Housekeeping, HIV and HBV Research Laboratories and Production Facilities, Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, and Labels and Signs, shall take effect July 6, 1992.

TRAINING ATTENDANCE ROSTER - BLOODBORNE PATHOGENS

Training Content: <ul style="list-style-type: none"> What is a BBP Types of diseases Exposure control plan Precautions and PPE Spill Cleanup Waste Disposal Exposure Incident Process 	Instructor Name: <small>* If training provided by Paychex, Trainers are qualified per Paychex Safety & Loss Control</small>	Date of Training:
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	JOB TITLE
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

INJURY ILLNESS PREVENTION PROGRAM (IIPP) SAFETY MANAGEMENT PROGRAM

REGULATORY STANDARD: *CAL OSHA 8 CCR 3203*
 OSHA – General Duty Clause

INTRODUCTION

The Injury and Illness Prevention Program is intended to establish a framework for identifying and correcting workplace hazards. The California Occupational Health & Safety Administration requires most employers to maintain a written safety program. The material in this program provides guidance on establishing a safety culture that promotes safety as an integral part of its daily operations.

TRAINING

Training should be consistent with the risk exposures anticipated for the nature of the work being conducted and or performed.

ACTIVITIES

- Assign responsibilities to manage this program
- Conduct a safety inspection to evaluate workplace conditions recognizing unsafe work practices and conditions and identify improvement areas
- Develop an action plan, based on priority levels to implement controls for identified hazards
- Maintain the program and schedule periodic reviews to look at each critical component in your IIPP to determine what is working and what changes, if any are needed

FORMS

- General Hazard Assessment
- Hazard Alert, as required
- Injury and Illness Prevention Program
- Training Attendance Roster
- ATD Exemption for Dental Clinics, Dental Offices, or Specialty Medical Offices of an Outpatient Nature, if included

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

INJURY ILLNESS PREVENTION PROGRAM (IIPP)

SAFETY MANAGEMENT PROGRAM

- 1. Purpose.** Effective implementation for job safety and health of our employees requires a written safety program fully endorsed and advocated by the highest level of management within the company. This safety program is designed to establish clear company goals and objectives and will be communicated to all required personnel. It encompasses the total workplace regardless of the number of workers employed or the number of work shifts. Company management will review and evaluate this safety program:

- 1.1 On an annual basis or as necessary.
- 1.2 When changes occur to 29 CFR and/or 8 CCR that prompt a revision.
- 1.3 When changes occur to any regulatory document that affect this program.
- 1.4 When facility operational changes occur that affect this program.

- 2. Scope.** Applies to all facilities and sites.

3. Responsibilities

3.1 Executive Management

- 3.1.1 Provide sufficient human and financial resources to address federal, state, and local safety and health compliance.
- 3.1.2 Assign compliance and general safety and health responsibilities to the Safety Officer or another designated person.
- 3.1.3 Establish employee safety and health management performance goals.
- 3.1.4 Review the company safety and health management performance as required.
- 3.1.5 Hold Managers and Supervisors accountable for safety and health performances through performance appraisals or by other means.

3.2 Management and Supervisors

- 3.2.1 Develop safety rules and job procedures necessary to eliminate or control hazards.
- 3.2.2 Conduct employee orientation and on-the-job training as required.
- 3.2.3 Conduct scheduled employee safety meetings.
- 3.2.4 Conduct on-going informal hazard identification checks and scheduled formal audits.
- 3.2.5 Provide personal protective equipment to employee as required, train employees on its proper use and require employees to use it where necessary.

- 3.2.6 Record all incidents and injuries and report them to regulatory agencies as needed or required.
 - 3.2.7 Investigate and document all accidents per accident investigation procedures.
 - 3.2.8 Support and enforce all company, department, and job specific safety rules, policies and procedure – utilize disciplinary procedures as necessary as per company policy or the Employee Handbook.
 - 3.2.9 Implementing and maintain the IIP Program in their work areas and for answering worker questions about this program. A copy of the IIP Program will be available and provided as may be requested or needed.
- 3.3 Employees
- 3.3.1 Follow all safety and job rules and procedures, including wearing required personal protective equipment.
 - 3.3.2 Use only tools, equipment, and materials for which training and authorization have been given.
 - 3.3.3 Report all accidents, injuries, property damage, and near-miss incidents, as required.
 - 3.3.4 Report all observed unsafe conditions and behaviors.
 - 3.3.5 Participate in all employee safety and health training programs.
- 3.4 Safety Officer (as needed or required):
- 3.4.1 Develop programs to comply with federal, state, and local employee safety and health regulations.
 - 3.4.2 Coordinate provision of employee and management safety and health training.
 - 3.4.3 Maintain all required documentation.
 - 3.4.4 Prepare safety and health management status reports, which may include Workers' Compensation loss summaries, compliance summaries, trend analyses of audit and inspection results, accident and incident causes, safety alerts or other reported safety concerns.
 - 3.4.5 The Safety Officer will be identified in our company's written Injury and Illness Prevention Program. The Safety Officer has the authority and the responsibility for implementing and maintaining this IIP Program for our company.

3.5 Method of Accountability. Employee and company performance, in relation to safety and health responsibilities, is reviewed within the status reports, and may include the following items:

- 3.5.1 Number of workers' compensation claims within the business unit.
- 3.5.2 Number of lost time incidents or the types of incidents that occur.
- 3.5.3 Occurrence(s) of disciplinary actions resulting from failure to comply with safety procedures.
- 3.5.4 Occurrence(s) of recognized safe behaviors.
- 3.5.5 Attendance and participation in safety training.
- 3.5.6 Timeliness of audits, inspections, incident reporting and investigation of incidents or accidents.
- 3.5.7 Quality of investigation reports and recommended corrective actions.
- 3.5.8 Timeliness and effectiveness of implemented corrective actions.

4. Procedure

4.1 General Work Rules

- 4.1.1 All employees are to follow all task, department, and facility rules, policies, and procedures. Appropriate personal protective equipment or other control measures will be used as required.
- 4.1.2 All employees are to refrain from running, horseplay, practical jokes, and other activities, which could lead to the injury of the employee or others.
- 4.1.3 All employees are to report to work in appropriate attire and condition to ensure constant awareness of surroundings and activities. Employees under the influence of alcohol or illegal drugs will be disciplined according to company policies, up to or including termination. If an employee's abilities may be impaired by legal over the counter or prescription medications, he/she is to inform their Supervisor or Manager.
- 4.1.4 Employees will only use, repair, or adjust tools and machinery if trained and authorized by Supervisory personnel.
- 4.1.5 Employees will maintain good housekeeping in all work areas and follow housekeeping schedules as required by job procedures and department policies.
- 4.1.6 Department and job specific rules are located in the main office or can be accessed via the area Supervisor or Manager.
- 4.1.7 General Compliance

- 4.1.7.1 All workers, including managers and supervisors are responsible for complying with safe work practices. To ensure that all workers comply with these practices, the company will do the following;
 - 4.1.7.1.1 Inform workers of the applicable provisions of the IIPP as it affects them.
 - 4.1.7.1.2 Evaluate the safety performance of all workers.
 - 4.1.7.1.3 Recognize employees who perform safe work practices (may be verbal, written or other means).
 - 4.1.7.1.4 Provide training to workers whose safety performance is deficient.
 - 4.1.7.1.5 Discipline workers for failure to comply with safe work practices, following the company's disciplinary procedures.

4.2 Incidents and Accidents

4.2.1 Definitions

- 4.2.1.1 *Incident/Accident – An unplanned event resulting in injury or property damage, regardless of severity or fault.*

4.2.2 Accident, Injury, Property Damage or Near Miss Incident Reporting Procedures

- 4.2.2.1 Employees must report all incidents, accidents and near misses to their Supervisor or Manager. Reporting responsibilities are as follows:
- 4.2.2.2 The employee or their Supervisor may complete portions of the accident or incident report. However, the employee's Supervisor must complete all portions relating to the investigation and must also ensure the full completion of all portions of the report. All three types of events (accidents, incidents and near misses) are required to have reports maintained.
- 4.2.2.3 The Supervisor or Manager must review and sign the completed form.
- 4.2.2.4 As needed or required, copies of the report should be forwarded to the Safety Officer, Claims Officer, and internal Human Resources Representative.
- 4.2.2.5 Procedures for investigating accidents, incidents and near misses may include interviewing injured workers and witnesses and examination of the involved area for factors associated with the event. Photographs may also be taken to help with the investigation

- 4.2.3 Accident, Injury, Property Damage or Near Miss Incident Report flow:
- 4.2.3.1 The employee initiates the report as soon as he/she is aware of the event.
 - 4.2.3.2 The Supervisor conducts an investigation, as required, and completes the report within 24 hours or as soon as possible.
 - 4.2.3.3 The Supervisor forwards the report to the designated Safety Officer or directly to company management who reviews the report to ensure the completion of a thorough investigation. Additional copies may be sent to other personnel, as appropriate.
 - 4.2.3.4 If the employee needs outside medical attention or loses time, the Supervisor should phone the safety officer or human resources representative to assure that any necessary claims management activities are initiated.
- 4.2.4 Use of Accident, Injury, Property Damage or Near Miss Incident Report Information
- 4.2.4.1 Once the reports are completed and forwarded to the appropriate personnel, the following personnel will undertake the listed activities to make the most of the information provided on the reports:
 - 4.2.4.1.1 Safety Officer or other designated person at the company reviews the reports to identify incident trends. A Trend Summary Report or similar document may be compiled and presented to company management, who would then initiate corrective actions to address the identified trends.
 - 4.2.4.1.2 Claims or Human Resources Officer uses the report information to complete the necessary worker's compensation forms and to initiate claims management activities where applicable.
 - 4.2.4.1.3 Supervisors and Managers follow up with all affected area Supervisors and employees to ensure the correction of identified causes. The Managers may also share relevant information with Supervisors in other areas to ensure similar hazard situations are addressed. Finally, Management ensures the provision of sufficient resources to make the necessary corrections and changes. Such resources may include equipment, materials, money, time, and support for policy changes.
 - 4.2.4.1.4 Senior Managers use the reports to identify the types of incidents and hazards occurring within the company in order to make appropriate decisions regarding safety and health management program improvement efforts.

4.3 Hazard Assessment and Control

4.3.1 Formal safety audits - are scheduled inspections in which the findings are documented and reviewed. Informal safety audits are unscheduled inspections in which findings may or may not be documented. However, documentation (such as work orders or disciplinary actions) for hazardous conditions or behaviors observed during informal audits is recommended.

4.3.2 Periodic inspections will be performed as follows: (a) when the IIP Program is initially established; (b) when new substances, processes, procedures or equipment which present potential new hazards are introduced into the workplace; (c) when new or previously unidentified hazards are recognized; (d) when occupational injuries and illnesses occur; and (e) whenever workplace conditions warrant an inspection.

4.3.3 Audit and Inspection Procedures - Audit schedules will be maintained by company management or their specific designee. Audit procedures and finding reports should be maintained until corrective actions are formalized, or until subsequent audit reports supersede them. Inspection reports will be documented and maintained for at least one year and will include the name of the person doing the inspection, the unsafe condition or work practice and the action(s) taken.

4.3.3.1 Formal Audits: (Reference General Hazard Assessment form)

4.3.3.1.1 Auditors will use the General Hazard Assessment form or an equivalent auditing document to conduct formal audits.

4.3.3.1.2 Auditors will review the previous audit documentation and other hazard reports or documented concerns prior to conducting the audit.

4.3.3.1.3 Auditors will complete the auditing documentation and review their findings with the appropriate Supervisor or Manager upon the completion of the audit.

4.3.3.1.4 Copies of the audit documentation will be forwarded to the company Manager or their specific designee who is in charge of the audit program.

4.3.3.1.5 The area Manager or Supervisor will assign responsibilities for corrective actions and provide the names and action dates for such assignments to the person responsible for maintaining audit documentation.

- 4.3.3.1.6 The auditor or audit team will prepare a summary of audit documentation to present to company management. The summary will include the identification of trends in observed unsafe behaviors, unsafe conditions, or non-compliance with regulated elements.
 - 4.3.3.1.7 The company Manager will review the audit summary to ensure the effective implementation of corrective actions for each deficient item and to address any identified trends. Any meeting minutes or notes will reflect the discussions, identify uncorrected hazards or trends with personnel assigned responsibility for correction, and an estimated time frame for initiating corrective actions.
- 4.3.3.2 Inspections (Informal Audits): (Reference Hazard Alert form)
- 4.3.3.2.1 Any employee observing an unsafe behavior or condition must report it to their Supervisor or Manager, verbally or in writing. Documentation in the form of a “hazard alert” or equivalent form may be completed to initiate corrective actions. Employees can fill such forms anonymously without identifying themselves if they so desire.
 - 4.3.3.2.2 Imminent Hazards. When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, all exposed workers will be removed from the area except those necessary to correct the existing condition. Workers who are required to correct the hazardous condition shall be provided with the necessary protection.
 - 4.3.3.2.3 The Hazard Alert form recipient will review the reported hazard and initiate corrective actions as appropriate.
 - 4.3.3.2.4 The person designated to make any corrective action will note the findings and corrective actions taken on the Hazard Alert form.
 - 4.3.3.2.5 A copy of the completed Hazard Alert form is sent to the Manager or Supervisor of the area where the hazardous condition or activity took place for review. Additional copies will be provided to company management or the specific designated person who is in charge of any company formal audits for use in the next area audit.

- 4.3.3.3 Compliance Audits To ensure compliance with federal and state employee safety and health laws, company management (in conjunction with the designated Safety Officer) will perform evaluations to determine the level of compliance with the regulations and our internal compliance programs.
- 4.3.3.4 Irrespective of how an unsafe or unhealthy condition, work practice or procedure was identified, correction of the situation will be done in a timely manner based on the severity of the hazard.

5. Safety Information

5.1 New or Altered Equipment and Processes

5.1.1 New equipment, chemicals or activities will be reviewed and their hazards evaluated prior to installation or implementation. Area Supervisors or management may be designated to lead the review and evaluation, or a “process change committee” may be set up to perform this task. If a committee is used, documentation will be retained with regard to meeting minutes or notes, corrective actions, evaluation documentation and any of the documents listed below:

5.1.1.1 Evaluation of new or altered (changes to existing) equipment or to equipment related activities will be documented using the New or Altered Equipment Review form, or an equivalent document.

5.1.1.2 Evaluation of new chemicals or changes to existing usages or process activities will be documented using the New or Changed Chemical Activity Worksheet, or an equivalent document.

5.1.1.2.1 Safety Data Sheets and hazard information will be reviewed with all employees using a new chemical or utilizing a new activity with existing chemicals prior to the activity being implemented or performed, in accordance with the company's Hazard Communication program, if one is required.

5.1.1.3 New activities and tasks will have written procedures developed that include an evaluation of the hazards of that activity or task, the methods to control identified hazards, protective equipment to be used (if any), and any emergency information related to the task or activity. These procedures will be reviewed with employees who perform that activity or task prior to the implementation of the activity or task.

5.2 Employee Safety Committee

Safety Committees are not mandatory in the state of California. If the company decides to establish one, a separate program outlining the requirements will be included in the company's Safety Manual.

6. Training and Information

- 6.1 Management will ensure that OSHA compliance training is provided to all employees and in a form readily understandable by all affected employees, as required by company Safety Programs. The area Supervisor or company safety officer may be designated to perform this task. Attendance rosters will be maintained in the main office or where similar documentation and training records are maintained. Training summaries may also be retained.
- 6.2 Exception: If the company has fewer than 10 employees, communication with employees as noted in 6.1 may be done orally in general work practices with specific instructions with respect to hazards unique to the employee's job assignment.
- 6.3 Employee Orientation
 - 6.3.1 New Employees All new employees will receive an orientation provided by the Safety Officer, their Supervisor or other designated person prior to their exposure to work place hazards. The new employee orientation may include the following items, as applicable:
 - 6.3.1.1 Overview of the Safety Management Program (IIPP).
 - 6.3.1.2 Review of employee and management responsibilities.
 - 6.3.1.3 Hazard reporting procedures.
 - 6.3.1.4 Accident, injury, property damage and near miss incident reporting procedures.
 - 6.3.1.5 General work rules.
 - 6.3.1.6 Department work rules.
 - 6.3.1.7 Method of access to first aid treatment.
 - 6.3.1.8 Job tasks hazards and methods of control.
 - 6.3.1.9 OSHA required training.

- 6.3.2 Transferred Employees Employees transferring within the company will be trained in the items and exposures that any previous training did not cover.
- 6.3.2.1 The area Supervisor or Manager will provide this training prior to the employee's exposure to new hazards.
- 6.3.3 Orientation Documentation Employee orientation will be documented through the completion of the New Employee Safety Orientation Training List or an equivalent training record. This form must be signed and dated by the trainer and the employee. The form will be maintained in the main office, or where similar documentation and training records are kept.
- 6.4 Job/Task Training. Employees will be trained in the hazards of their jobs and the proper procedures to control the hazards prior to their exposure to the hazards and for new unrecognized hazards. Training will be provided by the area Supervisor or Manager (or their specific designee) and documented on the employee's training record or attendance roster.
- 6.4.1 Anonymous Notification Our communication system encourages all workers to inform their managers and supervisors about workplace hazards without fear of reprisal. Workers can anonymously inform management about workplace hazards via the Hazard Alert Form or other similar means where feasible.
- 6.5 On-Going Training Employees will be provided on-going safety training throughout their tenure with the company. This training will be provided through any combination of the following sources:
- 6.5.1 Safety meetings
- 6.5.2 Safety newsletter
- 6.5.3 Safety posters or bulletin board communications
- 6.5.4 Job performance feedback
- 6.5.5 Training on existing safety programs
- 6.6 Management Training. To ensure the success of the Safety Management Program, Supervisors and Managers will receive employee safety and health management training. Managers and Supervisors will receive training through the Safety Officer or other designated person. Attendance rosters will be maintained in the main office, or where similar documentation and training records are kept. Training rosters will include the name of the employee, date of training, topic, name of trainer, and will be maintained for at least one year.

- 6.6.1 The topics presented to the Supervisors and Managers are applicable to their specific responsibilities. The topics presented may include:
- 6.6.1.1 Review of the Safety Management Program (IIPP).
 - 6.6.1.2 Procedures to conduct formal and informal audits.
 - 6.6.1.3 Methods of employee training.
 - 6.6.1.4 Procedures to record and report accidents, injuries, property damage and near miss incidents.
 - 6.6.1.5 Methods to conduct accident investigations.
 - 6.6.1.6 Methods to develop and enforce appropriate safety and health rules.

7. Definitions

- *Incident/Accident - An unplanned event resulting in injury or property damage, regardless of severity or fault.*

GENERAL HAZARD ASSESSMENT

SURVEY DATE:	SURVEYED BY:	DEPT:	SUBMITTED TO:
<u>CONDITION</u>	<u>COMPLIANT</u>	<u>CORRECTED BY</u>	<u>COMPLETION DATE</u>
<i>Electrical:</i>			
▪ Extension cords stored properly	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Extension cords used only for project work	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Face plates on all outlets & switches	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Covers on all junction boxes	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Electrical panel boards: -3 ft clearance maintained -Door closed -Blanks cover empty breaker spaces -Breakers labeled	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ GFCI's on all outlets within 6 ft of water source	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ All electrical wiring properly covered	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Equipment grounded	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Electrical cords & plugs in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No		
▪ Wiring going through walls in conduit	<input type="checkbox"/> Yes <input type="checkbox"/> No		
<i>Elevated Work Areas:</i>			
▪ All open sides of floors or platforms 4 or more feet above ground are protected with standard railing & toeboard	<input type="checkbox"/> Yes <input type="checkbox"/> No		

<u>CONDITION</u>	<u>COMPLIANT</u>	<u>CORRECTED BY</u>	<u>COMPLETION DATE</u>	<u>COMMENTS AND CORRECTIVE ACTION</u>
<i>Floors & Stairs:</i>				
▪ Floors are clean & dry	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Warning signs place in wet areas	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Carpets/mats/other friction control used in high traffic areas	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Carpets/mats lie flat & in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Inside stairs well lit	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Stair treads in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Riser height even	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Railings properly installed on right descending side (3 or more stairs)	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Floor halls properly covered or guarded	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<i>Ladders:</i>				
▪ Rungs in good condition & secure	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Braces in good working condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Safety feet are in place & in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Ladders in use are properly secured	<input type="checkbox"/> Yes <input type="checkbox"/> No			

<u>CONDITION</u>	<u>COMPLIANT</u>	<u>CORRECTED BY</u>	<u>COMPLETION DATE</u>	<u>COMMENTS AND CORRECTIVE ACTION</u>
<i>Life Safety:</i>				
▪ Clear access maintained to all work stations, emergency exits, fire extinguishers, fire alarms, fire blankets, electrical disconnects, etc...	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Exits are clearly marked	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Doors & other emergency exits are clear of debris, shrubs, & other obstructions	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Doors & windows working properly	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Emergency lighting systems functioning	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Sprinkler systems properly inspected	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Fire detection systems properly inspected & functioning	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Fire extinguishers checked monthly & in good operating condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Fire extinguishers accessible & identified where not easily seen	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Emergency phone numbers & procedures posted where appropriate	<input type="checkbox"/> Yes <input type="checkbox"/> No			

<u>CONDITION</u>	<u>COMPLIANT</u>	<u>CORRECTED BY</u>	<u>COMPLETION DATE</u>	<u>COMMENTS AND CORRECTIVE ACTION</u>
<i>Storage:</i>				
▪ Storage closets with sufficient aisle space	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Sprinkler heads have minimum 18" clearance	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Shelf strength sufficient for load	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Lofts – floor capacity rated & posted	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<i>Portable Tools/Equipment:</i>				
▪ Equipment stored properly when not in use	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Power cords stored properly	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Cords & plugs in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Tool grounding checks done regularly	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Hand tools in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<i>Walking Areas:</i>				
▪ Floor free of debris	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Floor clean & dry	<input type="checkbox"/> Yes <input type="checkbox"/> No			
<i>Working Areas:</i>				
▪ Work area sufficient for employee & materials	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Employees can vary position to maintain comfort	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Work area minimize employee stress of bending, twisting & reaching	<input type="checkbox"/> Yes <input type="checkbox"/> No			
▪ Work areas free of clutter	<input type="checkbox"/> Yes <input type="checkbox"/> No			

HAZARD ALERT	
OBSERVATION DATE:	HAZARD REPORT DATE:
HAZARD INFORMATION	
HAZARD DESCRIPTION (include specific hazard location):	
RECOMMENDED CORRECTIVE ACTIONS:	
EMPLOYEE SIGNATURE (Optional):	DATE:
MANAGEMENT RESPONSE:	
RESULTS OF HAZARD ASSESSMENT:	
RECOMMENDED CORRECTIVE ACTIONS:	
MANAGEMENT SIGNATURE:	DATE:
SUMMARY OF RESPONSE TO EMPLOYEE:	
MANAGEMENT SIGNATURE:	DATE:

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INJURY AND ILLNESS PREVENTION PROGRAM

The purpose of this written program is to document how the IIPP requirements are met.

Responsibility

_____ has the authority and the responsibility for implementing and maintaining this IIPP for _____.

Compliance

All workers, including managers and supervisors are responsible for complying with safe work practices. To ensure that all workers comply with these practices, the company will do the following;

- Recognize employees who perform safe work practices (may be verbal, written or other means).
- Provide training to workers whose safety performance is deficient.
- Discipline workers for failure to comply with safe work practices, following the company's disciplinary procedures.

Communication

Management will ensure that OSHA compliance training is provided to all employees and in a form readily understandable by all affected employees, as required by company Safety Programs. The area Supervisor or company safety officer may be designated to perform this task. Attendance rosters will be maintained in the main office or where similar documentation and training records are maintained. Training summaries may also be retained.

Our communication system encourages all workers to inform their managers and supervisors about workplace hazards without fear of reprisal. Workers can anonymously inform management about workplace hazards via the Hazard Alert Form or other similar means where feasible.

Employees will be provided on-going safety training throughout their tenure with the company. This training will be provided through any combination of the following sources:

- Safety meetings
- Safety newsletter
- Safety posters or bulletin board communications
- Job performance feedback
- Training on existing safety programs

Any employee observing an unsafe behavior or condition must report it to their Supervisor or Manager, verbally or in writing. Documentation in the form of a “hazard alert” or equivalent form may be completed to initiate corrective actions. Employees can fill such forms anonymously without identifying themselves if they so desire. Our communication system encourages all workers to inform their managers and supervisors about workplace hazards without fear of reprisal.

Hazard Assessment

_____ is responsible for periodic inspections and will be performed as follows:

- When the IIPP is initially established;
- When new substances, processes, procedures or equipment which present potential new hazards are introduced into the workplace;
- When new or previously unidentified hazards are recognized;
- When occupational injuries and illnesses occur; and
- Whenever workplace conditions warrant an inspection.

Accident Investigation

_____ is responsible for investigating workplace accidents and hazardous substance exposures. Employees must report all incidents, accidents and near misses to their Supervisor or Manager.

Procedures for investigating workplace accidents and hazardous substance exposures include:

- Visiting the accident scene as soon as possible;
- Interviewing injured workers and witnesses;
- Examining the workplace for factors associated with the accident/exposure;
- Determining the cause of the accident/exposure;
- Taking corrective action to prevent the accident/exposure from reoccurring; and
- Recording the findings and corrective actions taken.

Correct Unsafe Conditions

Unsafe or unhealthy work conditions, practices or procedures shall be corrected in a timely manner based on the severity of the hazards. Hazards shall be corrected according to the following procedures:

- When observed or discovered;
- When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, we will remove all exposed workers from the area except those necessary to correct the existing condition. Workers necessary to correct the hazardous condition shall be provided with the necessary protection; and
- All such actions taken and dates they are completed shall be documented on the appropriate form.

Training

All workers, including managers and supervisors, shall have training and instruction on general and job-specific safety and health practices. Training and instruction shall be provided as follows:

- When the IIPP is first established;
- To all workers given new job assignments for which training has not previously provided;
- Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;

- Whenever the employer is made aware of a new or previously unrecognized hazard;
- To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed; and
- To all workers with respect to hazards specific to each employee's job assignment.

Workplace safety and health practices for all industries include, but are not limited to, the following:

- Explanation of the employer's IIPP, emergency action plan and fire prevention plan, and measures for reporting any unsafe conditions, work practices, injuries and when additional instruction is needed.
- Use of appropriate clothing, including gloves, footwear, and personal protective equipment.
- Information about chemical hazards to which employees could be exposed and other hazard communication program information.
- Availability of toilet, hand-washing and drinking water facilities.
- Provisions for medical services and first aid including emergency procedures.

In addition, we provide specific instructions to all workers regarding hazards unique to their job assignment, to the extent that such information was not already covered in other training.

Recordkeeping

We have taken the following steps to implement and maintain our IIPP:

- Records of hazard assessment inspections, including the person(s) or persons conducting the inspection, the unsafe conditions and work practices that have been identified and the action taken to correct the identified unsafe conditions and work practices, are recorded on a hazard assessment and correction form; and
- Documentation of safety and health training for each worker, including the worker's name or other identifier, training dates, type(s) of training, and training providers are recorded on a worker training and instruction form.

Inspection records and training documentation will be maintained according to the following checked schedule:

- ☐ For one year, except for training records of employees who have worked for less than one year which are provided to the worker upon termination of employment; or
- ☐ Since we have less than ten workers, including managers and supervisors, we maintain inspection records only until the hazard is corrected and only maintain a log of instructions to workers with respect to worker job assignments when they are first hired or assigned new duties.

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TRAINING ATTENDANCE ROSTER

IIPP

IIPP TRAINING INCLUDES:

- Overview of the regulation
- Responsibilities under the IIPP
- Parts of the IIPP (General rules, Hazard Assessment and Reporting, Process Changes and Performance Evaluation)

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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Compressed Gas

PROGRAM OVERVIEW

COMPRESSED GAS SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.101 - 105

CGA - G-1, 4, 4.1, 5, 6, 8.1, P-1, 2, V-1, SB-2

INTRODUCTION

Some compressed gases are flammable, toxic, or both and all are under pressure. Cylinders must be used, handled, and stored with extreme care. An exploding cylinder can have the same destructive effect as a bomb. The hazards of compressed gases must be evaluated, safety procedures implemented, and proper hazard information must be communicated to all affected workers.

TRAINING

Required for employees who move, handle or use compressed gas cylinders.

ACTIVITIES

- Ensure storage areas are identified and inspected frequently.
- Cylinders must be secure and prevented from tipping.
- Cylinders must be labeled with the type of gas, hazard warnings, and indication if the cylinder is empty or full. All empty cylinders should be grouped together.
- Full oxygen cylinders must be located 20 feet from, or have a half hour rated fire wall separating them from, any flammable gases while in storage.

FORMS

- Training Attendance Roster

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Compressed Gas Safety Program

1. Purpose. Effective implementation for job safety and health of our employees requires a written safety program fully endorsed and advocated by the highest level of management within the company. This safety program is designed to establish clear company goals and objectives for the use and handling of compressed gases, and will be communicated to all required personnel. The company will review and evaluate this safety program:

1.1 When changes occur to the regulatory standard governing this safety program that prompt revision of this document

1.2 When facility operational changes occur that require a revision of this document

2. Scope. It encompasses the total workplace regardless of the number of workers employed or the number of work shifts. This program applies to any compressed gas cylinder larger than 1 liter in size.

3. Responsibilities

3.1 Management and Supervisor

3.1.1 Assure safe handling procedures are in place and followed

3.1.2 Ensure containers are labeled, color coded, inspected and that all components are functioning normally. Leaking or defective containers must be immediately removed from service.

3.1.3 Ensure defective containers are returned to the supplier as soon as possible.

3.1.4 Provide the appropriate tools and equipment to handle, use, store and transport cylinders safely.

3.2 Employees

3.2.1 Inspect gas cylinders before use to assure that the proper gas is utilized and that the cylinders are not defective.

3.2.2 Notify management or supervisor immediately if a cylinder or a component is defective.

4. Procedure

4.1 Safe Handling Procedures for Compressed Gases

4.1.1 Filling. Containers will not be filled except by the supplier of the cylinder or with the supplier's consent. Where filling is authorized it will be accomplished in accordance with DOT, OSHA, and CGA Regulatory Standards.

4.1.2 Content identification

4.1.2.1 Warning labels. All employees, whose work operations are or may be in an area where compressed gas may be utilized, shall be instructed in the recognition and use of warning labels. Warning labels are essentially warning devices and must be legible at all times. The following will be addressed as a minimum:

4.1.2.1.1 Removal. When a warning label is attached to a compressed gas cylinder, it is not to be removed without authorization of the person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.

4.1.2.1.2 Legibility. In order to be effective, warning labels must be legible and understandable by all authorized employees, affected employees, and other employees whose work operations are or may be in the area. Non-legible or missing labels will be reported to the Safety Officer immediately.

4.1.2.1.3 Durability. Labels and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

4.1.2.1.4 Labels may evoke a false sense of security, and their meaning needs to be understood as part of the overall Compressed Gas Safety Program.

4.1.2.1.5 Labels must be securely attached to cylinders so that they cannot be inadvertently or accidentally detached during use.

4.1.2.2 Labeling. Each container will bear the proper label for the compressed gas contained.

4.1.2.3 Maintenance

- 4.1.2.3.1 Authorization. Containers and their appurtenances used by the company will be maintained only by the container supplier or authorized representative. Any employee who is not sure of the type of maintenance allowed on containers should contact the Safety Officer for further information.
- 4.1.2.3.2 Changing prescribed markings. The prescribed markings, supplier/owner markings or symbols stamped into containers will not be removed or changed unless in accordance with pertinent regulatory standards.
- 4.1.2.3.3 Changing content markings. No employee will deface or remove any markings, labels, decals, tags or stencil marks applied by our supplier and used for the identification of content. Like markings may be affixed if the original becomes illegible or detached.
- 4.1.2.3.4 Pressure relief devices. No employee will change, modify, tamper with, obstruct, or repair pressure relief devices in container valves or in containers.

4.1.2.4 Painting.

- 4.1.2.4.1 Containers will not be painted. If a container shows signs of corrosion it will be removed from service and returned to the supplier.
- 4.1.2.4.2 Cylinder color. All employees should be aware that containers may only be painted by the supplier for the purpose of recognition and segregation. Should the company change suppliers' of compressed gas the color codes could also change, always double-check to ensure you have the correct cylinder for the intended use. Never rely solely on the cylinder color for identification.

- 4.1.2.5 Contamination or improper contents. Any container found suspected to be contaminated or having its contents suspect will be immediately removed from service and reported to the Safety Officer. The supplier will be immediately notified.

4.1.2.6 Leaking or defective containers.

4.1.2.6.1 Leaking Containers. Supervisors will ensure all employees under their control understand the following. Any employee discovering a leaking container should attempt to take the following actions:

4.1.2.6.1.1 Notify workers in the immediate area of the leak.

4.1.2.6.1.2 If the container could contain hazardous material (or if you're not sure) evacuate personnel in the area to fresh air (preferably up-wind or side-wind relative to the source).

4.1.2.6.1.3 Report the following as soon as possible to the Safety Officer.

4.1.2.6.1.3.1 Contents.

4.1.2.6.1.3.2 Location.

4.1.2.6.1.3.3 Number of employees in immediate area.

4.1.2.6.1.3.4 Circumstances of the release.

4.1.2.6.1.3.5 Condition of container.

4.1.2.6.1.3.6 Other pertinent information as required.

4.1.2.6.2 Defective Containers. Supervisors will ensure all employees under their control understand the following. Any employee discovering a defective or corroded container should attempt to take the following actions:

4.1.2.6.2.1 Notify the Supervisor of the department where the container was discovered.

4.1.2.6.2.2 If the container could contain hazardous material (if you're not sure), evacuate personnel in the area to fresh air (preferably up-wind or side-wind relative to the source).

4.1.2.6.2.3 Report the following as soon as possible to the Safety Officer:

4.1.2.6.2.3.1 Contents

4.1.2.6.2.3.2 Location

4.1.2.6.2.3.3 Number of employees in immediate area

4.1.2.6.2.3.4 Circumstances

4.1.2.6.2.3.5 Condition of container

4.1.2.6.2.3.6 Other pertinent information as required

4.1.2.7 Container usage requirements

4.1.2.7.1 Content Identification. Where company employees are responsible to handle and connect the container for use, the operation will not proceed unless the contents can be verified by legible markings and labels.

4.1.2.7.2 Container caps, valve outlet caps, and plugs.

4.1.2.7.2.1 Container caps. Where removable caps are provided by the gas supplier for valve protection, company employees shall keep such caps on containers at all times except when containers are connected to dispensing equipment.

4.1.2.7.2.2 Valve outlet caps and plugs. Where valve outlet caps and plugs are provided by the supplier, employees will keep such devices on the containers and valve outlets at all times except when containers are connected to dispensing equipment.

4.1.2.7.3 Misuse. No container will be used for anything other than its intended purpose. Containers will not be used as rollers, supports or for any purpose other than to contain the content as received. No employee will allow an unsafe condition such as this to occur without notifying his or her Supervisor.

- 4.1.2.7.4 Containers not in use (configuration). When containers are not being used the valves will remain closed at all times except when operational constraints apply.
- 4.1.2.8 Movement of compressed gas containers
 - 4.1.2.8.1 Trucks. Containers will not be rolled, dragged, or slid. A suitable hand truck, fork truck, roll platform, or similar device will be used to move containers.
 - 4.1.2.8.2 Rough handling. Containers will not be dropped or permitted to strike violently against each other or other surfaces.
 - 4.1.2.8.3 Lifting requirements.
 - 4.1.2.8.3.1 Container caps. Container caps will not be used for lifting containers except for the use of hand trucks which grip the container cap for lifting on to the hand truck. In any case the container will not be lifted higher than six inches above the operating surface.
 - 4.1.2.8.3.2 Magnetic lifting devices. Magnetic lifting devices are prohibited from use with compressed gas containers.
 - 4.1.2.8.3.3 Ropes, chains, or slings. Ropes, chains, or slings are prohibited from use with compressed gas containers unless lugs or lifting attachments are provided by the manufacturer.
 - 4.1.2.8.3.4 Cradles or platforms. Where approved lifting attachments have been provided by the manufacturer, cradles or platforms are authorized for use.
- 4.1.2.9 Container storage requirements
 - 4.1.2.9.1 Posting requirements.
 - 4.1.2.9.1.1 No Smoking. No Smoking signs will be posted in the storage area.
 - 4.1.2.9.1.2 Type gas. Signs designating the type gas stored in the area will be posted.

- 4.1.2.9.2 Grouping requirements. Where different types of gases are stored in the same general area the following apply.
- 4.1.2.9.2.1 Like gases. Gases will be stored with like gases and segregated from dissimilar gases.
- 4.1.2.9.2.2 Full and empty containers. Full and empty containers will not be intermingled. Separate storage areas will be delineated for each.
- 4.1.2.9.3 Stock rotation. Stock will be rotated so that the oldest material will be the first to be used. The storage layout will be such that old stock can be removed first with a minimum handling of other containers.
- 4.1.2.9.4 Storage rooms. Storage rooms used by the company will be well ventilated and dry. Room temperature will not exceed 125 degrees F. Storage in subsurface location will be avoided.
- 4.1.2.9.5 Separation from combustibles. Containers will not be stored near readily ignitable substances such as gasoline or waste, or near combustibles in bulk, including oil.
- 4.1.2.9.6 External corrosion requirements. Containers will not be exposed to continuous dampness and should not be stored near salt or other corrosive chemicals or fumes. Corrosion may damage the containers and may cause the valve protection caps to stick.
- 4.1.2.9.7 Mechanical damage requirements. Containers shall be protected from any object that will produce a harmful cut or other abrasion in the surface of the metal. Containers will not be stored near elevators, gangways, and unprotected platform edges or in locations where heavy moving objects may strike or fall on them.
- 4.1.2.9.8 Storage and use requirements.
- 4.1.2.9.8.1 Store upright. All compressed gas containers in service or in storage will be stored standing upright where they are not likely to be knocked over.

4.1.2.9.8.2 Restrain. All compressed gas containers in use will be restrained above the midpoint to prevent accidental fall-over of the container.

4.1.2.9.8.2.1 Gas containers with a water volume up to 305 cu. in. (5.0 L) may be stored in a horizontal position.

4.1.2.9.8.3 Container valve end up. Liquefied gas containers except those designed for use in a horizontal position on tow motors, etc., will be stored and used valve end up. Acetylene containers will be stored and used valve end up. Storage of acetylene containers valve end up will minimize the possibility of solvent being discharged. Note: Valve end up includes conditions where the container axis is inclined as much as 45 degrees from the vertical.

4.1.2.9.9 Outdoor storage. Containers may be stored in the open, but will be stored on a clean dry surface to prevent corrosion to the bottom of the container.

4.1.2.9.9.1 Sunlight. Containers may be stored in direct sunlight, except in localities where extreme temperatures prevail (above 125 degrees F.). If our supplier recommends storage in the shade for a particular gas, this recommendation will be observed.

4.1.2.9.9.2 Public area. Containers used or stored in public areas will be protected to prevent tampering.

4.1.2.9.10 Interference with egress. Containers when stored inside will not be located near exits, stairways, or in areas normally used or intended for the safe exit of employees.

4.1.2.10 Connecting containers and withdrawing content

4.1.2.10.1 Trained personnel. Compressed gases will be handled and used only by properly trained employees. Employees must have had initial training in order to handle and use compressed gases.

- 4.1.2.10.2 Content identification. Employees will verify that a label exists and review the label before beginning operations with a compressed gas. Unmarked containers will not be used. Such containers will be reported to the Safety Officer. The container color will never be relied on for identification of a container.
- 4.1.2.10.3 Container caps. Caps will be retained and not removed until the container is placed in service.
- 4.1.2.10.4 Secure containers. The company will ensure that compressed gases will be secured above the midpoint to prevent them from being knocked over.
- 4.1.2.10.5 Pressure regulator. A suitable pressure regulating device will be used where gas is admitted to a system of lower pressure rating than the supply pressure, and where, due to the gas capacity of the supply source, the system rating may be exceeded.
- 4.1.2.10.6 Pressure relief device. A suitable pressure relief device will be used to protect a system using a compressed gas where the system has a pressure rating less than the compressed gas supply source and where, due to the gas capacity of the supply source, the system pressure rating may be exceeded.
- 4.1.2.10.7 Connection requirements. Connections that do not fit will not be forced. Threads on regulator connections or other auxiliary equipment will match those on container valve outlets.
- 4.1.2.10.8 Manifold. Where compressed gas containers are connected to a manifold, the manifold, and its related equipment will be of proper design for the product(s) they are to contain at the appropriate temperatures, pressures, and flows.
- 4.1.2.10.9 Equipment compatibility. Regulators, gauges, hoses, and other appliances provided for use with a particular gas or group of gases, will not be used on containers containing gases having different chemical properties unless information obtained from the supplier indicates that this can be done safely.

4.1.2.10.10 Container valve requirements

- 4.1.2.10.10.1 Container valves will be opened slowly and pointed away from personnel and sources of ignition.
- 4.1.2.10.10.2 For valves having no hand wheel the wrench provided by, or recommended by the supplier will be used.
- 4.1.2.10.10.3 On valve containing a hand wheel wrenches will not be used.
- 4.1.2.10.10.4 Valves will never be forced open or closed. If valves become frozen for whatever reason, the supplier will be contacted to provide instructions.
- 4.1.2.10.11 Dusting clothing, cleaning work areas. Compressed gas will not used to dust off clothing or clean work areas of debris. This may cause serious injury to the eyes or body or create a fire hazard.
- 4.1.2.10.12 Residual empty container pressure. When withdrawing a non-liquefied compressed gas from a container, it should not be reduced to below 20 psig so as to preclude the back flow of atmospheric air or other contaminants into the container. The container valve should be closed tightly to retain this residual pressure.
- 4.1.2.10.13 Check valves. Compressed gases will not be used where the container may be contaminated by the feedback of process materials unless protected by suitable traps or check valves.
- 4.1.2.10.14 Gas tightness. Connections to piping, regulators and other appliances will be kept tight to prevent leakage. Where hose is used, it shall be kept in good condition.
- 4.1.2.10.15 Removing pressure regulator. Before a regulator is removed from a container, the container valve shall be closed and the regulator drained of gas pressure.

4.2 General Safety Rules for Specific Types of Gases

4.2.2 Flammable gases.

- 4.2.2.1 Adjoining exposures. Provisions will be made to protect flammable gases from hazardous exposure to and against hazardous exposure from adjoining buildings, equipment, property, and concentrations of people.
- 4.2.2.2 Heating requirements. Where storage areas are heated, the source will be by steam, hot water, or other indirect means. Heating by flames or fire is prohibited.
- 4.2.2.3 Electrical equipment requirements. Will conform to the provisions of NFPA 70, National Electrical Code, article 501, for Class 1 Division 2 locations.
 - 4.2.2.3.1 Sources of ignition will be forbidden.
 - 4.2.2.3.2 Storage buildings will be well ventilated.
- 4.2.2.4 Combustibles and ignition sources. Flammable gas containers stored inside of buildings with other occupancies will be kept at least 20 feet from combustibles or ignitions sources.
- 4.2.2.5 Capacity limitations. Flammable gas containers stored inside industrial buildings on company property. (Except those in use or those attached for use are limited to a total gas capacity of 2500 cubic feet of acetylene or non-liquefied flammable gas, or a total container content water capacity of 735 pounds for liquefied petroleum gas or stabilized methylacetylene-propadiene).
- 4.2.2.6 Fire protection requirements.
 - 4.2.2.6.1 Fire extinguishers. Adequate portable fire extinguishers of carbon dioxide or dry chemical types will be made available for fire emergencies at company storage locations.
 - 4.2.2.6.2 No smoking signs. Signs will be posted around the storage area of buildings or at the entrance to storage rooms.
 - 4.2.2.6.3 Leak testing. A flame or other ignition source will not be used for detection of flammable gas leaks. Use either a flammable gas leak detector, soapy water, or other suitable solution.

4.2.3 Oxygen (Including oxidizing gases)

- 4.2.3.1 Cleanliness. Oxygen containers, valves, regulators, hose and other oxygen apparatus will be kept free at all times from oil or grease and will not be handled with oily hands, oily gloves, or with greasy equipment.
- 4.2.3.2 Separation of oxygen from combustibles. Oxygen containers in storage will be separated from flammable gas containers or combustible materials (especially oil and grease) a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire resistance rating of at least one-half hour.
- 4.2.3.3 Oxygen-rich atmospheres. The oxygen content in work areas (other than hyperbaric chambers) must not exceed 23 percent by volume.
- 4.2.3.4 Compatibility of materials. Any materials used by the company that come into contact with oxygen in valves, piping, fittings, regulators, and utilization equipment must be suitable for use with oxygen, and at the pressures and conditions involved at the specific use point of material. The handling and use of oxygen above 3000 psi may involve greater fire potential, adequate safety systems analysis need to be made.

4.2.4 Acid and alkaline gases

- 4.2.4.1 Personal protective equipment. Supervisors will ensure that precautions are taken to avoid contacting skin or eyes with acid or alkaline gases. Chemical goggles or face shields, rubber (or other suitable chemically protective material) gloves and aprons will be worn. Long sleeves and trousers will be worn. Open toed shoes or sneakers are prohibited.
- 4.2.4.2 Respiratory equipment. Employees handling and using acid and alkaline gases will have gas masks or self-contained breathing apparatus (SCBA) immediately available for use. SCBA must be used when the concentration of the gas could be higher than the mask canister rating, and or where the oxygen content of the atmosphere could be below 19 percent by volume.
- 4.2.4.3 Emergency showers and eyewash fountains. Supervisors will ensure that areas where acid or alkaline gases are used are equipped with an emergency shower and eyewash fountain.
- 4.2.4.4 Quantity on site. Because of their hazardous nature, Supervisors will limit the quantity of this type of gas to the minimum requirements for the foreseeable future.
- 4.2.4.5 Ventilation. Acid and alkaline gases will only be used in well ventilated areas.

4.2.5 Highly toxic gases

- 4.2.5.1 Respiratory equipment. Employees handling and using highly toxic gases will have gas masks or self-contained breathing apparatus (SCBA) immediately available for use. SCBA must be used when the concentration of the gas could be higher than the mask canister rating, and or where the oxygen content of the atmosphere could be below 19 percent by volume.
- 4.2.5.2 Storage locations. Storage of highly toxic gases will be:
 - 4.2.5.2.1 Outdoors, or in a separate noncombustible building without other occupancy, or in a separate room without other occupancy.
 - 4.2.5.2.2 Of noncombustible construction with a fire-resistance rating of at least one hour.
 - 4.2.5.2.3 Well ventilated to preclude development of hazardous concentrations.
 - 4.2.5.2.4 Protected against tampering.
- 4.2.5.3 Ventilation. Highly toxic gases will be used only in forced ventilated areas or in hoods with forced ventilation, or outdoors. Hazard analysis will be conducted on equipment emitting high concentrations. The gas will be discharged into appropriate scrubbing equipment which will remove or neutralize the toxic effects before entering the effluent gas stream.
- 4.2.5.4 Toxicity. Supervisors will ensure the following. Before using a highly toxic gas, employees must read and understand all warning labels and material data sheet information. All employees working in the immediate area where these gases are handled will be instructed as to the toxicity of the gases and methods of protection against harmful exposure. Employees will not be exposed to concentrations greater than those determined to be safe levels by OSHA 29 CFR 1910.1000 and the threshold limit values guidance by the ACGIH.
- 4.2.5.5 Quantity on site. Because of their hazardous nature, Supervisors will limit the quantity of this type of gas to the minimum requirements for the foreseeable future.

4.2.6 Cryogenic liquefied gases

- 4.2.6.1 Cryogenic liquids are gases which are handled in liquid form at relatively low pressure and extremely low temperatures, usually below -238 degrees F. Because of their low temperature, cryogenic liquids are handled in multi-wall, vacuum-insulated containers, tank trucks, tank cars, and storage tanks to minimize evaporation and venting of the gas. Some cryogenic liquids in small quantities are also handled in open, low pressure thermos type containers in laboratory work.
- 4.2.6.2 Personal protective equipment. Cryogenic liquids and cold gases can cause frostbite injury upon contact with the body. When handling cryogenic liquids Supervisors will ensure that employees use suitable eye protection, such as a face shield, safety glasses, or safety goggles, hand protection, such as insulated loose fitting gloves, and proper clothing to prevent other bodily exposure.
- 4.2.6.3 Ventilation. Cryogenic liquid containers will only be stored and handled in well ventilated areas to prevent excessive concentrations of the gas. Containers are equipped with pressure relief devices which permit venting of gas intentionally.
- 4.2.6.4 Container handling. Cryogenic liquid containers will be handled and stored in an upright position. The containers must not be dropped, tipped over, or rolled on their sides. A four wheeled handling truck will be used to move cryogenic liquid containers over 20 gallons capacity.
- 4.2.6.5 Containers. Containers designed for specific gas storage will not be used for any other type of gas.
- 4.2.6.6 Pressure relief devices. Containers entering this facility will be provided with DOT approved devices to prevent excessive buildup of pressure from warming gas. Where cryogenic liquids or cold gas may be trapped between valves, piping will be equipped with appropriate pressure relief devices.
- 4.2.6.7 Transfer of cryogenic liquids. Only transfer lines designed for cryogenic liquids will be used. Transfer of cryogenic liquids will be performed slowly enough to minimize excess evaporation and stress due to rapid cooling and contraction of warm containers and equipment.
- 4.2.6.8 Liquid oxygen. Liquid oxygen containers, piping and equipment will be kept clean and free of grease, oil, and organic materials. Ignitions sources are not permitted in areas where liquid oxygen is stored or transferred.

- 4.2.6.9 Liquid hydrogen. Ignitions sources are not permitted in areas where liquid hydrogen is stored or transferred. Liquid hydrogen must be stored and transferred under positive pressure to prevent the infiltration and solidification of air or other gases.
- 4.2.6.10 Liquid helium and liquid neon. Liquid helium and liquid neon must be stored and transferred under positive pressure to prevent the infiltration and solidification of air or other gases.
- 4.2.6.11 Liquefied natural gas. Ignitions sources are not permitted in areas where liquefied natural gas is stored or transferred. Liquefied natural gas must be stored and transferred under positive pressure to prevent the infiltration of air or other gases.
- 4.2.6.12 Inert gases. In areas where inert gases are used or stored employees will have self-contained breathing apparatus (SCBA) immediately available for use. SCBA must be used in the even the oxygen in the room is displaced by the inert gas creating an oxygen deficient atmosphere where the oxygen content of the atmosphere could be below 19 percent by volume.

4.3 General Safety Rules for Use of Compressed Gas.

4.3.1 Pre-operation safety rules:

- 4.3.1.1 Read the Safety Data Sheet before use.
- 4.3.1.2 Inspect cylinder for damage before use.
- 4.3.1.3 Ensure "In use" label is present.
- 4.3.1.4 Ensure all labels/warnings are readable.
- 4.3.1.5 Place upright on stable dry surface.
- 4.3.1.6 Ensure cylinder is restrained above mid-point.
- 4.3.1.7 Keep heat, flame, and electrical sources from gas.
- 4.3.1.8 Operate in accordance with established procedures.

4.3.2 Post-operation safety rules:

- 4.3.2.1 Ensure "empty" or like label is present.
- 4.3.2.2 Remove from operation using established procedures.

- 4.3.2.3 Close valve completely and cap cylinder.
- 4.3.2.4 Transport cylinder using a hand-truck.
- 4.3.3 Full cylinder storage rules
 - 4.3.3.1 Read the Safety Data Sheet before use.
 - 4.3.3.2 Do not smoke.
 - 4.3.3.3 Mark cylinder with date of storage.
 - 4.3.3.4 Ensure stock is properly rotated.
 - 4.3.3.5 Use oldest stock first.
 - 4.3.3.6 Inspect cylinder for damage before storage.
 - 4.3.3.7 Store with like kind of gas.
 - 4.3.3.8 Ensure all labels are readable.
 - 4.3.3.9 Ensure valve assembly is tightly capped.
 - 4.3.3.10 Ensure cylinder is restrained above midpoint.
 - 4.3.3.11 Store upright on stable dry surface.
 - 4.3.3.12 Keep electrical devices away from gas.
 - 4.3.3.13 Keep combustible materials away from gas.
 - 4.3.3.14 Keep heat and flame away from gas.
- 4.3.4 Empty cylinder storage rules
 - 4.3.4.1 Read the Safety Data Sheet before use.
 - 4.3.4.2 Do not smoke.
 - 4.3.4.3 Label cylinder "empty" before storage.
 - 4.3.4.4 Ensure valve assembly closed tightly.
 - 4.3.4.5 Ensure valve assembly capped tightly.

- 4.3.4.6 Inspect cylinder for damage before storage.
- 4.3.4.7 Store with like kind of gas cylinders.
- 4.3.4.8 Ensure all labels are readable.
- 4.3.4.9 Ensure cylinder is restrained above midpoint.
- 4.3.4.10 Store upright on stable dry surface.
- 4.3.4.11 Keep electrical devices away from gas.
- 4.3.4.12 Keep combustible materials away from gas.
- 4.3.4.13 Keep heat and flame away from gas.

5. Safety Information

5.1 Visual Inspection of Compressed Gas Cylinders.

- 5.1.1 Employees will use the following for general inspection of compressed gas cylinders. Our supplier has the first responsibility for inspection of cylinders used by the company in accordance with CGA and NFPA guidelines. Only the following inspection criteria will be followed by employees:

Inspect For:	Possible Result:
Dents	Weakening of cylinder wall
Cuts, gouges, or digs	Decrease in wall thickness
Corrosion	Decrease in wall thickness
Pitting	Decrease in wall thickness
Crevice corrosion	Weakening of cylinder wall
Bulges	Weakening of cylinder wall
Neck defects	Leak or cylinder explosion
ARC/Torch burns	Weakening of cylinder wall
Valve ease of movement	Corrosion leading to leak
Valve thread serviceability	Leak during operation

- 5.1.2 Suspect cylinders. Cylinders that are suspected to be deficient in any manner will be removed from service. The supplier will then be notified and a representative of the supplier will be asked to inspect the cylinder. Employees discovering a cylinder suspected to be deficient in any manner should notify the Safety Officer.

- 5.1.3 Cylinders will be stored upright and chained to an external wall when not in use.

5.2 Facility/Department Evaluation

- 5.2.1 An evaluation of our facility(s) will be conducted to identify, designate, and prioritize Compressed Gas use and storage.

- 5.2.2 Existing Compressed Gas Systems. A process hazard analysis will be conducted for existing systems. Existing systems where possible, will be designated and managed as a complete and separate process.
- 5.2.3 Future Compressed Gas Systems. For new systems, a process hazard analysis will be conducted. The PHA will be used to improve the design and construction of the process from a reliability and quality point of view. The safe operation of the new process will be enhanced by making use of the PHA recommendations before final installations are completed.
- 5.3 Gas System listing
 - 5.3.1 Designated gas systems will be stored in locations so as not to cause undue hazards to employees.
 - 5.3.2 All pipes and delivery components will be inspected annually at a minimum.
- 5.4 Compressed Gas Association Safety Manuals
 - 5.4.1 To obtain any of the CGA safety manuals you can contact the CGA for a current literature catalog at: www.cganet.com. These include: the Handbook of Compressed Gases; Equipment such as regulators, hose lines, valve connections and pressure relief devices; information on specific gas types and their handling; Insulated cargo tanks, and the protection and safe handling of specific cylinders

6. Training and Information

- 6.1 Initial Training. Initial training will be provided before job assignment. The company shall provide training to ensure that the purpose and function of the Compressed Gas Safety Program is understood by employees and that the knowledge and skills required for the safe application and usage of compressed gases are acquired by employees. The training shall include the following:
 - 6.1.1 Applicable hazards. Each authorized employee shall receive training in the recognition of applicable hazards associated with compressed gases, and the methods and means necessary for safe operation.
 - 6.1.1.1 Purpose and use. Each affected employee shall be instructed in the purpose and use of the compressed gas they will come in contact.
 - 6.1.1.2 Awareness level training. All other employees whose work operations are or may be in an area where compressed gas may be utilized, shall be instructed about the emergency procedure, and about the prohibition(s) relating to compressed gases used in their work area.
 - 6.1.1.3 Warning labels. All employees, whose work operations are or may be in an area where compressed gas may be utilized, will be instructed in the recognition and use of warning labels.

- 6.1.1.4 Storage requirements. Storing and handling requirements will be covered in accordance with this safety program.
- 6.1.1.5 Handling requirements. Handling requirements will be covered in accordance with this safety program.
- 6.1.1.6 Moving requirements. Moving requirements will be covered in accordance with this safety program.
- 6.1.1.7 Connecting and disconnecting requirements. Connecting and disconnecting requirements will be covered in accordance with this safety program.
- 6.1.1.8 Health hazards regarding specific gases. Health hazard regarding specific gases will be covered in accordance with this safety program.
- 6.1.1.9 General safety precautions. General safety precautions will be covered in accordance with this safety program.
- 6.1.1.10 Verification. The company shall verify that employee training has been accomplished and is being kept up to date. The documentation shall contain each employee's name and dates of training.
- 6.1.1.11 Authorized trainers. The compressed gas suppliers will be requested to provide training as needed or required for all compressed gas users and handlers.

6.2 Refresher Training. Refresher will be conducted on an as needed basis. Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in the type of gas used, equipment or processes that present a new hazard, or when there is a change in operating procedures.

6.2.1 Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the compressed gas safety procedures.

6.2.2 The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

6.3 Verification. The company shall verify that employee training has been accomplished and is being kept up to date. The documentation includes employee's name and dates of training.

7. Definitions

- CGA – Compressed Gas Association

TRAINING ATTENDANCE ROSTER COMPRESSED GAS	
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Compressed Gas Training Includes:

- General cylinder hazards
- Storage requirements
- Safe handling procedures
- Specialized gas hazards

- Compressed Gas Training Includes:***
- General cylinder hazards
 - Storage requirements
 - Safe handling procedures
 - Specialized gas hazards

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

[illegible]

Name of Interpreter, if utilized: _____

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Confined Space Entry
[Permit Required]

PROGRAM OVERVIEW

CONFINED SPACE ENTRY (PERMIT REQUIRED) SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.146; 29 CFR 1926.1200 through 1213

INTRODUCTION: This program allows for evaluation and identification of potential permit required confined spaces (permit space) and the associated potential hazards, while ensuring the communication of potential hazards to the employees. Details of duties for authorized entrants, attendants, rescuers and entry supervisors are presented. The program outlines training requirements, entry permits, atmospheric testing procedures and rescue and emergency services for both General Industry and in Construction

TRAINING:

- Entry Supervisors, Entrants, Emergency/Rescue Team Members, and Attendants require training on the hazards that will be encountered in each permit space and the methods used to isolate, control or in other ways protect employees from the hazards.
- Entry Supervisors will be trained at least to the same level of the employees for whom they are responsible
- Other employees need to be informed to maintain their distance from any permit spaces.

ACTIVITIES:

- Identify any confined spaces present in the work environment and clearly label them as either permit required or non-permit required spaces, and maintain a list
 - In Construction, prior to beginning work, a competent person must identify all confined spaces (permit or non-permit) in which the employees it directs may work
- Ensure permits are prepared and posted and that conditions of entry have been met
- Take effective measure to prevent non-trained employees from entering the permit-required confined spaces
- Write and communicate programs, policies and procedures for safe entry requirements
- Review (annually) permits to ensure effectiveness of procedures and the program
- Retain entry permits for at least one year beyond termination of the job or permit
- Identify rescue procedures, team members and responsibilities, and provide equipment necessary (rescue, personal protective, safe lighting etc.)

FORMS:

- Confined Space Atmospheric Testing Form
- Confined Space Entry Assessment Form
- Confined Space Entry Permit
- Confined Space List Form
- Confined Space Written Program
- Training Attendance Roster

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- 3. Responsibilities**
- 4. Procedure**
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Confined Space Entry (Permit Required) Safety Program

1. **Purpose.** This procedure specifies the necessary steps to ensure safe entry into permit spaces. No entry shall be made into a permit space until a confined space permit is completed, all conditions have been met, and the permit is posted at the site of entry. The company will establish permit space operational procedures through the use of this document. Company management will review and evaluate this safety program:
 - 1.1 On an annual basis, and more frequently as needed or required
 - 1.2 When changes occur to 29 CFR 1910.146 or 29 CFR 1926.1200-1213 that prompt revision of this document
 - 1.3 When facility operational changes occur that require a revision of this document
2. **Scope.** The employer shall evaluate the workplace to determine if any spaces are permit-required confined spaces. This program applies to all permit spaces at the company or construction site to which company employees are exposed. There are two types of confined spaces, permit-required and non-permit required.
 - 2.1 A confined space must meet *all* the following criteria:
 - 2.1.1 It is large enough and so configured that an employee can bodily enter and perform assigned work.
 - 2.1.2 Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.)
 - 2.1.3 Is not designed for continuous employee occupancy.
 - 2.2 A permit required confined space includes the features of a space that does not require a permit and *one or more* of the following:
 - 2.2.1 Contains or has a potential to contain a hazardous atmosphere.
 - 2.2.2 Contains material that has the potential for engulfing an entrant
 - 2.2.3 Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
 - 2.2.4 Contains any other recognized serious safety or health hazard.
3. **Responsibilities.**
 - 3.1 Management/Supervisors
 - 3.1.1 Identify all confined space locations and entry requirements. Maintain a list of all permanent confined spaces in the facility, their associated hazards, and the protective measures required for entry.

- 3.1.2 Restrict access to these permit spaces through permit space training, signage, restricted physical access, or through any combination therein. Take effective measures to prevent non-trained employees from entering the permit-required confined spaces.
- 3.1.3 Develop safe entry requirements for all permit spaces to ensure the safety and health of all entrants, (accounting for issues such as: atmospheric testing, isolation of energy sources, provision for PPE, rescue plans, communication, etc.)
- 3.1.4 Designate an Entry Supervisor
- 3.1.5 Train all persons involved in permit space entry to their level of involvement.
- 3.1.6 Ensure that all team members required to wear respiratory protection are qualified for respiratory protection use.
- 3.1.7 Become thoroughly familiar with all hazards associated with the permit space entry.
- 3.1.8 Annually review permits to ensure effectiveness of procedures.
- 3.1.9 Retain entry permits for at least one year beyond termination of the job or permit.
- 3.1.10 Ensure the Written Confined Space Program is available for inspection by employees, their authorized representatives, and authorized government inspectors.
- 3.1.11 Ensure communication with contractors.
- 3.2 Employees:
 - 3.2.1 Maintain safe distances from permit spaces, unless authorized to enter them.
- 3.3 Entry Supervisor:
 - 3.3.1 Assist in the planning of permit space entries. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
 - 3.3.2 In conjunction with management, contractors and other qualified personnel, determine appropriate PPE to be worn by entrants.
 - 3.3.3 Complete a site specific Confined Space Permit and verify that the appropriate information has been entered on the permit including all tests specified by the permit have been conducted by qualified persons and all procedures and protective equipment specified by the permit are in place and at the site before endorsing the permit and allowing entry to begin.
 - 3.3.4 Terminate the entry and cancel the permit as required.

- 3.3.5 Verify that rescue services are available and that the means for summoning them are operable.
- 3.3.6 Ensure removal of unauthorized individuals who enter or who attempt to enter the permit space during entry operations.
- 3.3.7 Whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, determine that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.
- 3.3.8 Stop work if conditions are considered unsafe and immediately initiate evacuation of the Permit space.
- 3.3.9 Sign Entry Permit and ensure procedures specific to the permit are understood and followed, and that entrant training is completed prior to allowing entry to begin.

3.4 Entrants:

- 3.4.1 Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure, and the protective measures to be taken to prevent exposure to hazards.
- 3.4.2 Properly use protective equipment, including full body harness, as required.
- 3.4.3 Communicate with attendant as necessary to ensure that if contact is lost, all entrants exit the permit space immediately.
- 3.4.4 Alert the attendant whenever:
 - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
 - The entrant detects a prohibited condition.
- 3.4.5 Exit from the permit space as quickly as possible whenever:
 - An order to evacuate is given by the attendant or the entry supervisor.
 - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
 - The entrant detects a prohibited condition.
 - An evacuation alarm is activated.
- 3.4.6 Must read, understand, and follow the requirements of the permits.

3.5 Attendants:

- 3.5.1 Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- 3.5.2 Be aware of possible behavioral effects of hazard exposure in authorized entrants.
- 3.5.3 Continuously maintain an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under this section accurately identifies who is in the permit space.
- 3.5.4 Remain in a pre-designated location outside the permit space during entry operations until relieved by another attendant.

Note: When the Confined Space Entry Safety Program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations as required by the "rescue and emergency services" section of this program and if they have been relieved from attendant duty.

- 3.5.5 Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space. If contact is lost, all entrants must exit the permit space immediately.
- 3.5.6 Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space, as well as the activities outside the permit space to maintain a safe environment for the entrants.
- 3.5.7 Order the authorized entrants to evacuate the permit space immediately under any of the following conditions.
 - If the attendant detects a prohibited condition.
 - If the attendant detects the behavioral effects of hazard exposure in an entrant.
 - If the attendant detects a situation outside the space that could endanger the entrants.
 - If the attendant cannot effectively and safely perform all the duties required under this section.
- 3.5.8 Summon rescue and other emergency services as soon as the attendant determines that entrants may need assistance to escape from permit space hazards. Be familiar with location of nearest phone, fire alarm, eyewash and safety shower, or other defined criteria on the permit check list.

3.5.9 Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:

- Warn the unauthorized persons that they must stay away from the permit space.
- Advise the unauthorized persons that they must exit immediately if they have entered the permit space.
- Inform the authorized entrants and the entry team leader if unauthorized persons have entered the permit space.

3.5.10 Performs non-entry rescues as specified by the rescue procedure.

3.5.11 Performs no duties that might interfere with the attendant's primary duty to monitor and protect the entrants.

3.6 Emergency/Rescue Team Members:

3.6.1 Ensure that each member of the rescue service is provided with, and is trained to use properly, the personal protective equipment and rescue equipment necessary for making rescues from permit spaces.

3.6.2 Each member of the rescue service will be trained to perform the assigned rescue duties, including first aid and cardiopulmonary resuscitation (CPR). At least one member of the rescue service holding current certification in first aid and in CPR will be available.

3.6.3 Each member of the rescue service will also receive the training required of authorized entrants.

3.6.4 Each member of the rescue service will practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, mannequins, or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces will, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which any anticipated rescue is to be performed.

3.6.5 Non-company rescue personnel. When non-company rescue personnel are designated to perform permit space rescue, the company will:

- Inform the rescue service of the hazards they may confront when called on to perform rescue.
- Provide the rescue service with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

In Construction, the employer who designates rescue and emergency services, must:

- Evaluate a perspective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.
- Evaluate a prospective rescue service's ability in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified.
- Select the rescue team or service from those evaluated that:
 - Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard identified;
 - Is equipped for and proficient in performing the needed rescue services
 - Agree to notify the employer immediately in the event that the rescue service becomes unavailable;

3.6.6 To facilitate non-entry rescue, retrieval systems or methods will be used whenever an entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems used will meet the following requirements:

- Each authorized entrant will use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used in lieu of the chest or full body harness if it is *demonstrated that the use of a chest or full body harness is infeasible or creates a greater hazard* and that the use of wristlets is the safest and most effective alternative.
- The other end of the retrieval line will be attached to a mechanical device (such as a winch, block and tackle or similar device for retrieval that is capable of being operated by manpower) or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device will be available to retrieve personnel from vertical type permit spaces more than 5 feet deep.
- In Construction, equipment that is unsuitable for retrieval must not be used, including, but not limited to, retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or retrieval lines that will not work due to internal configuration of the permit space,

3.6.7 If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information will be made available to the medical facility treating the exposed entrant.

3.7 Host Employers:

- 3.7.1 Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section
- 3.7.2 Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space
- 3.7.3 Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working
- 3.7.4 In addition in Construction, the host employer must coordinate entry operations with the contractor(s), when both host employer personnel and contractor personnel will be working in or near permit spaces; and when any activities performed could foreseeably result in a hazard in the permit space.
- 3.7.5 Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

3.8 Contractors

- 3.8.1 Obtain any available information regarding permit space hazards and entry operations from the company.
- 3.8.2 Coordinate entry operations with the host employer, when both company personnel and contractor personnel will be working in or near permit spaces ; and when any activities performed could foreseeably result in a hazard in the permit space.
- 3.8.3 Inform the host employer of the permit space safety program that the contractor will follow and of any hazards confronted or created in permit spaces within this facility or others belonging to the company, either through a debriefing or during the entry operation.

4. Procedure.

4.1 *Confined Space Identification:*

The facility or construction site will be evaluated to determine if any spaces are non-permit required confined spaces and/or permit required confined spaces. If the workplace contains confined spaces, the company will:

- 4.1.1 Create a confined space list. The facility will create and maintain a detailed list that identifies permanent locations meeting the criteria for a confined space. (Confined Space List form)

- 4.1.2 On Construction sites, post signs or otherwise inform. Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space. Signs can be used for this purpose. A sign reading "DANGER PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER" or similar language will be used.

4.2 *Confined Space Written Program (site-specific).*

If employees will enter permit spaces, a Confined Space Written Program will be developed and implemented. The written program will be available for inspection by employees and their authorized representatives. (Confined Space Written Program form)

In Construction, the written permit space program must comply with 1926.1204 and be implemented at the construction site. NOTE: The employer cannot avoid duties of the standard merely by refusing to decide whether its employees will enter a permit space. OSHA will consider this failure to decide to be an implicit decision to allow employees to enter those spaces if they are working in the proximity of the space.

4.3 *Entry Permit and Permit System:*

- 4.3.1 Before permit space entry is authorized, an entry permit must be completed (Confined Space Entry Permit).
- 4.3.2 Before entry begins, the entry supervisor identified on the permit will sign the entry permit to authorize entry.
- 4.3.3 The completed permit will be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means so that the entrants can confirm that pre-entry preparations have been completed.
- 4.3.4 The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.
- 4.3.5 The entry supervisor will terminate entry and cancel the entry permit when:
- The entry operations covered by the entry permit have been completed.
 - A condition that is not allowed under the entry permit arises in or near the permit space.
 - In Construction, a permit may be suspended until the space has been re-assessed before allowing re-entry when a condition that is not allowed under the entry permit arises in or near the permit space and the condition is temporary in nature and does not change the configuration of the space nor create any new hazards within it;

- 4.3.6 Each canceled entry permit will be retained for at least 1 year after its termination or cancellation to facilitate the annual review of the permit space program. Any problems encountered during an entry operation will be noted on the pertinent permit so that appropriate revisions to the permit space safety program can be made.

4.4 *Permit Space Program Requirements:*

Under the permit space program the company will:

- 4.4.1 Implement the measures necessary to prevent unauthorized entry.
- 4.4.2 Identify and evaluate the hazards of permit spaces before employees enter them.
- 4.4.3 Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:
- Specifying acceptable entry conditions.
 - In Construction, each authorized entrant or that employee's authorized representative must be provided the opportunity to observe any monitoring or testing of the permit space
 - Isolating the permit space.
 - Purging, inserting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards.
 - In Construction, when an employer is unable to reduce the atmosphere below 10 percent LFL, the employer may only enter if the employer inserts the space so as to render the entire atmosphere in the space non-combustible, and the employees use PPE to address any other atmospheric hazards (such as oxygen deficiency), and the employer eliminates or isolates all physical hazards in the space.
 - Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards.
 - Verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.
- 4.4.4 Provide the following equipment at no cost to employees, maintain that equipment properly, and ensure that employees are trained in the proper use of the equipment:
- Testing and monitoring equipment needed to determine if hazardous conditions exist or to verify that they do not exist.
 - Ventilating equipment needed to obtain acceptable air quality entry conditions.

- Communications equipment necessary for communication between personnel involved in the entry operation.
- Personal protective equipment insofar as feasible. (Where engineering and work practice controls do not adequately protect employees), and in construction, must also meet requirements for the use of PPE in a permit space (For example, if respirators are required, then the respirator requirements in 1926.103 (Respiratory Protection) must be met.
- Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.
- Barriers and shields to protect workers from pedestrian and vehicular traffic.
- Ladders, needed for safe ingress and egress by authorized entrants.
- Rescue, Retrieval, and Emergency equipment needed to extract or treat injured personnel, except to the extent that the equipment and/or service is provided by rescue services that are immediately available.
- Any other equipment necessary for safe entry into and rescue from permitted spaces at our facility.

4.4.5 *Evaluation of Permit Space Conditions.*

The company will evaluate permit space conditions as follows when entry operations are conducted:

- Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing will be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions will be continuously monitored in the areas where authorized entrants are working.
 - In Construction, test or monitor the permit space to determine if acceptable entry conditions are being maintained during the course of entry operations. Continuous monitoring of atmospheric hazards may be required unless the employer can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or that periodic monitoring is of sufficient frequency to ensure that the atmospheric hazard is being controlled at safe levels. If continuous monitoring is not used, periodic monitoring is required with sufficient frequency to ensure that acceptable entry conditions are being maintained during the course of entry operations.
- When testing for atmospheric hazards, use the following protocol; first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

- Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces. Reevaluate the permit space in the presence of any authorized entrant or that employee's authorized representative who request that the employer conduct such reevaluation because the entrant or representative has reason to believe that the evaluation of that space may not have been adequate.
- Immediately provide each authorized entrant or that employee's authorized representative with the results of any testing conducted.

4.4.6 *Attendant requirements:*

- Provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations.
- Attendants may be assigned to monitor more than one permit space provided their duties can be effectively performed for each permit space that is monitored. Likewise, attendants may be stationed at any location outside the permit space to be monitored as long as their duties can be effectively performed for each permit space that is monitored.

4.4.7 If *multiple spaces* are monitored by a single attendant, the permit will be annotated to provide the means and procedures by which the attendant is to respond to an emergency affecting one or more of the permit spaces being monitored.

4.4.8 *Rescue procedures* will be developed for the following:

- Summoning rescue and emergency services
- Rescuing entrants from permit spaces
- Providing necessary emergency services for rescue
- Preventing unauthorized personnel from attempting a rescue

4.4.9 *Entry Permit issuance, use, and cancellation* will be as follows:

- When employees of contractor personnel or non-company employees are working simultaneously as authorized entrants in a permit space, the verifying official of the permit (or pre-designated representative) will ensure that all parties concerned are aware of the accepted entry procedures for the specific operation. This will ensure entry operations are properly coordinated.
- The verifying official of the permit (or pre-designated representative) will ensure that all parties concerned are aware of the accepted procedures necessary for concluding the entry after entry operations have been completed (such as closing off a permit space and canceling the permit).

- The company will immediately review and as necessary halt and revise entry operations when there is reason to believe that the measures taken under the permit space safety program may not protect employees. The focus will be directed at the correction of deficiencies found to exist before subsequent entries are authorized. Examples of circumstances requiring the review of the permit space safety program are:
 - Any unauthorized entry of a permit space.
 - The detection of a permit space hazard not covered by the permit.
 - The detection of a condition prohibited by the permit.
 - The occurrence of an injury or near-miss during entry.
 - A change in the use or configuration of a permit space.
 - Employee complaints about the effectiveness of the safety program.

4.4.10 *Annual Review:*

An annual review of the permit space safety program will be conducted using the canceled permits retained to ensure that employees participating in entry operations are protected from permit space hazards. In Construction, if no entry is performed during a 12-month period then no review is necessary.

4.5 *Alternate Conditions and Procedures:*

The alternate procedures listed in 4.5.2 may be followed if the permit space conditions below are met:

4.5.1 *Conditions*

- It can be demonstrated that the only hazard posed by the permitted space is an actual or potentially hazardous atmosphere.
- It can be demonstrated that continuous forced air ventilation alone is sufficient to maintain the space safe for entry.
- Monitoring and inspection data supports the demonstrations listed above.
- If an initial entry of the permit space is necessary to obtain monitoring and inspection data, the worst case will be assumed and the full provisions of permit-required confined space entry procedures will be implemented.
- Entry can be performed by company personnel, once determinations and supporting data are documented, and are made available to each employee who enters the permit space.

4.5.2 Alternate Procedures

:

- Any conditions making it unsafe to remove an entrance cover will be eliminated before the cover is removed.
- When entrance covers are removed, the opening will be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- Before an employee enters the space, the internal atmosphere will be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, will be provided an opportunity to observe the pre-entry testing. The parameter limits are listed in Section 5.4.
- There may be no hazardous atmosphere within the space whenever any employee is inside the space.
- Continuous forced air ventilation will be used, as follows:
 - - An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
 - The forced air ventilation will be so directed as to ventilate the immediate areas where an employee is or will be present within the space and will continue until all employees have left the space;
 - The air supply for the forced air ventilation will be from a clean source and may not increase the hazards in the space.
- The atmosphere within the space will be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space will be provided with an opportunity to observe the periodic testing.
- If a hazardous atmosphere is detected during entry:
 - Each employee will leave the space immediately;
 - The space will be evaluated to determine how the hazardous atmosphere developed; and
 - Measures will be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

- The employer will verify that the space is safe for entry and that the pre-entry measures have been taken through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee entering the space.

4.6 *Permit Required Confined Space Reclassification:*

A space classified as a permit-required confined space will be reclassified as a non-permit confined space under the following conditions:

- 4.6.1 If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a confined space for as long as the non-atmospheric hazards remain eliminated.
- 4.6.2 If it is necessary to enter the permit space to eliminate hazards, such entry will be performed under the assumption that a hazard exists. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified as confined space for as long as the hazards remain eliminated.
 - In Construction, control of atmospheric hazards through forced air ventilation alone can constitute elimination of the hazards provided that if the ventilation system stops working, entrants are made aware of the situation and can exit the space safely.
- 4.6.3 It will be documented that all hazards in a permit space have been eliminated, through a permit that contains as a minimum; the date, the location of the space, and the signature of the person making the determination. The permit will be made available to each employee entering the space.
- 4.6.4 If hazards arise within a permit space that has been declassified to a confined space, each employee in the space will immediately exit the space and the supervisor will be notified. The company will then reevaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions of this safety program.

4.7 *Non-Permit Confined Space Reevaluation.*

When there are changes in the use or configuration of a non-permit required confined space that might increase the hazards to entrants, the company will reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

5. **Safety Information.**

- 5.1. *Procedures for Atmospheric Testing.* Atmospheric testing for permit space entry is required for two distinct purposes: Evaluation of the hazards of the permit space and verification that acceptable entry conditions for entry into that space exists.

- 5.1.1. *Evaluation testing.* The company will ensure that the atmosphere of a permit space is analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise. This is required to ensure that appropriate permit entry procedures specific to the operation can be developed and acceptable entry conditions stipulated for that specific space. Evaluation and interpretation of these data, and development of the entry procedure, will be done by, or reviewed by, a technically qualified professional (e.g., OSHA consultation service, or certified industrial hygienist, registered safety engineer, certified safety professional, certified marine engineer, etc.) based on evaluation of all serious hazards.
- 5.1.2. *Verification testing.* The atmosphere of a permit space which may contain a hazardous atmosphere will be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.) will be recorded on the permit in the space provided adjacent to the stipulated acceptable entry CONDITION.

5.2 *Duration of testing.*

Measurement of values for each atmospheric parameter will be made for at least the minimum response time of the test instrument specified by the manufacturer.

5.3 *Testing Stratified Atmospheres.*

When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope will be tested a distance of approximately 4 feet (1.22 m) in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress will be slowed to accommodate the sampling speed and detector response.

5.4 *Order and Parameters of Atmospheric Testing:*

The internal atmosphere will be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

- Oxygen content. (19.5% - 23.5% is required, any percentage less or more requires action to be taken)
- Flammable gases and vapors in excess of 10% of the lower flammable limit (LFL).
- Potential toxic air contaminants
- Airborne combustible dusts at a concentration that meets or exceeds its LFL.

6. Training and Information.

- 6.1 The company will develop a standardized training format to meet the requirement for a safe permit space entry.
- 6.2 Training will be provided to each affected employee:
 - 6.2.1 Before the employee is first assigned duties that require a permit space entry.
 - 6.2.2 Before there is a change in assigned duties.
 - 6.2.3 Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.
 - 6.2.4 Whenever the employer has reason to believe that there are deviations from the permit space entry procedures required by this instruction or inadequacies in the employee's knowledge or use of these procedures.
- 6.3 The training will establish employee proficiency in the duties required by this instruction and will introduce new or revised procedures, as necessary, for compliance with this instruction or when future revisions occur.
- 6.4 The company will verify that the training required by this section has been accomplished. The documentation will contain each employee's name, the signatures or initials of the trainers, and the dates of training. The documentation will be available for inspection by employees and their authorized representatives.

7. Definitions.

- *Confined Space* - There are two types of confined spaces, non-permit required and permit required.
 - A non-permit required confined space must meet *all* the following criteria:
 - It is large enough and so configured that an employee can bodily enter and perform assigned work.
 - Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.)
 - Is not designed for continuous employee occupancy.
 - A permit required confined space includes the features of non-permit required spaces and *one or more* of the following:
 - Contains or has a potential to contain a hazardous atmosphere.
 - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
 - Contains any other recognized serious safety or health hazard.

- *Entry* - the act of physically entering the space for work activity. Entry begins when any part of the entrant's body breaks the plane of the opening to a confined space with the intent of entry into the confined space or when the possibility of falling into the confined space exists.
- *Confined Space Entry Permit* - A permit document designed to outline necessary safety procedures and equipment required for safe entry into designated confined spaces.

CONFINED SPACE ATMOSPHERIC TESTING

Page ____ of ____

Permit Number:

Permit Validity Period:

Site/Location:

Date:

Time:

Confined space identification code (if identified):

Notes:

INSTRUMENT OPERATORS

Tester Name		Signature		Date		Time	<input type="checkbox"/> am <input type="checkbox"/> pm
Tester Name		Signature		Date		Time	<input type="checkbox"/> am <input type="checkbox"/> pm
Tester Name		Signature		Date		Time	<input type="checkbox"/> am <input type="checkbox"/> pm
Tester Name		Signature		Date		Time	<input type="checkbox"/> am <input type="checkbox"/> pm
Tester Name		Signature		Date		Time	<input type="checkbox"/> am <input type="checkbox"/> pm

ATMOSPHERIC TESTING DATA

Testing Requirement	Initial Instrument Reading (Pencil)	Time Interval	Action Levels		Time	Time	Time	Time
			Level	Unit	Reading	Reading	Reading	Reading
Oxygen content	%O ₂							
Flammable concentration	<10%LEL							
H ₂ S	<10PPM							
Cl ₂	<0.5PPM							
CO	<35PPM							
SO ₂	<2PPM							
Toxic concentration	PPM							
() of (PEL=)								
Test for								
Test for								
Test for								

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CONFINED SPACE ENTRY ASSESSMENT

☐

PERMIT

☐

NON-PERMIT

SPACE INFORMATION

VERBAL SPACE DESIGNATION:

NUMERICAL SPACE DESIGNATION:

LOCATION:

SPACE MARKED: ☐ YES ☐ NO

ENTRY CONTROLLED: ☐ YES ☐ NO

SIGNAGE ☐ YES ☐ NO

BARRIERS ☐ YES ☐ NO

LOCKS ☐ YES ☐ NO

OTHER:

CURRENT USE OF SPACE:

PREVIOUS USE OF SPACE:

RELATED OPERATING PROCEDURES REVIEWED

HAZARD COMMUNICATION	<input type="checkbox"/>	RESPIRATORY PROTECTION	<input type="checkbox"/>	ELECTRICAL SAFETY	<input type="checkbox"/>
LOCK OUT TAG OUT	<input type="checkbox"/>	JOB HAZARD ANALYSIS	<input type="checkbox"/>	PROCESS SAFETY	<input type="checkbox"/>
WELDING SAFETY	<input type="checkbox"/>	ACCIDENT INVESTIGATION	<input type="checkbox"/>	FIRE PREVENTION	<input type="checkbox"/>

CONFINED SPACE ASSESSMENT CHECKLIST

Can an employee enter & perform work either with or without permission?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Do people occupy the space even though it was not designed for it?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is entry and or egress limited or present unusual rescue problems?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Does the space have any potential for a hazardous atmosphere?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Does the space contain a material or liquid that could engulf an entrant?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Does the internal space configuration present the hazard of entrapment?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Does the space contain any other recognized safety and or health hazards?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Is previous and or current entry hazard data available for review	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
*Does entry hazard data confirm designation as a permit space?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
*Were there any "yes" answers to 4-7 which cannot be controlled?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

IF * are YES, the space must be designated as a permit required confined space!

ASSESSED HAZARDS & REQUIRED PERSONAL PROTECTIVE EQUIPMENT

	HAZARDS	REMARKS	PPE REQUIRED/OTHER EQUIP.
<input type="checkbox"/>	Restricted Entry/Egress		
<input type="checkbox"/>	Oxygen Deficiency	Less than 19.5%	
<input type="checkbox"/>	Oxygen Enrichment	More than 23.5%	
<input type="checkbox"/>	Oxygen Displacement		
<input type="checkbox"/>	Flammable Gases or Vapors	More than 10% LEL	
<input type="checkbox"/>	Toxic Gases or Vapors	More than PEL	
<input type="checkbox"/>	Airborne Combustible Dusts	Meets or Exceeds LFL	
<input type="checkbox"/>	Chemical Hazards		
<input type="checkbox"/>	Mechanical Hazards		
<input type="checkbox"/>	Electrical Hazards		
<input type="checkbox"/>	Respiratory Hazards		
<input type="checkbox"/>	Engulfment Hazards		
<input type="checkbox"/>	Entrapment Hazards		
<input type="checkbox"/>	Fall Hazards		
<input type="checkbox"/>	Skin Hazards		
<input type="checkbox"/>	Hot/Cold Hazards		
<input type="checkbox"/>	Radiation Hazards		
<input type="checkbox"/>	Biological Hazards		
<input type="checkbox"/>	Toxic Liquids		
<input type="checkbox"/>	Potential High Liquid Level		
<input type="checkbox"/>	Internal Baffles		

DIAGRAM OR PHOTOS OF SPACE (Indicate Portals)					
CONFIGURATION OF SPACE					
<input type="checkbox"/> VESSEL	<input type="checkbox"/> PIT	<input type="checkbox"/> VAULT	<input type="checkbox"/> SILO	<input type="checkbox"/> HOPPER	<input type="checkbox"/> BIN
<input type="checkbox"/> TANK	<input type="checkbox"/> RAIL CAR	<input type="checkbox"/> TANK CAR	<input type="checkbox"/> SEWER	<input type="checkbox"/> WELL	<input type="checkbox"/> TUNNEL
<input type="checkbox"/> DIGESTER	<input type="checkbox"/> TANKER	<input type="checkbox"/> PIPELINE	<input type="checkbox"/> SHIPS HOLD	<input type="checkbox"/> OTHER:	
DIMENSIONS OF SPACE					
DEPTH/HEIGHT:		WIDTH/INNER DIAMETER:		LENGTH:	
VOLUME/CAPACITY:		SHAPE:			
<input type="checkbox"/> ELEVATED	<input type="checkbox"/> ABOVE GROUND	<input type="checkbox"/> BELOW GROUND	<input type="checkbox"/>		
ANTICIPATED RESCUE					
<input type="checkbox"/> VERTICAL EXTRACTION		<input type="checkbox"/> HORIZONTAL EXTRACTION		<input type="checkbox"/> OTHER:	
REMARKS/RECOMMENDATIONS					
Computer File Name:					
AUTHORIZATION					
<input type="checkbox"/> APPROVED					
I certify that I have conducted a confined space assessment of the above designated space. To the best of my knowledge, I believe the information contained herein to be true and accurate as of the time of the assessment.					
NAME:			TITLE:		
SIGNATURE:			DATE:	TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM	
FURTHER DETAILED ON ATTACHMENT(S) <input type="checkbox"/> YES <input type="checkbox"/> NO					
ASSESSMENT FORM RETENTION INFORMATION					
PERMANENT RETENTION FILE:					
FILE LOCATION:			DATE FILED:	TIME: <input type="checkbox"/> AM <input type="checkbox"/> PM	
ATTACHMENT(S) INCLUDED: <input type="checkbox"/> YES <input type="checkbox"/> NO			FILED BY:		

CONFINED SPACE ENTRY PERMIT

Permit Number:

Site:

Permit Validity Period:

Date		Time:	
From:	To:	From:	To:
Confined space identification code (if identified):			
Notes:			

AUTHORIZED PERSONNEL

Workers Authorized Entry	Attendants and Shift	Attendants and Shift for Fire Watch (hot work)

KNOWN HAZARDS

Initials	(indicate specific hazards with initials)	
	Oxygen deficiency	(less than 19.5%)
	Oxygen enrichment	(more than 23.5%)
	Flammable gases or vapors	(more than 10% of LEL)
	Airborne combustible dust	(meets or exceeds LFL)
	Toxic gases or vapors	(more than PEL)
	Mechanical hazards	
	Electrical hazards	
	Engulfment hazards	
	Materials harmful to skin	

EMPLOYEE TRAINING AND PRE-ENTRY BRIEFING

Safe Entry and Rescue Training Conducted on:	
Mandatory Pre-Entry Briefing Conducted on:	
Does this job require any special training: <input type="checkbox"/> Yes <input type="checkbox"/> No	
➤ If yes, type of training required:	
Trainer Name:	Signature:

CONTRACTOR NOTIFICATION

Contractor Notified of:	Permit Conditions: Yes <input type="checkbox"/> No <input type="checkbox"/>
	Potential Hazards: Yes <input type="checkbox"/> No <input type="checkbox"/>

COMMUNICATION

	Intrinsically Safe? Yes <input type="checkbox"/> No <input type="checkbox"/>
	Visually Inspected? Yes <input type="checkbox"/> No <input type="checkbox"/>

LIGHTING REQUIREMENTS					
		Intrinsically Safe?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
		Visually Inspected?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
SPECIAL TOOLS/EQUIPMENT					
		Intrinsically Safe?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
		Visually Inspected?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
SITE PREPARATION REQUIREMENTS					
Work area isolated with signs and or barriers?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
All energy sources locked/tagged out?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
All input lines capped/blinded?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
If vessel; drained, flushed, neutralized, cleaned, and purged?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
Ventilation initiated 30 min. before entry?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
Fire extinguishers on hand?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
Fall hazards considered and prepared for?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
Engulfment hazards considered and prepared for?				Yes <input type="checkbox"/>	No <input type="checkbox"/>
PRE-ENTRY ATMOSPHERIC TESTING					
Tester:	Name:	Signature:			
	Title:	Date:	Time:	<input type="checkbox"/> am	<input type="checkbox"/> pm
INITIAL TESTING DATA					
Testing	Instrument	Last Time	Time	Action Levels	
<u>Requirement</u>	<u>Reading</u> (Pencil)	<u>Taken</u> (Pencil)	<u>Interval</u>	<u>Level</u>	<u>Unit</u>
Oxygen content	%O2				
Flammable concentration	<10%LEL				
H2S	<10PPM				
Cl2	<0.5PPM				
CO	<35PPM				
SO2	<2PPM				
Toxic concentration	PPM				
	(TLV=_____)				
Heat stress					
Test for					
EMERGENCY/RESCUE PROCEDURES					
Location of written Emergency/Rescue Plan:					
Type of Emergency/Rescue Team required:					
On-site: Yes <input type="checkbox"/> No <input type="checkbox"/>		Contact:		Phone:	
Off-site: Yes <input type="checkbox"/> No <input type="checkbox"/>		Contact:		Phone:	
Additional Information					

PERSONAL PROTECTIVE EQUIPMENT REQUIRED			
Air purifying respirator? Type:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Self-Contained Breathing Apparatus Required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Atmospheric Monitor Required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
➤ If yes, type:			
AREA SAFETY EQUIPMENT REQUIRED			
SPACE REVIEW INFORMATION			
Previous Permit Reviewed:	Date:	Time: <input type="checkbox"/> am <input type="checkbox"/> pm	Initials:
PERMIT AUTHORIZATION			
Name:		Signature:	
Title: ENTRY SUPERVISOR		Date:	Time: (am) (pm)
Name:		Signature:	
Title:		Date:	Time: (am) (pm)
PERMIT RETENTION INFORMATION			
Permanent Retention File:		Location:	
Date Filed:		Filed By:	

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CONFINED SPACE LIST

DESIGNATION OR NAME/LOCATION OF SPACE	ASSESSED?		POTENTIAL HAZARDS	PERMIT REQUIRED ?	
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No

Completed by: _____

Date: _____

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CONFINED SPACE WRITTEN PROGRAM

Date:

Project Name:

Workplace Description: Sewer lines, manholes, pipes, containers, silos, tanks, chassis mounted containers/tanks, other confined space _____

Details and description of the space:

Potential hazards. (*Examples - struck by, engulfed, burned by, overcome by, heat stress, slipping and falling, presence of toxic or explosive/flammable gases, oxygen deficiency, etc.*)

Employees could be exposed to the following:

Hazard Controls: Atmospheric testing, ventilation, continued monitoring.

The following methods will be used to control each of the potential hazards:

Permit Type: (check as appropriate)

- ☐ **Confined Space Entry Permit:** All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. Any employee required or permitted to pre-check or enter a permit-required confined space shall have successfully completed, as a minimum, the training as required. A written copy of operating and rescue procedures as required by these procedures shall be at the work site for the duration of the job. The Confined Space Entry Permit must be completed before approval can be given to enter a permit-required confined space. The permit shall be kept at the job site for the duration of the job. If circumstances cause an interruption in the work or a change in the alarm conditions for which entry was approved, a new Confined Space Entry Permit must be completed.
- ☐ **Entry Without a Permit:** Certification. Confined spaces may be entered without the need for a written permit provided that the space can be maintained in a safe condition for entry by mechanical ventilation alone, as provided in 1910.146(c)(5). All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. Any employee required or permitted to pre-check or enter an enclosed/confined space shall have successfully completed, as a minimum, the training as required. A written copy of operating and rescue procedures as required shall be at the work site for the duration of the job. The Confined Space Entry Assessment Form must be completed by the LEAD WORKER before entry into a confined space. The check list shall be kept at the job site for duration of the job. If circumstances dictate an interruption in the work, the permit space must be re-evaluated and a new assessment form or permit must be completed, as appropriate

Attendants: (include names of multiple attendants if the attendants will change throughout the project)
Entry Supervisor: (Person conducting air monitoring)

The attendant(s) is/are:
Entry supervisor is:

Rescue Procedures: (check as appropriate)

- ☐ When necessary, the attendant shall call the fire department as previously arranged.
- ☐ Internal: (describe arrangements)
- ☐ Other: (describe arrangements)

Completed by: _____
Title: _____

Date: _____

TRAINING ATTENDANCE ROSTER CONFINED SPACE ENTRY

Permit Required Training Includes:

- Definitions
- Types of Spaces
- General Entry Hazards
- Protective Measures
- Rescue
- Specific Personnel Duties

General Entry Training Includes:

- Definitions
- Types of Spaces
- General Entry Hazards
- Rescue

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

CONSTRUCTION SAFETY PROGRAM

REGULATORY STANDARD: *OSHA – 29 CFR 1910*
 OSHA – 29 CFR 1926

INTRODUCTION: Outlines the safety requirements for a construction company. It provides guidance for tool selection, housekeeping, PPE, fall protection, and for the identification and control of other general construction industry hazards.

TRAINING:

- Employees will be trained on safety policies and procedures as well as the hazards posed by their work assignment for each construction site or job.

ACTIVITIES:

- Every construction job is unique and each must be assessed to identify its potential health and safety risks and communicate the identified hazards to employees
- Review operations for additional activities which could impact both contractors and employees
- Write and communicate policies and procedures
- Conduct compliance audits when contractors are on site

FORMS:

- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training Information & Requirements**
- 7. Definitions**

Construction Safety Program

1. **Purpose.** Effective implementation for job safety and health of our employees requires a written safety program fully endorsed and advocated by the highest level of management within the company. This safety program is designed to establish clear company goals and objectives and will be communicated to all required personnel. It encompasses the total workplace regardless of the number of workers employed or the number of work shifts. The company will review and evaluate this safety program:

- 1.1 When changes occur to 29 CFR that prompt a revision.

- 1.2 When changes occur to any related regulatory document that prompts a revision of this document.

- 1.3 When facility operational changes occur that require a revision of this document.

2. **Scope.** This program applies to all construction job sites and company employees.

3. **Responsibilities.**

- 3.1 Management:

- 3.1.1 Provide sufficient human and financial resources to address federal, state, and local safety and health compliance.

- 3.1.2 Assign compliance and general safety and health responsibilities to the Safety Officer (or other specifically designated person).

- 3.1.3 Establish employee safety and health management goals.

- 3.1.4 Review company safety and health management performance at least annually.

- 3.1.5 Hold managers accountable for safety and health performances through annual performance appraisals or at the completion of each job.

- 3.2 Project Managers:

- 3.2.1 Assess each job to identify overall safety and health hazards and reassess as new components of the job begin.

- 3.2.2 Develop safety rules and job procedures necessary to eliminate or control hazards.

- 3.2.3 Conduct employee orientation and on-the-job training.
 - 3.2.4 Conduct scheduled employee safety meetings.
 - 3.2.5 Conduct on-going informal hazard identification checks, inspections and scheduled formal audits.
 - 3.2.6 Report all incidents as required.
 - 3.2.7 Investigate and document all accidents per accident investigation procedures.
 - 3.2.8 Support and enforce all company, department, and job specific safety rules, policies and procedures and utilize disciplinary procedures as described in the company's Employee Handbook.
 - 3.2.9 Maintain required safety documentation (training, incident reports, equipment records, inspection/audit information, etc.).
- 3.3 Job Site Supervisor:
- 3.3.1 Implement safe conditions, work practices enforcement of safety rules, laws and procedures in the daily supervision of all employees.
 - 3.3.2 Ensure that each employee is provided with and wears the prescribed personal protective equipment that is necessary for the task at hand.
 - 3.3.3 Ensure that all employees are informed of the safety rules for the job site or work location.
 - 3.3.4 Enforce all safety rules and regulations.
 - 3.3.5 Instruct employees on the recognized hazards of the job and how to avoid and report unsafe conditions.
 - 3.3.6 Ensure that all regulatory standards for repair and maintenance of equipment are followed.
 - 3.3.7 Ensure that all defective or damaged equipment is tagged and removed from the work site immediately until repaired or replaced.
 - 3.3.8 Assist in the scheduled safety inspections as directed by the safety officer or other designated person.
 - 3.3.9 Assist in the new hire orientation of all new employees before permitting them to enter the job site.
 - 3.3.10 Assist the safety officer in the investigation of all accidents.
 - 3.3.11 Serve on the company Employee Safety Committee.

- 3.3.12 Maintain required safety documentation (training, incident reports, equipment records, inspection/audit information, etc.).
- 3.4 Safety Officer (as needed or required):
 - 3.4.1 Develop programs as necessary to comply with federal, state, and local employee safety and health regulations.
 - 3.4.2 Coordinate provision of employee and management safety and health training.
 - 3.4.3 Maintain all required documentation (training, incident reports, equipment records, inspection/audit information, etc.).
 - 3.4.4 Participate in the Employee Safety and Health Committee.
 - 3.4.5 Prepare safety and health management status reports including Workers' Compensation loss summary, compliance summary, and trend analysis of audit results, accident and incident causes, safety alerts, and other reported safety concerns.
- 3.5 Employees:
 - 3.5.1 Follow all safety and job rules and procedures.
 - 3.5.2 Use only tools, equipment, and materials for which training and authorization have been given.
 - 3.5.3 Report all incidents and accidents as required.
 - 3.5.4 Report all observed unsafe conditions and behaviors.
 - 3.5.5 Participate in all employee safety and health training programs.

4. Procedure.

- 4.1 General construction safety work rules:
 - 4.1.1 Employees are to follow all task and job site policies, and procedures.
 - 4.1.2 Employees are to refrain from running, horseplay, practical jokes, and other activities, which could lead to the injury of the employee or others.
 - 4.1.3 Employees are to report to work in appropriate attire and condition to ensure constant awareness of surroundings and activities.
 - 4.1.4 Employees under the influence of alcohol or drugs will be removed from the work site immediately.
 - 4.1.5 Employees will only use, repair, or adjust tools and machinery if trained and authorized by supervisory personnel.

- 4.1.6 Employees will maintain good housekeeping in all work areas and follow housekeeping schedules as required by job procedures and department policies.
- 4.1.7 Employees must report all unsafe conditions or behaviors to their supervisor immediately.
- 4.1.8 Employees must report all injuries to their supervisor immediately.
- 4.1.9 Employees are expected to assist in keeping the work site as free of debris as possible.
- 4.1.10 Employees are not allowed on the work site with firearms, explosives or unlawful weapons. Employees with such possessions on their person or property will be removed from the job site immediately.
- 4.1.11 Loose or ragged clothing shall not be worn while working around machinery.
- 4.1.12 Rings and/or other jewelry should be removed while working around machinery.
- 4.1.13 Know the location of emergency exits, first aid kits, fire extinguishers, fire alarms.
- 4.1.14 Do not use compressed air for dusting or cleaning clothing.
- 4.1.15 Attend and participate in the weekly “tool box” safety meetings.
- 4.1.16 Wear only the approved personal protective equipment.
- 4.1.17 Fall protection is required when exposed to falls greater than 6 feet.
- 4.1.18 Never ride mobile scaffolding.
- 4.1.19 All scaffolding must be properly constructed, with toe-boards, mid-rails, and handrails over 10 feet.
- 4.1.20 All scaffolding must be inspected daily by the designated “competent person”.
- 4.1.21 All ladders shall be inspected before use.
- 4.1.22 Ladders are only to be used within appropriate compliance guidelines.
- 4.1.23 Do not operate any machine unless trained and authorized to do so.
- 4.1.24 All gas cylinders shall be chained in an upright position.
- 4.1.25 Never remove a safety guard from machinery or equipment.
- 4.2 Specific jobsite construction industry safety work rules are located in the section labeled “General Safety” in this manual.

5. Safety Information.

5.1 Jobsite Safety Audits

5.1.1 Jobsite hazard assessment:

- 5.1.1.1 The Safety Officer or Project Manager conducts a General Hazard Assessment during the planning phase of a new project and updates the assessment as the job progresses. The completed assessment form is maintained in the main office, or where similar records are maintained.

5.1.2 Jobsite safety audits:

- 5.1.2.1 The Safety Officer or Job Site Supervisor will conduct formal jobsite safety audits on an annual basis for long term projects or on an as needed basis for shorter term projects to evaluate the overall safety of the jobsite.
- 5.1.2.2 Findings will be reviewed with the employees or the Subcontractor contact.
- 5.1.2.3 The Safety Officer or Project Manager will use recently completed audit reports during subsequent audits to ensure appropriate corrective actions are implemented as necessary.

5.1.3 Daily walk through safety audits:

- 5.1.3.1 The Safety Officer or Job Site Supervisor will walk through assigned areas on an as needed basis to identify any unsafe condition or behavior.
- 5.1.3.2 Hazards are to be corrected immediately.
- 5.1.3.3 If a hazard cannot be corrected immediately, a Hazard Alert Form will be completed and submitted to all affected subcontractors. Those subcontractors will inform employees of the hazards and appropriate precautionary measures. In such cases, the Job Site Supervisor must recheck the area in a reasonable time frame to ensure the hazard is appropriately corrected.
- 5.1.3.4 Work affected by any hazard that could cause serious injury must be halted until the hazard is corrected.

5.2 Accident and Incident Investigation

- 5.2.1 Reporting incidents is critical to the effectiveness of any injury and illness prevention program. The purposes of incident reporting are as follows:

- 5.2.1.1 Provide documentation for claims

- 5.2.1.2 Provide information to focus employee safety and health management efforts
- 5.2.1.3 Provide historical data to measure progress
- 5.2.1.4 Allow for continuous improvement

5.3 Reporting Procedures

- 5.3.1 Employees must report all incidents and accidents to the Job Site Supervisor (or the Safety Officer or Project Manager) that will complete the following forms. Portions of the report form may be completed by the employee or a Supervisor designee.
- 5.3.2 The employee's Supervisor must complete all portions relating to the accident/incident investigation and must also ensure the full completion of all portions.
- 5.3.3 The Safety Officer or Project Manager must review and sign the completed form.
- 5.3.4 Copies of the report must be forwarded to the following people, as needed or required:
 - 5.3.4.1 Safety Officer
 - 5.3.4.2 Claims Coordinator
 - 5.3.4.3 Internal Human Resources Representative

5.4 Accident Investigation or Employee Incident Report flow:

- 5.4.1 The employee reports the incident to his/her Supervisor as soon as he/she is aware of the event.
- 5.4.2 The Safety Officer or Job Site Supervisor conducts an investigation and completes the Incident Report as soon as possible and forwards the report to the Project Manager or management.
- 5.4.3 The Manager reviews the report to ensure the completion of a thorough investigation and sends copies to the appropriate personnel.
- 5.4.4 Once the reports are completed and forwarded to the appropriate personnel, the following personnel will be undertake the listed activities to reduce the risk of recurrence:
 - 5.4.4.1 Safety Officer:
 - 5.4.4.1.1 Regularly reviews Incident Reports to identify trends.

- 5.4.4.1.2 Compiles an Incident Trend Summary Report which is presented to the Senior Manager or to the Employee Safety and Health Committee who initiates organization-wide corrective actions to address the identified trends.
- 5.4.4.1.3 Works with the Project Manager and/or Job Site Supervisor to ensure the correction of identified hazards.
- 5.4.4.2 Claims Officer:
 - 5.4.4.2.1 Uses the Incident Reports to complete the necessary Worker's Compensation forms and to initiate claims management activities.
- 5.4.4.3 Project Manager:
 - 5.4.4.3.1 Follows up with the Supervisor and employees to ensure the correction of identified incident/accident causes.
 - 5.4.4.3.2 Shares relevant information with the Supervisor in other areas of their departments to ensure similar hazardous situations are addressed.
 - 5.4.4.3.3 Ensures the provision of sufficient resources to make the necessary corrections and changes. Such resources may include equipment, materials, money, time, and support for policy changes.
- 5.4.4.4 Senior Manager:
 - 5.4.4.4.1 Reviews Incident Reports as needed to determine the types of incidents occurring within the organization and the identified hazards in order to make appropriate decisions regarding safety and health management efforts.
 - 5.4.4.4.2 Reviews the Incident Report Trend Summary Report provided by the Safety Officer to identify overall facility needs and to provide the leadership necessary to ensure workplace safety and health.
- 5.4.4.5 Employee Safety and Health Committee (as needed or required):
 - 5.4.4.5.1 The Committee will be composed of both management and non-management personnel.
 - 5.4.4.5.2 The Safety Officer is responsible for maintaining a list of current Committee members.

5.5 Recordkeeping. At a minimum the company will maintain the following records:

Record	Responsible Person	Location	Duration
Employee Safety Orientation	Safety Officer or other designated person	Main Office Employee File or with similar records	Until superseded
Employee Safety Training Records	Safety Officer or other designated person	Main Office Employee File or with similar records	Until superseded
Inspection Records and Audit Reports (w/corrective actions noted)	Safety Officer or other designated person	Main Office or with similar records	Until superseded or all action items are closed (whichever is longer)
Accident Reports (w/ corrective actions noted)	Safety Officer or other designated person	Main Office or with similar records	5 years
OSHA 300 Log and 301 Forms	Safety Officer or other designated person	Main Office or with similar records	5 years
Employee and Subcontractor Disciplinary Records regarding Safety/OSHA Compliance	Human Resources or other designated person	Human Resources Office or with similar records	Until Obsolete

6. Training and Information.

6.1 New employees:

6.1.1 All new employees will receive an orientation provided by the Safety Officer or Job Site Supervisor prior to their exposure to work place hazards.

6.1.2 The initial orientation documentation will be maintained by the Safety Officer or Job Site Supervisor and stored in the main office or the employee file (or where similar training records are maintained).

6.2 Transfer employees:

6.2.1 Employees transferring within the company will be trained in the items and exposures which previous training did not cover. The Safety Officer or Job Site Supervisor will provide this training prior to the employee's exposure to new hazards. Updated training will be documented on the employee's training record and stored in the main office or the employee file (or where similar training records are maintained).

6.3 Specific job/task training:

6.3.1 Employees must be trained to perform specific tasks in the construction job site such as forklifts, scaffold erection and confined space entry.

- 6.3.2 The Job Site Supervisor will identify which tasks require specific training and ensure this training is completed prior to permitting the employee to perform that task.
- 6.3.3 Training will be provided by the Safety Officer or Job Site Supervisor and documented on the employee's training record and stored in the main office or the employee file (or where similar training records are maintained).
- 6.4 Ongoing training:
 - 6.4.1 Every construction job is unique. The Safety Officer or Job Site Supervisor must assess each job to identify its potential health and safety risks. Appropriate control methods will be communicated via:
 - 6.4.1.1 New job orientation
 - 6.4.1.2 Daily morning tailgate meetings
 - 6.4.1.3 Weekly site updates/training
 - 6.4.1.4 Scheduled skills training programs

7. Definitions.

- *Incident* - An incident is an unplanned event resulting in a minor injury (e.g. a small bruise) or minor property damage (e.g. a broken box with lightly damaged, mostly usable contents) or has the potential to result in injury or property damage (a near miss). Incidents do not usually result in a claim.
- *Accident* - An accident is an unplanned event resulting in an injury requiring treatment (in-house first aid or outside medical attention) or more substantial property damage. Accidents usually result in a claim.

TRAINING ATTENDANCE ROSTER GENERAL CONSTRUCTION SAFETY									
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Training Includes Overviews Of:

- Emergency Action and First Aid
- Hazard Communication
- Electrical Hazards
- Chemical Storage and Flammable Liquids
- PPE
- Forklifts and Machinery
- Tools and Equipment Guarding
- Ladders
- Confined Space

- Training Includes Overviews Of:***
- Emergency Action and First Aid
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 - Ladders
 - Confined Space

- Welding
- Lifting
- Temperature Extremes
- Lighting and Sanitation
- Barricades and Signs
- Scaffolds
- Fall Protection
- Excavation
- Concrete or Steel Erection

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

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CALIFORNIA

CONSTRUCTION SAFETY

Additional Requirements

CONSTRUCTION SAFETY ORDERS APPLICATION – 8 CCR 1502

- Every employer must adopt a written Code of Safe Practices which relates to the employer's operations.
- All supervisory employees must conduct toolbox/tailgate meetings with their crews every 10 working days.

Required form: On-Site Code of Safe Practices

FIRST AID – CONSTRUCTION - 8 CCR 1512

- At least one person must be trained in First Aid/CPR on every jobsite.
- Must have specific first aid supplies approved by an employer-authorized, licensed physician at each jobsite.

Required form: First Aid Requirements

PERMIT REQUIREMENTS – 8 CCR 341

- The purpose of a permit is to provide notice to the Division that an employer will undertake permit-required activity and to allow the Division an effective means of ensuring that the proposed permit-required activity will be performed safely. There are two types of permits: Project Permits and Annual Permits. Work on permit-required activities on a project subject to Project Permit requirements shall not begin until a Project Permit has been issued for the project.
- Work Activities Subject to Permit Requirements and the Types of Permits Required to Conduct the Activities.
 - To conduct the demolition or dismantling of any building or structure more than 36 feet in height.
 - To conduct any of the following activities on a structure intended to be more than 36 feet high when completed.
 - Construction of trenches or excavations 5 feet or deeper into which any person is required to descend.
 - Erection and placement of scaffolding, vertical shoring, or falsework intended to be more than 36 feet high when completed.
- Exceptions to Permit Requirements. This section does not apply to the following:
 - Government Bodies - United States of America, its officers or agencies, State of California, county, city and county, city, or district.
 - Any public utility subject to the jurisdiction of the Public Utilities Commission.
 - Construction of trenches or excavations for the purpose of performing emergency repair work to underground facilities.
 - Construction or final use of excavations or trenches where the construction or final use does not require a person to descend into the excavation or trench.
 - Excavation for the construction of graves as defined in Section 7014 of the Health and Safety Code.
 - Excavation for the construction of swimming pools. Note: The construction of motion picture, television, or theater stages and sets does not require a permit unless the conditions specified in Section 6500(b) of the California Labor Code have occurred. For purposes of this requirement, stages and sets include, without limitation, scenery, props, backdrops, flats, greenbeds, and grids.

- Issuance of Permits
 - A permit may be issued to an applicant following the filing of a completed Permit Application form, compliance with all the requisites therein, payment of the permit fee as provided in Section 341.3 of this article, and a determination by the Division that all qualifications for receipt of a permit have been met by the applicant. Except as provided in Section 8470(l), the Division shall issue a Project Permit within five working days of the initial project permit safety conference, if the application materials presented by the applicant at the safety conference are complete. If the application materials are not complete, the applicant shall be given a written list before leaving the safety conference of the materials or information needed to complete the application. The Division shall issue the Project Permit within five working days of receiving complete application materials or deny the permit in writing.
Required form: Permit Application Form

ON-SITE CODE OF SAFE PRACTICES

COMPANY NAME:

Completed by: _____

Date: _____

CODE OF SAFE PRACTICES

The Code of Safe Practices is required to be at each construction/renovation related job site, either in a specific location or in the possession of the foreman/person in charge. Companies are required to ensure that appropriate training is provided to all employees regarding the Code of Safe Practices.

General Process	Applicable?
All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman or superintendent.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work, and shall take such action as is necessary to obtain observance.	<input type="checkbox"/> YES <input type="checkbox"/> NO
All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days. When applicable, the accident prevention instructions shall also include specific instruction on the safe use, care and maintenance of fall protection equipment (i.e. fall arrest systems, positioning device systems, safety nets, etc.) used at the jobsite.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Anyone known to be under the influence of drugs or intoxicating substances which impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.	<input type="checkbox"/> YES <input type="checkbox"/> NO
No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that it is safe to enter.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the foreman or superintendent.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Crowding or pushing when boarding or leaving any vehicle or other conveyance shall be prohibited.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.	<input type="checkbox"/> YES <input type="checkbox"/> NO
All injuries shall be reported promptly to the foreman or superintendent so that arrangements can be made for medical or first aid treatment.	<input type="checkbox"/> YES <input type="checkbox"/> NO

General Process (continued)	Applicable?
When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions from authorized sources.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Masonry or brick tote carriers should avoid the use of extension ladders when carrying loads. Such ladders may provide adequate strength, but the rung position and rope arrangement make such climbing difficult and hazardous for this trade.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Work shall be so arranged that employees are able to face ladder and use both hands while climbing.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Gasoline shall not be used for cleaning purposes.	<input type="checkbox"/> YES <input type="checkbox"/> NO
No burning, welding, or other source of ignition shall be applied to any enclosed tank or vessel, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from the foreman or superintendent.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Any damage to scaffolds, false work, or other supporting structures shall be immediately reported to the foreman and repaired before use.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Use of Tools and Equipment	Applicable?
All tools and equipment shall be maintained in good condition.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Damaged tools or equipment shall be removed from service and tagged "DEFECTIVE."	<input type="checkbox"/> YES <input type="checkbox"/> NO
Pipe or Stillson wrenches shall not be used as a substitute for other wrenches.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Only appropriate tools shall be used for the job.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wrenches shall not be altered by the addition of handle-extensions or "cheaters."	<input type="checkbox"/> YES <input type="checkbox"/> NO
Files shall be equipped with handles and not used to punch or pry.	<input type="checkbox"/> YES <input type="checkbox"/> NO
A screwdriver shall not be used as a chisel.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wheelbarrows shall not be pushed with handles in an upright position.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Portable electric tools shall not be lifted or lowered by means of the power cord. Ropes shall be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Electric cords shall not be exposed to damage from vehicles.	<input type="checkbox"/> YES <input type="checkbox"/> NO
In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.	<input type="checkbox"/> YES <input type="checkbox"/> NO

Machinery and Vehicles	Applicable?
Only authorized persons shall operate machinery or equipment.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Loose or frayed clothing, or long hair, dangling ties, finger rings, etc., shall not be worn around moving machinery or other sources of entanglement.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Machinery shall not be serviced, repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Where appropriate, lock-out procedures shall be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees shall not work under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists should fail.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Air hoses shall not be disconnected at compressors until hose line has been bled.	<input type="checkbox"/> YES <input type="checkbox"/> NO
All excavations shall be visually inspected before backfilling, to ensure that it is safe to backfill.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Excavating equipment shall not be operated near tops of cuts, banks, and cliffs if employees are working below.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Tractors, bulldozers, scrapers and carryalls shall not operate where there is possibility of overturning in dangerous areas like edges of deep fills, cut banks, and steep slopes.	<input type="checkbox"/> YES <input type="checkbox"/> NO
When loading where there is a probability of dangerous slides or movement of material, the wheels or treads of loading equipment, other than that riding on rails, should be turned in the direction which will facilitate escape in case of danger, except in a situation where this position of the wheels or treads would cause a greater operational hazard.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Blasting Operations	Applicable?
Cases that have contained explosives shall be destroyed by burning out-of-doors. Do not burn in a stove or furnace.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shoes with nails or metal plates shall not be worn in magazines or near explosives.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Blasting caps shall only be carried in approved containers.	<input type="checkbox"/> YES <input type="checkbox"/> NO
The least amount of proper strength explosive that will do the job effectively shall be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Detonators and primers shall be separated from the explosives until it is necessary to bring them together in preparing for the blast.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Holes loaded during a shift should be fired during that shift.	<input type="checkbox"/> YES <input type="checkbox"/> NO
The operations of loading and firing should be carried out with as few workers as possible.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Drill holes shall be blown out and made ready before explosives are brought to the site.	<input type="checkbox"/> YES <input type="checkbox"/> NO
In tamping explosives, steady, even pressure should be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO

Description of Requirement	Applicable?
For electric blasting, the following shall apply:	<input type="checkbox"/> YES <input type="checkbox"/> NO
(a) Tight electrical connections.	<input type="checkbox"/> YES <input type="checkbox"/> NO
(b) No short circuits or breaks in the wires.	<input type="checkbox"/> YES <input type="checkbox"/> NO
(c) Enough current to fire all shots.	<input type="checkbox"/> YES <input type="checkbox"/> NO
(d) A strong, properly-applied force when using a blasting machine operated by physical effort.	<input type="checkbox"/> YES <input type="checkbox"/> NO
(e) Care not to damage the insulation of wires when tamping charges.	<input type="checkbox"/> YES <input type="checkbox"/> NO
If misfires occur, the licensed blaster shall be contacted.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Roofing Operations	Applicable?
Knotted hand lines should not be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Roofers tending kettles, or carrying buckets of hot tar, shall wear gloves that fit snugly at the wrists, and long sleeved shirts fastened at the wrists.	<input type="checkbox"/> YES <input type="checkbox"/> NO
At no time should a roofer, while handling or exposed to injury from hot tar, work without a shirt or appropriate footwear.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Appropriate portable fire extinguishers shall be kept at or near the kettle, attached, if practicable, to the tongue of the kettle, away from the danger zone.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Kettle covers should be equipped with a handle that projects at least fourteen inches (14") away from the surface of the cover or lid.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Kettle covers shall be closed and latched when in transit and the kettle should be slop-proof when cover is closed.	<input type="checkbox"/> YES <input type="checkbox"/> NO
When parked, means shall be provided to prevent inadvertent movement of the kettle.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Ladders should be used with great caution, and roof gutters should not be depended upon for support.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Workers handling buckets of hot tar should not carry anything that will interfere with the safety of this operation.	<input type="checkbox"/> YES <input type="checkbox"/> NO
The gallows frame shall be securely anchored before hoisting materials.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Only muscular power shall be used to hoist materials by means of a gallows frame. A winch or power hoist shall not be used.	<input type="checkbox"/> YES <input type="checkbox"/> NO

FIRST AID KIT SUPPLY REQUIREMENTS

Based on the number of employees the following items should be available in First Aid Kits located at the job site. (Kits are required for California Construction sites)

First Aid Kit <i>Required</i> Supplies:	1-5 Employees	6-15 Employees	16-200 Employees	Over 200 Employees
Adhesive dressings	X	X	X	X
Adhesive tape rolls, 1-inch wide	X	X	X	X
Eye dressing packet	X	X	X	X
1-inch gauze bandage roll or compress	X	X	X	X
2-inch gauze bandage roll or compress	X	X	X	X
4-inch gauze bandage roll or compress	X	X	X	X
2-inch square sterile gauze pads	X	X	X	X
4-inch square sterile gauze pads	X	X	X	X
Sterile surgical pads suitable for pressure dressings			X	X
Triangular bandages	X	X	X	X
Safety pins	X	X	X	X
Tweezers and scissors	X	X	X	X
*Additional equipment to be readily available, but not necessarily in First Aid Kit:				
Cotton-tipped applicators			X	X
Forceps			X	X
Emesis basin			X	X
Flashlight			X	X
Magnifying glass			X	X
Portable oxygen and its related breathing equipment				X
Tongue depressors				X
Appropriate Record Forms	X	X	X	X
Up-to-date First Aid Textbook, Manual, or Equivalent	X	X	X	X

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PERMIT APPLICATION FORM

Buildings/Structures, Scaffolding/Falsework, Demolition, Trenches/Excavations

Section 6500, 6501 and 6502 of the California Labor Code require that certain activities, which by their nature involve substantial risk of injury, may not be performed without a permit issued by DOSH. The Labor Code requires that the applicant supply, and that the Division review, information necessary to evaluate the safety of the workplace subject to permit requirements. A permit will not be issued until evidence has been demonstrated that the place of employment will be safe and healthful.

Employer: _____	Employers' Rep.: _____
Address: _____	Title & Phone No.: _____
_____	State Contractor's License No.: _____
Phone: _____	Fax: _____

Check Applicable Items:

Applicant is:

Applicant refers to contractor or knowledgeable representative in a position of authority and responsibility for the activity covered by this permit.

_____ Project Administrator

_____ Speciality Contractor

Type _____

_____ Other

Type of Permit Sought:

_____ Annual Permit

_____ Project Permit

_____ Temporary Permit (Plan Check Only)

_____ Multiple Project, (if projects covered are similar in all important aspects, work is performed by the same employer and information concerning each project is provided)

For:

_____ Construction of: _____ Building

_____ Structure

_____ Scaffolding, Falsework and/or Vertical Shoring

_____ Demolition of: _____ Building

_____ Structure

_____ Trench and/or Excavation

Any permit based on this application is issued with the understanding that the applicant has knowledge of occupational safety and health orders applicable to the project(s) described in the application and attachments and that the applicant and supervising personnel will take special care to ensure compliance with safety orders reviewed with the applicant by the Division in the application process.

Issuance of the permit is also conditioned upon the following:

- 1) Upon initiation of any new project not described in the application the holder of an Annual Permit will provide the Division with a completed Activity Notification Form for Holders of Annual Permits describing the new project prior to the start of work preferably at least one week in advance of the start-up date.
- 2) The applicant has implemented a written Injury and Illness Prevention Program and Code of Safe Practices which meet the requirements of 8 CCR Sections 1509 & 3203.
- 3) The Division will be notified of significant changes in information provided with the application if such changes might affect the safety of the activity.
- 4) The applicant for a Trench and/or Excavation Permit shall designate a **competent person** in accordance with the requirements of 8 CCR 1504, 1541 and 1541.1. for each Trench and/or Excavation project.

5) The applicant understands that under the permit program DOSH schedules routine inspections by authorized personnel for the purpose of verifying that holders of Annual or Activity Permits are meeting their obligation to provide a safe work place for their employees. The Division reserves the right to revoke or suspend a permit if it is unable to promptly verify compliance with the terms and conditions of the permit and its issuance.

- 6) The applicant understands that failure to comply with any of the above listed conditions for obtaining a permit could result in denial, suspension, or the revocation of the permit. Employers may appeal these actions to the Director of the Department of Industrial Relations (California Labor Code Section 6500 at. Seq. and 8 CCR 341)
- Is the applicant conducting any activities to be covered by this Permit Application Form, as a partnership or joint venture with any other persons or corporations conducting activities requiring permits?
Yes _____ No _____ If yes, give details _____

Have any permits for any project to be covered by this permit application previously been applied for or obtained? Yes _____ No _____ If yes, when _____

from what district office _____

in whose name _____

DIVISION USE ONLY

Fee _____

Paid _____

Approved _____

Conference _____

Other _____

I hereby certify that to the best of my knowledge all information and assertions made on the Permit Application and/or Activity Notification Form are true and correct and that I/the applicant have knowledge of and will comply with the foregoing.

Signature: _____

Title: _____

Date: _____

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PROGRAM OVERVIEW

ELECTRICAL (COMPREHENSIVE) SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.331 - 335

OSHA - 29 CFR 1926.302, 1926.416-417

INTRODUCTION

This program is designed to assist the company to ensure that work practices performed on or near electrical equipment and energy sources are evaluated to determine if proper safety precautions are implemented. This program applies to all employees and contractors of the company who are exposed to live electrical energy at levels of >50V and less than 240V that cannot be locked out and de-energized. It outlines employee training, work practices, equipment use and details the safeguards for personal protection.

TRAINING

- Employees exposed to hazards >50V must be trained and understand the magnitude of the hazard and the protective measures and controls used
- Employees exposed to higher voltages (>110V) must be qualified and have appropriate licenses or documented training.
- Employees exposed to high voltage (>240V) must be licensed electricians or otherwise specifically qualified, and use arc-flash protective gear. (Note that this program does not review the requirements for this level of exposure).
- Welders must be trained in electrical safety, regardless of the voltage encountered
- Specialized equipment (high voltage, CDT, etc.) may require additional training or restrictions put into place to limit exposures

ACTIVITIES

- Review hazards and determine level of exposures
- Provide testing supplies and safety equipment
- Run electrical systems to reduce the use of extension cords to truly temporary use
- Provide warning and alerting devices to protect employees from contact with energy hazards
- Write and communicate policies and procedures

FORMS

- Electrical Written Program
- Training Attendance Roster

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- 1. Purpose**
- 2. Scope**
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ELECTRICAL (COMPREHENSIVE) SAFETY PROGRAM

1. **Purpose.** This program outlines the processes to protect employees in their workplaces from hazards associated with live electrical energy. These processes may include, but are not limited to the following:
 - 1.1. Design of electrical systems, electrical utilization equipment, and installations Safety related work practices
 - 1.2. Safety related maintenance requirements
 - 1.3. Safety requirements for special equipment and processes
 - 1.4. Additionally, any contractors that will perform electrical work at the company will be required to have an Electrical Safety Program in place.
2. **Scope.** This program applies to all employees and contractors at the company who are exposed to live electrical energy at levels of >50V.

3. Responsibilities

3.1 Management

- 3.1.1 Ensure a written program is in place appropriate to the hazards. This program considers voltage, energy level, circuit conditions, and the identification of any electrical safety controls
- 3.1.2 Ensure any modifications to existing equipment meet Electrical Safety Standards
- 3.1.3 Ensure installations of new equipment are assessed or inspected to assure they meet the electrical safety standard requirements.
- 3.1.4 Review the written program at least annually to assure it remains accurate and applicable.
- 3.1.5 Assure employees who work on live electrical equipment or components, or who are exposed to electrical hazards are “qualified” under the requirements of the standard and appropriately trained, based on the risks presented.
- 3.1.6 Ensure all contractors who work with electrical parts, components or hazards have a written Electrical Safety Program in place, prior to their beginning work.
- 3.1.7 Provide Electrical Personal Protective Equipment to the employees, as needed.

3.2 Engineering and Design or Purchasing

- 3.2.1 Ensure any modifications to existing equipment meet Electrical Safety Standards
- 3.2.2 Ensure installations of new equipment are assessed or inspected to assure they meet the electrical safety standard requirements.
- 3.2.3 Ensure all contractors who work with electrical parts, components or hazards have a written Electrical Safety Program in place, prior to their beginning work.

3.3 Contractors

- 3.2.1 Provide the company with a copy of their written Electrical Safety Program and/or employee training records, upon request.

4 Procedure.

- 4.1 There may be conditions where voltages less than 50 volts may require an Electrical Safety Program. These would include, but are not limited to, conditions where electrical burns, explosion due to electric arcs, or low voltage, high current systems require safe work practices.
- 4.2 Selection and Use of Work Practices. Work practices are designed to prevent shock and other injuries from either direct or indirect contact with live electrical parts and energy.
 - 4.2.1 Live parts (>50V) must be de-energized (Lockout/Tagout) before employees work on them, unless it is demonstrated that additional or increased hazards are introduced, or where de-energizing is infeasible due to design or operational limitations. In such cases a specific and detailed procedure will be in writing and followed for the energy control of that operation. The detailed procedure must include:
 - Statement of intention
 - Specific steps to shut down, isolate, block and secure machine or equipment
 - Procedures for placement, removal and transfer of devices
 - Specific responsibilities for devices
 - Requirements for equipment testing and verify effectiveness of measures
 - 4.2.2 In all cases overhead power lines must be de-energized if there is a possibility of contact with them by any part of the body, tool or equipment that could create a conduit of energy through the person or equipment.
 - If “unqualified” persons must work underneath or near energized lines, they must be located far enough away from the line so that any tool or equipment used cannot contact the line. At a minimum, the distances must be 10 feet for 50kV or less and an additional 4 inches for every additional 10kV of power over 50kV. Minimum approach distance is 20 feet, if the power level in the line is unknown.

- “Qualified” persons may not approach or take un-insulated conductive objects (including lift equipment) any closer to overhead lines than the following:

Table 2

Voltage Range	Minimum Distance
300V and less	Contact should be avoided
300-750V	1 foot
750-2kV	1 foot 6 inches
2kV-15kV	2 feet
15kV-37kV	3 feet
37kV-87.5kV	3 feet 6 inches
87.5kV-121kV	4 feet
121kV-140kV	4 feet 6 inches

- If the employees are within approach distances, they must still be insulated by protective equipment (i.e. arc flash gear) or equivalent protective materials.
 - Elevated equipment (or equipment capable of being elevated) must maintain a clearance of at least 10 feet from overhead lines. Vehicles in transit with their structures lowered to their lowest level may reduce the clearance to 4 feet (plus 4 inches for every additional 10kV over 50kV). Insulated barriers, if used, must protect from the voltage that may be encountered. Aerial lifts used by “qualified” persons for work on overhead lines may have clearances reduced to the distances in Table 2 (above).
 - Employees on the ground may not have contact with such equipment or any of its attachments unless they are insulated or the approach distances of the equipment are limited to those outlined in the table above.
 - Where equipment is intentionally grounded because of potential contact, areas must be barricaded for a minimum 10 ft. radius.
- 4.2.3 Illumination and light must be provided to enable the employees to work safely. Blind reaching into a part, panel, equipment or circuitry system is prohibited.
- 4.2.4 Confined-space electrical work must utilize shields, barriers or insulating materials to avoid inadvertent contact with live energy sources and parts. Doors, panels, etc. must be secured.
- 4.2.5 Any conductive material must be handled in a manner that prevents contact with energized parts and materials. Procedures and work practices may need to be implemented when long-dimension objects (e.g. tree trimming poles) are used or handled in such areas.
- 4.2.6 Jewelry and similar clothing items (e.g. scarves) must be covered or removed, if contact with energized parts is possible.

4.2.7 Housekeeping duties should not be performed near live parts without additional precautions put into place. De-energizing should take place to prevent inadvertent contact with energized parts by “un-qualified” people.

4.2.8 Interlocks may not be defeated unless it is done by a “qualified” person.

5 Safety Information

5.1 General

5.1.1 Qualified Employees - Only “Qualified” individuals are allowed to work on or near energized equipment.

5.1.2 Policies or Procedures – Written electrical policies or procedures are established to ensure that electrical products, wiring, and devices are designed, installed, maintained, and utilized safely. Safe work practices and procedures are written and followed for regularly conducted tasks related to electrical exposures.

5.1.3 Level of Exposure - Hazard/Risk analyses are performed prior to any task. The work area is assessed to determine the level of exposure, requirements of the task and the corresponding risk to employees from any exposed energized parts or equipment.

5.1.4 Non-routine Tasks - Perform non-routine or emergency work only under the direction of qualified personnel, or after a thorough hazard/risk analysis (such as Job Hazard Analysis) of existing conditions. Write procedures, as required. Utilize Lock-Out/Tag-Out (LOTO) procedures, as required.

5.1.5 Medical and First aid - First aid kits must be maintained. When doing field work at least two people with 1st aid and CPR must be available, if more than 4 minute response – all employees must be trained.

5.2 Safety Related Work Practices

5.2.1 Each person is expected to work within the limits of their expertise and training and follow established practices, which are developed according to the hazards and tasks performed. Examples are:

- Do not leave exposed electrical hazards unattended
- Replace covers or protect energized components from inadvertent contact

5.2.2 Utilize proper insulation and/or protective equipment and proper tools corresponding to the level of exposure.

5.2.3 Safety related work practices must be implemented for both qualified and non-qualified persons working with or near energized parts, materials, equipment or sources. This includes premises wiring, wiring from a connection to a supply, other types of wiring and installation of optical fiber cable when cables are run in the same conduit, raceway (or equivalent system) with any live electrical wiring.

- 5.2.4 Power generation, transmission and distribution work performed by qualified persons are exempted from this section. Additionally, work in vehicles (ships, watercraft, railways, aircraft and RVs) when such work is for signaling or communications equipment is also exempt.
- 5.2.5 Ladders must be secured to prevent them from being dislodged when live energy at any voltage. Where unqualified persons can access, ladders must be kept minimum of 10 feet away from live energized lines at 50KV or less, (at higher V add 4 inches for every 10KV).
- 5.2.6 Toolbox talks, job briefings, and contractor communication must be provided each day, covering:
- Routine work - Hazards, procedures, precautions, controls, PPE
 - Complicated work – hazards, recognition of conditions
 - Work rules must be communicated and activities discussed to ensure employee and contractor safety is not compromised.

5.3 Use of Equipment

- 5.3.1 Visual inspection must occur before use. Inspection includes looking for loose parts, deformed pins, and damage to the jacket or insulation. If equipment remains in place, it does not require inspection unless it is relocated or impacted.
- 5.3.2 Damaged equipment must be repaired or replaced prior to use. Repairs may require testing to assure electrical continuity and safety.
- 5.3.3 Flexible cords for equipment requiring grounding must contain a grounding connector. The plugs may not be altered or changed to allow insertion into a non-grounded receptacle.
- 5.3.4 Highly conductive environments (wet or damp locations or hazardous atmospheres) must use only equipment approved for that environment (specifically GFCI or equivalent). Employees must not plug equipment in to receptacles in such locations if their hands are wet and equipment is energized. Insulating materials may be required when electrical energy can be conducted through the hands or fingers.
- 5.3.5 Locking connectors must be secured after connection, where required.
- 5.3.6 Power and Lighting Circuits must use the switches, breakers or disconnects to open, reverse or close circuits when live energy is present. Cable connectors not specifically designed for this purpose may not be used, unless it is an emergency. After de-energizing, circuits may not be manually re-energized until it has been determined that it can be accomplished safely (overloads rather than fault conditions are exempt from this requirement). Over-current protection may *not* be modified.

- 5.3.7 Test equipment may be used only by a “qualified” person. Visual inspection of the test equipment must take place before each use. If defects or damage is found, it must be removed from service until repaired or replaced. Test equipment (and their accessories) must be designed and rated for the level of energy they will be testing for.
- 5.3.8 Where flammable or ignitable vapors, gases or dusts are present at any time electrical equipment capable of igniting these materials may not be used.

5.4 Safeguards for Personal Protection:

- 5.4.1 PPE (Personal Protective Equipment) appropriate to the level of electrical hazard that may be encountered must be provided and used. PPE must be maintained in a safe and reliable condition. It must be inspected or tested periodically. If the insulating capability of protective equipment could be damaged during use the insulating material must be protected (i.e. outer leather gloves over insulated inner gloves).
 - 5.4.2 Non-conductive head protection must be provided if head injury is possible from contact with electrical circuits or conductors.
 - 5.4.3 Eye or face protection is required when arcs or flashes may occur or if electrical explosion could create flying objects.
 - 5.4.4 Fall protection is required for qualified persons at 4 feet for live electrical work, or for any pole or tower work. Positioning straps must pass electrical tests and flammability tests, and must be limited to 2 feet fall distance. Lanyard strength must be adjusted upward if employee weight is >310 lbs.
- 5.5 Insulated tools and equipment are used when contact with live energy is possible. If the insulating capability of tools and equipment could be damaged during use the insulating material must be protected.
- 5.5.1 Fuse removal tools must be rated for the circuit voltage
 - 5.5.2 Ropes and hand-lines must be non-conductive
 - 5.5.3 Protective shields will be put in place or used to prevent contact with live parts or energized materials. “Non-qualified” persons must be suitably protected during service or repair from contact with live electrical energy or energy hazards.
 - 5.5.4 Hydraulic and pneumatic tools must be rated for electrical if potential to contact live circuitry, and protect against loss of insulating value (as hydraulics can create a vacuum in the line).
 - 5.5.5 Live line tools must be wiped down and inspected each day before use.
 - 5.5.6 Live line tools must be removed from service every 2 years and either replaced or tested to ensure integrity.

- 5.6 Generators may only supply equipment located on the generator or directly through receptacles mounted on the generator. Generators mounted on vehicles must be bonded to vehicle frame.
- 5.7 Warning and alerting devices, such as signs, tags symbols, barricades or attendants will be used to protect employees from contact with energy hazards. Barricades must be used in conjunction with signs when access to a work area must be restricted. Where such barricades do not provide sufficient protection, attendants will be posted.

6 Training and Information

- 6.1 All employees with exposures will receive general electrical safety awareness training
- 6.2 “Qualified” individuals will have appropriate licenses or documented training
- 6.3 Employees exposed to 50 volts or more to ground (and their first-line supervisors) require additional training that is commensurate with the risk encountered
- 6.4 Welders must be trained, regardless of the voltage they may encounter
- 6.5 Training must be classroom or on-the-job and the degree of training must be commensurate with the risk to the employee. Training includes:
 - 6.5.1 The content of the portions of the electrical safety standard that applies to the work
 - 6.5.2 Safety related work practice required for the respective job or task
- 6.6 Additional requirements for unqualified persons that are necessary for their safety, including methods to recognize energized from non-energized parts, how to determine nominal voltage of exposed live parts and the clearance distances.

7. Definitions.

- *Conductor* - A wire or other conduit that conducts electricity
- *De-energized* - Free from any electrical connection to an energy source
- *Designs Electrical Systems and Equipment* - Engineers or other technical professionals responsible for implementing design safety standards for electrical equipment.
- *Electrical Personal Protective Equipment and Devices* - Protective equipment that is specifically designed to protect individuals from shock, arc blast, arc flash, etc.
- *Electrical Safety Program* - The program that directs activity appropriate for the voltage, energy level, and circuit conditions, and include safety-related work practices.
- *Energized* - Electrically connected to an energy source.

- *Over-Current Protection* - A device that protects equipment or conductors from current in excess of the rating for the equipment or conductors.
- *Qualified Person* - A person trained and knowledgeable to recognize and avoid electrical hazards of equipment or a specific work method.
- *Safety Related Work Practices* - Methods that are consistent with the nature and extent of electrical hazards that are meant to safeguard employees from injury while working on or near exposed electric conductors or circuit parts that are (or can become) energized.
- *Un-Qualified Person* - An individual that is not permitted to work on electrical equipment because they do not have the necessary skills and/or training to perform the work safely.

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ELECTRICAL SAFETY WRITTEN PROGRAM (_____)

This procedure identifies the Electrical Safety Program that is in place covering all electrical work performed by the company. This procedure provides overall program guidance and should be used in conjunction with all procedures and practices employed by the company to help insure electrical equipment and electrical work is accomplished safely.

Philosophy: *Achieve and reinforce a zero incident philosophy through prudent equipment design and installations, and safe electrical work practices.*

All employees within The company shall follow the electrical safety procedures and other directives set forth by the company.

It is the company's responsibility to insure that only *qualified* individuals work on or near energized electrical equipment. It shall be further required that *non-qualified* individuals who work on electrical equipment be trained and understand the limits placed on them while working on this equipment. It is further required that all *non-qualified* individuals are protected from inadvertent contact with energized components.

- **Personal Responsibility** - Each person should be responsible for his or her own safety and for the safety of others. Each person is expected to correct or report unsafe conditions or acts that are observed. Each person is expected to know, understand, and use applicable safety procedures and work instructions as tools to guide all tasks. Each person shall use the approved tools and personal protective equipment as required for the job.
- **Qualified Person** – Each qualified person shall demonstrate, through training or education, the required technical skills to perform their job responsibilities safely. The qualified person shall be knowledgeable in the use of electrical safe work practices, and the proper selection and use of Personal Protective Equipment (PPE).
- **Supervisory Responsibility** – Each Supervisor must set an example by demonstrating the proper attitude and behavior toward safety. The Supervisor's conduct is reflected in the conduct of those he or she supervises. Each Supervisor should empower the people under his or her direction to be proactive in continuously improving their own safety and the safety of others. Each Supervisor shall insure that the people under his or her direction have the necessary knowledge and skills to complete assigned tasks safely.
- **Management Responsibility** – Personal Protective Equipment and other associated equipment and tools are provided to employees working on electrical equipment. Each manager shall provide the required resources to insure that employees and Supervisors receive the required training as directed by prudent electrical safety practices. Each manager shall insure that only recommended tools, instruments and Personal Protective Equipment be used when working on electrical equipment.
 - Managers should designate a technically competent qualified person to advise them in the development, implementation and maintenance of electrical safe work practices.

Program Principles. The company Electrical Safety Program shall include the following principles, but are not limited to:

- Inspection/evaluation of electrical equipment
- Maintain the electrical equipment's insulation and enclosure integrity
- Plan every job and document first time procedures
- Deenergize, if possible
- Anticipate unexpected events
- Identify and minimize the hazard
- Protect the employee from shock, burn, and blast and other hazards that are due to the working environment.
- Use the right tools for the job.
- Assess peoples abilities
- Auditing these principles

Program Controls. The company has established the following controls to insure electrical safety. These controls may include, but are not limited to:

- **Shut Down Energy Source (Deenergized).** No work shall be conducted where exposures to hazards associated with electrical energy exists until an attempt is first made to shut down the source of energy.
- **Parts Are Considered Energized Until Proven Otherwise.** Every electrical conductor or circuit part is considered energized until proven otherwise.
- **No Barehanded Contact.** No bare-hand contact is to be made with exposed energized electrical conductors or circuit parts.
- **Deenergizing Is a Dangerous/Hazardous Task.** De-energizing an electrical conductor or circuit part and making it safe to work on, can itself be a potentially hazardous task.
- **Development of Procedures.** Procedures shall be developed relevant to the equipment, hazards and operations. This will include training so employees can apply them to accomplish each task.
 - Use procedures as “tools” to identify the hazards and develop plans to eliminate/control the hazards.
- **Qualified Employees.** Employees will be qualified for the task to which they are assigned.
 - Train employees to qualify them for working in an environment influenced by the presence of electrical energy.
- **Hazard/Risk Analysis.** A hazard/risk analysis will be performed for each task involving any approach to energized conductors and/or circuit paths.
- **Overall Safety Environment.** The overall safety environment will be considered when working on electrical equipment (e.g., clearances, illumination, working on elevated areas, etc.). Identify and use precautions appropriate to the working environment.
- **Safety Discussions.** Affected groups will hold periodic safety discussions to reinforce safety procedures and heighten awareness. Annually a safety stand down may be held to further emphasis issues, training and incidents.
- **Job Plan; Hazards and Procedures.** Each non routine job or one that does not have an established procedure will require a *Job Plan or Job Hazard Analysis*. Each Job Plan will include a discussion of existing hazards and the procedures appropriate for the tasks involved in the job.

Training.

- All qualified persons in the company are expected to meet the training requirements that include information and experience relating to electrical hazards and electrical safe work practices.
- Employees will be provided with electrical safety awareness training, as appropriate and electricians will have licenses and/or appropriate training.

Policies.

- **Standards Policy.** Equipment shall be properly labeled and identified. As conditions change or revisions are made, equipment identification must be updated.
- **As-Built Documentation Policy (Change Management).** Drawings used in planning electrical work must reflect the current condition of equipment and installations, single-line diagrams, process and instrument (P&I) diagrams, schematics, and underground drawings must all be up-to-date so that proper planning can take place. In addition, up-to-date drawings help to identify potential hazards. Inaccurate drawings can compromise the safe execution of an electrical task, no matter how well planned the task might be. These drawings shall be maintained in an up-to-date condition. As-built changes shall be recorded, and file copies shall be changed appropriately.
- **Evaluation, Installation and Use of Equipment.**
 - Approval. The conductors and equipment required shall be acceptable only if approved and listed by Nationally Recognized Testing Laboratory
 - Hazards. Electrical equipment shall:
 - Be free from recognized hazards that are likely to cause serious injury to employees.
 - Be suitable for installation; conform to codes, listings or labeling for its intended purpose.
 - Be installed in accordance with any manufacturer's instructions.
 - Have identification of any disconnecting means and circuits
 - Have required working space around the equipment
 - Have required illumination of the work space
 - Provide for the guarding of live parts
 - Be in compliance with other consensus standards (ANSI, NFPA, IEC)
 - Installation of large equipment or processes shall be approved as appropriate by a recognized inspection process, and may include certification from municipal or public inspectors.
- **Abandoned Lines, Wires, or Cables.** Electrical lines, wires, and cables that are removed from service or not connected should be removed. If removal is not feasible they must be de-energized, taped and then tagged, to indicate the location of the other end. Underground wiring abandoned in place must be maintained in drawings for reference and so indicated on the drawing. Temporary wiring installed to provide power during construction must be removed when no longer required.
- **Excavation Policy.** A thorough investigation must be conducted prior to beginning any excavation work. The investigation includes examining drawings, receiving information from utility or municipal resources, and inspecting the area with devices that can detect underground obstacles. The utility and service companies **must** authorize or provide information on underground services prior to the beginning of work.

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TRAINING ATTENDANCE ROSTER ELECTRICAL SAFETY

Electrical Safety Training Includes:

-
-
-
-
-
-
-

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

ELECTRICAL (GENERAL) SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.331 - 335

OSHA - 29 CFR 1926.302, 1926.416-417

INTRODUCTION

Outlines the general electrical requirements for buildings where employee exposures do not exceed the use of cord and plug equipment. Companies must inspect facilities to ensure compliance with general electrical safety practices. All other types of exposure hazards are contracted or performed by licensed electricians or similarly qualified persons for repair and testing work.

TRAINING

Employee training is recommended.

ACTIVITIES

- Review hazards and determine level of exposures.
- Ensure electrical services are contracted with licensed electricians, if only cord and plug equipment hazards are encountered by employees. Otherwise ensure that safeguards, equipment, and training is provided to employees who encounter other electrical hazards.
- Ensure service panel boxes (circuit breakers and fuses) have covers that remain closed.
- Ensure service panel boxes have clear and unobstructed access for use in emergencies.
- Ensure outlet receptacles and overhead junction boxes have cover plates so that wires are not exposed.
- Ensure that outlets within 3 feet of water sources (sinks, drinking fountains, etc) are GFCI protected.

FORMS

- Training Attendance Roster

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6. Training and Information
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ELECTRICAL (GENERAL) SAFETY PROGRAM

1. **Purpose.** This program outlines the processes to protect employees in their workplaces from hazards associated with electrical energy, for companies that use licensed electricians and contractors for their electrical service needs.
2. **Scope.** This program applies to all employees who use only cord-and-plug type equipment and have no other likely electrical exposures in the workplace.

3. Responsibilities

3.1 Management

- 3.1.1 Ensure any modifications to existing equipment meet Electrical Safety Standards.
- 3.1.2 Ensure installations of new equipment are assessed or inspected to assure they meet the electrical safety standard requirements.
- 3.1.3 Assure employees have exposures only to cord and plug equipment. Any person who has further exposure to live electrical energy must be “qualified” under the requirements of the regulatory standard and appropriately trained, based on the risks presented.
- 3.1.4 Ensure all contractors who work with electrical parts, components or hazards have a written Electrical Safety Program in place, prior to their beginning work.

3.2 Contractors

- 3.2.1 Provide the company with a copy of their written Electrical Safety Program and/or employee training records, upon request.

4. Procedure.

- 4.1 Ensure cord and plug equipment is in good working condition.
Inspect for:
 - 4.1.1 Housing integrity (no cracks or breaks)
 - 4.1.2 Wiring integrity (no broken insulation or exposed wires)
 - 4.1.3 Grounding pins (the third prong on the plug) are in place.
- 4.2 Ensure electrical service panel boxes are clear and unobstructed. Panel box doors must remain in a closed position and any open knockouts must be covered or closed.
- 4.3 Ensure all outlets in the facility have cover/face plates so that wires are not exposed.

- 4.4 Ensure any electrical outlets within 3 feet of a tap, faucet, sink or similar water source are GFCI protected.
- 4.5 Extension cords must be used only as temporary power supplies, and are not a replacement for permanent wiring. Extension cords must be used on a GFCI circuit only.

5. Safety Information.

5.1 General

- 5.1.1 Qualified Employees - Only “Qualified” individuals are allowed to work on or near energized equipment. A process must be in place to ensure that employees performing electrical tasks are qualified and trained as appropriate.
- 5.1.2 Safe Work Practices - Each person is expected to work within the limits of their expertise and training and follow established practices, which are developed according to the hazards and tasks performed. Examples are:
 - 5.1.2.1 DO NOT leave exposed electrical hazards unattended
 - 5.1.2.2 Replace covers or protect energized components from inadvertent contact
 - 5.1.2.3 Utilize proper insulation and/or protective equipment and proper tools corresponding to the level of exposure.

5.2 Safety Related Work Practices

- 5.2.1 Selection and Use of Work Practices. Work practices are designed to prevent shock and other injuries from either direct or indirect contact with live electrical parts and energy.
 - 5.2.1.1 Employees are expected to have exposure only to cord and plug equipment, and not live energized parts of equipment. Any other exposure to live energy requires training and qualifications to ensure adequate protection. Employees are instructed to contact their supervisor or manager if there are any electrical issues or concerns in the workplace.
 - 5.2.1.2 Any conductive material must be handled in a manner that prevents contact with energized parts and materials. Procedures and work practices may need to be implemented when long-dimension objects (e.g. tree trimming poles) are used or handled in such areas.
 - 5.2.1.3 Portable ladders must be non-conductive if used near energized materials.

5.2.2 Use of Equipment

5.2.2.1 Portable equipment (cord and plug type) must be handled so that it is not damaged. Flexible cords may not be used to raise, lower, pull, move or hang equipment where the insulating jacket could be damaged.

5.2.4.1.1 Visual inspection must occur before use. Inspection includes looking for loose parts, deformed pins, and damage to the jacket or insulation. If equipment remains in place, it does not require inspection unless it is relocated.

5.2.4.1.2 Damaged equipment must be repaired or replaced prior to use. Repairs may require testing to assure electrical continuity and safety.

5.2.4.1.3 Plugs must be the appropriate type for the receptacle. Devices to circumvent this are prohibited (i.e. a three-prong adapter that allows the equipment to be plugged into a two-prong receptacle).

5.2.4.1.4 Highly conductive environments (wet or damp locations or hazardous atmospheres) must use only equipment approved for that environment. Employees must not plug equipment in to receptacles in such locations if their hands are wet and equipment is energized. Insulating materials may be required when electrical energy can be conducted through the hands or fingers.

5.2.4.2 Power and Lighting Circuits must use the switches, breakers or disconnects to open, reverse or close circuits when live energy is present. Over-current protection may *not* be modified.

5.2.4.3 Where flammable or ignitable vapors, gases or dusts are present at any time electrical equipment capable of igniting these materials may not be used.

5.2.5 Safeguards for Personal Protection

5.2.5.1 Insulated tools and equipment are used when contact with live energy is possible. If the insulating capability of tools and equipment could be damaged during use the insulating material must be protected.

6. Training and Information

None required.

7. Definitions

- *Conductor* - A wire or other conduit that conducts electricity
- *De-energized* - Free from any electrical connection to an energy source
- *Electrical Personal Protective Equipment and Devices* - Protective equipment that is specifically designed to protect individuals from shock, arc blast, arc flash, etc.
- *Electrical Safety Program* - The program that directs activity appropriate for the voltage, energy level, and circuit conditions, and include safety-related work practices.
- *Energized* - Electrically connected to an energy source.
- *Over-Current Protection* - A device that protects equipment or conductors from current in excess of the rating for the equipment or conductors.
- *Qualified Person* - A person trained and knowledgeable to recognize and avoid electrical hazards of equipment or a specific work method.
- *Safety Related Work Practices* - Methods that are consistent with the nature and extent of electrical hazards that are meant to safeguard employees from injury while working on or near exposed electric conductors or circuit parts that are (or can become) energized.
- *Un-Qualified Person* - An individual that is not permitted to work on electrical equipment because they do not have the necessary skills and/or training to perform the work safely.

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TRAINING ATTENDANCE ROSTER ELECTRICAL SAFETY (GENERAL)

Electrical Safety (General) Training Includes:

- Definition
- How Electricity Works
- Amps, Volts, Circuits
- Types of Injuries (Shock, Burns, Electrocution)
- Basic Control Methods
- Wires, Grounding and GFCI
- Safe Work Practices and PPE

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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**Emergency Action,
Evacuation, and Fire
Prevention**

PROGRAM OVERVIEW

EMERGENCY ACTION, EVACUATION AND FIRE PREVENTION SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29CFR1910.36, .38, .157, .165
NFPA-10

INTRODUCTION

This program is intended to assist in establishing requirements to ensure that fire and other potential emergency situations are evaluated and safety procedures implemented.

TRAINING

- All employees and supervisors will be trained in emergency actions and their responsibilities including how emergencies are communicated. Training is required initially, and as changes to the workplace, program or employee responsibilities occur
- Conduct drills, if required
- Emergency Response Team members must be trained based on the types of emergencies they will be expected to encounter. Fire fighting techniques, first aid treatment or both may be required, depending upon the duties and responsibilities of the team
- Employees designated to use fire extinguisher users must be trained annually in the general principles of fire extinguisher use and the hazards involved in incipient (beginning) stage fire fighting

ACTIVITIES

- Identify and evaluate fire hazards
- Identify and evaluate exit routes
- Identify fire wardens and response teams and define responsibilities, if applicable
- Provide emergency equipment as needed
- Write and communicate policies and procedures including Emergency Action and Fire Prevention Programs

FORMS

- Emergency Action Plan
- Fire Drill or Evacuation Assessment
- Training Attendance Roster – Emergency Action
- Training Attendance Roster – Fire Extinguisher

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- 1. Purpose**
- 2. Scope**
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EMERGENCY ACTION, EVACUATION AND FIRE PREVENTION SAFETY PROGRAM

1. **Purpose.** This program outlines the requirements for the Emergency Action and Evacuation Program in the workplace. It is a federal requirement that all companies have Emergency Action Plans (plans must be in writing for companies with more than 10 employees).
2. **Scope.** This program applies to all workplaces, facilities, and sites at the company.
3. **Responsibilities**

3.1 Management

- 3.1.1 Determine flight or fight response for the company (i.e. will all employees evacuate during fire or spill emergencies, or will some employees be required as part of their job duties to fight a fire, contain a spill or provide medical treatment).
- 3.1.2 Write Emergency Action Plan (EAP), including specific procedures or responsibilities for employees and wardens.
- 3.1.3 Communicate programs to employees and staff.
- 3.1.4 Ensure evacuation alarm systems and notifications are in place, and are distinctive and consistent throughout the site. It is recommended that evacuation programs be periodically tested through physical drills (partial evacuation drills and/or full evacuation drills) or via table-top drills or discussions.
- 3.1.5 Ensure all employees are appropriately trained to the responsibilities they are expected to take during an emergency situation, including how to report a fire or other emergency and what to do during an evacuation.
- 3.1.6 If evacuation wardens are designated and trained, it is recommended that there be a ratio of at least one warden for every 20 employees.
- 3.1.7 Ensure that fire extinguishers (if located on-site) are inspected, maintained, tested and of the proper size and type for the area hazards. If employees are expected to use them, annual training is required.
- 3.1.8 If utilized, provide on-site emergency response teams with appropriate equipment and training to perform their expected duties. Maintain training documentation for response team members, and documentation for equipment inspection and maintenance.
- 3.1.9 Inspect Fire Doors annually, and keep all fire doors closed. If they must be held open due to production or operation-specific requirements, they must be fitted with automated releases in accordance with state building codes. Maintain documentation for the life of the fire door.

3.2 Employees

3.2.1 Attend initial training, and refresher training as required.

3.2.2 Evacuate, or perform expected tasks prior to evacuation, during an emergency.

3.3 Wardens (evacuation assistance as appropriate or designated)

3.3.1 Attend appropriate training.

3.3.2 Follow established procedures to assist in the safe and orderly evacuation of employees.

3.3.3 Report either the all-clear or problems to the incident commander or other designated person at the command post.

3.4 On-site Response Teams (as appropriate or designated)

3.4.1 Provide emergency response to fires, spills or medical emergencies, as designated.

3.4.2 Attend appropriate training to maintain appropriate certifications.

3.4.3 Ensure emergency response equipment is functioning and adequate to the response(s) required.

4. Procedure.

4.1 Emergency Action Plan

4.1.1 May be combined with Fire Prevention Plan, if required, into one document that serves both purposes.

4.1.2 Must be in writing, kept at the workplace and available for employees to review. Companies with 10 or fewer employees may communicate the program orally, rather than in writing.

4.1.3 Programs must include:

4.1.3.1 Procedures for reporting a fire or other emergency.

4.1.3.2 Procedures for emergency evacuation, including types of evacuations and assigned evacuation routes. (Posted, color coded evacuation route maps are highly recommended for each area of the building or structure.)

- 4.1.3.3 Procedures to be followed by employees who remain to operate or shut down critical operations before they evacuate (power systems, water supplies, ammonia tanks, chemical processes that must be shut down in sequence, etc.).
- 4.1.3.4 Procedures, assigned areas and responsibilities of evacuation wardens, if utilized.
- 4.1.3.5 Procedures to account for all employees after evacuation.
- 4.1.3.6 Procedures to be followed by employees who perform rescue or medical duties (on-site response teams).
- 4.1.3.7 The name or job title of the person(s) who may be contacted by employees who need more information about the program, or an explanation of their duties and responsibilities under the program.
- 4.1.4 An alarm system must be maintained, if present. The system must have a distinctive signal for each type of alarm (i.e. evacuation alarms must sound the same throughout the site).
- 4.1.5 Wardens (or evacuation assistance) must be designated and properly trained to assist in a safe and orderly evacuation of other employees.
- 4.1.6 Programs should address the types of emergencies that are reasonably likely to occur (fire, chemical spills, severe weather, etc.).
- 4.2 Evacuation and Notification
 - 4.2.1 Alarms and Signals to notify employees of an emergency evacuation are distinctive in sound and consistent throughout the site.
 - 4.2.1.1 Alarms may be automatic or verbally provided in person or through a public address system, but they must be able to be understood by all employees.
 - 4.2.1.2 The same sound or wording must be used throughout the site.
 - 4.2.1.3 Employees must be trained or informed of the sounds or wording used.
 - 4.2.2 Evacuation Routes will be established for each area of the building or site.
 - 4.2.2.1 Employees will be trained and informed of their work-area route.
 - 4.2.2.2 It is highly recommended that maps be posted at each area of the building to assist employees and others in determining their evacuation routes. Maps should be color coded, with the evacuation route in red.

- 4.2.2.3 Off-site job locations will have evacuation routes determined and communicated to employees who work at these off-site locations.
- 4.2.3 Relocation Points will be established for employees to congregate during an evacuation. Designated relocation points assist in assuring that all employees are accounted for.
 - 4.2.3.1 Employees will be trained in their respective relocation point during initial (or refresher) training.
 - 4.2.3.2 Supervisors or other specifically designated people at each relocation point will be responsible for assuring that all employees have been accounted for.
 - 4.2.3.2.1 An accounting for the relocation point will be made to the incident commander or other designated person at the command post.
 - 4.2.3.3 Off-site job locations will have relocation points determined and communicated to employees who work at these off-site locations before the job commences or the employee reports to the site.
 - 4.2.3.4 Where appropriate, severe weather relocation points (shelters or arrangements with neighboring facilities) will be communicated to employees during the training.
- 4.2.4 Return to Work Signals will be provided once it is safe for employees to re-enter the workplace. Each supervisor or other designated person at each relocation point will be aware of the signal used, and be watchful for it.
- 4.2.5 Evacuation Wardens
 - 4.2.5.1 “Sweep” the assigned area to assure that all employees are appropriately evacuated.
 - 4.2.5.2 Carry out any other assigned duties, prior to evacuating.
 - 4.2.5.3 Report either “all clear” or any problems to the incident commander or other person designated under the company’s EAFP prior to reporting to their assigned relocation point.

5. Safety Information.

5.1 Means of Egress (exits and exit paths)

- 5.1.1 All employees must be able to safely exit the building in a direct path and within a reasonable time frame.

- 5.1.2 There are specific requirements for exits, paths to exits, exit signs, aisle widths and for stairways. These “life safety” codes must be considered during renovation, construction or when re-arranging a work area..
- 5.1.3 All exits, aisles and exit paths, and stairways must be kept clear and unobstructed. No storage is allowed that will restrict the access or use of the exit path below the required widths. No storage is allowed that will block or obstruct stairs or exit doors.
- 5.1.4 All exits and the paths to them must be clearly visible or have visible signs that indicate the location of the exit.
- 5.1.5 Locks or fastening devices to keep exit doors closed and locked from the inside (preventing the use of the door as an exit) are prohibited in almost every workplace structure (mental and correctional institutions are two exceptions). Doors that could be mistaken for an exit, but are not exits must be marked “Not an Exit” or “Closet” or with similar markings so that they will not be mistaken for an exit in an emergency.
- 5.1.6 Emergency lighting, signs and exits must meet requirements for the number of exits, the location and size of signs and the amount of illumination required.

5.2 Fire Alarms and Detection

- 5.2.1 Fire alarms are required in buildings where the location of the fire will not provide adequate warning to employees and other occupants (i.e. multi-floor buildings or segregated work spaces).
- 5.2.2 Alarms must be loud enough to be heard above the ambient noise level of the work area and activate in time to provide adequate warning for the work area occupants to safely evacuate.
- 5.2.3 Alarms and signals must be tested or maintained to assure they remain in working order.
- 5.2.4 Buildings undergoing construction and renovation (where employees are still working and occupying the work areas) must have appropriate (or alternate) alarms and fire prevention systems that are at least equal to those required for the occupancy and type of hazards in the area. This includes hazards inherent to the work area and tasks performed, as well as any additional hazards caused by the construction or renovation.

5.3 Fixed Fire Suppression Equipment

- 5.3.1 All fixed suppression equipment must be maintained and tested by trained persons. The local fire department may provide or be able to be contracted to perform this maintenance and testing. Specific employees may be designated and trained for this service, depending upon the maintenance and testing requirements for the system.

5.3.2 There are various types of fixed suppression equipment. Each type must be specifically designed for the types of fires likely to be encountered. These types are:

- 5.3.2.1 Automatic sprinklers that discharge water into an area when heat or smoke causes the valve (sprinkler head) to open. Sprinkler heads must be kept free from any obstruction (at least 18" clearance vertically and horizontally).
- 5.3.2.2 Standpipe systems include fixed water supplies (risers) with a hose and nozzle. These systems are usually recessed in walls or found in stairwells. Standpipe systems are for use by trained fire-fighting personnel only.
- 5.3.2.3 Dry chemical systems are discharged in rooms or over a specific process (like an electrical system). Pre-discharge alarms are required where vision could be obscured that would affect employee evacuation.
- 5.3.2.4 Gaseous agents are normally used in enclosed rooms and spaces. Depending on the agent used to suppress the fire, pre-discharge alarms are required. Where employee evacuation can not occur within a specific time frame, specific agents are prohibited from being used as suppression agents.
- 5.3.2.5 Water spray and foam systems are usually utilized for a specific process hazard (like a kitchen grease pit or solvent tank). They discharge a chemical-foam that will "blanket" the fire or area with foam to "smother" the fire.

5.4 Portable Fire Extinguishers

5.4.1 The Two Extinguisher Rule: Fire extinguishers are for controlling small, incipient fires. NEVER should more than two (2) extinguishers be used to control a fire. If the fire is not controlled with two extinguishers, it is no longer considered an incipient fire and should ONLY be extinguished by trained Firefighters or by fixed fire suppression systems.

5.4.2 Classes. There are five classes or types of Fire Extinguishers. Each class has distance requirements that are required for employees to access them. These types and distances are:

- 5.4.2.1 Class A – used on ordinary combustibles (wood, paper, cloth, etc.). Extinguishers must be 75 ft. or less from the hazard.
- 5.4.2.2 Class B – used for flammable or combustible liquids (gasoline, paint, solvents, propane). Distance must be 50 ft. or less from the hazard.

- 5.4.2.3 Class C – used for electrical equipment and must be 50 ft. or less from the hazard.
- 5.4.2.4 Class D – used for metals (magnesium, potassium and sodium). Extinguishers must be 75 ft. or less from the hazard.
- 5.4.2.5 Class K – used for fires that involve cooking oils, trans-fats, or fats in cooking appliances and are typically found in restaurant and cafeteria kitchens.
- 5.4.3 General. Extinguishers must be located so they are clearly visible, readily accessible to the employees or persons designated and trained to use them, and located so they are protected from damage by moving equipment.
 - 5.4.3.1 Extinguishers must be maintained in a fully charged and operable condition, and kept in their designated locations.
 - 5.4.3.2 Extinguishers must be appropriate to the type (or class) of fire hazard likely to be found in the work area.
 - 5.4.3.3 Standard signs and floor markings may be utilized to increase visibility.
 - 5.4.3.4 Extinguishers should be located along normal paths of travel but protected from the direct line of traffic to avoid injury to personnel or mechanical damage.
 - 5.4.3.5 Extinguishers are not required in workplaces where all employees will be required to evacuate the facility (total evacuation) upon the initial alarm sounding, unless extinguishers are required by a specific regulatory standard (i.e. welding, confined space, and some flammable liquid usages).
- 5.4.4 Inspection and Testing. Extinguishers must be visually inspected monthly. Extinguishers must be maintained annually. Extinguishers must be physically (hydrostatically) tested every 5 years or 12 years depending on the type of extinguisher. When removed from service for maintenance or testing, or due to corrosion or damage, they must be replaced with an equivalent protective system.
 - 5.4.4.1 Documentation of the inspection, maintenance and testing may be kept with the extinguisher or in a separate system, provided the records are accessible to employees or agencies that may be required to review these records. Documentation must be kept for the life of the extinguisher.
- 5.4.5 Employee Training

- 5.4.5.1 Where extinguishers are located, but employees will not be required to use them, employees should be informed that they are for trained fire fighter use only.
- 5.4.5.2 Where employees will be required to use extinguishers, employees must be trained annually in the general principles of fire extinguisher use and the hazards involved in incipient (beginning) stage fire fighting.

5.5 Fire Brigades and On-Site Response Medical Teams (as appropriate)

- 5.5.1 Fire Brigades and Medical Response teams must be trained to the level or type of emergency they will likely encounter. In most cases, verified training is required, and documentation must be maintained with periodic or annual refresher training.
- 5.5.2 Team members must be physically capable of performing their duties (including the use of respiratory protection, where required). Employees with known physical conditions (heart disease, emphysema or epilepsy) or known mental or physical disabilities that would impair their ability to perform the expected duties may be required to be approved by a licensed physician prior to being allowed to participate on the team.
- 5.5.3 Teams must be provided with adequate equipment and protective clothing to perform their duties.
- 5.5.4 Equipment and clothing must be maintained in good working order. Equipment removed from service must be promptly repaired or replaced, or else team members must be informed that the equipment is no longer available.
- 5.5.5 Teams must be organized, with either elected or appointed leaders, and have specific written procedures that outline their responsibilities (and limitations) with regard to emergency response at the workplace.

5.6 Hot Work, Open Flame Work or Spark Producing Equipment

- 5.6.1 Permission and Permits. Any hot work or work with open flames should be performed only with the permission of company management. (Approvals may be required by the landlord or building owner, if different than company ownership.) Such work should be done only under specific restrictions and limitations to prevent fires or other hazards. This information and any restrictions or limitations should be documented. A signed permit system is recommended that outlines the details of the work and the restrictions or limitations.
- 5.6.2 Permanent Hot Work/Open Flame Permission - Permanent permission should be obtained for areas where hot work/open flame is regularly used, such as metal and welding shops or special laboratories and work areas.

- 5.6.2.1 Areas should be physically inspected by individuals who are knowledgeable about the hazards of the area and appropriate fire protection systems for these hazards. Annual re-inspection for the duration of the permit/permission is recommended, at a minimum.
- 5.6.3 Temporary Hot Work/Open Flame Permission - Allows only specified personnel to perform a single operation. Areas where one-time use of flames is required (such as maintenance and construction operations, in areas such as buildings, sheds, yard areas, and streets and parking lots) should have areas physically inspected for fire hazards by a knowledgeable person.
- 5.6.4 Special Situations and Equipment
 - 5.6.4.1 Thermogrip Solder Tongs, Electric Soldering Irons, Flameless Heat Guns are prohibited in areas where flammable vapors or gases, or combustible dusts are present.
 - 5.6.4.2 Electric or Other Spark/Heat-Producing Tools in High-Fire Hazard Areas require special permission.
 - 5.6.4.3 Pressure Vessels - All burning or welding operation, emergency or otherwise, are prohibited on any pressure vessel unless specific approval has been obtained from a qualified engineering specialist or the lead welder.
 - 5.6.4.4 Contractors - shall obtain Hot Work/Open Flame Permits through the manager or supervisor in charge of the job or process.

6. Training and Information.

- 6.1 Emergency Action Plans and Evacuation Programs must be reviewed with each employee:
 - 6.1.1 When the program is developed or when it is changed
 - 6.1.2 Upon initial assignment to a work area
 - 6.1.3 When the workplace changes (construction or remodeling) that require a different evacuation route
 - 6.1.4 When an employee's responsibilities under the program change.
- 6.2 Fixed Suppression Systems. Employees where fixed suppression equipment agents activate (non-water systems) must be specifically trained in the alarm signal, and any protective equipment and controls needed to ensure their safety. They must have (and be trained to) specific evacuation programs from the area of discharge.

- 6.3 Emergency Response Team members must be trained based on the types of emergencies they will be expected to encounter. Fire fighting techniques, first aid treatment or both may be required, depending upon the duties and responsibilities of the team.
- 6.4 Fire extinguisher users must be trained annually in the general principles of fire extinguisher use and the hazards involved in incipient (beginning) stage fire fighting.

7. Definitions.

- *Brigades* – A workplace team of employees who are specifically designated to respond and fight incipient fires.
- *Fixed Suppression Equipment* – Fire extinguishing systems that are affixed in place. For example: sprinkler systems.
- *Command Post* – A designated location that is set up for communications and direction of emergency responders.
- *Incident Commander* – The person designated to direct the activities of an emergency response. This person normally remains at the command post.

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EMERGENCY ACTION PLAN

COMPANY NAME:		DATE:	
SITE ADDRESS:		PLAN COMPLETED BY:	
Emergency Escape Procedures and Escape Route Assignments: (optional - attach evacuation route map)			
Procedures to be followed by employees who remain to operate critical operations before they evacuate:			
Procedures to account for employees after evacuation is complete (e.g. crew leader counts crew – reports status to emergency services):			
Employee rescue or medical duties:			
Methods to report fires and other emergencies:			
Person(s) to contact for questions regarding site Emergency Action Plan or employee duties under Plan (name and phone number):			
Emergency Type	Notification Method (Automatic, Pull Box, Phone)	Site Contact	Emergency Services Number
FIRE			
TORNADO			
EARTHQUAKE			
CHEMICAL SPILL/RELEASE			
MEDICAL EMERGENCY			
Designated Meeting/Evacuation location(s) For Fire: For Tornado: For Earthquake:			

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FIRE DRILL OR EVACUATION ASSESSMENT

Evacuation Start time:		Evacuation End time:		Total time for evacuation process:	
Evacuation Routes Marked:		<input type="checkbox"/> Yes <input type="checkbox"/> No		Exit Signs Visible or Evacuation Routes Posted:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Was the building completely evacuated?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Was the evacuation signal heard in every area of the building?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Did all employees meet at their designated relocation point?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Have procedures for the handicapped been addressed?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Did all equipment (stairwell doors, alarms, etc.) function properly?					<input type="checkbox"/> Yes <input type="checkbox"/> No
Problem or Issue Noted And Corrective Action To Be Taken:					
Name of Person Responsible for Corrective Action:				Completed Date:	
Additional Comments/Requirements:					
Evaluator's Name:			Signature:		

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TRAINING ATTENDANCE ROSTER EMERGENCY ACTION

Emergency Action Training Includes:

- Escape Procedures
- Procedures to follow
- Account for employees
- Employee, rescue or medical duties
- Methods to report fires or other emergencies
- Contacts

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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TRAINING ATTENDANCE ROSTER

FIRE EXTINGUISHER

Fire Extinguisher Training Includes:

- Types of extinguishers
- Inspection methods
- PASS system
- When you should not fight a fire

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

ERGONOMICS AND MUSCULOSKELETAL DISORDER MANAGEMENT SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910 General Duty Clause

INTRODUCTION

Repetitive motions, use of force or pressure, or improper workstation set up are the primary causes of ergonomic disorders. This program allows for ergonomic evaluations for both office and manufacturing environments.

TRAINING

Recommended for workplaces with high ergonomic risk.

ACTIVITIES

- Evaluate the need for an ergonomics program
- Implement controls to minimize or eliminate repetitive or force trauma tasks.

FORMS

- Ergonomic Office/Computer Safety Checklist
- Ergonomic Work Area Screening and Analysis Tool
- Training Attendance Roster

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ERGONOMICS AND MUSCULOSKELETAL DISORDER MANAGEMENT SAFETY PROGRAM

1. **Purpose.** This document provides a program to enable an organization to effectively manage musculoskeletal disorders (MSDS) or repetitive strain injuries (RSI).
2. **Scope.** This program applies to all facilities and operations at the company. This program is limited to work-related musculoskeletal disorders.
3. **Responsibilities**
 - 3.1 Management. Management should review the following roles and responsibilities and assign them to appropriate existing or new positions as they deem appropriate. Additionally, they have the following responsibilities:
 - 3.1.1 Ultimate responsibility to ensure program requirements are met.
 - 3.1.2 Communicate the importance of the MSD management program.
 - 3.1.3 Develop and approve the goals and objectives of the company's ergonomics program and regularly review progress.
 - 3.1.4 Review organization procedures to ensure employee participation.
 - 3.1.5 Appoint one or more persons from within the company to function as a local ergonomics coordinator, as needed.
 - 3.1.6 Ensure adequate resources are available (i.e. personnel, time, equipment) to implement the program or any ergonomic initiatives undertaken.
 - 3.1.7 Ensure that personnel performing specific tasks relative to the ergonomics program or initiatives are competent based on their education, training and experience.
 - 3.1.8 Ensure, when feasible, controls to any identified ergonomic hazards are implemented.
 - 3.1.9 Ensure supervisors and employees are held accountable for reporting ergonomic incidents, as needed..
 - 3.2 Employees
 - 3.2.1 Participate in specific job and process hazard analysis and evaluations, as needed.
 - 3.2.2 Report MSDS, or MSD signs or symptoms, when recognized.

- 3.3 Ergonomics Coordinator (may also be Safety Officer or other designated person). A minimum of one coordinator is recommended per company. The total number of persons assigned to this role shall be appropriate for the goals and deliverables of the program. The responsibilities for this role should be to:
 - 3.3.1 Function as centralized local resource of ergonomic services.
 - 3.3.2 Complete any required training.
 - 3.3.3 Maintain any documentation/records associated with the program.
 - 3.3.4 Provide required training to employees, as needed or appropriate.
 - 3.3.5 Monitor regulations related to musculoskeletal disorders and provide advocacy for the employees to the company.
 - 3.3.6 Establish site wide goals and monitor performance related to continuous improvement. This may be accomplished by the following:
 - 3.3.6.1 Conducting a screening or prioritization of tasks, equipment, workplaces and processes.
 - 3.3.6.2 Participating in reviews of new designs and modifications to existing processes, equipment, or tasks, including recommendations for controlling risk factors.
 - 3.3.6.3 Consulting on issues of concern by conducting technical analysis, providing recommendations to improve identified problems, etc.
 - 3.3.7 Regularly report to management on the status of program.
 - 3.3.8 Coordinate internal audits of program against the corporate program.
- 3.4 Medical Service Provider (as needed):
 - 3.4.1 Coordinate case management process.
 - 3.4.2 Provide health-care consultations and services.
- 3.5 Engineering Professional (as needed):
 - 3.5.1 Provide technical engineering consultation for ergonomic issues.
 - 3.5.2 Assist in the development and implementation of ergonomic improvements.

4. Procedure.

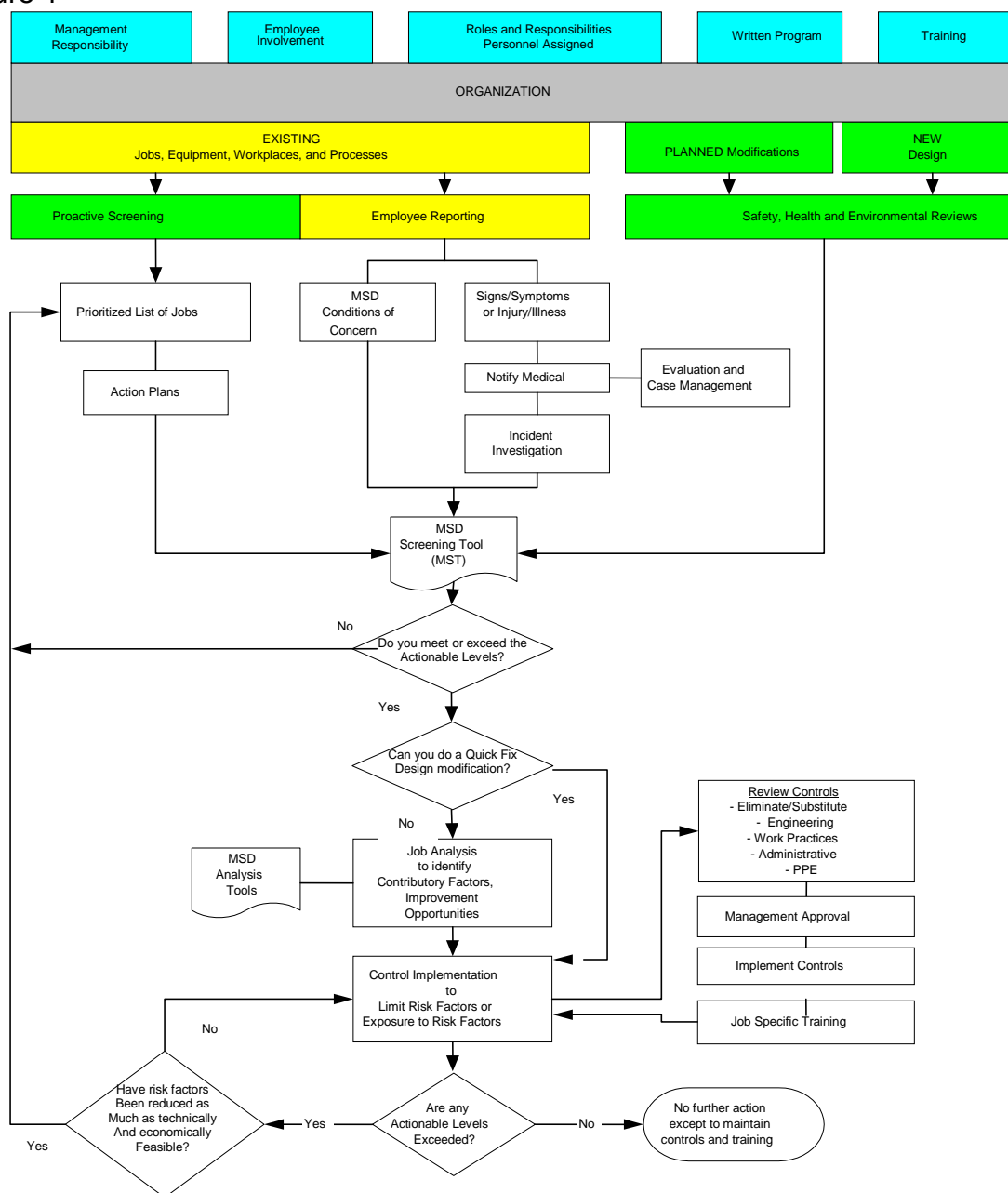
4.1 Elements of a Manufacturing-Based Program:

#	Program Element	Deliverable	Retention Period
1	Management Systems	Allocate Resources and Define Responsibilities	N/A
		Written Program Document	UOS. Update annually.
		MSD Program Implementation Checklist.	UOS. 3-year review; Annual review for targeted operations.
		Action Plan / Project Activity Log.	Regular update. 3-year retention.
		Performance metric charts.	UOS. Update annually.
2	Training	Training Records.	Regular update. 10-year retention.
3	Proactive Job Screening and Assessment	Prioritized List of Jobs.	Regular update. 3-year retention.
4	Proactive Review of New and Planned Modifications	MSD Job Screening and Analysis Records. Control Implementation Records.	UOS. 5-year retention.
5	Incident Investigation		
6	Investigation of Employee Reports		
7	Management of MSD Cases	Medical case management.	N/A

UOS - Until Obsolete or Superseded

4.2 Figure 1 below illustrates the essential components and functions of a manufacturing based MSD management program and how they work together.

Figure 1



4.3 Elements of an Office or Field-Service based Program

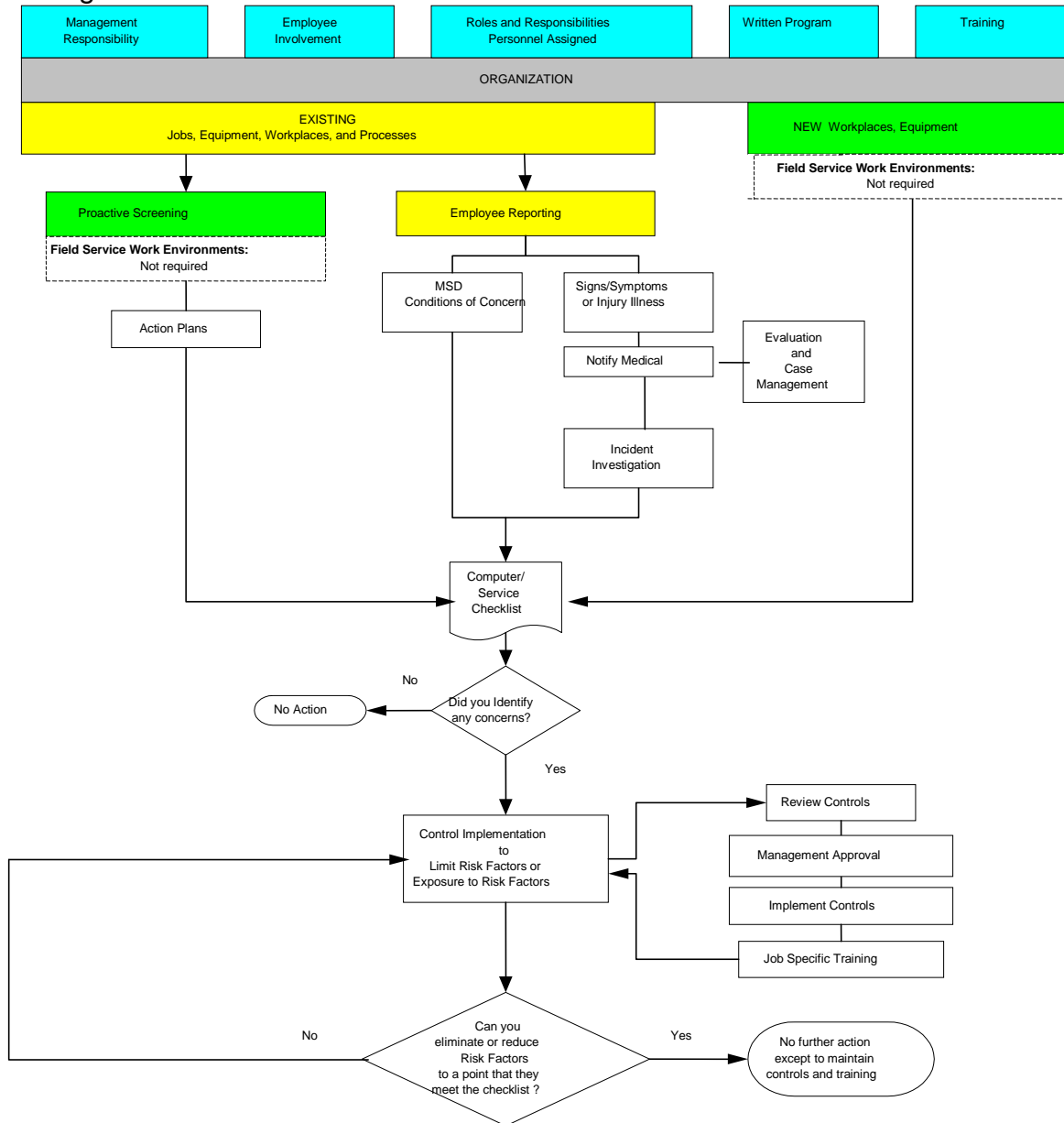
4.3.1 Where computer/office work or field service work is the majority (75%) of the work environment, the organization may incorporate a modified program as outlined below. Field service work does not imply manufacturing maintenance departments.

4.3.2 An office/field service based MSD management program should have the same components as shown in 4.1 with the following exceptions:

- 4.3.2.1 Proactive screening (see associated document - Ergonomics Screening and Analysis Tools) is not required in field service work.
- 4.3.2.2 Proactive review of new and planned modifications (see associated document - Ergonomics Screening and Analysis Tools) is not required in field service work.

4.3.3 Figure 2 below illustrates the essential components and functions of an office/field service based MSD management program and how they work together.

Figure 2



5. Safety Information

5.1 Recordkeeping

- 5.1.1 Completion of any ergonomics training course should be documented.
- 5.1.2 A record of evaluated jobs and implemented controls should be maintained to assist in the evaluations of similar types of tasks or activities at the company.

5.2 Health Surveillance

- 5.2.1 Prior to initial job assignment, or transfer of job responsibilities, employees who are to be assigned to positions involving known or suspected exposures to ergonomic hazards may receive a baseline health surveillance examination to establish where any changes in employee health status may occur. This surveillance is also designed to assist the company in determining where ergonomic controls may be required. Note: the use of medical screening tests or evaluations has not been validated as a predictive measure of risk for determining MSD related injuries and illnesses.

5.3 Ergonomic Screening and Surveys

- 5.3.1 Checklist. A survey checklist may be used to assist in determining ergonomic risk factors such as: posture, materials handling, and upper extremity factors. The checklist will be tailored to the specific needs and conditions of the workplace.
- 5.3.2 Ergonomic Risk Factors. Identification of ergonomic hazards is normally based on ergonomic risk factors such as, conditions of a job process, work station, or work methods that contribute to the risk of developing problems associated with ergonomic stressors. Not all of these risk factors will be present in every job containing ergonomic stressors, nor is the existence of one of these factors necessarily sufficient to cause a problem associated with CTD. Supervisors should ensure that known risk factors for specific employees, jobs or tasks are conveyed to the ergonomic assessment committee for improvement or correction.
 - 5.3.2.1 Personal Risk Factors include: Gender, Age, Anthropometry, Work method, Attitude, Training, Sight, Hearing, Smell, Physical strength, and Weight.
 - 5.3.2.2 Upper Extremities Risk Factors include: repetitive and/or prolonged activities, forceful exertions (usually with the hands), pinch grips, prolonged static postures, awkward postures (reaching and twisting), continued physical contact with work surfaces, excessive vibration from power tools and inappropriate or inadequate hand tools.

- 5.3.2.3 Back Disorder Risk Factors include: body mechanics (bending, lifting and twisting), prolonged sitting with poor posture, lack of adjustable equipment (chairs, footrests, etc.), poor grips on handles, slippery footing, frequency of movement, duration and pace, load stability, reach distances and work height.
- 5.3.2.4 Environmental Risk Factors include: floor surfaces and platforms, temperature extremes, lighting, noise and vibration.
- 5.3.2.5 Multiple Risk Factors. Jobs, operations, or work stations that have multiple risk factors have a higher probability of ergonomic risk. The combined effect of several risk factors is sometimes referred to as "multiple causation."

5.4 Work Station Analysis and Design

- 5.4.1 Engineering Solutions. Engineering solutions, where feasible, are the preferred method of control for ergonomic hazards. The focus of the company ergonomics safety program is to make the job fit the person, not to make the person fit the job. This is accomplished whenever possible by redesigning the work station, work methods, or tool(s) to reduce the demands of the job.
- 5.4.2 Work Station Design. Work stations when initially constructed or when redesigned will be adjustable in order to accommodate the person who actually works at a given work station, it is not adequate to design for the "average" or typical worker. Work stations should be easily adjustable and either designed or selected to fit a specific task, so that they are comfortable for the workers using them. The work space should be large enough to allow for the full range of required movements, especially where hand-held tools are used.
- 5.4.3 Design of Work Methods. Traditional work method analysis considers static postures and repetition rates. This may be supplemented by addressing the force levels and the hand and arm postures involved. The tasks will be altered where possible to reduce these and the other stresses.
- 5.4.4 Repetitive motion. All efforts to reduce repetitive motion will be pursued. Examples of methods to reduce highly repetitive movements include:
 - 5.4.4.1 Increasing the number of workers performing a task.
 - 5.4.4.2 Lessening repetition by combining jobs with very short cycle times, thereby increasing cycle time. (Sometimes referred to as "job enlargement.").
 - 5.4.4.3 Using automation where appropriate.
 - 5.4.4.4 Designing or altering jobs to allow self-pacing or rest periods.

- 5.4.5 Force measurements. Force measurements, when taken, are noted as an estimated average effort, and a peak force. They are recorded as "light," "moderate," and "heavy." These measurements include the number of manipulations per cycle, per time frame and per work shift.
- 5.4.6 Vibration measurements. Tools can be checked for excessive vibration. (The NIOSH criteria document on vibration should be consulted).
- 5.4.7 Posture and lifting measurements. Hand, arm, and shoulder postures and movements can be assessed for levels of risk. Work stations having tasks requiring manual materials handling should have the maximum weight-lifting values calculated. (The NIOSH Work Practices Guide for Manual Lifting, 1981, should be used for basic calculations. Note that this guide does not address lifting that involves twisting or turning motions.)

6. Training and Information

6.1 General Awareness Training

General awareness training for ergonomics is recommended for new employees on initial assignment, and as needed.

6.2 Job Specific Training

- 6.2.1 Job specific training may be provided on a case by case basis when work methods or engineering controls have been implemented.
- 6.2.2 Job Specific training is composed of the following topics:
 - 6.2.2.1 Instruction on the safe methods of using equipment
 - 6.2.2.2 Instruction of the identified work methods
 - 6.2.2.3 The reasons for job specific controls

6.2.3 This training should take place in separate training sessions to the general awareness training.

7. Definitions.

- *Ergonomics* - A multi-disciplinary science that studies human physical and psychological capabilities and limitations. This body of knowledge can be used to design or modify the workplace, equipment, and products to improve human performance and reduce the likelihood of injury and illness.
- *Ergonomics Coordinator* - A designated person who is responsible for identifying and correcting ergonomic hazards in the workplace, including ergonomic professionals or other trained and qualified persons (such as health care providers, engineers, safety personnel or others who have received ergonomics training).
- *Ergonomic Hazards* - Workplace conditions that pose a biomechanical stress to the worker. Such hazardous workplace conditions include, but are not limited to, faulty work station layout, improper work methods, improper tools, excessive tool vibration, and job design problems that include aspects of work flow, line speed, posture and force required, work/rest regimens, and repetition rate. They are also referred to as "stressors."
- *Ergonomic risk factors* - Conditions of a job, process, or operation that contribute to the risk of developing CTDs, MSDs or RSIs.
- *Cumulative trauma disorders (CTDs)* - The term used in these guidelines for health disorders arising from repeated biomechanical stress due to ergonomic hazards. Other terms that have been used for such disorders include "repetitive motion injury," "occupational overuse syndrome," and "repetitive strain injury." CTDs are a class of musculoskeletal disorders involving damage to the tendons, tendon sheaths, synovial lubrication of the tendon sheaths, and the related bones, muscles, and nerves of the hands, wrists, elbows, shoulders, neck and back. The more frequently occurring occupationally induced disorders in this class include carpal Tunnel syndrome, epicondylitis (tennis elbow), tendonitis, tenosynovitis, synovitis, stenosing tenosynovitis of the finger, DeQuervain Disease, and low back pain.
- *Musculoskeletal Disorder (MSD)* - A disorder of the muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels, or spinal discs.
 - MSDs may include muscle strains and tears, ligament sprains, joint and tendon inflammation, tendonitis, epicondylitis, carpal tunnel syndrome, rotator cuff syndrome, DeQuervain's syndrome, trigger finger, tarsal tunnel syndrome, hand-arm vibration syndrome (HAVS), and low back pain, pinched nerves, sciatica, spinal disc degeneration, and herniated spinal disc.
 - Injuries arising from slips, trips, falls, motor vehicle accidents, or similar accidents are not considered MSDs for the purposes of this program.
- *Repetitive Strain Injury (RSI)* - The terms MSD and RSI are analogous for the purposes of this program.

ERGONOMIC OFFICE/COMPUTER SAFETY CHECKLIST

Completed by: _____ Date: _____

PART I – OFFICE/COMPUTER OVERVIEW:

WORKING POSTURES–The workstation is designed or arranged for doing computer tasks so it allows your:

Head and neck to be upright or in-line with the torso (not bent down/back). If "no" refer to <u>Monitors</u> , <u>Chairs</u> and <u>Work Surfaces</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Head, neck, and trunk to face forward (not twisted). If "no" refer to <u>Monitors</u> or <u>Chairs</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Trunk to be perpendicular to floor (may lean back into backrest but not forward). If "no" refer to <u>Chairs</u> or <u>Monitors</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shoulders and upper arms to be in-line with the torso, generally about perpendicular to the floor and relaxed (not elevated or stretched forward). If "no" refer to <u>Chairs</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Upper arms and elbows to be close to the body (not extended outward). If "no" refer to <u>Chairs</u> , <u>Work Surfaces</u> , <u>Keyboards</u> , and <u>Pointers</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Forearms, wrists, and hands to be straight and in-line (forearm at about 90 degrees to the upper arm). If "no" refer to <u>Chairs</u> , <u>Keyboards</u> , <u>Pointers</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wrists and hands to be straight (not bent up/down or sideways toward the little finger). If "no" refer to <u>Keyboards</u> , or <u>Pointers</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Thighs to be parallel to the floor and the lower legs to be perpendicular to floor (thighs may be slightly elevated above knees). If "no" refer to <u>Chairs</u> or <u>Work Surfaces</u> in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Feet rest flat on the floor or are supported by a stable footrest. If "no" refer to Chairs , Work Surfaces in part 2.	<input type="checkbox"/> YES <input type="checkbox"/> NO

SEATING–Consider these points when evaluating the chair:





Backrest provides support for your lower back (lumbar area).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Seat width and depth accommodate the specific user (seat pan not too big/small).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Seat front does not press against the back of your knees and lower legs (seat pan not too long).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Seat has cushioning and is rounded with a "waterfall" front (no sharp edge).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Armrests , if used, support both forearms while you perform computer tasks and they do not interfere with movement.	<input type="checkbox"/> YES <input type="checkbox"/> NO



KEYBOARD/INPUT DEVICE–Consider these points when evaluating the keyboard or pointing device. The keyboard/input device is designed or arranged for doing computer tasks so the:

Keyboard/input device platform(s) is stable and large enough to hold a keyboard and an input device.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Input device (mouse or trackball) is located right next to your keyboard so it can be operated without reaching.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Input device is easy to activate and the shape/size fits your hand (not too big/small).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wrists and hands do not rest on sharp or hard edges.	<input type="checkbox"/> YES <input type="checkbox"/> NO

WORK AREA—Consider these points when evaluating the desk and workstation. The work area is designed or arranged for doing computer tasks so the	
Thighs have sufficient clearance space between the top of the thighs and your computer table/keyboard platform (thighs are not trapped).	<input type="checkbox"/> YES <input type="checkbox"/> NO
Legs and feet have sufficient clearance space under the work surface so you are able to get close enough to the keyboard/input device.	<input type="checkbox"/> YES <input type="checkbox"/> NO
ACCESSORIES—Check to see if the:	
Document holder , if provided, is stable and large enough to hold documents.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Document holder , if provided, is placed at about the same height and distance as the monitor screen so there is little head movement, or need to re-focus, when you look from the document to the screen.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wrist/palm rest , if provided, is padded and free of sharp or square edges that push on your wrists.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wrist/palm rest , if provided, allows you to keep your forearms, wrists, and hands straight and in-line when using the keyboard/input device.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Telephone can be used with your head upright (not bent) and your shoulders relaxed (not elevated) if you do computer tasks at the same time.	<input type="checkbox"/> YES <input type="checkbox"/> NO
GENERAL	
Workstation and equipment have sufficient adjustability so you are in a safe working posture and can make occasional changes in posture while performing computer tasks.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Computer workstation, components and accessories are maintained in serviceable condition and function properly.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Computer tasks are organized in a way that allows you to vary tasks with other work activities, or to take micro-breaks or recovery pauses while at the computer workstation.	<input type="checkbox"/> YES <input type="checkbox"/> NO

PART II – OFFICE/COMPUTER IN-DEPTH ASSESSMENT TIPS

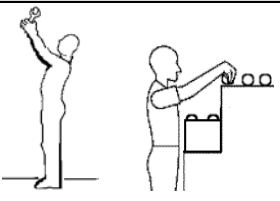
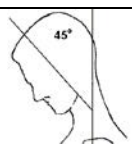

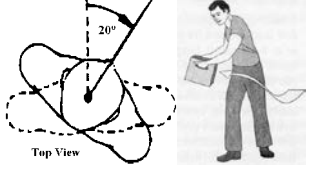
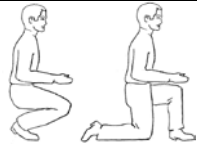

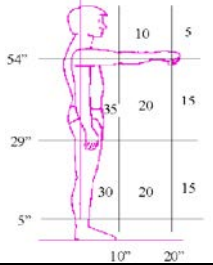
Monitors	
Make sure the screen is large enough for adequate visibility. Usually a 15 to 20-inch monitor is sufficient. Smaller units will make it difficult to read characters and larger units may require excessive space.	<input type="checkbox"/>
The angle and tilt should be easily adjustable.	<input type="checkbox"/>
Flat panel displays take less room on the desk and may be more suitable for locations with limited space.	<input type="checkbox"/>
Keyboards	
Split keyboard designs will allow you to maintain neutral wrist postures.	<input type="checkbox"/>
Keyboards with adjustable feet will accommodate a wider range of keyboard positions and angles. Adjustable feet on the front as well as the back will further aid adjustments. Increased adjustability will facilitate neutral wrist postures.	<input type="checkbox"/>
The cord that plugs into the CPU should be long enough to allow the user to place the keyboard and the CPU in a variety of positions. At least six feet of cord length is desirable.	<input type="checkbox"/>
Consider a keyboard without a 10-key keypad if the task does not require one. If the task does require one occasionally, a keyboard with a separate 10-key keypad may be appropriate. Keyboards without keypads allow the user to place the mouse closer to the keyboard.	<input type="checkbox"/>
Consider the shape and size of the keyboard if a keyboard tray is used. The keyboard should fit comfortably on the tray.	<input type="checkbox"/>
Consider keyboards without built-in wrist rest, because separate wrist rests are usually better.	<input type="checkbox"/>
Keyboards should be detached from the display screen if they are used for a long duration keying task. Laptop keyboards are generally not suitable for prolonged typing tasks.	<input type="checkbox"/>
Keyboard Trays	
Keyboard trays should be wide enough and deep enough to accommodate the keyboard and any peripheral devices, such as a mouse.	<input type="checkbox"/>
If a keyboard tray is used, the minimum vertical adjustment range (for a sitting position) should be 22 inches to 28 inches from the floor.	<input type="checkbox"/>
Keyboard trays should have adjustment mechanisms that lock into position without turning knobs. These are frequently over tightened, which can lead to stripped threads, or they may be difficult for some users to loosen.	<input type="checkbox"/>
Desks and Work Surfaces	
The desk area should be deep enough to accommodate a monitor placed at least 20 inches away from your eyes.	<input type="checkbox"/>
Ideally, your desk should have a work surface large enough to accommodate a monitor and a keyboard. Usually about 30 inches is deep enough to accommodate these items.	<input type="checkbox"/>
Desk height should be adjustable between 20 inches and 28 inches for seated tasks. The desk surface should be at about elbow height when the user is seated with feet flat on the floor. Adjustability between seated and standing heights is desirable.	<input type="checkbox"/>
You should have sufficient space to place the items you use most often, such as keyboard, mouse, and monitor directly in front of you.	<input type="checkbox"/>
There should be sufficient space underneath for your legs while sitting in a variety of positions. The minimum under-desk clearance depth should be 15 inches for your knees and 24 inches for your feet. Clearance width should be at least 20 inches.	<input type="checkbox"/>

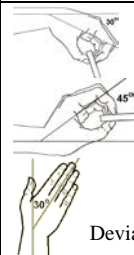

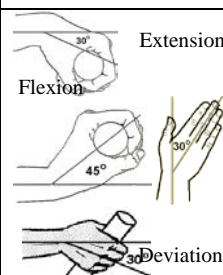
Desks and Work Surfaces [continued]	
Purchasing a fixed-height desk may require the use of a keyboard tray to provide adequate height adjustment to fit a variety of users.	<input type="checkbox"/>
Desktops should have a matte finish to minimize glare. Avoid glass tops.	<input type="checkbox"/>
Avoid sharp leading edges where your arms come in contact with work surfaces. Rounded or sloping surfaces are preferable.	<input type="checkbox"/>
The leading edge of work surface should be wide enough to accommodate the arms of your chair, usually about 24 to 27 inches. Spaces narrower than this will interfere with arm rests and restrict your movement. This is especially important in four-corner work units.	<input type="checkbox"/>
Chairs	
The chair should be easily adjustable.	<input type="checkbox"/>
The chair should have a sturdy five-legged base with good chair casters that roll easily over the floor or carpet.	<input type="checkbox"/>
The chair should swivel 360 degrees so it is easier to access items around your workstation without twisting.	<input type="checkbox"/>
Minimum range for seat height should be about 16 inches.	<input type="checkbox"/>
Seat pan length should be 15 inches to 17 inches.	<input type="checkbox"/>
Seat pan width should be at least as wide as the user's thighs. A minimum width of about 18 inches is recommended.	<input type="checkbox"/>
Chair edges should be padded and contoured for support.	<input type="checkbox"/>
Seat pan tilt should have a minimum adjustable range of about 5 degrees forward and backward.	<input type="checkbox"/>
Avoid severely contoured seats as these limit seated postures and are uncomfortable for many users.	<input type="checkbox"/>
Front edge of the seat pan should be rounded in a waterfall fashion.	<input type="checkbox"/>
Material for the seat pan and back should be firm, breathable, and resilient.	<input type="checkbox"/>
The seat pan depth should be adjustable. Some chairs have seat pans that slide forward and backward and have a fixed back. On others the seat pan position is fixed and the backrest moves horizontally forward and backward so the effective depth of the seat pan can be adjusted. Beware of chairs where the back only tilts forward and backward. These do not provide adequate adjustment for a wide range of users.	<input type="checkbox"/>
The backrest should be at least 15 inches high and 12 inches wide and should provide lumbar support that matches the curve of your lower back.	<input type="checkbox"/>
The backrest should widen at its base and curve in from the sides to conform to your body and minimize interference with your arms.	<input type="checkbox"/>
The backrest should allow you to recline at least 15 degrees and should lock into place for firm support.	<input type="checkbox"/>
The backrest should extend high enough to support your upper trunk and neck/shoulder area. If the backrest reclines more than about 30 degrees from vertical, a headrest should be provided.	<input type="checkbox"/>
Armrests should be removable and the distance between them should be adjustable. They should be at least 16 inches apart.	<input type="checkbox"/>
Armrest height should be adjustable between 7 inches and 10.5 inches from the seat pan. Fixed height armrests are not desirable, especially for chairs that have more than one user.	<input type="checkbox"/>
Armrests should be large enough (in length and width) to support your forearm without interfering with the work surface.	<input type="checkbox"/>
Armrests should be padded and soft.	<input type="checkbox"/>

Chairs [continued]	<input checked="" type="checkbox"/>
Most chairs are designed for weights under 275 pounds. If the user weighs more than 275 pounds, the chair must be designed to support the extra weight.	<input type="checkbox"/>
Document Holders	<input checked="" type="checkbox"/>
The document holder needs to be stable but easy to adjust for height, position, distance, and viewing angle.	<input type="checkbox"/>
If the monitor screen is your primary focus, purchase a document holder that will sit next to the monitor at the same height and distance.	<input type="checkbox"/>
If the task requires frequent access to the document (such as writing on the document) a holder that sits between the keyboard and monitor may be more appropriate.	<input type="checkbox"/>
Wrist Rests	<input checked="" type="checkbox"/>
Wrist rest should match the front edge of the keyboard in width, height, slope, and contour.	<input type="checkbox"/>
Pad should be soft but firm. Gel type materials are recommended.	<input type="checkbox"/>
Wrist rest should be at least 1.5 inches deep (depth away from the keyboard) to minimize contact pressure on the wrists and forearm.	<input type="checkbox"/>
Mouse/Pointing Devices	<input checked="" type="checkbox"/>
Choose a mouse/pointer based on the requirements of your task and your physical limitations. There really is no difference, other than preference, among a mouse, trackball, or other device.	<input type="checkbox"/>
A mouse should match the contour of your hand and have sufficient cord length to allow its placement next to the keyboard.	<input type="checkbox"/>
If you choose a trackball, avoid ones that require the thumb to roll the ball--they may cause discomfort and possible injury to the area around your thumb.	<input type="checkbox"/>
A smaller mouse may be more appropriate especially if you have small hands. Caution should be taken if a mouse is used by more than one person.	<input type="checkbox"/>
A mouse that has sensitivity adjustments and can be used with either hand is desirable.	<input type="checkbox"/>
Telephones	<input checked="" type="checkbox"/>
If task requirements mandate extended periods of use or other manual tasks such as typing while using the phone, use a telephone with a "hands-free" headset.	<input type="checkbox"/>
The telephone should have a speaker feature for "hands-free" usage.	<input type="checkbox"/>
"Hands-free" headsets should have volume adjustments and volume limits.	<input type="checkbox"/>
Desk Lighting	<input checked="" type="checkbox"/>
Good desk lighting depends on the task you're performing. Use bright lights with a large lighted area when working with printed materials. Limit and focus light for computer tasks.	<input type="checkbox"/>
The location and angle of the light sources, as well as their intensity levels, should be fully adjustable.	<input type="checkbox"/>
The light should have a hood or filter to direct or diffuse the light.	<input type="checkbox"/>
The base should be large enough to allow a range of positions or extensions.	<input type="checkbox"/>

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ERGONOMIC WORK AREA SCREENING AND ANALYSIS TOOL

Body Part	Action Code	Physical Risk Factor	Duration (cumulative)	Visual Aid
A – Awkward Posture				
Shoulders	A1	Working with the arms fully extended or Raising the hand(s) or the elbows above the shoulder(s) (48" for a 5 th %ile population) <i>in either a long-duration static hold (i.e. 15 min.) or in a short-duration repetitive manner (more than once per minute).</i>	2 hrs or more per day	
Neck	A2	Working with the neck bent more than 45° (without support or the ability to vary posture)	2 hrs or more per day	
Back	A3	Working with the back bent forward more than 30° (without support or the ability to vary posture)	2 hrs or more per day	
	A4	Working with the back twisted more than 20°	2 hrs or more per day	
	A5	Repetitively (<i>more than 2 times/minute</i>) Working with the back twisted more than 20°	2 hours <u>continuously</u>	
Legs	A6	Squatting, crouching or kneeling	2 hrs or more per day	
B – Repeated Impact				
Hands, Knees	B1	Repetitively (<i>more than 1 per 5 minutes</i>) Using the hand (heel/base of palm) or knee as a hammer	2 hrs or more per day	
C – Force				
Back, shoulders	C1	Lifting more than 50 pounds at any one time ;		No figure
	C2	Repetitively (<i>more than once per minute</i>) Lifting weight (<i>in pounds</i>) greater than the limits in the visual aid (Based on NIOSH '91 for a 50%ile person heights, and 5%ile reach)	4 hrs or more per day	
	C3	Pushing/pulling with more than 50 pounds of initial force (<i>e.g. truck with a total weight of 1000 pounds</i>)	2 hrs or more per day	No figure

Body Part	Action Code	Physical Risk Factor	Combined With	Duration (cumulative)	Visual Aid
C – Force (continued)					
Back	C4	Carrying 30 lbs or more at waist level	More than 25 feet or more than once every 5 minutes	2 hours or more per day	No figure
Arms, wrists, hands	C5	Pinching while exerting a force of 2 lbs or more per hand. (comparable to pinching half a ream of paper)	More than 3 times / minute	1.5 hrs or more per day	No figure
	C6		Wrists bent in: flexion 30° or more, or extension 45° or more, or deviation 30° or more.	1 hrs or more per day	 Flexion Extension Deviation
	C7		No other risk factors	2 hrs or more per day	
	C8	Gripping an unsupported object(s) weighing 10 or more pounds per hand, or with a force of 10 pounds or more per hand (comparable to clamping light duty automotive jumper cables onto a battery)	More than 3 times / minute	1.5 hrs or more per day	No figure
	C9		Wrists bent in: flexion 30° or more, or extension 45° or more, or deviation 30° or more,	1 hrs or more per day	 Extension Flexion Deviation
	C10		Wide grasp	1 hrs or more per day	No figure
	C11		No other risk factors	2 hrs or more per day	No figure
D – Repetition / Recovery					
Neck, shoulders, elbows, wrists, hands	D1	Using the same motion more than twice per minute (excluding keying activities)	No other risk factors	6 hrs or more per day	
	D2		Wrists bent in: flexion 30° or more, or extension 45° or more, or deviation 30° or more (see figures above). AND High force hand exertion(s)	2 hrs or more per day	
	D3	Intensive keying and mousing	Awkward posture: including bent wrists (as described above), extended arms, tilted neck, back leaned forward.	2 hrs or more per day	
	D4		No other risk factors	7 hrs or more per day	
E –Vibration / Contact Stress					
Hand, whole body	E1	Pressure against soft tissue (e.g. square edge / ridge)		30 min or more per day	
	E2	Using vibrating tools or equipment that typically have <u>high</u> vibration levels (>10 m/s ² chainsaws, jack hammers, percussive tools, riveting hammers)		30 min. or more per day	
	E3	Using vibrating tools or equipment that typically have <u>moderate</u> vibration levels (5 m/s ² jig saws, grinders)		2 hrs or more per day	

TRAINING ATTENDANCE ROSTER ERGONOMICS

Office Ergo Training Includes:

- Definitions
- Stressors
- Temperature/Lighting
- CTDs and Risk Factors
- Workstation/Computer Set Up
- Hazards and Controls

Manufacturing Ergo Training Includes:

- Definitions and Benefits
- Causes and Risks
- Lifting and Work Postures
- Force motions and Vibration
- Workstation/Computer Set Up

Kitchen/Restaurant Ergo Training Includes:

- Temperature/Lighting
- Work Hours
- Lifting and Carrying
- Postures (bending, reaching)
- Housekeeping and slips/trips

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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CALIFORNIA
ERGONOMICS AND MUSCULOSKELETAL DISORDER
Additional Requirements

REPETITIVE MOTION INJURIES – 8 CCR 5110

- Employers must implement an Ergonomic program and conduct training after experiencing its second similar ergonomic injury within a year.
 - Program must include: worksite evaluation, control of exposures and training.

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**Eye Wash Station
and Safety Shower**

PROGRAM OVERVIEW

EYE WASH STATION AND SAFETY SHOWER SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.151
ANSI Z358.1-2009

INTRODUCTION

Ensures the existence of suitable facilities for quick drenching or flushing of the eyes and body where potential exposure to injurious or corrosive materials exists. It highlights procedures and training requirements and defines installation and design specifications.

TRAINING

- All employees and supervisors who are exposed to, work with or near corrosive or injurious materials must be instructed on the use of eye wash stations and safety showers to ensure the features and operations of the unit are fully understood in the event of an emergency.

ACTIVITIES

- Assess area hazards to determine where eye wash stations and safety showers are required
- Install eye wash stations and safety showers, as required
- Ensure appropriate signs are placed to indicate the location of eye wash stations and safety showers, and operating instructions are placed at the units
- Conduct inspections of installed safety equipment

FORMS

- Activation and Inspection Eye Wash Station Form
- Activation and Inspection Safety Shower Station Form
- Training and Attendance Roster - Eye Wash and/or Safety Shower

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- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

EYE WASH STATION AND SAFETY SHOWER SAFETY PROGRAM

1. **Purpose.** The company requires that emergency shower and/or eye wash station facilities shall be provided whenever operations may result in personnel coming into contact with injurious corrosive materials. This program provides requirements for the use and maintenance of emergency showers and eye wash stations.
2. **Scope.** Applies to all eye wash station and safety shower units and installations at the company or on company job site locations.

3. Responsibilities

3.1 Managers and Supervisors

- 3.1.1 Assess area hazards to determine where eye wash stations and safety showers are required to be installed.
- 3.1.2 Install eye wash stations and safety showers.
- 3.1.3 Ensure appropriate signs are placed to indicate the location of eye wash stations and safety showers, and operating instructions are placed at the units.
- 3.1.4 Ensure employees who work with injurious or corrosive materials are instructed in the use of eye wash stations and safety showers.
- 3.1.5 Provide the resources for and manpower required for maintenance and testing of eye wash stations and safety showers.

3.2 Employees

- 3.2.1 Attend training upon initial assignment and as workplace changes occur, as appropriate.
- 3.2.2 Assist, as needed or required, in the installation, maintenance or testing of eye wash stations and safety showers.
- 3.2.3 Notify supervision of any problems or deficiencies noted during eye wash station or safety shower inspection, maintenance or testing.

4. Procedure

4.1 Hazard Assessment

- 4.1.1 Conduct Hazard Assessments to identify injurious or corrosive materials in the work area and to determine the need for eye wash stations and/or emergency showers. Safety Data Sheets may assist in this identification process.
- 4.1.2 Conduct Hazard Assessments whenever work process changes or building renovation/occupancy affect the operation or requirements of emergency eye wash stations and showers.

4.1.3 Document this assessment.

4.2 Installation and Maintenance

- 4.2.1 Ensure that emergency eye wash station and/or emergency showers are initially installed to meet the manufacturer's specifications and are tested and maintained in good operating condition whenever hazard assessments indicated the need for this equipment. Manufacturing installation instructions normally accompany the unit.
- 4.2.2 Existing single nozzle designed eyewash installations requiring maintenance or repair shall be replaced with an approved dual nozzle design. Any new eyewash installation shall be of an approved dual nozzle design.
- 4.2.3 Out-of-service units shall be tagged and all personnel in the area informed; before removing tag and returning the unit into service, a performance test shall be conducted to ensure proper operation.
- 4.2.4 Potable water is preferred, but non-potable water is acceptable provided it is clean and that appropriate signs are posted.
- 4.2.5 Where possible, water should be kept at tepid temperature (65°F - 95°F).
- 4.2.6 Distance from the hazard must be not more than a 10 second walking distance or 55 feet from the hazard.
- 4.2.7 Drainage should be provided for shower units to prevent additional hazardous situations from occurring.

4.3 Recordkeeping

- 4.3.1 Document the activation of emergency eye wash station and/or emergency shower equipment. A log book attached or near the equipment, or a sticker affixed to the unit will suffice.
- 4.3.2 Document the employee training.

4.4 Activation and Testing

- 4.4.1 Testing should be performed upon initial installation and this documentation should remain with the unit (via log book or sticker).
- 4.4.2 Showers - Plumbed shower units must be activated weekly, long enough to be sure flushing fluid is provided. Self contained shower units should be visually inspected per manufacturer's instructions and necessary cleaning or flushing fluid replacement should be determined.

- 4.4.3 Eye wash stations - plumbed units, must be activated weekly; Self-contained units should be visually inspected per manufacturer's instructions and necessary cleaning or flushing fluid replacement should be determined.

- 4.4.3.1 As part of the activation procedure, check for sharp projections and contamination on the nozzle area; activation should flow water 3 to 6 inches from the nozzle.

NOTE: The use of Drench hoses and Personal eyewash equipment (eyewash bottles) supports plumbed and self-contained equipment, but these SHALL NOT be used as a replacement for them. If they are used, employees shall be properly instructed on their use and limitations.

4.5 Housekeeping

- 4.5.1 Emergency eye wash station and/or emergency shower equipment must retain a clear path to the equipment. Supervision should be notified of obstructed paths.
- 4.5.2 Equipment must be kept in a clean and sanitary condition. Eye wash station caps or covers may be used, provided they meet regulatory requirements and are removed by the water pressure of the unit upon activation.

4.6 Notification

- 4.6.1 Emergency response personnel and supervision should be immediately notified of any emergency eye wash station and/or emergency shower equipment activation, other than testing.

5. Safety Information. This information is applicable to standard equipment. *Where applicable to the workplace, there are additional requirements to be met for barrier free equipment with reference to the Americans with Disability Act and access to equipment for handicapped individuals.*

5.1 Valve Actuators

5.1.1 For all equipment

- 5.1.1.1 Shall be large enough to be easily located by the user, with a highly visible sign, and in a well lighted area (Darkrooms and Dark areas are an exception to this requirement).
 - 5.1.1.2 Shall activate in 1 second or less.
 - 5.1.1.3 Once activated shall remain on until intentionally shut off without requiring the use of the operators hands.

- 5.1.1.4 Shall be protected from freezing.
- 5.1.1.5 Shall be protected, as much as possible, from airborne or other contaminants without impeding the use of the equipment or requiring a separate motion to remove.
- 5.1.1.6 Shall have instructions posted to assist users.
- 5.1.1.7 Shall be free of projections or sharp objects which may be injurious to the user.
- 5.1.1.8 Shall be constructed of materials that will not corrode in the presence of flushing fluid.

5.1.2 Showers

- 5.1.2.1 The activation handle shall not be located more than 69" from the surface on which the user stands. An extension device should be constructed to accommodate activation of the shower for persons with disabilities or persons in wheelchairs.

5.2 Spray

5.2.1 For all equipment

- 5.2.1.1 Whenever practical, equipment should deliver tepid or tempered water. Temperature of the flushing fluid should not exceed 100 degrees Fahrenheit (38 degrees Celsius).
- 5.2.1.2 In circumstances where chemical reaction is accelerated by flushing fluid temperature, a medical advisor should be consulted for the optimum temperature for each application.
- 5.2.1.3 While cold flushing fluid temperatures provide immediate cooling after chemical contact, prolonged exposure to cold fluids may affect the ability to maintain adequate body temperature and can result in the premature cessation of the equipment usage.

5.2.2 Showers

- 5.2.2.1 Deliver a spray pattern of 20 inches in diameter at 60 inches from the surface on which the user stands.
- 5.2.2.2 Located at least 16 inches from any obstruction.
- 5.2.2.3 Fluid must be substantially dispersed throughout the pattern.
- 5.2.2.4 Delivers 20 gallons per minute for a minimum of 15 minutes.

5.2.3 Eye wash stations

5.2.3.1 Delivers a spray pattern of 4" across (3-6" away from each nozzle).

5.2.3.2 Fluid must be substantially dispersed throughout the pattern.

5.2.3.3 Delivers 0.4 gallons per minute for a minimum of 15 minutes.

5.2.4 Eye/Face units

5.2.4.1 Delivers a spray pattern of 4" in length.

5.2.4.2 Fluid must be substantially dispersed throughout the pattern.

5.2.4.3 Delivers 3 gallons per minute for a minimum of 15 minutes.

5.3 Delivery System

5.3.1 For all equipment

5.3.1.1 Constructed of materials that will not corrode in the presence of flushing fluid.

5.3.1.2 Designed so as not to be injurious to the user.

5.3.1.3 Shall have no sharp projections or objects.

5.3.1.4 Shall be protected from contamination.

5.3.1.5 Shall be protected from freezing.

5.3.1.6 The water supply must be continuous and uninterruptible for the required duration.

5.3.2 Showers

5.3.2.1 At least 1 inch pipe to deliver flow, supply lines may be 1.25 inch line.

5.3.2.2 Shower Assembly shall be 82-96 inches in height from the surface on which the user stands.

5.3.2.3 Enclosures, if used, will have a minimum of 34 inches in diameter.

5.3.2.4 Shall have supply lines which deliver 30 lbs. per-square-inch of pressure at maximum flow.

5.3.3 Eye wash stations

- 5.3.3.1 Designed to provide enough room to allow the eyelids to be held open with hands.
- 5.3.3.2 Provide fluid to both eyes simultaneously.
- 5.3.3.3 New installations or modifications shall have 2 sets of parallel lines painted or adhered to back surface of eyewash. These lines will be set 1.25 inches and 3.25 inches apart from the center of the eyewash and are designed to assist the user in guiding the eyes into the stream. The unit should deliver the flushing fluid between these lines.
- 5.3.3.4 Shall have supply lines which deliver a minimum pressure of 30 psi and a maximum pressure of 90 psi at maximum flow.
- 5.3.3.5 Shall be 33-45 inches from the surface on which the user stands and shall be at least 6 inches from the wall or other obstruction.

5.3.4 Eye/face units

- 5.3.4.1 Designed to provide enough room to allow the eyelids to be held open with hands.
- 5.3.4.2 Shall be 33-45 inches from the surface on which the user stands and shall be at least 6 inches from the wall or other obstruction.
- 5.3.4.3 Shall have supply lines which deliver a minimum pressure of 30psi and a maximum of 90psi at maximum flow.

5.4 Location

5.4.1 For all equipment

- 5.4.1.1 Not more than a 10 second unobstructed walking distance from the hazard or 55 feet from the hazard.

5.4.2 Showers

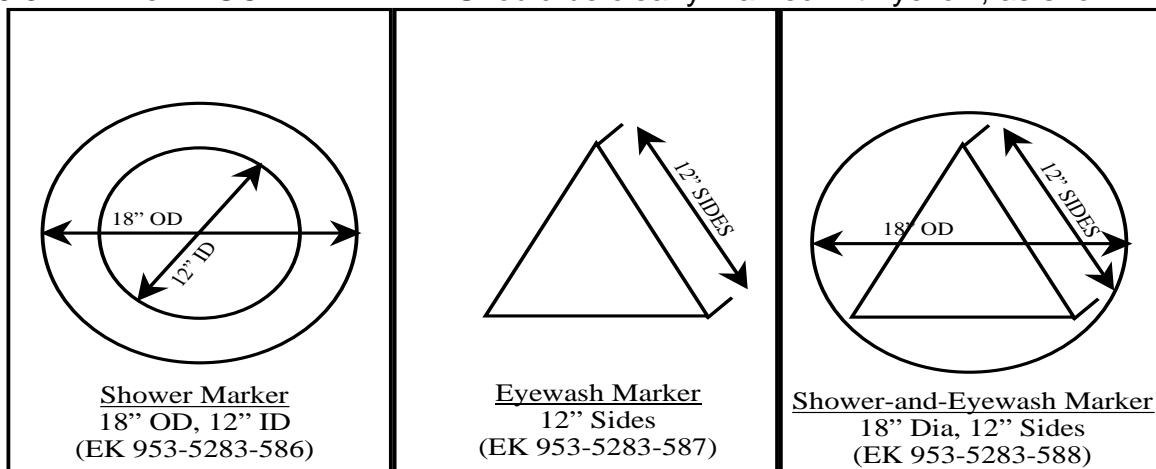
- 5.4.2.1 16 inches from any obstruction or wall (minimum).

5.4.3 Eye wash stations

- 5.4.3.1 If a highly hazardous or corrosive material is used, the eye wash station should be in the direct vicinity of the hazard to facilitate immediate use.

5.5 Floor Markings

5.5.1 Are RECOMMENDED - Should be clearly marked with yellow, as shown:



5.6 Additional Information

- 5.6.1 Users of emergency eye wash stations should hold eye(s) open and roll eyeballs to apply flushing fluid to all parts of the eye and under the eyelids.
- 5.6.2 Combination units should comply with all of the above requirements and each piece (shower, eye wash station, and eye/face) should operate simultaneously.
- 5.6.3 Personal Eyewash Bottles and Drench hoses are designed to supplement the use of Emergency Eye wash stations and Showers and are not designed to replace them.

6. Training and Information

- 6.1 All employees who are exposed to, work with or work in proximity to injurious or corrosive materials shall be trained in the use of emergency eye wash stations and showers as follows:
 - 6.1.1 Location of the equipment.
 - 6.1.2 Hazardous conditions which require the equipment use.
 - 6.1.3 Operation of equipment.
 - 6.1.4 Providing emergency assistance to others.
 - 6.1.5 Employees should be aware not to store materials or product in front of, near or in the pathway to equipment or to cover floor markings.

7. Definitions

- *Activation* - Activation consists of turning the unit on to assure water flow (to flush the line).
- *gpm* - Gallons Per Minute.
- *Monitored or Supervised System* - a water or flow line with alarm systems or flow gauges which will notify some authority when flow is decreased or interrupted.
- *Testing* - Testing consists of turning the unit on, checking flow rate, flow pattern, spread, assuring components of the equipment are operating properly, and verifying that all signs, labels or markings are legible, visible and appropriate.

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ACTIVATION AND INSPECTION _ EYE WASH STATION

Weekly Activation/Inspection Log

[illegible]

NOTE: Any deficiencies noted during inspection, activation or cleaning must be IMMEDIATELY reported to management.

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ACTIVATION AND INSPECTION _ SAFETY SHOWER STATION

Weekly Activation & Inspection Log

[illegible]

NOTE: Any deficiencies noted during inspection, activation or cleaning must be IMMEDIATELY reported to management.

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TRAINING ATTENDANCE ROSTER EYE WASH and/or SAFETY SHOWER

Eye Wash Station Training Includes: <ul style="list-style-type: none"> Medical Response Responsibilities Maintenance and Activation Housekeeping and Clearance How to use eye wash stations 	Safety Shower Station Training Includes: <ul style="list-style-type: none"> Medical Response Responsibilities Maintenance and Activation Housekeeping and Clearance How to use safety shower stations 	
<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	Training Type
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		
		<input type="checkbox"/> Eye Wash <input type="checkbox"/> Safety Shower
		<input type="checkbox"/> Eye Wash <input type="checkbox"/> Safety Shower
		<input type="checkbox"/> Eye Wash <input type="checkbox"/> Safety Shower
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Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

FALL PROTECTION SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.21 Subpart D, 132
- 29 CFR 1926.501 Subpart M

INTRODUCTION

Fall protection systems are required when working from heights greater than 6 feet in construction and greater than 4 feet in general industry, above hazardous equipment and working in an aerial lift bucket. This program establishes procedures for fall hazard control, inspections, equipment maintenance, workplace evaluations and employee training.

TRAINING

- Employees trained initially in the type of fall protection system used. Training includes classroom instruction in the hazards of fall protection and the type of protective systems used.
- Annual re-training is required in some states.

ACTIVITIES

- Determine if fall hazards are present in the workplace. Ensure these hazards are controlled through fall protection systems and that employees have appropriate alternative fall protection equipment and training.

FORMS

- Fall Hazard Evaluation
- Fall Protection Equipment Inspection Checklist
- Training Certificate
- Training Attendance Roster for Construction
- Training Attendance Roster for General Industry

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

FALL PROTECTION SAFETY PROGRAM

1. **Purpose.** The hazards of potential falls at heights of 4 feet and above (or 6 feet and above at construction sites) will be addressed in this document. This safety program describes a systematic approach that must be used to protect and prevent people from falling. This safety program also lists some of the most common fall hazards, and provides recommendations and guidelines for selecting fall arrest systems. The company will review and evaluate this safety program:
 - 1.1 When changes occur to 29 CFR, that prompt revision of this document
 - 1.2 When facility operational changes occur that require a revision of this document
 - 1.3 When there is an accident or close-call that relates to this area of safety
 - 1.4 Review the safety program any time fall protection procedures fail
2. **Scope.** This program encompasses the total workplace regardless of the number of workers employed or the number of work shifts. It also applies to fall hazards on off-site jobs or activities to which company employees are exposed.
3. **Responsibilities**
 - 3.1 Management/Supervisors
 - 3.1.1 Assess the workplace, or each job site, for fall hazards.
 - 3.1.2 Provide fall protection equipment, as needed or required.
 - 3.1.3 Enforce the use of appropriate fall protection systems and equipment.
 - 3.1.4 Ensure employees are properly trained in the use of fall protection systems and equipment.
 - 3.1.5 Ensure equipment is inspected prior to each use, when subjected to falls or impact loads, and on a frequent and regular basis.
 - 3.1.6 As required, write fall protection procedures and ensure they are followed.
 - 3.1.7 Ensure fall protection systems are installed and set up by a professional engineer or other qualified person.
 - 3.1.8 For Contractors - Inform the contractor of the company's Fall Protection Safety Program. The contractor must agree to follow the company's policy with regard to any of any hazards confronted or created in conducting operations involving fall protection within company owned facilities.

3.2 Employees

- 3.2.1 Attend appropriate training.
- 3.2.2 Utilize fall protection systems and equipment, as needed or required.
- 3.2.3 Inspect equipment before each use. Equipment that has been subjected to a fall or impact-load must be removed from service until inspected by the manufacturer or designated professional engineer.
- 3.2.4 Report hazards and hazardous conditions to your Supervisor immediately.

4. Procedure

- 4.1 Facility/Department Evaluation. The workplace will be assessed before each assigned job for potential fall hazards. (The Fall Hazard Evaluation Form may be used to document fall hazards.)
- 4.2 Proper fall arrest systems will be used for jobs requiring fall protection when elimination of the hazard(s) is not possible.
- 4.3 If anchor points are required, involve qualified Engineers when load rating of anchorage points must be determined or is in doubt.
- 4.4 Fall Protection Options.
 - 4.4.1 Personal Fall Arrest Systems (PFAS). A PFAS consists of a full-body harness, lanyard, anchor point and may include a lifeline, and energy shock absorber.
 - 4.4.1.1 Before using a PFAS, the supervisor and/or the user must address such issues as:
 - The user must be trained to recognize fall hazards and to use fall arrest systems.
 - Components of the PFAS must be compatible with the manufacturer's instructions.
 - Appropriate anchorage points and attachment techniques must be reviewed.
 - Free fall distance must be considered so that a worker will not strike a lower surface or object before the fall is arrested.
 - The full-body harness and all of its components must be inspected before each use.

- 4.4.1.2 Standard Harnesses. Harnesses for general purpose work should be Class III, constructed with a sliding back D-ring. Standard harnesses are suitable for continuous fall protection while climbing, riding, or working on elevated personnel platforms. They are suitable for positioning, fall arrest, and the rescue and evacuation of people who are working at elevated heights.
- 4.4.1.3 Retractable Lifeline Lanyard. A retractable lifeline lanyard is a fall arrest device used in conjunction with other components of a fall arrest system. A properly inspected and maintained retractable lifeline lanyard, when correctly installed and used as part of the fall arrest system, automatically stops a person's descent in a short distance after the onset of an accidental fall. Retractable lifeline lanyards should be used by one person at a time.
- 4.4.1.4 Anchor Points
 - Anchor points will not deteriorate when located in corrosive environments such as areas where acid and alkali chemicals are handled and stored.
 - Capable of withstanding the ultimate load of 5,000 lbs. per employee attached.
- 4.4.2 Guardrail Systems - A barrier erected along an unprotected or exposed side, edge, or other area of a walking-working surface to prevent workers from falling to a lower level.
- 4.4.3 Safety Net System – A horizontal or semihorizontal, cantilever-style barrier that uses a netting system to stop falling workers before they make contact with a lower level or obstruction.
- 4.4.4 Positioning System – A system of equipment and connectors that, when used with a body harness or body belt, allows a worker to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free.
- 4.4.5 Travel Restraint System – A combination of an anchorage, anchorage connector, lanyard (or other means of connection), and body support to eliminate the possibility of a worker going over the unprotected edge or side of a walking-working surface.
- 4.4.6 Residential Construction, Commercial Leading Edge work and Commercial Precast Concrete Erection can use alternative fall protection measures such as controlled access zones or a safety monitoring systems when the employer can demonstrate that it is infeasible or creates a greater hazard to use conventional methods.
 - 4.4.6.1 Fall Protection Plan. The employer must develop and implement a fall protection plan which meets the following provisions.

- The fall protection plan must be prepared by a qualified person and developed specifically for the site where the leading edge work, precast concrete work, or residential construction work is being performed and the plan must be maintained up to date.
- Any changes to the fall protection plan must be approved by a qualified person.
- A copy of the fall protection plan with all approved changes must be maintained at the job site.
- The implementation of the fall protection plan must be under the supervision of a competent person.
- The fall protection plan must document the reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) are infeasible or why their use would create a greater hazard and identify each location where conventional fall protection methods cannot be used. These locations must then be classified as controlled access zones.

4.4.6.2 Controlled Access Zones. When used to control access to areas where leading edge and other operations are taking place the controlled access zone must be defined by a control line or by any other means that restricts access.

- When control lines are used, they must be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members.
- When erecting precast concrete members, the control line must be erected not less than 6 feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.
- The control line must extend along the entire length of the unprotected or leading edge and must be approximately parallel to the unprotected or leading edge.
- The control line must be connected on each side to a guardrail system or wall.
- Control lines must consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
 - Each line must be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.

- Each line must be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand bricklaying operations are being performed] from the walking/working surface.
- Each line must have a minimum breaking strength of 200 pounds.
- On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones must be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
- On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work must be removed.

4.4.6.3 Safety Monitoring Systems. The employer must designate a competent person to monitor the safety of other employees and the employer must ensure that the safety monitor complies with the following requirements:

- The safety monitor must be competent to recognize fall hazards;
- The safety monitor must warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
- The safety monitor must be on the same walking/working surface and within visual sighting distance of the employee being monitored;
- The safety monitor must be close enough to communicate orally with the employee; and
- The safety monitor must not have other responsibilities which could take the monitor's attention from the monitoring function.
- Mechanical equipment must not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations low-slope roofs.

- No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, must be allowed in an area where an employee is being protected by a safety monitoring system.
- Each employee working in a controlled access zone must be directed to comply promptly with fall hazard warnings from safety monitors.

5. Safety Information

5.1 Inspection and Maintenance. To ensure that fall protection systems are ready and able to perform their required tasks, a program of inspection and maintenance will be implemented and maintained. The following as a minimum, will comprise the basic requirements of the inspection and maintenance program:

- 5.1.1 Equipment manufacturer's instructions will be incorporated into the inspection and preventive maintenance procedures.
- 5.1.2 All fall protection equipment will be inspected prior to each use or in accordance with the manufacturers guidelines.
- 5.1.3 Any fall protection equipment subjected to a fall or impact-load will be removed from service immediately and inspected by a qualified person (sent back to the manufacturer).
- 5.1.4 Check all equipment for mold, damage, wear, mildew, or distortion.
- 5.1.5 Hardware should be free of cracks, sharp edges, or burns.
- 5.1.6 Ensure that no straps are cut, broken, torn or scraped.
- 5.1.7 Special situations such as radiation, electrical conductivity, and chemical effects will be considered.
- 5.1.8 Equipment that is damaged or in need of maintenance will be tagged as unusable, and will not be stored in the same area as serviceable equipment.
- 5.1.9 Anchors and mountings will be inspected before each use for signs of damage.

6. Training and Information

6.1 Training is required for all employees who will use a PFAS. Training will include:

- 6.1.1 When fall protection is required
- 6.1.2 What equipment is necessary
- 6.1.3 A description of fall hazards in the work area

- 6.1.4 Procedures for using personal fall arrest systems
- 6.1.5 Equipment limitations
- 6.1.6 The elements encompassed in total fall distance
- 6.1.7 Prevention, control and fall arrest systems
- 6.1.8 Inspection and storage procedures for the equipment
- 6.1.9 Maintenance and Care
- 6.1.10 Employee must demonstrate an understanding of the training.
- 6.2 Refresher training. Refresher training must encompass all the requirements for initial training, and be provided whenever there is reason to believe the employee's knowledge is insufficient or the employee would benefit from additional training.
 - 6.2.1 Retraining will be provided for employees whenever (and prior to) a change in their job assignments, a change in the work place, type of fall protection equipment used, or when a known hazard is added to the work environment which affects the Fall Protection Safety Program.
 - 6.2.2 When the employer has reason to believe the employee cannot demonstrate an understanding of the training.

7. Definitions

- Ø *Anchorage* - A secure point of attachment for lifelines, lanyards or deceleration devices.
- Ø *Body belt* – A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.
- Ø *Body harness* - Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.
- Ø *Connector* – A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system.
- Ø *Deceleration device* - Any mechanism with a maximum length of 3.5 feet, such as a rope grab, rip stitch lanyard, tearing or deforming lanyards, self-retracting lifelines, etc. which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
- Ø *Energy shock absorber* - A device that limits shock-load forces on the body.
- Ø *Free fall* - The act of falling before a personal fall arrest system begins to apply force to arrest the fall.

- Ø *Free fall distance* - The vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall (maximum of 6 feet). This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.
- Ø *Lanyard* - A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline or anchorage.
- Ø *Lifeline* - A component consisting of a flexible line for connection to an anchorage at one end to hang vertically or for connection to anchorages at both ends to stretch horizontally and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
- Ø *Personal fall arrest system* - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
- Ø *Retractable lifeline lanyard*- A fall arrest device that allows free travel without slack rope, but locks instantly when a fall begins.
- Ø *Self-retracting lifeline/lanyard* - A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.
- Ø *Snap-hook* - A connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snap-hooks are generally one of two types:
 - The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection.
 - The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snap-hook as part of personal fall arrest systems and positioning device systems is prohibited.

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FALL HAZARD EVALUATION

Designation:		Location:	
Date Assessed:	Related Operating Procedures Reviewed: <input type="checkbox"/> Yes <input type="checkbox"/> No	Location Marked and Entry Controlled: <input type="checkbox"/> Yes <input type="checkbox"/> No	
FALL HAZARD ASSESSMENT CHECKLIST			
Can an employee enter the area without restriction and perform work?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are fall prevention systems such as cages, guardrails, toeboards, man lifts in place?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Have slipping and tripping hazards been removed or controlled?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Have visual warnings of fall hazards been installed?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the distance a worker could fall be reduced by installing platforms, nets etc.?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are any permanently installed floor coverings, gratings, hatches, or doors missing?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the location contain any other recognized safety and or health hazards?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the space designated as a Permit Required Confined Space?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Have anchor points been designated and load tested?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Assessment Information: (indicate specifics with initials)			
Initial	Hazard	Remarks/Recommendations	
	Total potential fall distance:		
	Number of workers involved:		
	Frequency of task:		
	Obtainable anchor point strength:		
	Required anchor point strength: (not less than 5000 lbs)		
Additional Requirements:			
♦ <i>Potential environmental conditions that could impact safety:</i>			
Initial	Condition	Remarks/Recommendations	
♦ <i>Possible required structural alterations:</i>			
Initial	Alteration	Remarks/Recommendations	
♦ <i>Possible task modification that may be required:</i>			
Initial	Task	Remarks/Recommendations	

♦ Breakdown of vertical and horizontal movement: (sketch out work task):

♦ Training requirements:

Initial	Requirement	Remarks/Recommendations

♦ Personal protective equipment required:

Initials	Requirement	Remarks/Recommendations

☐ Approved

AUTHORIZATION

I acknowledge that I have conducted a Fall Hazard Assessment of the above designated location and have detailed the findings of the assessment on this form.

* Further detailed on attachment:

☐ Yes ☐ No

Name:

Signature:

Title:

Date:

Time:

ASSESSMENT FORM RETENTION INFORMATION

ATTACHMENTS

Permanent Retention File:	Location:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Date Filed:	Filed By:		

FALL PROTECTION EQUIPMENT INSPECTION CHECKLIST

Equipment Assessed:

Assessor:

Date:

Safety Belt and Harness Inspection

Visual inspections of fall protection equipment shall be conducted before each use. If any defects described in this checklist are found, the equipment must not be used. Beginning at one end, holding the body side of the belt/harness toward you, grasp the belt with your hands, placing them six to eight inches apart. Bend the belt into an inverted "U" and examine the surface for damaged or broken fibers, pulled stitches, cuts, abrasions or chemical damage. **FOLLOW THIS PROCEDURE ALONG THE ENTIRE LENGTH ON THE INSIDE AND OUTSIDE OF THE BELT/HARNESS.**

CONDITION	PASS	FAIL
Inspect for frayed or broken strands. Broken webbing strands appear as tufts on the webbing surface. Check for thread separation or rotting both inside as well as outside of the body pad.	<input type="checkbox"/>	<input type="checkbox"/>
Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. The roller should turn freely on frame. Check for distortion or sharp edges.	<input type="checkbox"/>	<input type="checkbox"/>
The tongue or billet of the belts receives heavy wear from repeated buckling and unbuckling. Inspect for loose, distorted or broken grommets. Belts using punched holes without grommets should be checked for torn or elongated holes causing slippage of the buckle tongue. Check for excessive elongation or distortion.	<input type="checkbox"/>	<input type="checkbox"/>
Rivets should be tight and unmovable with fingers. Body site rivet base and outside rivet burr should be flat against the material. Bent rivets will fail under stress.	<input type="checkbox"/>	<input type="checkbox"/>
Note the condition of "D" ring rivets and "D" ring metal wear pads (if any). Discolored, pitted or cracked rivets indicated chemical corrosion.	<input type="checkbox"/>	<input type="checkbox"/>
Friction buckles must be inspected for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment points of the center bar.	<input type="checkbox"/>	<input type="checkbox"/>
Sliding bar buckles must have the buckle frame and sliding bar inspected for cracks, distortion and sharp edges. The sliding bar should move freely. The knurled edge will slip if worn smooth. Inspect the corners and ends of the sliding bar carefully.	<input type="checkbox"/>	<input type="checkbox"/>

NEVER CUT OR PUNCH ADDITIONAL HOLES IN THE SAIST STRAP OR STRENGTH MEMBERS

Safety Strap, Lanyard and Hardware Inspection

Only use snaps and "D" rings which are compatible with each other. When inspecting lanyards, begin at one end and work to the opposite end. Slowly rotate the lanyard so that the entire circumference is checked.

CONDITION	PASS	FAIL
Inch by inch visual inspection for fiber laceration or stitch damage is done by flexing the strap in an inverted "U".	<input type="checkbox"/>	<input type="checkbox"/>
Strap buckles shall be inspected in the same banner as waist belt/harness buckles. (Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. The roller should turn freely on frame. Check for distortion or sharp edges.)	<input type="checkbox"/>	<input type="checkbox"/>
Snap hooks shall be checked for distortion of the hook or frame attachment to the belt. The keeper (latch) should seat into the snap nose without binding or obstruction and the keeper spring should have sufficient force to close the keeper firmly.	<input type="checkbox"/>	<input type="checkbox"/>
The thimble must be movable in the eye of the splice and the splice shall have no loose or cut strands. The thimble must be free of sharp edges, distortion or cracks.	<input type="checkbox"/>	<input type="checkbox"/>
All rivets shall be tight, free of distortion or wear and without cracks, sharp edges or corrosion.	<input type="checkbox"/>	<input type="checkbox"/>
Inspect wire rope lanyards for cuts or broken strands and unusual wearing patterns.	<input type="checkbox"/>	<input type="checkbox"/>
Inspect fiber rope lanyards for weakened areas by examining changes in the original diameter.	<input type="checkbox"/>	<input type="checkbox"/>
Inspect closely the forged steel "D" rings for cracks or other defects. Inspect the assembly of the "D" rings to the body pad or "D" ring saddle. If the "D" ring can be moved vertically, independent of the body pad or "D" saddle, the belt should be replaced. The "D" ring bar shall be at a 90 degree angle with the long axis of the belt and should pivot freely.	<input type="checkbox"/>	<input type="checkbox"/>

Webbing Inspection

Type of webbing	Heat	Chemical	Molten Metal or Flame	Paint or Solvents
Cotton	Scorches at 200 degrees to 250 degrees F, and turns a yellow color. Turns brown at 285 degrees F and is destroyed.	Changed in color depend on chemical exposure. Changes to light color or turns brown. Fibers may break when pulled or stressed.	Charred black marks or brown pockmarks. Holes through the webbing.	Paint which has saturated the webbing causing hardening and fiber breaks. Paints containing lead will attack webbing fibers.
Nylon and Cordura	In excessive heat nylon becomes brittle and has a shriveled, brownish appearance. The fibers will break when flexed. Should not be used above 200 degrees F.	Change in color usually appearing as a brownish smear or smudge. Transverse cracks when the belt is bent over. Loss of elasticity.	Webbing strands fuse together. Hard shiny spots which are brittle. Will not support combustion.	Paint which penetrates and dries restricts movement of fibers. Drying agents and solvents in some paints will appear as chemical damage.
Polyester, Dacron	Same as nylon except do not use above 180 degrees F.	Same as nylon.	Same as nylon except will support combustion.	Same as nylon.

CERTIFICATE OF TRAINING

This certificate verifies that _____
Employee Name

has successfully completed

Fall Protection Training

on _____
Date

Company Name

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TRAINING ATTENDANCE ROSTER

FALL PROTECTION AWARENESS

For Construction

Fall Protection Safety Training Includes:

- When Required
- Workplace Assessment
- Primary/Conventional Fall Protection (Guardrail, Safety Net, and PFAS)
- Alternate Methods (Fall Protection Plan, Warning line, Monitoring System, Controlled Access Zone, Fences, Barricades, and Covers
- Components of a PFAS and how to wear a PFAS
- Calculation of Fall Distance
- Equipment Inspection and Maintenance

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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TRAINING ATTENDANCE ROSTER

FALL PROTECTION AWARENESS

For General Industry

Fall Protection (General Industry) Safety Training Includes:

- Workplace Assessment
- Guardrail Systems
- Safety Net
- Positioning and Travel Restraint Systems
- When PFAS Required
- Components of a PFAS and how to wear a PFAS

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

FIRST AID AND EMERGENCY MEDICAL RESPONSE SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.151
- 29 CFR 1926.23, 1926.50

INTRODUCTION

This program is designed to assist the company to insure that medical personnel are readily available for emergency response and applies to all company facilities and employees, including any on-site emergency medical response personnel.

TRAINING

- All employees and supervisors trained on how to summon emergency assistance
- Where required, employees trained in the use of emergency eyewash and safety showers
- Any on-site emergency response teams trained appropriately in skills and bloodborne pathogens

ACTIVITIES

- Determine if on-site first aid or emergency response teams or designated and trained personnel are required (if ambulance or EMT/fire department is more than 5 minutes away)
- Designate, train and equip emergency response personnel, if appropriate
- Establish agreements with local ambulance or fire/EMT services to provide emergency medical response, if appropriate
- Evaluate potential for injuries and implement hazard controls where possible
- Write and communicate policies and procedures

FORMS

- § First Aid Kit Supply List
- § First Aid Basics Training Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

FIRST AID AND EMERGENCY MEDICAL RESPONSE SAFETY PROGRAM

1. **Purpose.** This program is designed to provide guidance and information to companies with regard to first-aid and emergency medical response situations. Included in this program is information on the treatment and prevention of industrial burns.
2. **Scope.** This program applies to all company facilities and employees, including any on-site emergency medical response personnel.

3. Responsibilities

3.1 Management

- 3.1.1 Determine if on-site first aid or emergency response teams or designated and trained personnel are required. If trained emergency medical response (an ambulance or EMT/fire department) is more than 5 minutes from the facility or site, a certified and trained first aid response person is required to be present at the work site for each work shift.
 - 3.1.1.1 Designate, train and equip emergency response personnel, if appropriate. Training is at no cost to the employee and is provided at a reasonable time and place whenever possible; OR
 - 3.1.1.2 Establish agreements with local ambulance or fire/EMT services to provide emergency medical response, if appropriate.
- 3.1.2 Inform employees on how to summon emergency assistance.
- 3.1.3 In conjunction with the Safety Officer and/or Human Resources, notify the injured/ill employee's family of the incident, as needed or required.

3.2 Employees

- 3.2.1 Summon emergency medical assistance, when required.
- 3.2.2 Notify management, as soon as possible.
- 3.2.3 Notify the Safety Officer or Human Resources as soon as possible after the emergency response personnel have taken charge of the situation.

3.3 On-Site Medical Response Team/Person (as appropriate)

- 3.3.1 Attend Basic First Aid or EMT training.
- 3.3.2 Attend Bloodborne Pathogen training.
- 3.3.3 Maintain training.
- 3.3.4 Provide basic first aid for injured or ill employees who require assistance.
- 3.3.5 Maintain supplies and equipment, as needed, for emergency response.

4. Procedure

4.1 Summoning Emergency Response Personnel

- 4.1.1 Employees must be informed of the proper procedure to summon emergency medical assistance from their work area or job site (e.g. telephoning “911” or another number).
 - 4.1.1.1 It is highly recommended that if summoning assistance is other than “dial 911”, that the emergency phone number be placed on each telephone to assist employees during an emergency.
- 4.1.2 Information should be provided to the emergency service provider on:
 - 4.1.2.1 The nature of the injury/illness, if known.
 - 4.1.2.2 The specific location (company address or specific work area) of the injured employee.
 - 4.1.2.3 Any other pertinent details of the incident.
 - 4.1.2.4 Any procedures or escorts required to enter the facility.
- 4.1.3 If possible, remain with the injured or ill employee to provide comfort and support. Designate another employee to meet the emergency response personnel, if appropriate.

4.2 Potential for Industrial Burns

- 4.2.1 Jobs where there is potential injury from either chemical burns or heat producing equipment that may cause burns to the skin or body must be evaluated and appropriate control measures put into place to protect employees from these hazards.
 - 4.2.1.1 Control measures include engineering and design controls to prevent contact (insulating materials or enclosures), administrative controls (procedures, substitution of less hazardous materials or equipment), or personal protective equipment (gloves, clothing, other PPE).
- 4.2.2 Training is provided to employees on the heat or chemical hazards of the task or activity, and the first aid procedures for treatment.
- 4.2.3 Signs are posted in areas where there is a reasonable likelihood of burn injury from heat producing equipment.
 - 4.2.3.1 Signs should read “Danger – Heat-Hazard Area. Thermal Protective Clothing or Equipment required, or similar language.

- 4.2.3.2 Signs must be in English, although additional languages may be used in addition to English.

4.3 Control Measures for Reducing Heat or Burn Injury

- 4.3.1 Engineering Controls - should reduce heat levels to the lowest level reasonably achievable.

- 4.3.1.1 Controls include:

- 4.3.1.1.1 Placement of shielding or barriers between equipment and employees

- 4.3.1.1.2 Isolating heat sources through enclosures

- 4.3.1.1.3 Mechanizing or modifying processes or operations

- 4.3.2 Administrative Controls - should be implemented when engineering controls can not reduce heat to the desired level.

- 4.3.2.1 Controls include:

- 4.3.2.1.1 Limiting the amount of time workers spend performing the task or activity

- 4.3.2.1.2 The use of specialized tools to the extent possible

- 4.3.2.1.3 Enforcement of specific written procedures that outline the steps to safely work with the heat producing equipment.

- 4.3.3 Protective Equipment - should be implemented after it has been determined that engineering and administrative controls can not reduce heat exposures to the desired levels.

- 4.3.3.1 Protective equipment includes:

- 4.3.3.1.1 Heat resistant gloves and clothing

- 4.3.3.1.2 Respiratory protection.

5. Safety Information

5.1 Eyewash and Safety Showers

- 5.1.1 Where eyes or body of any person can be exposed to injurious, corrosive or highly hazardous chemicals, or where these chemicals are used or stored in the workplace, facilities for the quick drenching of eyes and the body are required.

5.1.1.1 Equipment must meet the requirements of the American National Standards Institute (ANSI) for Eyewash and Safety Showers ANSI Z358.1

5.1.2 Employees will be trained in the use of emergency eyewash and safety showers, as needed or required.

5.2 Burns

5.2.1 Correct assessment of a burn's severity is one of the first critical steps in properly treating and managing the injury. Burns are classified both by their depth and amount of body surface area injured. First, second, and third degree burns identify the layers of skin damaged while the terms minor, moderate and critical describe both the depth and extent of the tissue injured.

5.2.1.1 First-degree burns. These are burns involving only the outer layers of the epidermis. Characterized by redness, itching, and burning, these burns are generally considered minor and don't require the attention of a physician. Mild sunburns are typical first-degree burns.

5.2.1.2 Second-degree burns. These are burns that damage both the epidermis and the dermis (second layer of skin). These burns cause blisters and are prone to infection, often requiring medical attention. Second-degree burns are also sub-classified as superficial or deep dermal depending on the extent of injury. Burns are also described by their cause, such as thermal, chemical, electrical, radiation, and flash.

5.2.1.3 Third-degree burns. These are burns that destroy both the epidermis and the dermis. These burns are distinguished by their dry surface and pearly white or charred appearance. Third-degree burn patients often experience no pain following their injury because nerve endings are impaired. Third-degree burns always require the attention of a hospital burn center.

5.2.1.4 Thermal (heat burns). These are burns that are caused by contact with substances at temperatures above the boiling point of water. These burns often occur in conjunction with other types of burns.

5.2.1.5 Chemical burns. These are burns that are caused by contact with materials such as sodium hydroxide, phenol, sulfuric or hydrochloric acid. These corrosive substances generate heat, creating a thermal burn in addition to a chemical burn.

- 5.2.1.6 Electrical burns. These are burns that are common among gas and electrical workers and are also considered thermal burns because heat is created while the current passes through the body. These burns are more treacherous than they first appear because the body conducts the electrical current to the heart, muscular and vascular system causing extensive internal damage. Because they may be electrocuted themselves, bystanders are strongly cautioned against touching these types of burn victims until the electrical source has been removed.
- 5.2.1.7 Sun-burns. These are the most common type of radiation burns. Other sources of ultraviolet or nuclear radiation can also cause burns.
- 5.2.1.8 Flash-burns. These are burns that are usually minor cornea injuries, the consequences of looking directly into an extremely bright light. Welders and those working with high-powered electrical equipment often experience this syndrome. Flash burn symptoms include watery eyes, searing pain and photophobia (a marked sensitivity to light), occurring four to six hours following the injury. Although flash burns are regarded as more of an annoyance than a serious injury, prolonged exposure to a powerful light source without protective eyewear can result in permanent blindness.

6. Training and Information

6.1 Employees will be trained in:

- 6.1.1 How to summon emergency medical assistance.
- 6.1.2 The use of emergency eyewash and safety showers, as needed or required.
- 6.1.3 The use of personal protective equipment and other controls required to reduce heat exposure levels.
- 6.1.4 The basic first aid treatment of the various types of burns if they work with heat exposure hazards, as needed or required.

6.2 On-site emergency response personnel will be trained (and certified) in basic first aid or EMT level response, and annually in the requirements of the Bloodborne pathogens standard. Certifications must be maintained appropriately.

7. Definitions

Ø *EMT* – Emergency Medical Technician.

FIRST AID KIT SUPPLY LIST

All first aid must meet these minimum supply requirements and must be labeled. All labeling should be legible and permanent and should be written with, at the least, a six-point font. Class A kits are designed to deal with the most common types of workplace injuries. Class B kits are designed with a broader range and quantity of supplies to deal with injuries in more complex or high-risk environments.

Below is a table listing the minimum required components for both Class A and Class B kits. The quantity and size specifications given are the minimum necessary to comply with the ANSI 2015 standard.

Minimum Supply Requirements	Minimum Quantity Class A Kits	Minimum Quantity Class B Kits
Adhesive Bandage 1 x 3 in.	16	50
Adhesive Tap 2.5 yd. (total)	1	2
Antibiotic Application 1/57 oz.	10	25
Breathing Barrier	1	1
Burn Dressing (Gel Soaked) 4 x 4 in.	1	2
Burn Treatment 1/32 oz.	10	25
Cold Pack 4 x 5 in.	1	2
Eye Covering (with Means of Attachment) 2.9 sq. in.	2	2
Eye/Skin Wash	1 fl. oz. total	4 fl. oz. total
First Aid Guide	1	1
Hand Sanitizer 1/32 oz.	6	10
Medical Exam Gloves	2 pair	4 pair
Roller Bandage (2 inch) 2 in. x 4 yd.	1	2
Roller Bandage (4 inch) 4 in. x 4 yd.	0	1
Scissors	1	1
Splint 4.0 x 24 in.	0	1
Sterile Pad 3 x 3 in.	2	4
Tourniquet 1 in. (width)	0	1
Trauma Pad 5 x 9 in.	2	4
Triangular Bandage 40 x 40 x 56 in.	1	2

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TRAINING ATTENDANCE ROSTER

FIRST AID BASICS

First Aid (Basics) Training Includes:

- General Requirements
- First Aid Kit Content
- Access the Scene
- Symptoms and Procedures for:
 - Shock (Anaphylactic and Electrical)
 - Minor and Major Bleeding
 - Heart Attack
 - Choking
 - Eye Injuries
 - Burns
 - Broken Bones
 - Heat and Cold Stress Cold Stress or Frostbite

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.		

Name of Interpreter, if utilized: _____

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Flammable Liquids

PROGRAM OVERVIEW

FLAMMABLE LIQUIDS SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.106

NFPA 30 Flammable and Combustible Liquids

INTRODUCTION

General requirements for the handling and storing of flammable liquids in containers and portable tanks. This program details the requirements for venting, grounding and bonding, and labeling containers. It defines the requirements for spill and fire control and establishes training requirements. This program does not address flammable liquids in fixed tank storage, service stations, processing plants, refineries, chemical plants, and distilleries.

TRAINING

Any employee working in a bulk storage area (>25 gallons which is not stored inside an approved cabinet) or who dispenses flammable liquids should understand the hazard potential and protective measures to be taken. Training should occur upon initial assignment and as changes occur that increase exposures.

ACTIVITIES

- Evaluate operations for presence of flammable liquids
- Determine and implement correct storage requirements
- Determine protective measures and emergency response procedures
- Ensure containers are clearly labeled and inspected before use

FORMS

- Training Attendance Roster

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- 2. Scope**
- 3. Responsibilities**
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- 5. Safety Information**
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FLAMMABLE LIQUIDS SAFETY PROGRAM

1. **Purpose.** The provisions in this program are intended to reduce the hazard associated with the handling, use and storage of flammable liquids to a degree consistent with reasonable safety. Compliance with this standard does not eliminate all hazards in the use flammable liquids. The company will review and evaluate this safety program:
 - 1.1 When changes occur to 29 CFR 1910.106 that prompt revision of this document.
 - 1.2 When facility operational changes occur that require a revision of this document.
 - 1.3 When there is an accident or close call that relates to this topic.
2. **Scope.** The program applies to all locations where flammable liquids are used, handled or stored in containers and portable tanks.
3. **Responsibilities**
 - 3.1 Management/Supervisors
 - 3.1.1 Determine total volume and capacity of flammable liquids stored within the facility.
 - 3.1.2 Ensure storage containers and cabinets or areas meet the requirements based on the total volumes and storage types.
 - 3.1.3 Ensure containers are properly labeled.
 - 3.1.4 Ensure dispensing of liquids is performed properly.
 - 3.1.5 Provide spill control and fire control systems for the storage and dispensing areas.
 - 3.1.6 Ensure that written emergency instructions and appropriate signs are posted at the entrance to all storage and dispensing location, or in a conspicuous manner in the area.
 - 3.2 Employees
 - 3.2.1 Handle flammable liquids in accordance with written procedures and this program.
 - 3.2.2 Label containers and tanks, as needed or required.
 - 3.2.3 Perform spill or fire control procedures, as training and responsibilities require.

4. Procedure

4.1 Flammable liquids: Any liquid having a flashpoint at or below 199.4 °F and divided into four categories:

- 4.1.1 Category 1 - liquids having flashpoints below 73.4 °F and a boiling point at or below 95 °F.
- 4.1.2 Category 2 - liquids having flashpoints below 73.4 °F and a boiling point above 95 °F.
- 4.1.3 Category 3 - liquids having flashpoints at or above 73.4 °F and at or below 140 °F. When a Category 3 liquid with a flashpoint at or above 100 °F is heated for use to within 30 °F of its flashpoint, it shall be handled in accordance with the requirements for a Category 3 liquid with a flashpoint below 100 °F.
- 4.1.4 Category 4 - liquids having flashpoints above 140 °F and at or below 199.4 °F. When a Category 4 flammable liquid is heated for use to within 30 °F of its flashpoint, it shall be handled in accordance with the requirements for a Category 3 liquid with a flashpoint at or above 100 °F.

4.2 General Requirements

- 4.2.1 Flammable liquids will be kept in covered containers when not actually in use.
- 4.2.2 *NO SMOKING* signs will be posted in all locations where flammable or combustible liquids are used or stored.
- 4.2.3 The transfer of flammable liquids will be done using appropriate bonding and grounding of containers.
- 4.2.4 There will be no sources of ignition (flame or spark producing) in any area where flammable liquids are used, or within 20 ft. unless separated by a partition.
- 4.2.5 Maintenance operations involving hot work - such as welding or cutting operations, use of spark-producing power tools, and chipping operations shall be permitted only under direct supervision. An inspection of the area shall be conducted to be sure that it is safe for the work to be done and that safe procedures will be followed for the work specified.

4.3 Incidental Storage or Use of Flammable Liquids

The quantity of liquid that may be located outside of an inside storage room or storage cabinet in a building or in any one fire area of a building shall not exceed:

- 4.3.1 25 gallons of Category 1 flammable liquids in containers
- 4.3.2 120 gallons of Category 2, 3, or 4 flammable liquids in containers

4.3.3 660 gallons of Category 2, 3, or 4 flammable liquids in a single portable tank.

4.4 Container and Portable Tank Storage

4.4.1 Storage Container Size

Container Type	Category 1	Category 2	Category 3	Category 4
Glass or approved plastic	1 pt	1qt	1 gal	1 gal
Safety Can	2 gal	5 gal	5 gal	5 gal
Metal Drum DOT Spec	60 gal	60 gal	60 gal	60 gal
Portable Tanks	660 gal	660 gal	660 gal	660 gal

4.4.2 Static Bonding and Grounding

4.4.2.1 Ensure all containers are electrically boded and grounded to prevent static spark discharges whenever flammable or combustible liquids are transferred.

4.4.2.2 Ensure electrical bond is made before any filling holes are opened or the flow started. Maintain bond until flow is completed and all filling holes are closed.

4.4.3 Transfer of Flammable/Combustible Liquids

4.4.3.1 Use gravity flow or an approved pump to transfer flammable or combustible liquids. The use of compressed air in the container is prohibited.

4.4.4 Labeling

4.4.4.1 All dedicated safety cans shall display the name of the contents, either painted on or by use of pressure sensitive labels.

4.4.4.2 A GHS compliant chemical hazard label shall be affixed to all safety cans.

4.5 Drum Storage

4.5.1 Leaking, Open and Deteriorated Drums. If a drum containing a liquid cannot be moved without rupture, immediately contact your supervisor or manager. The emergency response team will be summoned for any spill condition.

4.5.2 Grounding and bonding. Buildup of static electricity charges on containers and people is a dangerous source of sparks that can touch off flash fires wherever flammable liquids are being transferred or used.

- 4.5.2.1 Grounding. A readily accessible connection to an earth ground will be installed in all company storage and dispensing areas.
- 4.5.2.2 Bonding. A readily accessible connection from a grounded drum to a container being filled will be installed on all drums or bulk containers used to dispense flammable liquids. This procedure is not necessary when self-bonding containers are used. If it is unclear if the container is self-bonding, use a bonding strap in the dispensing process.
- 4.5.3 Drip pans. Drip pans should be positioned below each drum faucet to catch spills or any possible drippings from a worn or damaged faucet.
- 4.5.4 Drum venting. Drums containing flammable liquids will be vented to relieve pressure buildup due to heat and also to prevent creation of a vacuum when liquid is being drained off or the drum is subjected to sudden cooling.
- 4.5.5 Drum faucets. Drum faucets will be of the self-closing type. Non self-closing types will not be used by the company.

4.6 Flammable Liquid Storage Cabinet Requirements

- 4.6.1 Maximum capacity. Not more than 60 gallons of Category 1, 2, or 3 flammable liquids, nor more than 120 gallons of Category 4 flammable liquids may be stored in a storage cabinet.
- 4.6.2 Fire resistance. Storage cabinets used by the company must be designed and constructed to meet NFPA 30 and NFPA 251-1969 requirements.
- 4.6.3 Labeling. Cabinets must be labeled in conspicuous lettering, "Flammable - Keep Fire Away."
- 4.6.4 ONLY approved flammable liquid storage cabinets shall be used. Approvals must be from a nationally recognized testing laboratory such as FM or UL.
- 4.6.5 No more than three cabinets per fire area.
- 4.6.6 Ventilation – may be required under certain conditions - See NFPA 30 for details. If no venting is required, the vent openings should be kept tightly capped with the metal bungs provided for this purpose.
- 4.6.7 Grounding is not required unless dispensing operations are present or where conditions exist that could result in the concentration of vapors.

4.7 Storage Rooms or Areas

FIRE PROTECTION	FIRE RESISTANCE	MAXIMUM FLOOR AREA	TOTAL ALLOWABLE QTY PROVIDED GALS/SQ FT/FLOOR AREA
YES	2 Hour	500 sq. ft.	10
NO	2 Hour	500 sq. ft.	5
YES	1 Hour	150 sq. ft.	4
NO	1 Hour	150 sq. ft.	2
Note: Fire protection system will be sprinkler, water spray, carbon dioxide, or other approved system.			

- 4.7.1 Where openings to other rooms or buildings exist, they will be provided with noncombustible liquid tight raised sills or ramps at least 4 in. in height or the room will be 4 in. below the surrounding floor or an open grated trench draining to a safe location will be used.
- 4.7.2 Openings to rooms will be provided with approved self-closing fire doors. (Doors may be left open during material handling operations if they are designed to close automatically in a fire).
- 4.7.3 Windows, if any, will be fire windows and will be designed to close automatically in a fire.
- 4.7.4 Electrical wiring and equipment located in inside storage rooms shall meet the standard requirements.
- 4.7.5 The ventilation inside the room will configured to provide at least six air changes per hour. This will be accomplished either by gravity or mechanical exhaust. Note: If no mechanical exhaust is provided, then it is almost certain that the required exchange rate is not being met. All storage rooms will be reviewed to ensure an air inlet exists and additional NFPA guidelines for proper design.
- 4.7.6 If mechanical ventilation exists, it will be controlled by a switch located outside the door. The ventilation and lighting fixtures will be operated by the same switch.
- 4.7.7 An aisle of at least three feet wide will be maintained.
- 4.7.8 Containers over 30 gallons capacity shall not be stacked one upon the other
- 4.7.9 Dispensing shall be by approved pump or self-closing faucet only.

4.8 Storage Inside Buildings

- 4.8.1 Egress. Flammable liquids must not be stored so as to limit use of exits, stairways, or areas normally used for the safe egress of people.
- 4.8.2 Aisles of at least 3 feet wide must be provided where necessary for reasons of access to doors, windows or standpipe connections.

- 4.8.3 Leaking containers. Leaking containers must be removed to a storage room or taken to a safe location outside the building and the contents transferred to an undamaged container.
- 4.8.4 *Office areas.* Storage is prohibited except where required for maintenance and operation of building and operation of equipment. Such storage must be kept in closed metal containers stored in a storage cabinet or in safety cans or in an inside storage room not having a door that opens into that portion of the building used by the public.

4.9 Storage in Outside Buildings

- 4.9.1 Where quantity stored exceeds 1,100 gallons, a minimum distance of 10 feet between buildings and nearest container of flammable or combustible liquid must be maintained.
- 4.9.2 Spill containment. The storage area must be graded in a manner to divert possible spills away from buildings or other exposures or must be surrounded by a curb at least 6 inches high. When curbs are used, provisions must be made for draining of accumulations of ground or rainwater or spills of flammable or combustible liquids. Drains must terminate at a safe location and must be accessible to operation under fire conditions.
- 4.9.3 Security. The storage area must be protected against tampering or trespassers where necessary and must be kept free of weeds, debris and other combustible material not necessary to the storage.

4.10 Tank Storage

- 4.10.1 Aboveground and underground Flammable Liquid storage tanks must be installed and maintained in accordance with OSHA, EPA, NFPA, State and Local requirements including design, placement, ventilation, spacing, etc.
- 4.10.2 Local fire inspection personnel will be consulted when determining aboveground tank placement and fire control configurations.

5. **Safety Information**

5.1 Spill Control

- 5.1.1 Spill control equipment will be maintained in each area where storage and/or dispensing is conducted.
- 5.1.2 Employee trained in spill response and control measures are authorized to use spill control equipment as needed or required, to contain or control and clean up spills of flammable or combustible liquids.
- 5.1.3 Employees not trained in spill response and control measures will summon the appropriate person or agency to provide containment, control and clean up.

- 5.1.4 Spilled materials are generally considered as waste and may need to be disposed of as a hazardous waste and may need special controls, documentation and procedures.

5.2 Fire Control

- 5.2.1 Suitable fire control devices, such as small hose or portable fire extinguishers, shall be available at locations where flammable liquids are stored. At least one portable fire extinguisher having a rating of not less than 12-B units shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage. At least one portable fire extinguisher having a rating of not less than 12-B units must be located not less than 10 feet, nor more than 25 feet, from any Category 1, 2, or 3 flammable liquid storage area located outside of a storage room but inside a building.
- 5.2.2 Sprinklers. When sprinklers are provided, they will be installed in accordance with OSHA and NFPA requirements.
- 5.2.3 Open flames and smoking shall not be permitted in flammable liquid storage areas.

5.3 Housekeeping

- 5.3.1 General. Maintenance and operating practices must be in accordance with established procedures that will tend to control leakage and prevent the accidental escape of flammable or combustible liquids. Spills must be cleaned up promptly.
- 5.3.2 Access. Adequate aisles must be maintained for unobstructed movement of personnel and so that fire protection equipment can be brought to bear on any part of flammable or combustible liquid storage, use, or any unit physical operation.
- 5.3.3 Waste and residue. Combustible waste material and residues in a building or unit operating area must be kept to a minimum, stored in covered metal receptacles and disposed of daily.

6. Training and Information

Employees working with flammable liquids should receive initial training applicable to their areas of responsibility. Training will establish employee proficiency in hazard control methods and procedures, as necessary.

7. Definitions

- Closed container - sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures
- Container - any can, barrel, or drum.
- Portable tank - a closed container having a liquid capacity over 60 U.S. gallons and not intended for fixed installation
- Safety can - an approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

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TRAINING ATTENDANCE ROSTER FLAMMABLE LIQUIDS

Flammable Liquids Training Includes:

- General Requirments
- Classes and Types
- Labels and MSDS
- Storage and Housekeeping
- Spills and Fire Controls
- Hazards and PPE

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

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**Forklift
Powered Industrial Truck
[PTI]**

PROGRAM OVERVIEW

FORKLIFT/POWERED INDUSTRIAL TRUCK (PIT) SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.178

INTRODUCTION

This program addresses employee training, certification, truck requirements, battery charging and changing, and general operation including loading & unloading, parking and refueling of powered industrial trucks (forklifts, powered pallet jacks, sit-down, stand-up straddles, order pickers, and other special use materials handling equipment) powered by either electric motors or internal combustion engines.

TRAINING

- Forklift and Pallet Jack operators trained (classroom)
- Forklift and Pallet Jack operators undergo practical exam in the workplace

ACTIVITIES

- Ensure operators inspect equipment each work shift the lift is used
- Ensure operators are trained to operate the lift
- Ensure forklift operators are certified (renewed every 3 years)

FORMS

- Forklift Operator Daily Inspection Checklist
- Forklift Operator Evaluation Assessment.
- Forklift or Pallet Jack Operator Use Requirements
- Certificate of Training
- Forklift or Powered Industrial Truck Training Wallet Cards
- Pallet Jack Operator Daily Inspection Checklist
- Pallet Jack Operator Evaluation Assessment
- Training Attendance Roster for Forklift
- Training Attendance Roster for Pallet Jack
- Forklift Truck Designation and Truck Use in Hazardous Atmospheres

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

FORKLIFT/POWERED INDUSTRIAL TRUCK (PIT) SAFETY PROGRAM

- 1. Purpose.** This document defines the process for managing powered industrial trucks (forklifts, walk-behinds, sit-down, stand-up straddles, order pickers, and other special use materials handling equipment) powered by either electric motors or internal combustion engines.
- 2. Scope.** Applies to all locations where Powered Industrial Trucks (PITs) and similar equipment are used or maintained. This procedure covers operator selection, training, equipment operations, and maintenance. Man-lifts, scissor lifts and other personnel lifting equipment are covered in a separate procedure.

3. Responsibilities

3.1 Management:

- 3.1.1 Identify the tasks that require a PIT.
- 3.1.2 Assure the correct type of equipment is purchased.
- 3.1.3 Document workplace specific procedures that outline the operation, and limitations, of PIT use on company premises.
- 3.1.4 Assure operators are initially trained and recertified every 3 years.
- 3.1.5 Ensure vehicle inspections take place at required intervals.
- 3.1.6 Assure appropriate aisle space and turning distances are maintained.
- 3.1.7 Annually evaluate the PIT Program to assure it is relevant and functioning properly.

4. Procedure.

4.1 Facility Requirements

- 4.1.1 Any use of a PIT must be in accordance with the requirements and limits identified in the owner's manual from the manufacturer. Develop and document appropriate workplace specific rules and procedures, where required.
- 4.1.2 Maintain appropriate aisle spacing; consider the width requirements of the equipment, any approved aisle storage and pedestrian aisle-width requirements.
- 4.1.3 Lighting (2 lumens per ft²) must be available or directional lighting must be provided on the vehicle.

- 4.1.4 Where noxious gas can accumulate from the vehicle exhaust, additional ventilation may be required.
- 4.1.5 Chocks used and brakes must be applied (or other positive protection provided) to prevent movement during loading, unloading or while employees are on the dockboard for any highway trucks, railcars or similar vehicles.
- 4.1.6 Dock-boards and bridge-plates that meet OSHA requirements must be provided, as needed.
 - 4.1.6.1 Dockboards put into services on or after January 17, 2017 are designed, constructed, and maintained to prevent transfer vehicles from running off the dockboard edge. (If the employer can demonstrate there is no hazard of transfer vehicles running off the dockboard edge, the employer may use dockboards that do not have run off protection)
 - 4.1.6.2 Portable dockboards are secured by anchoring them in place or using equipment or devices that prevent the dockboard from moving out of a safe position. When the employer demonstrates that securing the dockboard is not feasible, the employer must ensure there is sufficient contact between the dockboard and the surface to prevent the dockboard from moving out of a safe position.
 - 4.1.6.3 Portable dockboards are equipped with handholds or other means to permit safe handling of dockboards.
- 4.1.7 Emergency eyewashes, safety showers and PPE requirements:
 - 4.1.7.1 Charging Areas Only: Eyewashes are required. PPE is generally not required for this task but needs to be available. Note: For large installations, there should also be a plumbed drench shower.
 - 4.1.7.2 Maintenance Stations: Eyewash and safety showers are required; PPE is required for battery maintenance including: safety glasses with side shields and full face shield or chemical splash goggles, neoprene apron, neoprene gloves, and acid resistant safety shoes. If employees wear contact lenses it is recommended they wear chemical splash goggles. All spills must be reported to management at which time they can decide who will clean up the spill, based on employees having the skills, equipment and training to respond.

4.1.7.3 Battery Changing Areas:

- 4.1.7.3.1 Eyewashes and safety showers are required.
- 4.1.7.3.2 The PPE required for this task are: safety glasses, neoprene gloves, apron, chemical face shield and steel toed safety shoes.
- 4.1.7.3.3 Overhead cranes or hoisting equipment must be provided for changing batteries.
- 4.1.7.3.4 Flushing and neutralizing equipment must be provided to assist the spill response and clean-up to flush any spilled electrolyte.

4.1.7.4 Electrolyte Handling/Addition: Eyewashes and safety showers are required. The PPE required for this task are: safety glasses with side shields (or goggles), neoprene gloves, apron and chemical face shield. Flushing and neutralizing equipment must be provided to assist the spill response and clean-up to flush any spilled electrolyte.

4.2 PIT Vehicle Requirements

- 4.2.1 Restraint systems such as seat belts must be worn at all times when operating PITs, equipped with such devices.
- 4.2.2 Ensure that all equipment is inspected at the beginning of each user's shift. Operators should look for equipment operational deficiencies and other items that would impact the safe use and operation of the truck. Inspections should be documented. Use the inspection checklist form included with this program, or an equivalent document.
- 4.2.3 Ensure defective equipment is immediately removed from service (including all electric, mechanical, and hydraulic components) and repaired by authorized personnel.
- 4.2.4 All trucks must be labeled, and this label maintained in a legible and readable condition. The label must indicate that the truck was approved by a recognized testing laboratory (such as UL, FM or other agency) and meets ANSI requirements for PITs. Attachments supplied by the manufacturer must be labeled with the truck weight and maximum elevation allowed.

4.2.5 Platforms attached to the forks of a PIT for elevating personnel must be reviewed and approved (by either the safety officer or company management) before use. Consideration should be given to using scissors lifts or boom lifts for these activities.

4.2.5.1 When personnel are elevated in PITs they must be protected from falls. "Order Pickers" and "Man-A-Board" type vehicles generally have an operator position that is protected by guardrails. If the operator leaves this position they must be provided with fall protection.

4.2.6 Modifications to vehicles are not allowed without manufacturer's written approval.

4.2.7 Where provided on EE or EX rated PITs, the cover of the battery compartment must be closed and locked.

4.3 Truck Operations

4.3.1 Trucks shall not be driven up to anyone.

4.3.2 People may not pass underneath raised forks, or any portion of the truck.

4.3.3 Only trained, certified employees may operate PITs.

4.3.4 Arms and legs (and other body parts) must remain inside the running lines of the PIT during operation and movement.

4.3.5 When the operator dismounts from the vehicle, the load or forks must be fully lowered, the controls neutralized and the brakes set. The power must be shut off if the vehicle is considered unattended (i.e. operator is out of view of the PIT or more than 25 feet away).

4.3.6 Safe distances from the edge of ramps or platforms must be maintained in dock areas. PITs may not be used to assist in the opening or closing freight doors.

4.3.7 Headroom overhead installations, lights, pipes, sprinkler heads, etc. maintained.

4.3.8 An overhead guard will be used when there are hazards from falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., not to withstand impact of a full load.

4.3.9 A load backrest extension may be used to prevent the load from falling rearward.

4.3.10 Only approved industrial trucks shall be used in hazardous locations.

4.3.11 Fire aisles, access to stairways, and fire equipment shall be kept clear.

- 4.3.12 Three truck lengths, at least, will be maintained when more than one PIT is used.
- 4.3.13 Standard roadway driving rules apply (stay to the right, no passing at intersections, stop at corners and crosswalks, negotiate turns at a slower speed, etc.).
- 4.3.14 Operators are required to face the direction of travel, keeping a clear view of the travel path. If the load being carried obstructs the forward view, the operator will travel with the load trailing. If ramps or inclines >10% are encountered, the driver will turn the load to the front to prevent the load from slipping.
- 4.3.15 Where possible, loads should be tilted back and raised only as far as necessary to clear the floor surface.
- 4.3.16 Under all conditions, the speed of the vehicle should be so that it can safely stop. Wet and slippery surfaces must be considered when gauging the speed of the vehicle. Loose objects on the floor should be avoided.
- 4.3.17 Elevators should be entered slowly, only after assuring they are leveled. While on an elevator, PIT controls should be shut off and brakes set. Hand trucks should enter the elevator with the load end forward.
- 4.3.18 Dock-boards and bridge plates must never have their rated capacity exceeded.
- 4.3.19 Stunt driving and horseplay is not permitted.

4.4 Records and Documentation

- 4.4.1 Workplace specific training (initial and retraining) records. An *Operator Evaluation Form* must be retained. (A sample form is provided with this program, this or an equivalent form **must** be retained as documentation of the operator evaluation).
- 4.4.2 Training records for current operators **must** be retained for the duration they will operate the vehicle. Records *should* be retained for 3 years after this point or until superceded by records for retraining.
- 4.4.3 It is *recommended* that operators read and sign the “PIT Operator Performance Requirements” form to indicate that they understand and will adhere to the safety rules set forth when operating a PIT.

5. Safety Information

5.1 Battery Charging

5.1.1 Add acid into water, not water into acid.

5.1.2 Performed in designated areas only.

- 5.1.3 Ventilation provided for battery off-gassing.
- 5.1.4 Vent caps function to dissipate heat during charging.
- 5.1.5 PIT parked and brake applied before charging.
- 5.1.6 Smoking and other ignition sources are prohibited in the area (30 feet recommended).
- 5.1.7 Metallic tools must be kept away from the tops of batteries.
- 5.2 Battery Changing
 - 5.2.1 Hoisting equipment provided for changing batteries.
 - 5.2.2 PIT parked and brake applied before charging.
 - 5.2.3 Metallic tools must be kept away from the tops of batteries.
- 5.3 Electrolyte handling
 - 5.3.1 Spill Protective Equipment provided for flushing and neutralizing electrolyte.
 - 5.3.2 Carboy tilter or siphon system provided for handling electrolyte.
 - 5.3.3 Open flames may not be used to view or check electrolyte levels.
- 5.4 Fuel Tanks
 - 5.4.1 May not be filled while the engine is running.
 - 5.4.2 Spill must be carefully washed away or completely evaporated before restarting.
 - 5.4.3 Fuel caps must be in place before starting and at all times (except during filling).
 - 5.4.4 Leaks must be corrected before use; leaking vehicles must be immediately removed from service. Repairs must be made by authorized persons only.
 - 5.4.5 Liquid fuels such as gasoline and diesel fuel must be handled in accordance with NFPA standards for Flammable and Combustible Liquids.
 - 5.4.6 Liquified petroleum gas (LP Gas) storage and handling must be in accordance with NFPA standards for the Storage and Handling of Liquefied Petroleum Gases.

5.5 Safety Guards

- 5.5.1 High Lift Rider trucks must be fitted with an overhead guard, unless operating conditions do not permit.
- 5.5.2 If the type of load presents a hazard, fork trucks will be equipped with a vertical load backrest extension.

5.6 Dock-boards and Bridge plates

- 5.6.1 All dock-boards and bridge plates must be strong enough to carry the load imposed.
- 5.6.2 Portable dock-boards will be secured in position, either by being anchored or equipped with devices which will prevent their slipping.
- 5.6.3 Powered dock-boards shall be designed and constructed in accordance with US Department of Commerce standards for Commercial Industrial Lifts and Hinged Loading Ramps.
- 5.6.4 Handholds, or other effective means, shall be provided on portable dock-boards to permit safe handling.
- 5.6.5 Positive protection shall be provided to prevent trucks, trailers, railroad cars and other vehicles from being moved while dock-boards or bridge plates are in position.

6. Training and Information

6.1 Initial Training

- 6.1.1 Must occur before operators are allowed to operate a PIT unsupervised, and such operations may not endanger either the operations or the trainee. Training includes:
 - 6.1.1.1 Initial information (classroom, discussion, interactive computer or video)
 - 6.1.1.2 Evaluation and instruction on the operation of the PIT at the workplace
- 6.1.2 Initial Training must provide for
 - 6.1.2.1 PIT operation training provides skills and knowledge related to the specific truck the operator is authorized to drive. These include: truck controls, steering, vehicle stability and capacity, inspections, refueling or charging/changing of batteries, and any specific operating limitations. It also must include training in the use of any attachments.

6.1.2.2 An evaluation of the operator, in the workplace, performing typical PIT, personnel and burden carrier operations must occur initially (and again every 3 years). An *Operator Evaluation Form* must be used to document the evaluation of PIT operators. This form should be "customized" by the area where the PIT is used, to include appropriate workplace specific aspects of PIT operations, as mentioned above. A sample form is provided with this program.

6.1.2.2.1 Suggested topics for "customization" of the workplace evaluation form include: ramps and surfaces, narrow aisles, movement and manipulation of loads, visibility, pedestrian awareness, ventilation issues for exhaust fumes, uses in hazardous (classified) locations, elevators, dark or low light conditions, PPE, restraint systems, and emergency equipment procedures.

6.1.3 Each operator's performance should be evaluated on an ongoing basis to ensure PITs are operated as designed and in a safe manner. Retraining in the relevant topics and documented performance evaluations (to ensure operators understand the retraining) are required when; the operator is observed to be operating unsafely, there is an accident or near-miss, an evaluation reveals unsafe truck operation, a different type of truck or one with different controls is utilized, or a condition changes in the workplace that could affect safe truck operation.

6.1.4 If desired, require all operators to sign a statement signifying that they understand and agree to comply with *Operator Performance Requirements*.

6.2 Refresher Training

6.2.1 Refresher training must be provided to PIT Operators that is at least equivalent to the initial training when the following occur:

6.2.1.1 Operators are observed to operate the vehicle in an unsafe manner.

6.2.1.2 Operators are involved in an accident or near-miss incident.

6.2.1.3 Operator evaluations determine that retraining is required.

6.2.1.4 Operators are assigned to a different type of vehicle.

6.2.1.5 Conditions in the workplace change which impact the vehicle operation.

6.3 Certification (every 3 years)

- 6.3.1 Formal performance evaluations must be conducted and documented at least every 3 years. This evaluation should be "customized" by the area using the PIT, to include appropriate workplace specific aspects of PIT operations. Documentation is required to be retained as part of the regulations. Evidence that the operator took the class (via sign in sheet or other similar evidence) is **not** a substitute for a retained and documented *Operator Evaluation Form*. An *Operator Evaluation* form or equivalent must be used to document the evaluation.
- 6.3.2 All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence in the workplace. A trained operator, who has knowledge of the application and use of the PIT at the workplace, may be competent to perform the evaluation and training for new operators.

7. Definitions

- *PIT* - A Powered Industrial Truck such as a forklift or fork-truck, tractor, platform lift truck, motorized hand truck or other specialized industrial truck powered by an electric motor or internal combustion engine.

FORKLIFT OPERATOR DAILY INSPECTION CHECKLIST

ACCELERATOR, TRANSMISSION & SERVICE BRAKES	ENERGY SYSTEM	MAST & TILT CYLINDERS	
	<u>[Battery Powered]:</u>		
<input type="checkbox"/> Forklift accelerates smoothly	<input type="checkbox"/> Battery mounting secure	<input type="checkbox"/> Lifts carriage to maximum height	
<input type="checkbox"/> Brakes slow forklift without jerking or locking	<input type="checkbox"/> Battery casing in good shape	<input type="checkbox"/> Lowers carriage to just above floor	
<input type="checkbox"/> Brakes not too soft	As Needed: <input type="checkbox"/> All connections secure <input type="checkbox"/> Proper fluid level <input type="checkbox"/> Vent holes are clear	<input type="checkbox"/> Carriage moves smoothly & completely	
<input type="checkbox"/> Forklift moves forward properly		PARKING BRAKES	
<input type="checkbox"/> Forklift moves backward properly		<input type="checkbox"/> Parking brake prevents movement	
<input type="checkbox"/> Backup signal sounds when moving in reverse	<u>[Gas, Propane, Diesel]:</u>		
CARRIAGE/MAST/BACKREST	<input type="checkbox"/> Tanks undamaged (cracks, welds, other damage)	STEERING	
<input type="checkbox"/> No visible damage	<input type="checkbox"/> Valves and couplings okay	<input type="checkbox"/> Wheel turns while stopped	
<input type="checkbox"/> Secure mountings	<input type="checkbox"/> Mounting hardware secure	<input type="checkbox"/> Wheel turns while moving	
<input type="checkbox"/> No broken welds	ENGINE	<input type="checkbox"/> Wheel turns forklift smoothly & precisely	
<input type="checkbox"/> Roller tracks lubricated	<input type="checkbox"/> No visible leaks underneath	<input type="checkbox"/> No strange noise or hesitation	
CHAINS	GUARDS	IDENTIFICATION PLATE	
<input type="checkbox"/> Clean & lubricated with no visible wear with equal tension	<input type="checkbox"/> No broken welds or visible damage, mountings secure	<input type="checkbox"/> Readable	
COMPONENT TIRES	HORNS & LIGHTS	REACH LIFT	
<input type="checkbox"/> No excessive wear splitting or missing material	<input type="checkbox"/> Working properly	<input type="checkbox"/> No damage to harness	
<input type="checkbox"/> Wheel nuts and rim condition good	FORKS	Deficiencies Noted and Reported or Comments:	
<input type="checkbox"/> No separation of rubber and rim	<input type="checkbox"/> Centered on carriage and equally spaced		
<input type="checkbox"/> Proper tires and/or tire pressure	<input type="checkbox"/> No cracks or other damage		
CYLINDERS/HYDRAULIC LINES	<input type="checkbox"/> Locking pins work correctly		
<input type="checkbox"/> Hydraulic fluid at proper levels	GAUGES		
<input type="checkbox"/> No damage to or fluid leaking from lift & tilt cylinders	<input type="checkbox"/> All gauges work properly		
<input type="checkbox"/> Cylinder mounting hardware secure	<input type="checkbox"/> All indicators work properly		
<input type="checkbox"/> Hydraulic lines and hoses okay	<input type="checkbox"/> Moving parts work smoothly & properly		
<input type="checkbox"/> Secure fitting connections			
SIGNATURE:			DATE:

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FORKLIFT OPERATOR EVALUATION ASSESSMENT

This form (or its equivalent) must be retained for records management for 3 years or until superseded.

Equipment Operated (make/model):					
Name of Operator:			Employee Identification#:		Date:
Signature of Operator:			Signature of Evaluator:		
YES	NO	Activity	YES	NO	Activity
<input type="checkbox"/>	<input type="checkbox"/>	Performs pre-shift checks			
UNDERSTANDS CONTROLS					
<input type="checkbox"/>	<input type="checkbox"/>	Forward/reverse	<input type="checkbox"/>	<input type="checkbox"/>	Service brake
<input type="checkbox"/>	<input type="checkbox"/>	Lift/tilt	<input type="checkbox"/>	<input type="checkbox"/>	Instrumentation
<input type="checkbox"/>	<input type="checkbox"/>	Steering technique	<input type="checkbox"/>	<input type="checkbox"/>	Attachment
<input type="checkbox"/>	<input type="checkbox"/>	Parking brakes			
TRUCK HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops	<input type="checkbox"/>	<input type="checkbox"/>	Smooth/controlled turns
<input type="checkbox"/>	<input type="checkbox"/>	Inching/plugging	<input type="checkbox"/>	<input type="checkbox"/>	Clears obstacles safely
<input type="checkbox"/>	<input type="checkbox"/>	Approach is square	<input type="checkbox"/>	<input type="checkbox"/>	Proper maneuvering speed
<input type="checkbox"/>	<input type="checkbox"/>	Proper fork height	<input type="checkbox"/>	<input type="checkbox"/>	Looks in travel direction
DOCK EQUIPMENT/AREA					
<input type="checkbox"/>	<input type="checkbox"/>	Checks/secures dock board	<input type="checkbox"/>	<input type="checkbox"/>	Rail car wheel chocks
<input type="checkbox"/>	<input type="checkbox"/>	Checks/secure wheel chocks	<input type="checkbox"/>	<input type="checkbox"/>	Trailer/railcar brakes on
<input type="checkbox"/>	<input type="checkbox"/>	Walks trailer before entry	<input type="checkbox"/>	<input type="checkbox"/>	Nose jack in place, if required
PARKING PROCEDURES					
<input type="checkbox"/>	<input type="checkbox"/>	Lowers forks/tips on floor	<input type="checkbox"/>	<input type="checkbox"/>	Dismounts safely
<input type="checkbox"/>	<input type="checkbox"/>	Truck in neutral	<input type="checkbox"/>	<input type="checkbox"/>	Uses wheel chocks on ramps
<input type="checkbox"/>	<input type="checkbox"/>	Applies parking brake	<input type="checkbox"/>	<input type="checkbox"/>	Turns off fuel supply
<input type="checkbox"/>	<input type="checkbox"/>	Power shut off			
LOAD HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Lift/lower technique	<input type="checkbox"/>	<input type="checkbox"/>	Proper tilt:
<input type="checkbox"/>	<input type="checkbox"/>	Load centered on forks	<input type="checkbox"/>	<input type="checkbox"/>	a) Traveling
<input type="checkbox"/>	<input type="checkbox"/>	Load against backrest	<input type="checkbox"/>	<input type="checkbox"/>	b) Pickup/placement
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops	<input type="checkbox"/>	<input type="checkbox"/>	Travels with load low
<input type="checkbox"/>	<input type="checkbox"/>	Proper truck speed	<input type="checkbox"/>	<input type="checkbox"/>	Use of attachment: _____
<input type="checkbox"/>	<input type="checkbox"/>	Proper load placement	All unique or potentially hazardous environmental conditions in the workplace that could affect safe operation that are listed below have been reviewed:		
<input type="checkbox"/>	<input type="checkbox"/>	Proper fork spread			
<input type="checkbox"/>	<input type="checkbox"/>	Proper truck capacity			
SAFETY					
<input type="checkbox"/>	<input type="checkbox"/>	Uses horn as required	<input type="checkbox"/>	<input type="checkbox"/>	Keeps body parts inside truck
<input type="checkbox"/>	<input type="checkbox"/>	Wears seatbelt	<input type="checkbox"/>	<input type="checkbox"/>	Uses proper travel on ramps
<input type="checkbox"/>	<input type="checkbox"/>	Uses intersection mirrors	<input type="checkbox"/>	<input type="checkbox"/>	Stacks straight and square
<input type="checkbox"/>	<input type="checkbox"/>	Stops at major intersections	<input type="checkbox"/>	<input type="checkbox"/>	Uses proper operational speed
<input type="checkbox"/>	<input type="checkbox"/>	Yields right-of-way	<input type="checkbox"/>	<input type="checkbox"/>	Uses truck-being-loaded sign
<input type="checkbox"/>	<input type="checkbox"/>	Knows how to fuel truck	<input type="checkbox"/>	<input type="checkbox"/>	Lowers load ASAP

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FORKLIFT OR PALLET JACK OPERATOR USE REQUIREMENTS

POLICY

All Powered Industrial Truck (PIT) operators are required to sign this document to indicate understanding and compliance with these requirements. Signed copies of this form are to be kept in the personnel files of active employees as long as the employee may operate a powered industrial truck.

PERFORMANCE REQUIREMENTS

Powered Industrial Truck operators shall:

- Immediately inform supervision of any change, or suspected change, in medical condition which may affect the ability to safely operate a PIT (e.g., vision problems, vertigo, etc.).
- Immediately inform supervision of the use of prescription or over-the-counter drugs which may impair ability to safely operate PIT.
- Not, under any circumstances, attempt to operate a PIT while under the influence of alcohol or illegal drugs.
- Perform vehicle safety inspections at the start of each shift of operation.
- Remove defective equipment from service and report to supervision.
- Wear required personal protective equipment.
- Utilize restraint systems when the PIT is equipped with them.
- Obey stop signs and be prepared to immediately stop vehicle.
- Always lower picked loads to floor level prior to forward/reverse travel.
- Sound horn when approaching intersections or blind corners.
- Always seat load against fork stops before forward/reverse travel.
- Keep all body parts inside operator compartment when in movement.
- Maintain safe distance from edges of ramps, docks, platforms, and other similar working surfaces.
- Ensure vehicles to be loaded/unloaded are chocked or restrained by devices designed to prevent movement.
- Utilize co-worker support for safe operations when the pick/put-away activity results in blind spots.
- Read and be familiar with contents of manufacturer's manual for the particular PIT being operated.
- Never tamper with the equipment or equipment components (e.g., seatbelts.)
- Obey limitations and specifications identified on PIT nameplate, to include, but not limited to: electrical classifications and limitations; lifting capacity; truck and load weight in relationship to operating surfaces; reach in relationship to load and mast tilt.
- Yield right-of-way to pedestrians at all times.
- Maintain vehicle speed appropriate for conditions, as related to:
 - direction of travel
 - proximity of pedestrians
 - corners, intersections, and blind spots
 - load security
 - floor conditions
 - building structures and equipment
- Refrain from using PITs designed for internal building use outside of the building.
- Operate PITs only in approved locations.
- Do not use PITs to transport personnel or to transport operator beyond designated areas simply for personal convenience.

Employee Name:	Employee Signature:	Date:
Supervisor Name:	Supervisor Signature:	Date:

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CERTIFICATE OF TRAINING

This certifies that _____
Employee Name

has successfully completed

Forklift/Powered Industrial Truck (PIT) Training

on _____
Date

Company Name

Signature of Trainer or Authorized Company Representative

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Forklift or Powered Industrial Truck Training Wallet Cards

INSTRUCTIONS FOR USE

1. Develop a numbering system for use with the control numbers, as applicable (not required).
2. Designate a Forklift Trainer/Certifier to conduct the training and testing of all company forklift operators.
3. Operator signature is the operator of the lift; the Certified Signature is the person who administered the practical exam.
4. After all information is filled in, consider laminating the card.


COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _




COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _




COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _




COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _




COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _




COMPANY: _____

THIS IS TO CERTIFY THAT _____
HAS BEEN SUCCESSFULLY TESTED AND TRAINED IN
FORKLIFT OPERATIONS USE AND CARE AND IS
QUALIFIED TO USE A FORKLIFT.

OPERATOR SIGNATURE DATE

CERTIFIER SIGNATURE DATE

LICENSE CONTROL NUMBER _ _ _ _ _



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PALLET JACK OPERATOR DAILY INSPECTION CHECKLIST

ACCELERATOR, TRANSMISSION & SERVICE BRAKES	ENERGY SYSTEM <i>[Battery Powered]:</i>	MAST & TILT CYLINDERS
<input type="checkbox"/> Vehicle accelerates smoothly	<input type="checkbox"/> Battery casing closed	<input type="checkbox"/> Lift carriage to maximum height
<input type="checkbox"/> Brakes slow without jerking or locking	<input type="checkbox"/> Vehicle has been removed from the charging system before activation	<input type="checkbox"/> Lower carriage to just above floor
<input type="checkbox"/> Vehicle moves forward/backward properly	FORKS	<input type="checkbox"/> Carriage moves smoothly & completely
COMPONENT TIRES	<input type="checkbox"/> Centered on carriage and equally spaced	PARKING BRAKES
<input type="checkbox"/> No excessive wear splitting or missing material	<input type="checkbox"/> No cracks or other damage	<input type="checkbox"/> Parking brake prevents movement
<input type="checkbox"/> Wheel nuts and rim condition good	<input type="checkbox"/> Locking pins work correctly	STEERING
IDENTIFICATION PLATE	GAUGES	<input type="checkbox"/> Wheel turns while stopped
<input type="checkbox"/> Readable	<input type="checkbox"/> All gauges work properly	<input type="checkbox"/> Wheel turns while moving
	<input type="checkbox"/> All indicators work properly	<input type="checkbox"/> Wheel turns Forklift smoothly & precisely
	<input type="checkbox"/> Moving parts work smoothly & properly	<input type="checkbox"/> No strange noise or hesitation
Deficiencies Noted and Reported or Comments:		
Date:	Signature:	

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PALLET JACK OPERATOR EVALUATION ASSESSMENT

This form (or its equivalent) must be retained for records management for 3 years or until superseded.

Equipment Operated (make/model):

Name of Operator:

Employee Identification#:

Date:

Signature of Operator:

Signature of Evaluator:

YES	NO	Activity	YES	NO	Activity
<input type="checkbox"/>	<input type="checkbox"/>	Performs pre-shift checks			
UNDERSTANDS CONTROLS					
<input type="checkbox"/>	<input type="checkbox"/>	Forward/reverse	<input type="checkbox"/>	<input type="checkbox"/>	Service brake
<input type="checkbox"/>	<input type="checkbox"/>	Lifting/raising	<input type="checkbox"/>	<input type="checkbox"/>	Instrumentation
<input type="checkbox"/>	<input type="checkbox"/>	Steering technique	<input type="checkbox"/>	<input type="checkbox"/>	Attachment
<input type="checkbox"/>	<input type="checkbox"/>	Parking brakes			
TRUCK HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops	<input type="checkbox"/>	<input type="checkbox"/>	Smooth/controlled turns
<input type="checkbox"/>	<input type="checkbox"/>	Inching/plugging	<input type="checkbox"/>	<input type="checkbox"/>	Clears obstacles safely
<input type="checkbox"/>	<input type="checkbox"/>	Approach is square	<input type="checkbox"/>	<input type="checkbox"/>	Proper maneuvering speed
<input type="checkbox"/>	<input type="checkbox"/>	Proper fork height	<input type="checkbox"/>	<input type="checkbox"/>	Looks in travel direction
DOCK EQUIPMENT/AREA					
<input type="checkbox"/>	<input type="checkbox"/>	Checks/secures dock board	<input type="checkbox"/>	<input type="checkbox"/>	Rail car wheel chocks
<input type="checkbox"/>	<input type="checkbox"/>	Checks/secure wheel chocks	<input type="checkbox"/>	<input type="checkbox"/>	Trailer/railcar brakes on
<input type="checkbox"/>	<input type="checkbox"/>	Walks trailer before entry	<input type="checkbox"/>	<input type="checkbox"/>	Nose jack in place, if required
PARKING PROCEDURES					
<input type="checkbox"/>	<input type="checkbox"/>	Power shut off	<input type="checkbox"/>	<input type="checkbox"/>	Parks in safe area
LOAD HANDLING					
<input type="checkbox"/>	<input type="checkbox"/>	Load against backrest	<input type="checkbox"/>	<input type="checkbox"/>	Proper load placement
<input type="checkbox"/>	<input type="checkbox"/>	Smooth starts/stops	<input type="checkbox"/>	<input type="checkbox"/>	Proper fork spread
<input type="checkbox"/>	<input type="checkbox"/>	Proper truck speed	<input type="checkbox"/>	<input type="checkbox"/>	Proper truck capacity
Comments:					
SAFETY					
<input type="checkbox"/>	<input type="checkbox"/>	Uses horn as required	<input type="checkbox"/>	<input type="checkbox"/>	Uses proper travel on ramps
<input type="checkbox"/>	<input type="checkbox"/>	Uses intersection mirrors	<input type="checkbox"/>	<input type="checkbox"/>	Stacks straight and square
<input type="checkbox"/>	<input type="checkbox"/>	Stops at major intersections	<input type="checkbox"/>	<input type="checkbox"/>	Yields right-of-way

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TRAINING ATTENDANCE ROSTER FORKLIFT

<i>Forklift Training Includes:</i> <ul style="list-style-type: none"> General rules Parts of the truck Inspection requirements Traveling 	<ul style="list-style-type: none"> Load handling and Parking Stability Fueling or Charging Attachments Reach lift requirements (as applicable) 	
<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed		

Name of Interpreter, if utilized: _____

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TRAINING ATTENDANCE ROSTER PALLET JACK

Pallet Jack Training Includes:

- Types of Equipment
- Handle Brakes and Switches
- Inspection
- Safe Operation
- Hazards

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

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FORKLIFT (PIT) TRUCK DESIGNATIONS/TRUCK USE IN HAZARDOUS ATMOSPHERES

There are eleven (11) different designations for PITs. They are: **D, DS, DY, E, ES, EE, EX, G, GS, LP, and LPS.**

- The **D** designated units are units similar to the G units except that they are diesel engine powered instead of gasoline engine powered.
- The **DS** designated units are diesel powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where a D unit may not be considered suitable.
- The **DY** designated units are diesel powered units that have all the safeguards of the DS units and in addition do not have any electrical equipment including the ignition and are equipped with temperature limitation features.
- The **E** designated units are electrically powered units that have minimum acceptable safeguards against inherent fire hazards.
- The **ES** designated units are electrically powered units that, in addition to all of the requirements for the E units, are provided with additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures. They may be used in some locations where the use of an E unit may not be considered suitable.
- The **EE** designated units are electrically powered units that have, in addition to all of the requirements for the E and ES units, the electric motors and all other electrical equipment completely enclosed. In certain locations the EE unit may be used where the use of an E and ES unit may not be considered suitable.
- The **EX** designated units are electrically powered units that differ from the E, ES, or EE units in that the electrical fittings and equipment are so designed, constructed and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts.
- The **G** designated units are gasoline powered units having minimum acceptable safeguards against inherent fire hazards.
- The **GS** designated units are gasoline powered units that are provided with additional safeguards to the exhaust, fuel, and electrical systems. They may be used in some locations where the use of a G unit may not be considered suitable.
- The **LP** designated unit is similar to the G unit except that liquefied petroleum gas is used for fuel instead of gasoline.
- The **LPS** designated units are liquefied petroleum gas powered units that are provided with additional safeguards to the exhaust, fuel, and electrical systems. They may be used in some locations where the use of an LP unit may not be considered suitable.

Forklift (PIT) Trucks for Hazardous (Classified) Atmospheres

The atmosphere or location shall have been classified as to whether it is hazardous or non-hazardous prior to the consideration of industrial trucks being used and the correct type of industrial truck required shall be as provided for any hazardous classified locations.

- Power-operated industrial trucks shall not be used in atmospheres containing hazardous concentration of acetylene, butadiene, ethylene oxide, hydrogen (or gases or vapors equivalent in hazard to hydrogen, such as manufactured gas), propylene oxide, acetaldehyde, cyclopropane, diethyl ether, ethylene, isoprene, or unsymmetrical dimethyl hydrazine (UDMH).
- Power-operated industrial trucks shall not be used in atmospheres containing hazardous concentrations of metal dust, including aluminum, magnesium, and their commercial alloys, other metals of similarly hazardous characteristics, or in atmospheres containing carbon black, coal or coke dust except proved power-operated industrial trucks designated as EX may be used in such atmospheres.
- In atmospheres where dust of magnesium, aluminum or aluminum bronze may be present, fuses, switches, motor controllers, and circuit breakers of trucks shall have enclosures specifically approved for such locations.
- Only approved power-operated industrial trucks designated as EX may be used in atmospheres containing acetone, acrylonitrile, alcohol, ammonia, benzene, benzol, butane, ethylene dichloride, gasoline, hexane, lacquer solvent vapors, naphtha, natural gas, propane, propylene, styrene, vinyl acetate, vinyl chloride, or xylenes in quantities sufficient to produce explosive or ignitable mixtures and where such concentrations of these gases or vapors exist continuously, intermittently or periodically under normal operating conditions or may exist frequently because of repair, maintenance operations, leakage, breakdown or faulty operation of equipment.
- Power-operated industrial trucks designated as DY, EE, or EX may be used in locations where volatile flammable liquids or flammable gases are handled, processed or used, but in which the hazardous liquids, vapors or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems, or in the case of abnormal operation of equipment; also in locations in which hazardous concentrations of gases or vapors are normally prevented by positive mechanical ventilation but which might become hazardous through failure or abnormal operation of the ventilating equipment; or in locations which are adjacent to Class I, Division 1 locations, and to which hazardous concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clear air, and effective safeguards against ventilation failure are provided.

Forklift (PIT) Trucks for Hazardous (Classified) Atmospheres

- In locations used for the storage of hazardous liquids in sealed containers or liquified or compressed gases in containers, approved power-operated industrial trucks designated as DS, ES, GS, or LPS may be used. This classification includes locations where volatile flammable liquids or flammable gases or vapors are used, but which, would become hazardous only in case of an accident or of some unusual operating condition. The quantity of hazardous material that might escape in case of accident, the adequacy of ventilating equipment, the total area involved, and the record of the industry or business with respect to explosions or fires are all factors that should receive consideration in determining whether or not the DS or DY, ES, EE, GS, LPS designated truck possesses sufficient safeguards for the location. Piping without valves, checks, meters and similar devices would not ordinarily be deemed to introduce a hazardous condition even though used for hazardous liquids or gases. Locations used for the storage of hazardous liquids or of liquified or compressed gases in sealed containers would not normally be considered hazardous unless subject to other hazardous conditions also.
- Only approved power operated industrial trucks designated as EX shall be used in atmospheres in which combustible dust is or may be in suspension continuously, intermittently, or periodically under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures, or where mechanical failure or abnormal operation of machinery or equipment might cause such mixtures to be produced.
- The EX classification usually includes the working areas of grain handling and storage plants, room containing grinders or pulverizers, cleaners, graders, scalpors, open conveyors or spouts, open bins or hoppers, mixers, or blenders, automatic or hopper scales, packing machinery, elevator heads and boots, stock distributors, dust and stock collectors (except all-metal collectors vented to the outside), and all similar dust producing machinery and equipment in grain processing plants, starch plants, sugar pulverizing plants, malting plants, hay grinding plants, and other occupancies of similar nature; coal pulverizing plants (except where the pulverizing equipment is essentially dust tight); all working areas where metal dusts and powders are produced, processed, handled, packed, or stored (except in tight containers); and other similar locations where combustible dust may, under normal operating conditions, be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
- Only approved power-operated industrial trucks designated as DY, EE, or EX shall be used in atmospheres in which combustible dust will not normally be in suspension in the air or will not be likely to be thrown into suspension by the normal operation of equipment or apparatus in quantities sufficient to produce explosive or ignitable mixtures but where deposits or accumulations of such dust may be ignited by arcs or sparks originating in the truck.
- Only approved power-operated industrial trucks designated as DY, EE, or EX shall be used in locations which are hazardous because of the presence of easily ignitable fibers or flyings but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.

Forklift (PIT) Trucks for Hazardous (Classified) Atmospheres

- Only approved power-operated industrial trucks designated as DS, DY, ES, EE, EX, GS, or LPS shall be used in locations where easily ignitable fibers are stored or handled, including outside storage, but are not being processed or manufactured. Industrial trucks designated as E, which have been previously used in these locations may be continued in use.
- On piers and wharves handling general cargo, any approved power-operated industrial truck designated as Type D, E, G, or LP may be used, or trucks which conform to the requirements for these types may be used.
- If storage warehouses and outside storage locations are hazardous only the approved power-operated industrial truck specified for such locations shall be used. If not classified as hazardous, any approved power-operated industrial truck designated as Type D, E, G, or LP may be used, or trucks which conform to the requirements for these types may be used.
- If general industrial or commercial properties are hazardous, only approved power-operated industrial trucks specified for such locations shall be used. If not classified as hazardous, any approved power-operated industrial truck designated as Type D, E, G, or LP may be used, or trucks which conform to the requirements of these types may be used.

Converted industrial trucks. Power-operated industrial trucks that have been originally approved for the use of gasoline for fuel, when converted to the use of liquefied petroleum gas fuel, may be used in those locations where G, GS or LP, and LPS specifically-designated trucks are specified.

**CALIFORNIA
FORKLIFT
Additional Requirements**

POWERED INDUSTRIAL TRUCKS – 8 CCR 3664

- Employers must post and enforce a set of forklift operating rules.
Required forms: Forklift Operating Rules (English)
 Forklift Operating Rules (Spanish)
- Eyewashes and safety showers, and either safety glasses with side shields or goggles are required for PIT battery charging or maintenance stations for any vehicle that is not rated EE or EX (explosion resistant). The only exception is in the automotive servicing and parts stores if neutralizing equipment is available, or if adequate water is available or if the transfer system is entirely a closed system and acids are handled separately.

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OPERATING RULES FOR INDUSTRIAL TRUCKS

General Industry Safety Order 3664 Operating Rules (Part (a)) .

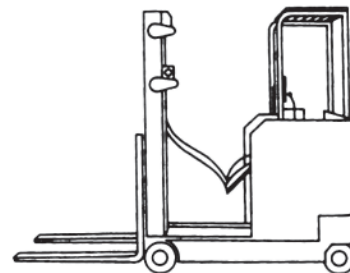
- (a) Every employer using industrial trucks or industrial tow tractors shall post and enforce a set of operating rules including the appropriate rules listed in Section 3650.

General Industry Safety Order 3650 Industrial Trucks. General (Part(s)) .

- (t) Industrial trucks and tow tractors shall be operated in a safe manner in accordance with the following operating rules:
 - (1) Only drivers authorized by the employer and trained in the safe operations of industrial trucks or industrial tow tractors pursuant to Section 3668 shall be permitted to operate such vehicles.
 - (2) Stunt driving and horseplay are prohibited.
 - (3) No riders shall be permitted on vehicles unless provided with adequate riding facilities.
 - (4) Employees shall not ride on the forks of lift trucks.
 - (5) Employees shall not place any part of their bodies outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.
 - (6) Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.
 - (7) Drivers shall check the vehicle at the beginning of each shift, and if it is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for fork lifts (forks, chains, cable, and limit switches).
 - (8) No truck shall be operated with a leak in the fuel system.
 - (9) Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, keeping the truck under positive control at all times and all established traffic regulations shall be observed. For trucks traveling in the same direction, a safe distance may be considered to be approximately 3 truck lengths or preferably a time lapse — 3 seconds — passing the same point.
- (10) Trucks traveling in the same direction shall not be passed at intersections, blind spots, or dangerous locations.
- (11) The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- (12) Operators shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.
- (13) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.
- (14) Grades shall be ascended or descended slowly.
 - (A) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.
 - (B) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
 - (C) Motorized hand and hand/rider trucks shall be operated on all grades with the load-engaging means downgrade.
- (15) The forks shall always be carried as low as possible, consistent with safe operations.
- (16) When leaving a vehicle unattended (the operator is over 25 feet (7.6 meters) from or out of sight of the industrial truck), the brakes are set, the mast is brought to the vertical position, and forks are left in the down position, either:
 - (A) The power shall be shut off and, when left on an incline, the wheels shall be blocked; or
 - (B) The power may remain on provided the wheels are blocked, front and rear.
- (17) When the operator of an industrial truck is dismounted and within 25 feet (7.6 meters) of the truck which remains in the operator's view, the load engaging means shall be fully lowered, controls placed in neutral, and the brakes set to prevent movement.

continued...

Operating rules for industrial trucks contained on this poster are current through Register 2002, No. 22 California Code of Regulations (operative 6-27-2002). Other rules may also apply.

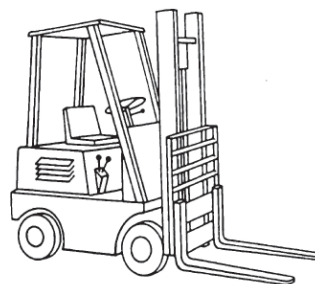


Exception: Forks on fork-equipped industrial trucks may be in the raised position for loading and unloading if the forks are raised no more than 42 inches above the level where the operator/loaders are standing, and the power is shut off, controls placed in neutral and the brakes set. If on an incline, the wheels shall be blocked.

- (18) Vehicles shall not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power shall be shut off and the brakes set.
- (19) Motorized hand trucks shall enter elevators or other confined areas with the load end forward.
- (20) Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.
- (21) Prior to driving onto trucks, trailers and railroad cars, their flooring shall be checked for breaks and other structural weaknesses.
- (22) Vehicles shall not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailers are securely blocked or restrained and the brakes set.
- (23) To prevent railroad cars from moving during loading or unloading operations, the car brakes shall be set, wheel chocks or other recognized positive stops used, and blue flags or lights displayed in accordance with applicable regulations promulgated by the Public Utilities Commission.
- (24) The width of one tire on the powered industrial truck shall be the minimum distance maintained from the edge by the truck while it is on any elevated dock, platform, freight car or truck.
- (25) Railroad tracks shall be crossed diagonally, wherever possible. Parking closer than 8 1/2 feet from the centerline of railroad tracks is prohibited.
- (26) Trucks shall not be loaded in excess of their rated capacity.
- (27) A loaded vehicle shall not be moved until the load is safe and secure.
- (28) Extreme care shall be taken when tilting loads. Tilting forward with the load engaging means elevated shall be prohibited except when picking up a load. Elevated loads shall not be tilted forward except when the load is being deposited onto a storage rack

or equivalent. When stacking or tiering, backward tilt shall be limited to that necessary to stabilize the load.

- (29) The load engaging device shall be placed in such a manner that the load will be securely held or supported.
- (30) Special precautions shall be taken in the securing and handling of loads by trucks equipped with attachments, and during the operation of these trucks after the loads have been removed.
- (31) When powered industrial trucks are used to open and close doors, the following provisions shall be complied with:
 - (A) A device specifically designed for opening or closing doors shall be attached to the truck.
 - (B) The force applied by the device to the door shall be applied parallel to the direction of travel of the door.
 - (C) The entire door opening operation shall be in full view of the operator.
 - (D) The truck operator and other employees shall be clear of the area where the door might fall while being opened.
- (32) If loads are lifted by two or more trucks working in unison, the total weight of the load shall not exceed the combined rated lifting capacity of all trucks involved.



S-503-04/07



REGLAMENTOS PARA LA OPERACION DE VEHICULOS INDUSTRIALES



Reglamentos Generales de Seguridad Industrial 3664 Reglas de Operación (parte(a))

- (a) Todos los Empleadores que utilicen vehículos de carga o camiones de remolque industriales, deberán colocar en un lugar visible y hacer cumplir un conjunto de reglamentos de operación, incluyendo los reglamentos apropiados presentados en la Sección 3650.

Reglamentos Generales de Seguridad Industrial 3650 Vehículos de Carga y Tractores de Remolque Industriales. General (parte (s))

- (t) Vehículos de carga y tractores de remolque industriales serán operados de una manera segura de acuerdo con las siguientes reglas de operación:
- (1) Únicamente a los conductores autorizados por el empleador y entrenados en la operación segura de vehículos de carga o tractores de remolque industriales de acuerdo con la Sección 3668 se les permitirá operar dichos vehículos.
- (2) Esta prohibido manejar con imprudencia y hacer acrobacias.
- (3) No se permitirán pasajeros en los vehículos, a menos que dichos vehículos dispongan de facilidades adecuadas para tal fin.
- (4) Los empleados no deberán viajar en las horquillas de los montacargas.
- (5) Los empleados no deberán viajar con el cuerpo fuera del vehículo industrial de carga en movimiento o entre el mástil vertical u otras partes del vehículo adonde exista peligro de mutilación o aplastamiento.
- (6) A los empleados no se les permitirá permanecer de pie, pasar o trabajar debajo de la porción elevada de cualquier vehículo industrial de carga, cargado o vacío, a menos que éste haya sido bloqueado efectivamente para prevenir que se caiga.
- (7) Los conductores deberán revisar el vehículo al comienzo de cada turno y si se encuentra que éste no está en condiciones de funcionamiento seguro, deberá informar inmediatamente a un supervisor o mecánico. El vehículo no deberá ser puesto en servicio nuevamente hasta que esté en condiciones de funcionamiento seguro. Se deberá prestar atención al funcionamiento apropiado de los neumáticos, bocina, luces, batería, control, frenos, mecanismo de la dirección, sistema de enfriamiento y sistema de levantamiento de los vehículos de horquillas elevadoras (fork lifts) (horquillas, cadenas, cables e interruptores de seguridad).
- (8) Ningún vehículo que tenga pérdidas en el sistema de combustible deberá ser puesto en funcionamiento.
- (9) Los vehículos no deberán exceder la velocidad autorizada, o aquella considerada como segura, manteniendo siempre una distancia segura con respecto a los otros vehículos. El vehículo deberá estar bajo control en todo momento y todos los reglamentos de tráfico establecidos deberán ser observados. Para vehículos que viajen en la misma dirección se deberá mantener una distancia entre ellos de aproximadamente igual al largo de 3 vehículos industriales o de preferencia, un lapso de 3 segundos – antes de pasar por el mismo punto.
- (10) Los vehículos que viajen en la misma dirección no deberán pasarse en intersecciones, puntos ciegos, ni en lugares peligrosos.
- (11) El conductor deberá disminuir la velocidad y hacer sonar la bocina al pasar por pasadizos y otros lugares adonde la visibilidad esté obstruida. Si la carga que se transporta está obstruyendo la visibilidad enfrente, se requerirá que el conductor viaje con la carga atrás, o remolcándola.
- (12) Los operadores deberán mirar en la dirección en la que viajan y no deberán mover ningún vehículo hasta que estén seguros de que no hay ninguna persona en el área.
- (13) Los vehículos no deberán ser conducidos hasta la proximidad de una persona parada adelante de un banco u otro objeto fijo de un tamaño tal que la persona pueda ser atrapada entre el vehículo y dicho objeto.
- (14) Los declives deben ser ascendidos o descendidos lentamente.
- (A) Cuando se asciendan o desciendan declives de mas de un 10 % de inclinación, los vehículos cargados deberán ser conducidos con la carga cuesta arriba.
- (B) En todos los declives la carga y el mecanismo de carga y descarga deberán estar inclinados hacia atrás, si es posible, y ser elevado solamente hasta donde sea necesario por encima del nivel del suelo.
- (C) Los vehículos motorizados de mano y los “hand/rider trucks” deberán ser operados en todos los declives, con el mecanismo de carga y descarga hacia abajo.
- (15) Las horquillas deberán estar siempre en la posición más bajas posible, para lograr una operación segura.
- (16) Cuando un vehículo no esté siendo vigilado (el

operador está a mas de 25 pies (7.6 metros) del vehículo o cuando no pueda ver el vehiculo), los frenos deben estar puestos, el mástil colocado en posición vertical, y las horquillas en la posición baja con una de las siguientes:

- (A) Se deberá apagar el motor y, cuando el vehículo se deje en un declive, las ruedas deberán quedar bloqueadas; o,
- (B) El motor podrá dejarse encendido siempre y cuando las ruedas delanteras y traseras queden bloqueadas.
- (17) Cuando el operador no esté a bordo de un vehículo industrial y se encuentre dentro de una distancia de 25 pies (7.6 metros) del vehículo y pueda verlo, el mecanismo de carga y descarga debe encontrarse totalmente hacia abajo, los controles puestos en neutral y los frenos puestos, para evitar que el vehículo se mueva.

EXCEPCIÓN: Las horquillas elevadoras equipadas en vehículos industriales podrán ser elevadas a la posición para cargar y descargar, si la horquilla no ha sido elevada mas de 42 pulgadas sobre el nivel adonde están parados los operadores/ cargadores y el motor está apagado, los controles puestos en neutral, y los frenos puestos. Si el vehículo se encuentra en un declive, los neumáticos deben ser bloqueados. (18) Los vehículos no deberán ser introducidos en el interior de ningún ascensor, a menos que el conductor haya sido expresamente autorizado para hacerlo. Antes de entrar al ascensor el conductor deberá asegurarse de que no se excederá la capacidad de peso del ascensor. Cuando esté en el ascensor deberá apagar el motor y poner los frenos.

(19) Los vehículos de mano "hand trucks" motorizados deberán entrar a los ascensores u a otras áreas cerradas con la parte donde llevan la carga hacia el frente. (20) Los vehículos no deberán ser operados en pisos, entradas en las aceras, o plataformas que no soporten con seguridad, el peso del vehículo cargado.

- (21) Antes de conducir hacia el interior de camiones, remolques y vagones de ferrocarril, se deberá revisar el piso de todos estos, para detectar rupturas o partes de la estructura débiles o poco resistentes.
- (22) Ningún vehículo deberá ser conducido dentro o fuera de camiones de transporte y remolques sobre las plataformas de carga, hasta que dichos camiones y remolques queden bloqueados o restringidos de forma segura y los frenos estén aplicados.
- (23) Para evitar el movimiento de los vagones de ferrocarril durante las operaciones de carga o descarga deberán aplicarse los frenos usando cuñas para las ruedas, u otros medios de bloqueo reconocidos como tales, y colocar banderas azules o luces en un lugar visible, de acuerdo con los

reglamentos correspondientes establecidos por la Comisión de Servicios Públicos.

- (24) Mientras un vehículo industrial motorizado se encuentre sobre una rampa elevada, plataforma, carro de carga o camión, la distancia mínima que se debe dejar entre el vehículo y el borde de cualquiera de las superficies antedichas, deberá ser por lo menos igual al ancho de un neumático de dicho vehículo.
- (25) Siempre que sea posible, las vías del ferrocarril deberán ser atravesadas diagonalmente. Está prohibido estacionar a una distancia menor que 8 1/2 pies de la línea central de las vías del ferrocarril.
- (26) Los camiones no deberán ser cargados mas allá de su capacidad nominal.
- (27) No se deberá mover un vehículo cargado hasta que la carga sea asegurada y no presente ningún peligro.
- (28) Se deberá tener extremo cuidado cuando se inclinen las cargas. Está prohibido inclinar la carga hacia adelante con el mecanismo de carga y descarga elevado, excepto cuando se está recogiendo alguna carga. Las cargas elevadas no deberán ser inclinadas hacia delante, excepto en los casos cuando la carga está siendo depositada en anaqueles de almacenamiento o su equivalente. Cuando la carga se apile o se coloque en filas, el inclinarla hacia atrás deberá quedar limitado a únicamente lo necesario para estabilizar la carga.
- (29) El aparato de carga y descarga deberá ser colocado de una manera tal que la carga sea sostenida o sujeta de forma segura.
- (30) Se deberán tener precauciones especiales al asegurar y manipular cargas por medio de vehículos equipados con accesorios, y durante la operación de estos vehículos después que las cargas hayan sido retiradas.
- (31) Cuando los vehículos motorizados sean usados para abrir y cerrar puertas se deberán cumplir con los siguientes reglamentos:
 - (A) Se deberá agregar al vehículo un aparato diseñado específicamente para abrir y cerrar puertas.
 - (B) La fuerza que este aparato aplique a las puertas deberá ser paralela a la dirección en que corra la puerta.
 - (C) Toda la operación de abrir las puertas deberá realizarse bajo la vigilancia total del operador.
 - (D) El operador del vehículo y otros empleados deberán mantenerse alejados del área inmediata, adonde la puerta podría caerse mientras está siendo abierta.
- (32) Si la carga es levantada por dos o más vehículos trabajando a la vez, el peso total de la carga no deberá exceder la capacidad de levantamiento nominal combinada de todos los vehículos utilizados.

PROGRAM OVERVIEW

GENERAL SAFETY AWARENESS PROGRAM

REGULATORY STANDARD: *OSHA General Duty Clause*

INTRODUCTION

This program assists in establishing clear company goals and objectives for safety. It provides for the identification, evaluation and mitigation of safety hazards. It establishes employee training requirements and details general work rules, recordkeeping, emergency evacuation planning, audits and inspections and records retention.

TRAINING

Recommended training for an overview of workplace hazards.

ACTIVITIES

- Ensure the workplace is maintained free of a hazard to which employees of the employer were exposed
- Inspect the workplace for hazards that are likely to cause death or serious physical harm
- Ensure processes are in place to correct hazards

FORMS

- First Aid Kit Supply List
- General Safety Rules
- New Employee Safety Orientation Training
- Training Attendance General Safety Roster

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
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GENERAL SAFETY AWARENESS PROGRAM

1. **Purpose.** This document provides a written general safety program for the company. This program is designed to establish clear company goals and objectives and will be communicated to all employees.

2. **Scope.** Applies to all employees at company facilities and sites.

3. Responsibilities

3.1 Management

3.1.1 Identify and evaluate any safety hazards.

3.1.2 Prioritize and address safety hazards based on risk level.

3.1.3 Provide reasonable solutions to reduce or eliminate recognized safety hazards.

3.1.4 Enforce federal, state and company safety rules and regulations in the workplace.

3.2 Employees

3.2.1 Report safety concerns and hazards to your Supervisor.

3.2.2 Participate in the resolution of the recognized safety hazards, as needed or required.

3.2.3 Conduct their work activities in a safe manner.

3.2.4 Abide by all the safety rules and regulation established by the company.

3.2.5 Assist in maintaining their work area in a clean and neat condition.

4. Procedure

4.1 General Work Rules

4.1.1 General Duty Clause

4.1.1.1 OSHA's general duty clause states that companies must provide a place of employment that is free from recognized hazards.

4.1.1.2 Each employee is responsible to comply with the standards and regulations that are applicable to their work activities.

4.1.2 Housekeeping

- 4.1.2.1 Every safety management program includes standards for general housekeeping. Housekeeping ensures that materials and contaminants do not accumulate and cause hazards to employee safety and health.
- 4.1.2.2 Workplaces will be cleaned on a regular basis.
- 4.1.2.3 Restrooms will be kept in a sanitary condition.
- 4.1.2.4 Materials will be stored in designated areas and not allowed to accumulate in places where employee safety could be at risk (i.e. aisles, corridors, stairwells, near exits, around machinery or equipment where employees work, etc.).
- 4.1.2.5 Tools and equipment will be stored in their appropriate places.
- 4.1.2.6 Chemicals will be handled according to their instructions. Spills or leaks will be cleaned up immediately and prevented from reoccurring.
- 4.1.2.7 Protective equipment will be used, as needed or required.

4.2 Written Standard Operating Procedures

- 4.2.1 Job Hazard Analysis (Identifying Hazards) - Each job task will be reviewed for safety hazards. Recognized safety hazards will be prioritized and addressed based on their risk level.

4.2.2 Written Procedures

- 4.2.2.1 Develop written procedures outlining the steps to take to reduce or eliminate recognized safety hazards. These procedures must identify when the use of personal protective equipment (PPE) is necessary.
- 4.2.2.2 All companies must have:
 - 4.2.2.2.1 Emergency Evacuation and Fire Prevention Programs (written if >10 employees).
 - 4.2.2.2.2 Hazard Communication Program in workplaces where chemicals are used or stored.
- 4.2.2.3 Written procedures are required if there are exposures to:
 - 4.2.2.3.1 Blood or bloodborne pathogens
 - 4.2.2.3.2 Hazardous chemical exposures

- 4.2.2.3.3 Confined spaces
- 4.2.2.3.4 Control of hazardous energy (Lock-out/Tag-Out)
- 4.2.2.3.5 Live electrical energy (>50 volts)
- 4.2.2.3.6 Noise levels >85 dBa
- 4.2.2.3.7 Laboratories
- 4.2.2.3.8 Forklifts
- 4.2.2.3.9 PPE required activities
- 4.2.2.3.10 Physical hazards
- 4.2.2.3.11 Radiation
- 4.2.2.3.12 Respiratory hazards
- 4.2.2.3.13 Shipping and handling of hazardous materials
- 4.2.2.3.14 Lasers (>Class 2)

4.3 Recordkeeping (Accident and Incident Investigation and Reporting)

- 4.3.1 Incidents are work-related activities that cause concern for the health or safety of employees. All accidents and injuries (and work-related illnesses) are considered incidents.
- 4.3.2 Reporting of incidents is required for many companies. Specific information about incidents must be identified and recorded on specific OSHA forms.
- 4.3.3 Investigation may be required to determine some information that is required to be reported.
- 4.3.4 Exemptions from Recordkeeping exist for some industries in general and for employers with fewer than 10 employees. For a full listing of exempted industries, see the OSHA website at www.OSHA.gov, or reference the listing in the OSHA Recordkeeping Exemption Listing form associated with this program.

4.4 Emergency Evacuation Planning

- 4.4.1 All companies must have a program for emergency evacuation of their employees.
- 4.4.2 Companies with more than 10 employees must have this information in writing.

- 4.4.3 Companies should post their evacuation routes to assist employees and others during an evacuation situation.
- 4.4.4 A review of the emergency action program must occur for every employee when the program is developed, upon initial assignment or new hire, when the employee's responsibilities under the program change and whenever the program is changed.
- 4.4.5 Any employees that have specific duties and requirements under the program (i.e. assisting others, locking sensitive information, area searchers or wardens, etc.) must be specifically trained in their duties and responsibilities.

4.5 Hazard Communication

- 4.5.1 Every employee exposed or potentially exposed to hazardous chemicals in the workplace must be trained and informed of the hazards of those chemicals and the measures to be used to protect themselves from exposure. This training must occur initially and whenever changes to hazards in the workplace occur.
- 4.5.2 Safety Data Sheets are required for all hazardous chemicals or mixtures used or stored in the workplace.
- 4.5.3 A hazardous chemical inventory list must be maintained at the workplace (either one master listing or individual area listings) that list the hazardous materials by name (as it appears on the SDS) the manufacturer's name and phone number and any "common names" that the company may call the product (if they are different than the SDS name).
- 4.5.4 A written program must be present in the workplace describing how the requirements of the regulation are implemented.
- 4.5.5 All hazardous chemicals must have labels indicating the name, manufacturer and hazards of the hazardous components of the product.

4.6 Electrical Safety

- 4.6.1 Any exposure greater than 50 volts requires electrical safety training and information be provided to employees. Employees with such exposure require the knowledge to understand the magnitude of the hazard they are exposed to and the measures needed to prevent injury from such exposure.
- 4.6.2 All electrical installations and equipment must meet the installation and maintenance requirements under the National Electrical Code.
 - 4.6.2.3 Companies must ensure that electrical service panel boxes and equipment shutoffs are clear and unobstructed at all times for use during an emergency.

- 4.6.2.4 Electrical service panel boxes must have covers and those covers must remain in the closed position when the panel is not being accessed.
- 4.6.2.5 Electrical sources and outlets within 3 feet of any water source (such as a sink or drinking fountain) must be GFCI (Ground Fault Circuit Interrupt) protected.

4.7 Audits and Inspections

- 4.7.1 Safety audits are formal reviews of employee activities, workplace processes and systems, and documentation. Audits normally use pre-established or written protocols or inspection reports to assure that the written procedures and process flows indicate what the employees are supposed to do, and that employees are following the procedures as written. Audits will normally have a final written summary report of the non-conformances that is presented to management. Each finding or non-conformance will have corrective actions assigned by management to correct the deficiency in the system.
- 4.7.2 Inspections are informal reviews of employee activities, workplace processes, systems and documentation. Inspections may use pre-established written checklists, or may be even less-formal. The checklists are normally in a yes/no format that indicates whether or not the activity or process is compliant with what is required. Inspection findings are generally discussed with area supervisors or management, and the retention of the checklist (to assure that the items have been corrected before the next inspection) is normally the only documentation maintained.
- 4.7.3 Some regulations require that procedures or activities be inspected, and that the inspection documentation be retained for a specified period of time. However, inspection reports are generally kept only until all action items are addressed or they are superseded by subsequent inspection reports.

4.8 Safety Committee

- 4.8.1 Some states require safety committees if companies have more than 20 employees. It is generally recommended that any company with more than 20 employees establish a safety committee.
- 4.8.2 Committees should meet at least quarterly and be comprised of at least 3 employees. A member of management and/or the safety officer may serve as additional members of the committee. The committee chairperson should not be a member of management or the company Safety Officer.
- 4.8.3 Safety committees should discuss safety concerns at the company. They may be charged with performing area inspections, injury report reviews and investigations, training, or other safety-related duties that are appropriate to the business needs of the company.

4.9 Records Retention

- 4.9.1 Training Records are maintained until they are superseded by new training.
- 4.9.2 Audit Reports are kept for 5 years or until all findings are corrected, whichever is longer.
- 4.9.3 Inspection Reports are kept until all findings are corrected, the reports are superseded by new reports, or for a duration specified by a specific regulation, whichever is longer.
- 4.9.4 OSHA 300 logs and associated Injury and Illness Records are kept for 5 years.
- 4.9.5 Certain hazardous chemical exposure records (e.g. cancer causing agents, benzene, asbestos, and mercury) and biological exposure records (e.g. needle stick injuries of contaminated blood or body fluids) are kept for the duration of employment plus 30 years.
- 4.9.6 Other safety records are generally kept only until the actions that are required to be taken are complete.

5. Safety Information

5.1 Ventilation

5.1.1 General building ventilation systems are usually adequate to remove particulate matter and circulate fresh air throughout the building. Ventilation concerns are generally caused by:

- 5.1.1.3 faulty filters in fresh air ducts
- 5.1.1.4 corridors leading from outside areas (where dust and particulate matter can be drawn into the building)
- 5.1.1.5 enclosed rooms where several printers or copiers are located in a small space (due to paper dust and/or toner dust being generated).

5.2 Lighting. The role of proper lighting is to provide a safe, comfortable and efficient visual environment. The following safe lighting criteria will be used to evaluate lighting conditions in office areas.

- 5.2.1 Bare light sources will not be placed in the visual working field of any employee. Light sources will be properly shielded in these instances.
- 5.2.2 The luminance and reflectance of surfaces of furnishings, shades, louvers, acoustic screens, will be considered to reduce their reflectance.
- 5.2.3 Windows will be covered where appropriate.
- 5.2.4 Wall surface colors and degree of reflectance will be appropriate to the work area.

- 5.2.5 Furniture should be arranged so that the luminaire is beside rather than in front of the operator. Light will then be directed across the work surface rather than into the worker's eyes.
- 5.3 Eye Strain. Adjusting the screen for the minimum amount of glare and best contrast will reduce the amount of eyestrain our employees' experience.
 - 5.3.1 Monitor/VDT problems. Correct placement of the VDT can relieve stress on the neck and shoulders. Adjust the monitor so screens can be read with the head up and facing forward (at about eye level). Employees with bifocals should be able to read without tilting their head. Distance is key in that employees should not have to move to focus.
 - 5.3.2 Glare and contrast. The two major sources of eye strain from working with a VDT are glare and poor contrast. Most offices have diffused overhead lighting to reduce screen glare, but glare from windows or other light sources, like lamps, should be shielded. Blinds can be closed to reduce light glare. Desks and work areas can be repositioned to reduce glare, or the brightness and contrast controls on a VDT can be adjusted.
 - 5.3.3 Minimizing Eye Strain. Reading from a VDT for hours at a time can be very hard on the eyes. The characters on a VDT screen are not as sharp as print on paper--they are almost always a little bit fuzzy. They are also always moving, and even though they may not move enough to notice, they move enough to make focusing difficult. Employees should be encouraged to take micro breaks or switch to other non-computer based tasks to reduce eye strain.
 - 5.3.4 Supervisor involvement. Encourage employees to have their eyes examined annually--more often if they are having vision problems or if their eyes feel tired at the end of the day. Even when VDT work does not cause a vision problem, the strain of reading from a monitor for long periods will make it difficult for employees to continue ignoring uncorrected or undercorrected vision problems they might already have.
- 5.4 Ergonomic Improvements. Ergonomic improvements can dramatically improve worker safety and productivity. Employees are most likely to work efficiently and accurately when they do not have to strain. Supervisors should be given adequate training in recognition and control of ergonomic improvements.
 - 5.4.1 Problem recognition. Supervisors should know the symptoms of Cumulative Trauma Disorders (CTD) and recognize when the stress involved in a particular job has the potential for contributing to a CTD. Make sure employees are working in the best way possible.

- 5.4.2 Cumulative trauma disorders. The most common CTDs are *Tendinitis* (inflammation of a tendon, usually at the wrist or elbow), *Carpal Tunnel Syndrome (CTS)* (caused by pressure on the nerve in the wrist) symptoms include numbness, difficulty holding objects and restricted movement), and *lower back problems* (strains caused improper lifting, or improper seating or poor work station design).
- 5.4.3 Data entry. Data entry is probably the biggest contributor to CTS. With the fingers resting on the home keys of the keyboard, and shoulders relaxed, the employee's wrists and forearms should be in a straight line and more or less parallel to the floor. Surface or chair height adjustments may help (so employees type or write with body erect with feet flat on the floor).
- 5.3.3.1 The edge of the seat should not contact the back of the knees. Arm rests and keyboard wrist rests can be provided to relieve the pressure on the upper body. Footrests can assist in relieving strain on the back. Keyboard placement or copy stands, and telephone headsets may improve working postures. Back supports or lumbar supports on chairs can help prevent strain. Repetitive force and lifting can be minimized to prevent injury, or frequent breaks can be offered. Employees should be encouraged to take "stretch breaks" even if only for a minute or two.
- 5.3.4 Supervisor involvement. Make changes slowly, one at a time, and follow up on the effects. Observation and open communication with employees are our two most valuable tools for reducing the risks of ergonomic disorders in the workplace. If an employee has symptoms of a CTD, encourage him or her to get medical attention and work with the employee to find out if changes should be made in the job design.
- 5.4 Disciplinary Actions for Willful Unsafe Acts. Employees who willfully endanger themselves or the safety of their co-workers will be subject to the disciplinary action procedures stipulated by company policy or the Employee Handbook.

6. Training and Information

6.1 Employee Orientation and General Safety Training

- 6.1.1 All new employees should be provided with a general safety orientation upon initial assignment. This orientation will include:
- 6.1.1.1 A review of the employee responsibilities with regard to workplace safety and an overview of the general safety workplace rules.
- 6.1.1.2 The hazards that may be encountered in the workplace.
- 6.1.1.3 The process for reporting hazards, accidents, injuries and near-misses.

6.1.1.4 It is additionally recommended that the orientation include information on office safety and ergonomics.

6.1.2 Employees who transfer or change jobs within the company will be provided with work area specific training in the hazards they may encounter.

7. Definitions

- Ø *SDS* - Safety Data Sheets.
- Ø *CTD* - Cumulative Trauma Disorder is a medical condition caused by repetitive forces or motion.
- Ø *CTS* - Carpal Tunnel Syndrome is a medical disease that affects the nerves in the wrist.
- Ø *VDT* - Visual Display Terminals like computer monitoring equipment.

FIRST AID KIT SUPPLY LIST

All first aid must meet these minimum supply requirements and must be labeled. All labeling should be legible and permanent and should be written with, at the least, a six-point font. Class A kits are designed to deal with the most common types of workplace injuries. Class B kits are designed with a broader range and quantity of supplies to deal with injuries in more complex or high-risk environments.

Below is a table listing the minimum required components for both Class A and Class B kits. The quantity and size specifications given are the minimum necessary to comply with the ANSI 2015 standard.

Minimum Supply Requirements	Minimum Quantity Class A Kits	Minimum Quantity Class B Kits
Adhesive Bandage 1 x 3 in.	16	50
Adhesive Tap 2.5 yd. (total)	1	2
Antibiotic Application 1/57 oz.	10	25
Breathing Barrier	1	1
Burn Dressing (Gel Soaked) 4 x 4 in.	1	2
Burn Treatment 1/32 oz.	10	25
Cold Pack 4 x 5 in.	1	2
Eye Covering (with Means of Attachment) 2.9 sq. in.	2	2
Eye/Skin Wash	1 fl. oz. total	4 fl. oz. total
First Aid Guide	1	1
Hand Sanitizer 1/32 oz.	6	10
Medical Exam Gloves	2 pair	4 pair
Roller Bandage (2 inch) 2 in. x 4 yd.	1	2
Roller Bandage (4 inch) 4 in. x 4 yd.	0	1
Scissors	1	1
Splint 4.0 x 24 in.	0	1
Sterile Pad 3 x 3 in.	2	4
Tourniquet 1 in. (width)	0	1
Trauma Pad 5 x 9 in.	2	4
Triangular Bandage 40 x 40 x 56 in.	1	2

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GENERAL SAFETY RULES

The company establishes the following safety rules as General Safety Rules for all departments/sections:

- Never operate any machine or equipment unless you are authorized and trained to do so. Obtain full instructions and training from your Supervisor before operating an unfamiliar machine.
- Do not operate defective equipment or broken hand tools. Report them to your Supervisor immediately. Frayed or damaged electrical cords should be replaced.
- Never start on any hazardous job without being completely familiar with the safety techniques that apply to it. Check with your Supervisor if in doubt.
- Make sure all safety attachments are in place and properly adjusted before operating any machine.
- Do not operate any machine or equipment at unsafe speeds. Shut off equipment that is not in use.
- Wear all protective garments and equipment necessary to be safe on the job. Wear proper shoes; sandals or other open-toed or thin-soled shoes should not be worn.
- Do not wear loose, flowing clothing or long hair while operating moving machinery.
- Never repair or adjust any machine or equipment unless you are specifically authorized to do so by your Supervisor or specifically trained to do so.
- Never oil, clean, repair, or adjust any machine while it is in motion.
- Never repair or adjust any electrically driven machine without specific Lock-Out/Tag-Out training.
- Put tools and equipment away when they are not in use.
- Do not lift items that are too bulky or too heavy to be handled by one person. Ask for assistance.
- Keep all aisles, stairways, and exits clear of materials, storage, equipment, and spillage.
- Do not place equipment and materials so as to block emergency exit routes, fireboxes, sprinkler shutoffs, machine or electrical control panels, or fire extinguishers.
- Stack all materials neatly and make sure piles are stable.
- Keep your work area, machinery and all company facilities that you use clean and neat.
- Do not participate in horseplay, or tease or otherwise distract fellow workers. Do not run on company premises - always walk.
- Power-truck operators must be properly trained and licensed to operate the vehicle.
- Filing cabinets, desks, storage cabinets, and other storage devices should have drawers closed when not in use to prevent tripping hazards.
- Extension cords are temporary measures only and should not replace permanent wiring. Cords should be placed so that they are flush to the ground and do not present a tripping hazard. Electrical outlets should be properly used and never overloaded.
- Burned out light bulbs should be replaced immediately.
- Never take chances. If you're unsure, you're unsafe!

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NEW EMPLOYEE SAFETY ORIENTATION TRAINING LIST

Employee's Name:		Date Assigned:	Department:
Job Title:			
Supervisor's Name:		Date of Review:	Signature:
Instructions to Supervisor: Check all boxes that apply. Review the duty requirements of the new employee and select the safety topics that the employee must be trained on.			
SAFETY TOPIC		SAFETY TOPIC	
<input type="checkbox"/>	Access to Employee Exposure and Medical Records	<input type="checkbox"/>	Lockout / Tagout
<input type="checkbox"/>	Accident Reporting	<input type="checkbox"/>	Machine Guarding
<input type="checkbox"/>	Aerial Lift - Personal Fall Arrest System	<input type="checkbox"/>	Mechanical Power Presses
<input type="checkbox"/>	Back Safety	<input type="checkbox"/>	Overview - Construction
<input type="checkbox"/>	Bloodborne Pathogens Including PPE	<input type="checkbox"/>	Pallet Jack - Electrical
<input type="checkbox"/>	Blood and Body Fluids Safety Awareness	<input type="checkbox"/>	Personal Protective Equipment
<input type="checkbox"/>	Compressed Gas	<input type="checkbox"/>	Radiation Safety Awareness
<input type="checkbox"/>	Confined Space Entry	<input type="checkbox"/>	Respirators <ul style="list-style-type: none"> <input type="checkbox"/> Air Purifying <input type="checkbox"/> Filtering Face Pieces <input type="checkbox"/> Supplied Air
<input type="checkbox"/>	Construction Demolition	<input type="checkbox"/>	Safe Driving
<input type="checkbox"/>	Construction Excavation Trenching and Shoring	<input type="checkbox"/>	Safety Committee Members
<input type="checkbox"/>	Cranes, Hoists, and Slings (Internal)	<input type="checkbox"/>	Scaffolds
<input type="checkbox"/>	Electrical Safety	<input type="checkbox"/>	Scissors Lifts
<input type="checkbox"/>	Emergency Action	<input type="checkbox"/>	Slips, Trips and Falls
<input type="checkbox"/>	Ergonomic <ul style="list-style-type: none"> <input type="checkbox"/> General Industry <input type="checkbox"/> Office 	<input type="checkbox"/>	Walking & Working Surfaces
<input type="checkbox"/>	Extreme Temperature <ul style="list-style-type: none"> <input type="checkbox"/> Cold <input type="checkbox"/> Heat 	<input type="checkbox"/>	Welding
<input type="checkbox"/>	Eyewash and Safety Shower	Other Topics	
<input type="checkbox"/>	Fall Protection Construction	<input type="checkbox"/>	
<input type="checkbox"/>	Fall Protection General Industry	<input type="checkbox"/>	
<input type="checkbox"/>	Fire Extinguisher	<input type="checkbox"/>	
<input type="checkbox"/>	First Aid (Basic)	<input type="checkbox"/>	
<input type="checkbox"/>	Flammable Liquids for Container Storage	<input type="checkbox"/>	
<input type="checkbox"/>	Forklift	Supervisor Topics	
<input type="checkbox"/>	Forklift, Order Picker and PFAS	<input type="checkbox"/>	Accident Investigation
<input type="checkbox"/>	General Safety Orientation	<input type="checkbox"/>	Crisis & Disaster Planning
<input type="checkbox"/>	Hand and Portable Power Tools	<input type="checkbox"/>	JHA Job Hazard Analysis
<input type="checkbox"/>	Hazard Communication	<input type="checkbox"/>	Marking Industrial Hazards
<input type="checkbox"/>	Hazardous Chemicals in the Laboratory	<input type="checkbox"/>	OSHA Recordkeeping
<input type="checkbox"/>	Hearing Protection	<input type="checkbox"/>	Return To Work
<input type="checkbox"/>	Ladder Safety	<input type="checkbox"/>	Rim Wheel Servicing
<input type="checkbox"/>	Lasers	<input type="checkbox"/>	Safety Program Overview
<input type="checkbox"/>	Lead Exposure	<input type="checkbox"/>	

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TRAINING ATTENDANCE ROSTER GENERAL SAFETY

Topic:

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

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**CALIFORNIA
GENERAL SAFETY AWARENESS
Additional Requirements**

FIRST AID – GENERAL INDUSTRY - 8 CCR 3400

- First Aid Kits must be inspected at least 13 times a year.
- First aid kits must be approved by an employer-authorized, licensed physician.

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PROGRAM OVERVIEW

HAND AND PORTABLE POWER TOOLS SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.241 – 244
- 29 CFR 1926.300 – 305

INTRODUCTION

Tools can present a variety of hazards including cuts, lacerations, blindness from flying particles, and serious contusions if caught in rotating parts or nip points. Tools must be inspected and, when required, employees trained in the proper use, inspection and maintenance of the tools and their guarding systems. Personal protective equipment (such as safety glasses or gloves) may frequently be required, even if guarding systems are in place.

TRAINING

- Training is recommended for power tool use
- Training and licensing is required for tools that use explosive charges (powder-actuated)

ACTIVITIES

- Inspect tools before use to ensure they are in good operating condition.
- Look for items such as housing integrity, complete insulation on cord systems, and that grounding pins have not been removed from plug-sets.

FORMS

- Hand and Portable Tool Guarding and Safety Requirements
- Training Attendance Roster

Table of Contents

1. Purpose
2. Scope
3. Responsibilities
4. Procedure
5. Safety Information
6. Training and Information
7. Definitions

HAND AND PORTABLE POWER TOOLS SAFETY PROGRAM

1. **Purpose.** The company requires that hand and portable power tools be purchased, maintained, and used only by qualified personnel who understand the limitations and requirements for the safe use of such tools. This safety program will be reviewed and evaluated:
 - 1.1 On an annual basis or more frequently as needed.
 - 1.2 When changes occur to 29 CFR 1910.221 - 244 that prompt revision of this document.
 - 1.3 When facility operational changes occur that require a revision of this document.
2. **Scope.** Applies to all locations where portable hand and power tools are used or maintained.
3. **Responsibilities**
 - 3.1 Management/Supervisors
 - 3.1.1 Purchase only those electrical tools that have been listed by a Nationally Recognized Testing Laboratory (NRTL) such as Underwriter's Laboratory (UL).
 - 3.1.2 Ensure that procedures are in place to conduct visual inspections of tools prior to use.
 - 3.1.3 If testing is required (e.g., GFCI testing before each use) procedures will be in place to ensure compliance.
 - 3.1.4 Ensure that employees using tools understand and follow manufacturer's instructions, routinely inspect tools, and use them only for the purpose for which they were designed.
 - 3.1.5 Be aware of and make available, as appropriate, ergonomically designed tools for repetitive tasks and for those jobs for which a job hazard analysis or ergonomic assessment indicates a need for such tools.
 - 3.1.6 Ensure that a maintenance program is in place to identify and repair defective or unsafe tools. Repairs to portable electrical tools may only be made by an authorized manufacturer's tool service/repair group or by the approved company sources.
 - 3.1.7 Training may be conducted as part of an apprenticeship program or in other recognized training forums.
 - 3.1.8 Employees who indicate they have had prior training will be required to demonstrate understanding and capabilities prior to being assigned to work.
 - 3.1.9 Retain manufacturer's instructions for training/reference purposes.

- 3.1.10 Ensure that periodic assessments and inspections of tools and tool use are performed.

3.2 Employees

- 3.2.1 Use only company provided or approved tools. Tools brought from home must have prior permission from the company and may be subject to inspection.
- 3.2.2 Attend training, as needed or required, for tool use.
- 3.2.3 Report incidents, accidents or signs and symptoms of injury to your supervisor.

4. Procedure

4.1 General Requirements

- 4.1.1 No one will use an unsafe/defective tool. Tools that are damaged or defective will be removed from service.
- 4.1.2 Hand and power tools that may generate sparks or high temperatures will not be used in areas that are hazardous due to the presence of flammable or combustible materials.
- 4.1.3 The company is responsible for supplying proper power and specialized application tools for employee use.
- 4.1.4 Only qualified/trained personnel will operate powder-actuated tools.
- 4.1.5 Before a job is started, the supervisor or designee will ensure that the employee is fully aware of the hazards associated with the particular tool to be used.
- 4.1.6 Either Ground Fault Circuit Interrupter (GFCI) Protection or an Assured Equipment Grounding Conductor Program will be provided for all 120V (or greater) powered tools.
- 4.1.7 Adapters that interrupt the continuity of the equipment grounding conductor will not be used (e.g., 3-wire to 2-wire adapter.)
- 4.1.8 Double-insulated tools do not require an equipment grounding conductor (3rd wire) in the cord, but they do require GFCI protection.
- 4.1.9 Modifications will not be made to any tool or related equipment. Follow site or business unit established procedures when repairs are necessary.
- 4.1.10 Do not abuse power cords or hoses. Never carry tools by the cord or hose or yank to disconnect. Protect cords and hoses from heat, oil, and sharp edges.

- 4.1.11 Cords and hoses will be routed in such a manner as to not create a tripping hazard.

4.2 Types of Tools Appropriate for Use

- 4.2.1 Ensuring the type of tool is appropriate for the job requires:

- 4.2.1.1 Recognition of applicable hazards associated with the work to be completed.
- 4.2.1.2 Tool determination and additional requirements.
- 4.2.1.3 Procedures for removal of a tool from service.
- 4.2.1.4 Where tools are used which could present a hazard to anyone other than the user, all other employees will be instructed concerning hazards.

- 4.2.2 Tool identification. Tools having identification numbers will be checked for legibility.

4.3 Pre-Use Safety

- 4.3.1 Use the correct tool for the job.
- 4.3.2 Remove adjusting keys and wrenches before connecting to the power supply.

4.4 Pre-Use Inspection

- 4.4.1 Prior to each use, visually inspect all portable electric tools and accessories for damages or defects, per the following:
 - 4.4.1.1 Portable electric tools-check:
 - 4.4.1.1.1 Tool general condition.
 - 4.4.1.1.2 Cord for damage or deterioration.
 - 4.4.1.1.3 Cord grip tightness.
 - 4.4.1.1.4 Plug cap condition (grounding prong integrity).
 - 4.4.1.1.5 Inspect extension cords and equipment for loose parts and damaged cords.
 - 4.4.1.1.6 Portable GFCI's - Test per manufacturer's specifications.
 - 4.4.1.2 Before using the tool, check workplace for nails, defects, or similar hazards/imperfections.

4.4.1.3 Attachment Plug/Connector Body/Cord; check for:

- 4.4.1.3.1 General condition
- 4.4.1.3.2 Cord grip tightness
- 4.4.1.3.3 Grounding Prong integrity
- 4.4.1.3.4 Polarization integrity
- 4.4.1.3.5 Condition of outer cord jacket. Cord will not be spliced and must be replaced if outer jacket is damaged
- 4.4.1.3.6 Boot and visible parts of body for damage, loose parts, or deterioration
- 4.4.1.3.7 Portable lights-check
- 4.4.1.3.8 Handle, guard and other visible parts for damage, loose parts or deterioration
- 4.4.1.3.9 Lamp (should be rough-service type)
- 4.4.1.3.10 Low voltage lights (12 volts) to ensure that transformer has not been by-passed. Check lamp voltage rating.

4.5 In-Use Safety

4.5.1 Dress appropriately for the job

- 4.5.1.1 Do not wear loose clothing or dangling jewelry.
- 4.5.1.2 Confine long hair in a hair-net, cap, or fasten securely to the back of the head.
- 4.5.1.3 Use extreme care when wearing gloves.
- 4.5.1.4 Safety glasses are the minimum requirement when using any tool; additional PPE requirements may be necessary depending upon tool being used and job application (e.g., face shield, side shields, goggles, etc.)
- 4.5.1.5 Use hearing protection if required.

4.5.2 Use all tools per manufacturer's recommendations.

4.5.3 Keep cutting tools in good condition. Sharpen/replace when necessary.

- 4.5.4 Never use fingers to pull or dislodge chips or turnings from tools or parts. Use pliers, rakes, or hooks.
 - 4.5.5 In some areas, compressed gas lines have been installed for specific uses. Be sure that air powered tools are hooked up only to lines supplied for the purpose.
 - 4.5.6 Do not set down or carry a portable power tool in any way so that the starting-trigger or button can be accidentally struck.
 - 4.5.7 Appropriate precautions will be utilized when tools are used in a wet location (e.g., electrically insulated gloves).
- 4.6 Post-Use Safety
- 4.6.1 Disconnect tools when not in use.
 - 4.6.2 Never lubricate, clean, repair, or adjust a tool while it is connected to a power source.
 - 4.6.3 After a job is finished, clean all scrap and debris from the work table and surrounding area. Use proper receptacles.
 - 4.6.4 Take care of all tools. Keep them sharp and clean. Follow manufacturer's instructions for lubricating, changing accessories, and inspection.
- 4.7 Repair
- 4.7.1 All electric tool repairs will be made by a factory authorized tool repair service or company designated portable power tool repair service.
 - 4.7.2 The only exception is cord plugs and connector bodies that may be replaced by a qualified person with an electrical background. Upon completion of plug or body replacement, ground integrity will be tested.
 - 4.7.3 No repairs will be made to portable GFCIs.

5. Safety Information

5.1 Specialized Applications

- 5.1.1 Hand and power tools that may generate sparks or high temperatures will not be used in areas that are hazardous due to the presence of flammable or combustible materials. Use of non-sparking tools will be required unless monitoring ensures levels below 25% of the lower explosive limit (LEL). For more information, reference Portable Electronic Devices in Hazardous Areas.
- 5.1.2 Training for use of a powder actuated tool is provided by the manufacturer (usually HILTI).

- 5.1.2.1 A license is issued after training; individuals using powder actuated tools must have the license on their person when using the tool.
- 5.1.2.2 A record of training will be kept in personnel training files or equivalent recordkeeping system.

5.2 Power Tool Precautions

5.2.1 Power tools can be hazardous when improperly used. The company uses several types based on the power source they use such as electric, liquid fuel, hydraulic, pneumatic, and powder-actuated. The following precautions will be taken by employees to prevent injury.

- 5.2.1.1 Power tools will always be operated within their design limitations.
- 5.2.1.2 Eye protection, gloves, and safety footwear are recommended during operation.
- 5.2.1.3 Store tools in an appropriate dry location when not in use.
- 5.2.1.4 Work only in well illuminated locations.
- 5.2.1.5 Tools will not be carried by the cord or hose.
- 5.2.1.6 Cords or hoses will not be yanked to disconnect it from the receptacle.
- 5.2.1.7 Cords and hoses will be kept away from heat, oils, and sharp edges or any other source that could result in damage.
- 5.2.1.8 Tools will be disconnected when not in use, before servicing, and when changing accessories such as blades, bits, and cutters.
- 5.2.1.9 Observers will be kept at a safe distance at all times from the work area.
- 5.2.1.10 Work will be secured with clamps or a vice where possible to free both hands to operate tools.
- 5.2.1.11 To prevent accidental starting, employees should be continually aware not to hold the start button while carrying a plugged in tool.
- 5.2.1.12 Tools will be maintained in a clean manner and properly maintained in accordance with the manufacturer's guidelines.
- 5.2.1.13 Ensure that proper shoes are worn and that the work area is kept clean to maintain proper footing and good balance.
- 5.2.1.14 Ensure that proper apparel is worn. Loose clothing, ties, or jewelry can become caught in moving parts.

- 5.2.1.15 Tools that are damaged will be removed from service immediately and tagged "Do Not Use". They will be reported and turned over to the job site supervisor or Safety Officer for repair or replacement.
- 5.2.1.16 Cracked saws. All cracked saws will be removed from service.
- 5.2.1.17 Grounding. Portable electric power tools will meet the electrical requirements of this safety program and 29 CFR 1910.331 - 335.
- 5.2.1.18 Compressed air used for cleaning. Compressed air will not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

5.3 Methods of Guarding

- 5.3.1 One or more methods of guarding will be provided where required to protect the operator and other employees in the area from hazards such as those created by point of operation, in-running nip points, rotating parts, flying chips and sparks. Examples of guarding methods are barrier guards, two-hand tripping devices, electronic safety devices, etc. The guard will be such that it does not offer an accident hazard in itself. Employees will:
 - 5.3.1.1 Inspect tools without guards for signs of guard removal. If it is evident that a guard is required, tag-out the tool and obtain a replacement. Tools will not be energized during inspection.
 - 5.3.1.2 Inspect tools having guards for proper operation and maintenance prior to use. Tools will not be energized during inspection.
 - 5.3.1.3 Never remove a guard during use.

5.4 Self Assessment:

Each division/work unit should conduct a self-assessment to assess compliance with this standard and develop action plans to correct deficiencies. See Section 6 for more information.

6. Training and Information

6.1 Powder Actuated Tools

- 6.1.1 Users of powder-actuated tools must be licensed and trained.
- 6.1.2 Training may be conducted as part of an apprenticeship program or in other recognized training forums.
- 6.1.3 Employees who indicate they have had prior training will be required to demonstrate understanding and capabilities prior to being assigned to work.

6.1.4 Manufacturer's instructions will be retained for training/reference purposes.

6.2 Initial and Re-Training

6.2.1 This safety program will be provided to and read by all employees receiving training. Training will be conducted on an as needed basis or when the following conditions are met:

6.2.1.1 Re-training will be provided for all authorized and affected employees whenever (and prior to) there being a change in their job assignments, a change in the type of tools used, or when a known hazard is added to the work environment.

6.2.1.2 Additional re-training will also be conducted whenever a periodic inspection reveals (or whenever there is sufficient reason to believe) there are deviations from or inadequacies in the employee's knowledge or use of tools.

6.2.1.3 The re-training will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

6.3 Verification

The company will verify that employee training has been accomplished and is being kept up to date. The documentation will contain each employee's name and dates of training.

7. Definitions

- *Powder Actuated Tools* – A tool that uses an explosive charge to drive a bolt or nail. Normally used in concrete construction or steel erection. Electrically powered nail guns are not considered a powder actuated tool.

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HAND AND PORTABLE POWER TOOL GUARDING AND SAFETY REQUIREMENTS

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Portable Circular Saws
Power Abrasive Wheel Tools
Vertical Portable Grinders
Portable Belt Sanding Machines
Pneumatic Power Tools and Hoses
Explosive Actuated Fastening Tools
Power Lawn Mowers
Jacks

- **Portable Circular Saws**

- All portable, power-driven circular saws having a blade diameter greater than 2 in. will be equipped with guards above and below the base plate or shoe.
- The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. (Does not apply to circular saws used in the meat industry for meat cutting purposes).
- For authorized use the following conditions must be met.
 - An upper guard must cover the entire blade of the saw.
 - A retractable lower guard must cover the teeth of the saw.
 - Except when it makes contact with the work material, the lower guard must automatically return to the covering position when the tool is withdrawn from the work.

- **Power Abrasive Wheel Tools**

- Abrasive wheels shall be used only on tools/equipment provided with safety guards. (A safety guard is an enclosure designed to restrain the pieces of the grinding wheel and furnish all possible protection in the event that the wheel is broken in operation.)
 - Exceptions. These requirements do not apply to the following classes of wheels and conditions:
 - Wheels used for internal work while within the work being ground.
 - Mounted wheels used in portable operations 2 inches and smaller in diameter. Mounted wheels, usually 2 inch diameter or smaller, and of various shapes, may be either organic or inorganic bonded abrasive wheels. They are secured to plain or threaded steel mandrels. (Organic wheels are wheels which are bonded by means of an organic material such as resin, rubber, shellac, or other similar bonding agent.)
 - Types 16, 17, 18, 18R, and 19 cones, and plugs, and threaded-hole pot balls where the work offers protection.
- Guard covers. Employees will ensure that a safety guard covers the spindle end, nut, and flange projections. The safety guard shall be mounted so as to maintain proper alignment with the wheel and the strength of the fastenings shall exceed the strength of the guard.
 - Exception. Safety guards on all operations where the work provides a suitable measure of protection to the operator may be so constructed that the spindle end, nut, and outer flange are exposed. Where the nature of the work is such as to entirely cover the side of the wheel, the side covers of the guard may be omitted.
 - Exception. The spindle end, nut, and outer flange may be exposed on portable machines designed for and used with type 6, 11, 27, and 28 abrasive wheels, cutting off wheels, and tuck pointing wheels. (Tuck pointing wheels, usually Type 1, are reinforced organic bonded wheels which have diameter, thickness and hole size dimension. They are subject to the same limitations of use and mounting as Type 1 wheels. Limitation: Wheels used for tuck pointing should be reinforced, organic bonded. Tuck pointing is the removal, by grinding, of cement, mortar, or other nonmetallic jointing material. The term reinforced as applied to grinding wheels shall define a class of organic wheels which contain strengthening fabric or filament. The term reinforced does not cover wheels using such mechanical additions as steel rings, steel cup backs or wire or tape winding.)
 - Type 1 straight wheels have diameter, thickness, and hole size dimensions and should be used only on the periphery. Type 1 wheels shall be mounted between flanges. Limitation: Hole dimension (H) should not be greater than two-thirds of wheel diameter dimension (D) for precision, cylindrical, center-less, or surface grinding applications. Maximum hole size for all other applications should not exceed one-half wheel diameter.

- Cup wheels. Cup wheels (Types 6 and 11) shall be protected by:
 - Safety guards as specified.
 - Special "revolving cup guards" which mount behind the wheel and turn with it. They shall be made of steel or other material with adequate strength and shall enclose the wheel sides upward from the back for one-third of the wheel thickness. The mounting features shall conform to all regulations. It is necessary to maintain clearance between the wheel side and the guard. The clearance shall not exceed one-sixteenth.
 - Type 6 cup wheels have specific diameter, thickness, hole-sizes, rim thickness, and back thickness dimensions. Grinding is always performed on rim face, W dimension. Limitation: Minimum back thickness, E dimension, should not be less than one-fourth T dimension. In addition, when unthreaded hole-wheels are specified, the inside flat, K dimension, must be large enough to accommodate a suitable flange.
 - Type 11 flaring cup wheels have double diameter dimensions D and J, and in addition have thickness, hole size, rim and back thickness dimensions. Grinding is always performed on rim face, W dimension. Type 11 wheels are subject to all limitations of use and mounting listed for Type 6 straight sided cup wheels definition
- General safety precautions.
 - Before being mounted it should be inspected closely and sound- or ring- tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or ring.
 - Employees will not locate themselves directly in front of the wheel as it accelerates to full operating speed.
 - Employees will always use eye protection.
 - Power will be turned off when not in use.
 - Hand held grinders are never placed in vises.
 - Mounting and inspection of abrasive wheels.
 - Immediately before mounting, all wheels shall be closely inspected and sounded by the user using the ring test to make sure they have not been damaged in transit, storage, or otherwise. The spindle speed of the machine shall be checked before mounting of the wheel to be certain that it does not exceed the maximum operating speed marked on the wheel.
 - Grinding wheels shall fit freely on the spindle and remain free under all grinding conditions. A controlled clearance between the wheel hole and the machine spindle (or wheel sleeves or adaptors) is essential to avoid excessive pressure from mounting and spindle expansion. To accomplish this, the machine spindle shall be made to nominal (standard) size plus zero minus .002 inch, and the wheel hole shall be made suitably oversize to assure safety clearance under the conditions of operating heat and pressure.
 - All contact surfaces of wheels, blotters, and flanges shall be flat and free of foreign matter.
 - When a bushing is used in the wheel hole it shall not exceed the width of the wheel and shall not contact the flanges.
 - Excluded machinery. Natural sandstone wheels and metal, wooden, cloth, or paper discs having a layer of abrasive on the surface are not covered by these requirements.

- **Vertical Portable Grinders**

- Supervisors will ensure all employees are thoroughly familiar with and use strict work practices in accordance with the manufacturer instructions. Safety guards used on machines known as right angle head or vertical portable grinders shall have a maximum exposure angle of 180 and the guard shall be located between the operator and the wheel during use. Adjustment of guard shall be such that pieces of an accidentally broken wheel will be deflected away from the operator. (See 29 CFR 1910.243, Figure P-4.)
- Other portable grinders. The maximum angular exposure of the grinding wheel periphery and sides for safety guards used on other portable grinding machines shall not exceed 180 and the top half of the wheel shall be enclosed at all times.
- Portable grinding is a grinding operation where the grinding machine is designed to be hand held and may be easily moved from one location to another.

- **Portable Belt Sanding Machines**

- Supervisors will ensure that all belt sanding machines used by their personnel be provided with guards at each nip point where the sanding belt runs onto a pulley. These guards will effectively prevent the hands or fingers of the operator from coming in contact with the nip points. The unused run of the sanding belt shall be guarded against accidental contact.

- **Pneumatic Power Tools and Hoses**

- Supervisors will ensure all employees are thoroughly familiar with and use strict work practices in accordance with the manufacturer instructions. Prior to use the following requirements will be complied with:
- Tool retainer. A tool retainer will be installed on each piece of utilization equipment which, without such a retainer, may eject the tool.
- Air-hoses. Hose and hose connections used for conducting compressed air to utilization equipment will be compatible with the pressure and service to which they are subjected.

- **Explosive Actuated Fastening Tools**

- General safety precautions: Supervisors will ensure all employees are thoroughly familiar with and use strict work practices in accordance with the manufacturer instructions.
 - Operators and assistants using tools shall be safeguarded by wearing eye protection.
 - Head and face protection shall be used as required by working conditions.
 - Before using a tool, the employee will inspect it to determine to his satisfaction that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
 - When a tool develops a defect during use, the operator shall immediately cease to use it until it is properly repaired.
- Tools will not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any workmen.
- No tools shall be loaded unless being prepared for immediate use and will not be left unattended.
- Misfire instructions (general).
 - Know the manufacturers instructions.
 - Hold the tool in the operating position for at least 30 seconds.
 - Try to operate the tool a second time.
 - Wait another 30 seconds, holding the tool in the operating position; then proceed to remove the explosive load in strict accordance with the manufacturer instructions.
- A tool will never be left unattended in a place where it would be available to unauthorized persons.
- Fasteners will not be driven into very hard or brittle materials including but not limited to cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.
- Driving into materials easily penetrated will be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying-missile hazard on the other side.
- Low-velocity tools. Only tools meeting the design specifications of 29 CFR 1910.243 will be used. Employees contemplating purchase of low-velocity tools will consult the OSHA Regulatory Standard before final tool selection. The manufacturer's inspection criteria will be followed for pre-use inspection.
- Low-velocity piston type tools. Only tools meeting the design specifications of 29 CFR 1910.243 will be used. Employees contemplating purchase of low-velocity piston type tools will consult the OSHA Regulatory Standard before final tool selection. The manufacturer's inspection criteria will be followed for pre-use inspection.
 - A low-velocity piston tool is a tool that utilizes a piston designed to be captive to drive a stud, pin, or fastener into a work surface. It will not cause such stud, pin, or fastener to have a mean velocity in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel.
 - Fasteners will not be driven directly into materials such as brick or concrete closer than 3 inches from the unsupported edge or corner or into steel surfaces closer than one-half inch from the unsupported edge or corner, unless a special guard, fixture, or jig is used. (Exception: Low-velocity tools may drive no closer than 2 inches from an edge in concrete or one-fourth inch in steel.)
 - When fastening other materials, such as a 2X4 inch wood section to a concrete surface, it is permissible to drive a fastener of no greater than 7/32 inch shank diameter not closer than 2 inches from the unsupported edge or corner of the work surface.
 - Fasteners will not be driven through existing holes without positive guides for accurate alignment.
 - No fastener will be driven into a spalled area caused by an unsatisfactory fastening.
 - Tools will not be used in an explosive or flammable atmosphere.
 - All tools will be used with the correct shield, guard, or attachment recommended by the manufacturer. Protective shields or guards are devices or guards attached to the muzzle end of the tool, which is designed to confine flying particles
 - Any tool found not in proper working order will be immediately removed from service and turned over to the job site supervisor for repair in accordance with the manufacturer's specifications.

- High-velocity tools. Only tools meeting the design specifications of 29 CFR 1910.243 will be used. Employees contemplating purchase of high-velocity tools will consult the OSHA Regulatory Standard before final tool selection. The manufacturer's inspection criteria will be followed for pre-use inspection.

- High-velocity tools are tools or machines which, when used with a load, propels or discharges a stud, pin, or fastener, at velocities in excess of 300 feet per second when measured 6.5 feet from the muzzle end of the barrel, for the purpose of impinging it upon, affixing it to, or penetrating another object or material. (A stud, pin, or fastener is a fastening device specifically designed and manufactured for use in explosive-actuated fastening tools.)

- A hammer-operated piston tool--low-velocity type, is a tool which, by means of a heavy mass hammer supplemented by a load, moves a piston designed to be captive to drive a stud, pin, or fastener into a work surface, always starting the fastener at rest and in contact with the work surface.

- **Power Lawnmowers**

- Supervisors will ensure all employees are thoroughly familiar with and use strict work practices in accordance with the manufacturer instructions. General requirements:
- Power lawnmowers will have power-driven chains, belts, and gears so positioned or otherwise guarded to prevent the operator's accidental contact therewith during normal starting, mounting, and operation of the machine.
- A shutoff device will be provided to stop operation of the motor or engine. This device will require manual and intentional reactivation to restart the motor or engine.
- All positions of the operating controls will be clearly identified.
- The words "Caution. Be sure the operating control(s) is in neutral before starting the engine" shall be clearly visible at an engine starting control point on self-propelled mowers.
- The mower blade will be enclosed except on the bottom and the enclosure shall extend to or below the lowest cutting point of the blade in the lowest blade position.
 - Guards which must be removed to install a catcher assembly will be affixed to the mower near the opening stating that the mower will not be used without either the catcher assembly or the guard in place.
 - The word "Caution" (or stronger wording) will be placed on the mower at or near each discharge opening.
 - Proper precautions will be taken when refueling mowing equipment.
 - Mowing equipment will never be left unattended while running.
 - Will constantly be mindful of persons working near the operation of the mower.

- **Jacks**

- Jack. A jack is an appliance for lifting and lowering or moving horizontally a load by application of a pushing force. Jacks may be either lever and ratchet or screw and hydraulic types.
- The operator will make sure that the jack used has a rating sufficient to lift and sustain the load. The rating of a jack is the maximum working load for which it is designed to lift safely that load throughout its specified amount of travel.
 - To raise the rated load of a jack, the point of application of the load, the applied force, and the length of lever arm should be those designated by the manufacturer for the particular jack considered.
- The rated load will be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.
- In the absence of a firm foundation the base of the jack will be blocked. If there is a possibility of slippage of the cap, a block shall be placed in between the cap and the load.
- The operator will watch the stop indicator, which shall be kept clean, in order to determine the limit of travel. The indicated limit will never be overrun.
- After the load has been raised, it will be cribbed, blocked, or otherwise secured at once.
- Hydraulic jacks exposed to freezing temperatures shall be supplied with adequate antifreeze liquid.
- All jacks shall be properly lubricated at regular intervals.

TRAINING ATTENDANCE ROSTER HAND AND PORTABLE POWER TOOLS

Hand and Portable Power Tool Training Includes:

- General Requirments
- Types of Tools
- Hazards
- Protection and Guarding
- Abrasive, Electric, Pneumatic and Powder Actuated Tools, and Jacks

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed		

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

HAZARD COMMUNICATION SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.1200

INTRODUCTION

The Hazard Communication Standard requires employers to inform employees of the hazards and identities of workplace chemicals to which they are exposed. This program specifies the requirements for evaluation of chemical hazards in the workplace and establishes means for communicating hazard information to all affected workers including chemical Safety Data Sheets (SDS), labeling, a Written Hazard Communication Program, employee training and communication requirements for contractors and vendors.

TRAINING

- Employees and contractors must be made aware of the hazards they may encounter and the precautions they must take to protect themselves from these hazards.
- Employees or contractors must be trained on initial assignment and whenever any new physical, chemical or health hazards are introduced, when non-routine tasks or procedures are required, or when employees are working with or near unlabeled piping systems that contain hazardous chemicals.

ACTIVITIES

- Determine if hazardous chemicals are present in the workplace
- Ensure the availability of a SDS for each hazardous chemical or mixture in the workplace
- Ensure a Hazardous Chemical List is maintained
- Evaluate the hazards for each chemical or mixture used and/or stored in the workplace
- Ensure proper labeling of chemical containers in accordance with Globally Harmonized System (GHS) requirements.
- Complete the Written Hazard Communication Program
- Employees trained
- Process to evaluate and document any new hazards or changes

FORMS

- Hazardous Chemical List
- Training Attendance Roster
- Written Hazard Communication Program

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training Information & Requirements**
- 7. Definitions**

HAZARD COMMUNICATION PROGRAM

1. **Purpose.** To provide an effective, written hazard communication program in compliance with company, State and Federal regulatory requirements. Hazard Communication applies to all chemicals and mixtures purchased, manufactured, used, and/or stored by the company to which employees, contractors, tenants or visitors may be exposed. (Laboratories, as defined by OSHA regulations, are not covered under this program.)
2. **Scope.** This program applies to all operations at company facilities and job-sites. This program does not apply to articles, food or beverage items. Consumer products are exempt if they are used at the same frequency, duration, and concentration as home use.
3. **Responsibilities.**

3.1 Management must:

- 3.1.1 Perform a hazard determination. The company is required to determine the hazards of any products or chemicals they manufacture and/or sell.
- 3.1.2 Ensure a Hazardous Chemical List is maintained either for the company as a whole, or for each department or work area.
- 3.1.3 Evaluate the hazards for each chemical or mixture used or stored in the workplace.
- 3.1.4 Maintain a Written Hazard Communication Program.
- 3.1.5 Assure labels and other forms of warning are affixed to chemical containers, as appropriate, meeting Globally Harmonized System (GHS) label requirements.
- 3.1.6 Train and inform employees on initial assignment and whenever a new physical, chemical or health hazard is introduced into the workplace, or when non-routine tasks or procedures are required.
- 3.1.7 Develop and implement a method of communication between any contractors and the company which describes and outlines.

3.2 Employees must:

- 3.2.1 Attend Hazard Communication Training upon initial assignment, and when changes to the workplace hazards occur (through process changes or a change of work assignment).
- 3.2.2 Re-label any containers into which hazardous chemicals or mixtures are transferred.

3.2.3 Inform management of any changes to chemicals or chemical uses.

4. Procedure.

4.1 Determine if hazardous chemicals are present in the workplace.

4.2 Written Hazard Communication Program (See the included form for the Written Hazard Communication Program.) This program must contain or describe:

4.2.1 A list of hazardous chemicals

4.2.2 Criteria and Label information

4.2.3 Safety Data Sheets (SDS)

4.2.4 Employee information and training

4.2.5 Procedures for evaluating the hazards of any non-routine tasks (e.g. one-time chemical uses) and for evaluating any unlabeled pipes in the work area that contain hazardous chemicals.

4.2.6 Multi-employer workplaces (Provisions for contractors)

4.3 Hazardous Chemical List (See the included Form for a Hazardous Chemical List)

Create a list of all hazardous chemicals used in the workplace. If necessary, use the chemical SDSs to determine whether or not a chemical is a hazardous chemical.

4.4 Chemical Labeling

4.4.1 Manufacturer/GHS Compliant labeling: All containers must be labeled with the product identifier, signal word, hazard statement, pictogram(s), precautionary statement, and manufacturer name, address, and phone number. Such labels may not be defaced or covered.

4.4.2 Workplace labeling: May be used for process materials and must contain the chemical identity and appropriate hazard warnings.

4.4.3 Portable Container labels: should be on all containers at all times. However, labels are not required for portable containers provided they are immediately used by the employee on that work-shift *and* remain in the direct control of the employee at all times.

4.4.4 All labels must be in legible English. Other languages may be used, provided a label in English is also provided.

- 4.4.5 Pipes or piping systems that contain a hazardous chemical shall be identified to employees by at least one (1) readily accessible label, sign, placard, written operating instructions, process sheet, batch ticket or substance identification system.

4.5 Safety Data Sheets

- 4.5.1 Ensure the availability of a SDS for each hazardous chemical or mixture in the workplace and are:
 - 4.5.1.1 Readily accessible and available by employees on each work shift
 - 4.5.1.2 Written in English
 - 4.5.1.3 Obtained from the manufacturer or supplier of the chemical or material before it is used at the workplace, if one did not accompany the shipment
 - 4.5.1.4 Kept for the duration of its use or storage, at a minimum, and for 30 years after discontinuing chemical use.
- 4.5.2 SDSs are prepared by the chemical manufacturer following the GHS requirements.

4.6 Multi-employer workplaces (Provisions for contractors) must be informed about:

- 4.6.1.1 Onsite access to and maintenance of a current SDS
 - 4.6.1.2 Labeling procedures
 - 4.6.1.3 Protective and precautionary measures
- 4.7 Maintain a process to evaluate and document any new hazards or changes to the workplace that would affect the above requirements, including any non-routine tasks or procedures, or unlabeled piping systems that contain hazardous chemicals.

5. **Safety Information**

Trade Secret Information - Trade Secrets are products which, when the chemical identity of the product is revealed, would jeopardize the manufacturer's competitive advantage. Trade secret materials (and requests to reveal trade secret information) must comply with the requirements of OSHA 1910.1200(i) and Appendix D.

6. **Training and Information**

- 6.1 Employees must be trained on initial assignment and whenever any new physical, chemical or health hazards are introduced, when non-routine tasks or procedures are required, or when employees are working with or near unlabeled piping systems that contain hazardous chemicals.

6.2 Training includes

- 6.2.1 Identification of the work areas where hazardous chemicals are used.
- 6.2.2 The location and availability of the written program, hazardous chemical list, and SDSs.
- 6.2.3 Information on the methods and observations used to detect the presence or release of chemicals (monitors, alarm systems, odors, visual appearance, etc.) including any “non-routine” tasks that employees may be asked to periodically perform which are beyond their regularly assigned duties.
- 6.2.4 The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazard information of the chemicals present
- 6.2.5 The measures employees can take to protect themselves from identified chemical hazards (procedures, personal protective equipment, etc.)
- 6.2.6 The labeling system used in the workplace
- 6.2.7 The details of the Written Hazard Communication Program

7. Definitions

- *Hazard Statement* - statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- *Laboratory* - A facility where relatively small quantities of hazardous chemicals are used on a non-production basis. The following conditions must be met:
 - Chemical manipulations are carried out on a "laboratory scale"
 - Multiple chemical procedures or chemicals are used
 - The procedures involved are not part of a production process, nor in any way simulate a production process
 - "Protective laboratory practices and equipment" are available and in common use to minimize the potential for employee exposure to hazardous chemicals
- *Pictogram* - a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.
- *Precautionary statement*- a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.
- *Process Materials* - Chemicals that are routinely used in a chemical process or as part of a mixture for a chemical process.

- *Product Identifier* - the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical.
- *Safety Data Sheets (SDS)* - reference documents that outline the product information, hazards and other required elements for hazardous chemicals or materials. These documents are produced by the manufacturer of the chemical or material and must be maintained at any workplace where they are used or stored.
- *Signal Word* – a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.

[illegible]

Date: _____

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TRAINING ATTENDANCE ROSTER HAZARD COMMUNICATION	
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Hazard Communication Training Includes:

- General Requirements and Right To Know/Understand
- Types and Format of Chemical Labels including GHS format
- Chemical Hazard Categories and Hazards
- SDS overview
- Chemical Spill Response
- Exposure Incident Reporting

- Hazard Communication Training Includes:***
- General Requirements and Right To Know/Understand
 - Types and Format of Chemical Labels including GHS format
 - Chemical Hazard Categories and Hazards
 - SDS overview
 - Chemical Spill Response
 - Exposure Incident Reporting

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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WRITTEN HAZARD COMMUNICATION PROGRAM

The purpose of this written program is to document how the Hazard Communication requirements are met.

General:

_____ is responsible for the initial and ongoing activities to keep this Hazard Communication Program current.

The location of the written program is: _____

The location of the list of hazardous chemicals is: _____

The location of the Safety Data Sheets (SDSs) is: _____

The list of hazardous chemicals, the written program, and the SDSs are required to be accessible to employees at all times. If electronic access is provided, describe the process for accessing this information: _____.

If an SDS is not received at the time of purchase or shipment, an SDS will be obtained either through the manufacturer's website, by calling the manufacturer or supplier, or by writing the company. If the SDS is not available, OSHA may be contacted or notified.

_____ is responsible for ensuring that SDSs are received.

Hazard Warning Labels:

Original manufacturer's labels are general used to ensure updated information on chemical hazards is made available.

_____ is responsible for ensuring that all hazardous chemicals in the workplace have appropriate labels (original manufacturer's labels, or written/printed labels (such as HMIS, NFPA or NAFTA code labels) affixed by our company. If alternative systems to the hazard warning statements are used, describe the system used: _____.

_____ is responsible for ensuring any containers shipped or taken off our company premises have appropriate labels, which include the identity of the chemical, appropriate hazard warning statements, and the name and address of manufacturer or responsible party.

SDS for Company Made or Manufactured Chemicals:

_____ is responsible for ensuring that SDSs are created and written for every hazardous chemical that the company makes, mixes or manufactures.

_____ is responsible for ensuring that any SDSs are shipped to another company who purchases or is provided with our company-specific chemicals or mixtures.

Non-Routine Tasks and Unlabeled Pipes:

_____ is responsible for ensuring that any **new or non-routine tasks** are identified and training is appropriately provided. SDSs and chemical label reviews are used as part of this hazard evaluation and identification.

The methods used to inform employees of the hazards of **non-routine tasks**, and the hazards associated with chemicals contained in **unlabeled pipes** in their work areas are as follows:

Contractors:

_____ is responsible for supplying an SDS, upon request. Contractors working at our sites or locations will be provided with an SDS for any chemical used or stored at the facility, upon request. Describe the methods used to provide on-site access to SDS:

Describe how you communicate information about your labeling system, if different than that used by contractors or subcontractors for types of labeling: _____

Methods used to inform any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies: _____

Off-Site Work:

Employees working at other sites may request an SDS for any chemical they may be exposed to. During training or orientation, our employees are informed of how to request information on the elements of that location's written hazard communication program, including Safety Data Sheet information, labeling, non-routine work hazards and unlabeled pipes.

_____ is responsible for ensuring that this occurs, as needed.

Information and Training:

_____ is responsible for identifying employees who need training.

_____ is responsible for conducting training upon initial assignment.

The hazard communication training must cover the following items, at a minimum:

- Information on the operations where hazardous chemicals are present
- The location and availability of this written program, list of hazardous chemicals, and SDS
- How to detect releases of hazardous chemicals (monitoring equipment, visual determination, odor, equipment sensors, etc).
- The physical and health hazards of chemicals in the work area, including any unlabeled chemical pipes.
- The measures that employees can take to protect themselves from these hazards.

The details of the Hazard Communication Program, including the explanation of the labeling system and SDS.

_____ is responsible for ensuring that these elements are covered in the training program.

Completed by: _____

Date: _____

PROGRAM OVERVIEW

HAZARDOUS WASTE OPERATIONS & EMERGENCY RESPONSE SAFETY PROGRAM

REGULATORY STANDARD - OSHA - 29 CFR 1910.120

INTRODUCTION

Companies who generate hazardous waste must evaluate the potential hazards of wastes, communicate information concerning these hazards, and establish appropriate operating procedures and protective measures for employees. Workers employed in cleanup operations at uncontrolled hazardous waste sites and at EPA-licensed waste treatment, storage, and disposal (TSD) facilities as well as workers responding to emergencies involving hazardous materials are covered under this standard.

TRAINING

- Required for employees who handle, use or store hazardous wastes. Training must be commensurate with the respective job duties and hazards encountered in the workplace
 - Treatment Storage and Disposal Facilities (TSDFs) require a 40 hour HazWOpER course.
 - Employees engaged only in minor spill cleanup must be trained to the level of their responsibilities.
 - Employees will not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility
- Refresher training required annually (8 hour course) for TSDF employees
- Ensure that contractors (and sub contractors) are appropriately trained and certified to manage hazardous waste, as appropriate or required

ACTIVITIES

- Prepare and communicate written hazardous waste program. These procedures should include protective equipment and controls, locations of use and storage, spill and clean-up processes and hazard control information for each waste stream
- Develop and implement a written safety and health program for employees involved in hazardous waste operations. The program needs to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations
- Designate a specific area for hazardous waste storage
- Institute a medical surveillance program for employees engaged in the handling of hazardous wastes, as needed or required

FORMS

- None required

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5. Safety Information
6. Training and Information
7. Definitions

HAZARDOUS WASTE OPERATIONS & EMERGENCY RESPONSE SAFETY PROGRAM

1. **Purpose.** The company will maintain a Hazardous Waste Operations and Emergency Response Safety Program because it has been determined that there is a reasonable possibility for employee exposure to safety or health hazards associated with hazardous waste. This program will be reviewed:
 - 1.1 On an *annual* basis
 - 1.2 When changes occur to 29 CFR 1910.120 that prompt revision of this document
 - 1.3 When facility or site operational changes occur that require a revision of this document
2. **Scope.** This safety program will provide an operational framework for:
 - 2.1 Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained).
 - 2.2 Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.)
 - 2.3 Voluntary clean-up operations at sites recognized by Federal, state, local, or other governmental bodies as uncontrolled hazardous waste sites.
 - 2.4 Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR parts 264 and 265 pursuant to RCRA or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations.
 - 2.5 Emergency response operations for release of (or substantial threats of release of) hazardous substances without regard to the location of the hazard.
3. **Responsibilities**
 - 3.1 Management and Supervisors
 - 3.1.1 Ensure employees who handle, use or store hazardous wastes are appropriately trained, and that the training is commensurate with the respective job duties and hazards encountered in the workplace.
 - 3.1.2 Ensure that contractors (and sub contractors) are appropriately trained to manage hazardous waste, as appropriate or required.
 - 3.1.3 Ensure any excavations are performed in accordance with appropriate OSHA construction standards (29CFR1926).

- 3.1.4 Ensure a written hazardous waste program is available.
- 3.1.5 Establish the specific chain of command and specify the overall responsibilities of Supervisors and employees.
- 3.1.6 Develop a comprehensive work program that will address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives.
- 3.1.7 Develop written procedures for specific wastes handled, used or stored at the site. These procedures should include protective equipment and controls, locations of use and storage, spill and clean-up processes and hazard control information for each waste stream.
- 3.1.8 Designate a specific area for hazardous waste storage.
- 3.1.9 Develop and implement a written safety and health program for employees involved in hazardous waste operations. The program will be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations. This program may be included in the written hazardous waste program for the company or may be a separate document. The program must be kept, at a minimum, at the hazardous waste site, and available to employees who work at the site.
- 3.1.10 Evaluate the site and identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards.
- 3.1.11 Institute a medical surveillance program for employees engaged in the handling of hazardous wastes, as needed or required.
- 3.1.12 Ensure that engineering controls, work practices, personal protective equipment, or a combination of these are implemented to reduce and maintain employee exposure to or below the permissible exposure limits, as required.
- 3.1.13 Ensure that caustics, oxidizers, solvents and other required wastes have appropriate containment that protects the air, land and water from contamination. Secondary containment is usually required for hazardous wastes.

3.2 Employees

- 3.2.1 Follow established procedures
- 3.2.2 Report leaks, spills or other dangerous situations to Supervisors or management immediately.
- 3.2.3 Participate in training, as needed or required.

4. Procedure

- 4.1 Site Excavation. Site excavations created during initial site preparation or during hazardous waste operations will be shored or sloped as appropriate to prevent accidental collapse in accordance with subpart P of 29 CFR part 1926, or protected by appropriate trench boxes or shielding systems.
- 4.2 Contractors and Sub-Contractors. Should the company retain contractor or sub-contractor services for work in hazardous waste operations, the company will inform those contractors, sub-contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified, including those identified in the company information program.
- 4.3 Program Availability. The company's written safety and health program will be made available to:
 - 4.3.1 Contractor or subcontractor or their representative who will be involved with the hazardous waste operation.
 - 4.3.2 All associated employees and their designated representatives.
 - 4.3.3 OSHA personnel.
 - 4.3.4 Authorized personnel of other Federal, state, or local agencies with regulatory authority over the site.
- 4.4 Organizational Structure Part of a Site Program
 - 4.4.1 The organizational structure part of the safety program will establish the specific chain of command and specify the overall responsibilities of Supervisors and employees. It will include, at a minimum, the following elements:
 - 4.4.1.1 The Safety Officer or other designated person will have responsibility and authority to direct all hazardous waste operations.
 - 4.4.1.2 The Safety Officer or other designated person will have the responsibility and authority to develop and implement the Hazardous Waste operations Safety Program and verify compliance.
 - 4.4.1.3 All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.
 - 4.4.1.4 The lines of authority, responsibility, and communication for both general and site-specific activities of a regular or routine nature.

- 4.4.2 The organizational structure will be reviewed and updated as necessary to reflect the current status of waste site operations.
- 4.5 Comprehensive Work Program Part of a Site Safety Program. The company will develop a comprehensive work program that will address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives. The work program will:
- 4.5.1 Address anticipated clean-up activities as well as normal operating procedures. These documents need not repeat procedures available elsewhere.
 - 4.5.2 Define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.
 - 4.5.3 Establish personnel requirements for implementing the program.
 - 4.5.4 The work program will provide for the implementation of the training required by worker involved in site activities.
 - 4.5.5 The work program will provide for the implementation of the required informational programs required workers involved in site activities.
 - 4.5.6 The work program will provide for the implementation of a medical surveillance program required workers involved in site activities.
- 4.6 Spill/Leak Prevention and Emergency Response
- 4.6.1 Cutting oils and coolants and Dipping tanks: All machines using cutting, drilling or machining oils and coolants, or plating, coating and cleaning solutions (usually considered as hazardous materials) should be equipped with secondary containment measures capable of holding the full content of the machine plus 10% freeboard. These fluids are generally listed as non-hazardous, but must be prevented from contaminating sanitary sewer systems. Should secondary containment not be available, suitable absorbent materials or dyking will be utilized to prevent the spill from reaching the drain or sewer.
 - 4.6.2 Nitrogen tank: Because nitrogen is an inert relatively harmless gas, there would be no significant affect on the environmental or public health in the event of a total release of this gas.
 - 4.6.3 Propane tanks: External supply tanks or larger quantities of smaller cylinders must be stored accordingly. No more than 5 full propane cylinders may be stored inside the facility. External tanks should be protected from tampering and vandalism either by a chain link/barbed wire fence with restricted access or by a secure locking system to prevent pilferage. A rupture in such tanks or cylinders may cause a potentially devastating explosion presenting a severe threat to human health and the environment, although the probability of this occurring is low. Tanks and storage areas must be inspected regularly to ensure integrity of the tank and cylinders.

- 4.6.4 Ammonium tanks: Must be well protected from accidental damage and closely monitored to assure that all valves, fittings, connections and gauges are in good condition and proper operational order. A release of ammonia in any significant quantity would be cause for an evacuation or shelter-in-place in a cessation of plant operations due to the acutely hazardous effects of this substance. While there is potential for environmental damage upon such release, the overall probability for such an occurrence is low.
- 4.6.5 Chemical stores
- 4.6.5.1 Chemicals used or stored in 30 gallon carboys, 55 gallon drums, or other smaller containers are located in either a separate building or specific internal area dedicated to this purpose. Strict access control to this area is maintained. There should be no drains in the area and secondary containment or spill response materials must be capable of containing the volume of materials in the event of a spill.
- 4.7 Hazardous and non-hazardous waste storage
- 4.7.1 Hazardous waste. Hazardous waste is stored in the designated area ("Hazardous Waste Storage Area"). Segregated areas are maintained for storage of flammables, caustics, and toxic waste. All drums are stored in an upright condition with sealed lids and bung caps securely in place. All hazardous waste is removed for off-site treatment/disposal within required timeframes based on EPA generator status (usually 90 or 180 days).
- 4.7.2 Non-hazardous waste. Residual waste oils are collected and disposed of in accordance with federal, state and local requirements.
- 4.8 General spill procedure
- 4.8.1 In the event of a spill the following general steps are to be taken:
- 4.8.1.1 Determine source and nature of spill.
- 4.8.1.2 Based on chemical information available from personal knowledge, technical data or MSD Sheets, use protective equipment. IF YOU ARE UNSURE OF THE PROPER PROCEDURES, EQUIPMENT OR GENERAL SAFETY ACTIONS, DO NOT ATTEMPT TO REMEDIATE THE SPILL. NEVER PLACE YOURSELF OR OTHERS IN DANGER DURING AN EMERGENCY SITUATION.
- 4.8.1.3 Try to stop the spill at the source.
- 4.8.1.4 Contain the spill with absorbent material (e.g. booms) if possible.
- 4.8.1.5 Notify your immediate Supervisor.

- 4.8.1.6 Your Supervisor will notify the Hazardous Materials Response Team (on-site team or local agencies such as the local fire department).
- 4.8.1.7 A Spill Report must be completed.

5. Safety Information

- 5.1 Safety and Health Program. The company will develop and implement a written safety and health program for employees involved in hazardous waste operations. The program will be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations. The written safety and health program will incorporate as a minimum the following:
 - 5.1.1 An organizational structure.
 - 5.1.2 A comprehensive work program.
 - 5.1.3 A site-specific safety and health program, which need not repeat safety programs developed elsewhere.
 - 5.1.4 A safety and health training program.
 - 5.1.5 A medical surveillance program.
 - 5.1.6 Any company programs for safety and health.
 - 5.1.7 Any necessary interface between general program and site specific activities.
- 5.2 Site-Specific Safety and Health Program. The company will develop Hazardous Waste Operations Safety Program which will be kept on site. The safety program will address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The safety program will address the following, as a minimum:
 - 5.2.1 A safety and health risk or hazard analysis for each site task and operation found in the work program.
 - 5.2.2 Employee training assignments to assure compliance with the training section of this safety program.
 - 5.2.3 Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the Personal Protective Equipment Safety Program.
 - 5.2.4 Medical surveillance requirements.

- 5.2.5 Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.
 - 5.2.6 Site control measures.
 - 5.2.7 Decontamination procedures.
 - 5.2.8 Emergency response safety program meeting the requirements for safe and effective responses to emergencies, including the necessary PPE and other equipment.
 - 5.2.9 Confined space entry procedures.
 - 5.2.10 Spill containment requirements.
 - 5.2.11 Pre-entry briefing. The site specific safety and health program will provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the Hazardous Waste Operations Program and that this program is being followed. The information and data obtained from site characterization and analysis will be used to prepare and update the Hazardous Waste Operations Safety Program.
 - 5.2.12 Effectiveness of the Hazardous Waste Operations Safety Program. Inspections will be conducted by the Safety Officer or other designated person who is knowledgeable in occupational safety and health, acting on behalf of the company as necessary to determine the effectiveness of the Hazardous Waste Operations Safety Program. Any deficiencies in the effectiveness of this safety program will be corrected.
- 5.3 Site Characterization and Analysis. The site will be evaluated in accordance with this safety program to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards. The following requirements apply:
- 5.3.1 Preliminary evaluation. A preliminary evaluation of a site's characteristics will be performed prior to site entry in order to aid in the selection of appropriate employee protection methods prior to site entry. Immediately after initial site entry, a more detailed evaluation of the site's specific characteristics will be performed in order to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.
 - 5.3.2 Hazard identification. All suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH), or other conditions that may cause death or serious harm, will be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to:

- 5.3.2.1 Confined space entry
 - 5.3.2.2 Explosive or flammable situations
 - 5.3.2.3 Visible vapor clouds
 - 5.3.2.4 Areas where biological or environmental indicators such as dead animals or vegetation are located
- 5.3.3 Required information. The following information to the extent available will be obtained by the company prior to allowing employees to enter a site:
- 5.3.3.1 Location and approximate size of the site.
 - 5.3.3.2 Description of the response activity and/or the job task to be performed.
 - 5.3.3.3 Duration of the planned employee activity.
 - 5.3.3.4 Site topography and how accessible.
 - 5.3.3.5 Safety/health hazards expected at the site.
 - 5.3.3.6 Pathways for hazardous substance dispersion.
 - 5.3.3.7 Present status and capabilities of emergency response teams that would provide assistance to hazardous waste clean-up site employees at the time of an emergency.
 - 5.3.3.8 Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.
- 5.3.4 Personal protective equipment. Personal protective equipment (PPE) will be provided and used during initial site entry in accordance with the following requirements:
- 5.3.4.1 Based upon the results of the preliminary site evaluation, an ensemble of PPE will be selected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards, and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation. If there is no permissible exposure limit or published exposure level, the company may use other published studies and information as a guide to appropriate personal protective equipment.

- 5.3.4.2 If positive-pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration will be carried by employees during initial site entry.
- 5.3.4.3 If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site, an ensemble providing protection equivalent to Level B PPE will be provided as minimum protection, and direct reading instruments will be used as appropriate for identifying IDLH conditions.
- 5.3.4.4 Once the hazards of the site have been identified, the appropriate PPE will be selected and used in accordance with the engineering controls, work practices, and PPE for employee protection section of this safety program.
- 5.3.5 Monitoring. The following monitoring will be conducted during initial site entry when the site evaluation produces information that shows the potential for ionizing radiation or IDLH conditions, or when the site information is not sufficient reasonably to eliminate these possible conditions:
 - 5.3.5.1 Monitoring with direct reading instruments for hazardous levels of ionizing radiation.
 - 5.3.5.2 Monitoring the air with appropriate direct reading test equipment (i.e., combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).
 - 5.3.5.3 Visually observing for signs of actual or potential IDLH or other dangerous conditions.
- 5.3.6 Air monitoring program. An ongoing air monitoring program will be implemented after site characterization has determined the site is safe for the start-up of operations.
- 5.3.7 Risk identification. Once the presence and concentrations of specific hazardous substances and health hazards have been established, the risks associated with these substances will be identified. Employees who will be working on the site will be informed of any risks that have been identified. In situations covered by the Hazard Communication Standard, 29 CFR 1910.1200, training required by that standard will not be duplicated. Risks to be considered include, but are not limited to:
 - 5.3.7.1 Exposures exceeding the permissible exposure limit and published exposure levels.
 - 5.3.7.2 IDLH concentrations.

- 5.3.7.3 Potential skin absorption and irritation sources.
- 5.3.7.4 Potential eye irritation sources.
- 5.3.7.5 Explosion sensitivity and flammability ranges.
- 5.3.7.6 Oxygen deficiency.
- 5.3.8 Employee notification. Any information concerning the chemical, physical, and toxicological properties of each substance known or expected to be present on site that is available to the company and relevant to the duties an employee is expected to perform will be made available to the affected employees prior to the commencement of their work activities. The company may elect to utilize information developed for the hazard communication standard for this purpose.
- 5.3.9 Site control. Appropriate site control procedures will be implemented to control employee exposure to hazardous substances before clean-up work begins.
- 5.3.10 Site control program. A site control program for protecting employees which is part of the company's Hazardous Waste Operations Safety Program will be developed during the planning stages of a hazardous waste clean-up operation and modified as necessary as new information becomes available.
- 5.3.11 Elements of the site control program. Where these requirements are covered elsewhere they will not be repeated with just cause. The site control program will, as a minimum, include:
 - 5.3.11.1 A site map.
 - 5.3.11.2 Site work zones.
 - 5.3.11.3 The use of a "buddy system".
 - 5.3.11.4 Site communications including alerting means for emergencies.
 - 5.3.11.5 The programs or safe work practices.
 - 5.3.11.6 Identification of the nearest medical assistance.
- 5.4 Medical Surveillance. The employer when engaged in hazardous waste operations specified section 2 of this program will institute a medical surveillance program in accordance with this section.
 - 5.4.1 Employees covered. The medical surveillance program will be instituted by the company for the following employees:

- 5.4.2 All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year.
 - 5.4.2.1 All employees who wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134.
 - 5.4.2.2 All employees who are injured become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation.
 - 5.4.2.3 Members of HAZMAT teams.
- 5.4.3 Frequency of medical examinations and consultations. Medical examinations and consultations will be made available by the company to each employee authorized on the following schedules:
 - 5.4.3.1 Prior to assignment.
 - 5.4.3.2 At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate.
 - 5.4.3.3 At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.
 - 5.4.3.4 As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation.
 - 5.4.3.5 At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.
- 5.4.4 For authorized employees who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:
 - 5.4.4.1 As soon as possible following the emergency incident or development of signs or symptoms.

- 5.4.4.2 At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.
- 5.4.5 Content of medical examinations and consultations.
 - 5.4.5.1 Medical examinations will include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.
 - 5.4.5.2 The content of medical examinations or consultations made available to employees will be determined by the attending physician. (The guidelines in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities should be consulted).
- 5.4.6 Examination by a physician and costs. All medical examinations and procedures performed by or contracted through the company will be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and will be provided without cost to the employee, without loss of pay, and at a reasonable time and place.
- 5.4.7 Information provided to the physician. The company will provide one copy of 29 CFR 1910.120 any appendices to the attending physician, and in addition the following for each employee:
 - 5.4.7.1 A description of the employee's duties as they relate to the employee's exposures.
 - 5.4.7.2 The employee's exposure levels or anticipated exposure levels.
 - 5.4.7.3 A description of any personal protective equipment used or to be used.
 - 5.4.7.4 Information from previous medical examinations of the employee which is not readily available to the examining physician.
 - 5.4.7.5 Information required by 29 CFR 1910.134.
- 5.4.8 Physician's written opinion. The company will obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:
 - 5.4.8.1 The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

- 5.4.8.2 The physician's recommended limitations upon the employee's assigned work.
- 5.4.8.3 The results of the medical examination and tests if requested by the employee.
- 5.4.8.4 A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.
- 5.4.8.5 The written opinion obtained by the company will not reveal specific findings or diagnoses unrelated to occupational exposures.
- 5.4.9 Recordkeeping. An accurate record of the medical surveillance will be retained. This record will be retained for the period specified and meet the criteria of 29 CFR 1910.20. The record will include at least the following information:
 - 5.4.9.1 The name and social security number of the employee.
 - 5.4.9.2 Physician's written opinions, recommended limitations, and results of examinations and tests.
 - 5.4.9.3 Any employee medical complaints related to exposure to hazardous substances.
 - 5.4.9.4 A copy of the information provided to the examining physician, with the exception of the written copy of 29 CFR 1910.120 and any appendices.
- 5.5 Engineering Controls, Work Practices, and Personal Protective Equipment for Employee Protection. The company will ensure that engineering controls, work practices, personal protective equipment, or a combination of these will be implemented in accordance with 29 CFR 1910, subparts G and Z. Engineering controls and work practices will be instituted to reduce and maintain employee exposure to or below the permissible exposure limits, except to the extent that such controls and practices are not feasible.
- 5.6 Containment for specific materials.
 - 5.6.1 Caustic Spill Procedure
*** SOLID ***
Caustic Beads
 - 5.6.1.1 Spill Response:
 - 5.6.1.1.1 Use protective equipment: Gloves, Goggles, and Respirator.
 - 5.6.1.1.2 Stop leak or spill and prevent from mixing with other chemicals.

- 5.6.1.1.3 If spill is less than 5 lbs., sweep up and return to storage if it has not been contaminated with other chemicals.
- 5.6.1.1.4 If spill is larger than 5 lbs., notify Emergency Coordinator then use Procedure #3 above.
- 5.6.1.1.5 Complete Spill Report and forward to your Supervisor.

5.6.2 CAUSTIC SPILL PROCEDURE

*** LIQUID ***

Sodium Hydroxide
Boiler Control Chemicals

5.6.2.1 Spill Response:

- 5.6.2.1.1 Use protective equipment: Gloves, Goggles, Face Shield, Boots, and Respirator.
- 5.6.2.1.2 Stop leak or spill and contain with absorbent materials.
- 5.6.2.1.3 If spill is less than 1 gallon, dilute it with water, then neutralize with diluted sulfuric acid, mop up and send to wastewater treatment.
- 5.6.2.1.4 If spill is larger than 1 gallon, notify Emergency Coordinator, and then use Procedure #3 above.
- 5.6.2.1.5 Complete Spill Report and forward to your Supervisor.

5.6.3 OXIDIZER SPILL PROCEDURE

*** LIQUID ***

Hydrofluoric Acid
Nitric Acid

5.6.3.1 Spill Response:

- 5.6.3.1.1 Use protective equipment: Gloves, Goggles, and Respirator.
- 5.6.3.1.2 Stop leak or spill and prevent from mixing with other chemicals.
- 5.6.3.1.3 Extinguish all sources of sparks, flame and heat.
- 5.6.3.1.4 Contain Spill if it can be safely done.

5.6.3.1.5 Notify Primary Emergency Coordinator before any clean-up is attempted.

5.6.3.1.6 Complete Spill Report and forward to your Supervisor.

5.6.4 SOLVENT SPILL PROCEDURE

*** LIQUID ***

1,1,1, Trichloroethane

Methyl Ethyl Ketone

Toluene

Mineral Spirits

5.6.4.1 Spill Response:

5.6.4.1.1 Use protective equipment: Gloves, Goggles, Boots, Apron, Respirator or self-contained breathing apparatus (Scott Air Pack). Test explosive limit and oxygen content of air with a meter. Do not go into enclosed area without first testing the air!

5.6.4.1.2 KEEP ALL SOURCES OF FLAME, HEAT OR SPARK AWAY!!

5.6.4.1.3 Stop leak or spill and contain it if possible. Do not take unnecessary risks.

5.6.4.1.4 Notify Primary Emergency Coordinator. The Primary Emergency Coordinator will handle delegation of responsibility for spill clean up.

5.6.4.1.5 Complete Spill Report and forward to your Supervisor.

6. Training and Information.

All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their Supervisors and management responsible for the site will receive training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they will receive review training as specified in this paragraph. Employees will not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility. Elements to be covered include the following:

6.1 Names of personnel and alternates responsible for site safety and health.

6.2 Safety, health and other hazards present on the site.

6.3 Use of personal protective equipment.

- 6.4 Work practices by which the employee can minimize risks from hazards.
- 6.5 Safe use of engineering controls and equipment on the site.
- 6.6 Medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards.
- 6.7 The contents of the Hazardous Waste Operations Safety Program.
- 6.8 Initial training requirements for hazardous waste clean-up sites.

<u>STAFF</u>	<u>INITIAL TRAINING (hours)</u>	<u>FIELD TRAINING (hours)</u>	<u>ANNUAL REFRESHER (hours)</u>	<u>HAZWASTE MGMT (hours)</u>
Supervisors/Managers of Routine Site Employees	40	24	8	8
Routine site employees	40	24	8	
Routine site employees (minimal exposure)	24	8	8	8
Non-Routine Site Employees	24	8	8	8

- 6.9 Initial training requirements for treatment, storage, and disposal sites.

<u>STAFF</u>	<u>INITIAL TRAINING (hours)</u>	<u>ANNUAL REFRESHER (hours)</u>
General site employees	24	8
Emergency Response Personnel	Trained to a level of competency with annual refresher	

- 6.10 Initial training requirements for emergency response staff.

<u>LEVEL</u>	<u>STAFF</u>	<u>TRAINING</u>	<u>DEFINITION</u>
1	First Responder (awareness level)	Sufficient training or proven experience in specific competencies, annual refresher	Witnesses or discovers a release of hazardous materials and who are trained to notify the proper authorities
2	First Responder (operations level)	Level 1 competency and 8 hours initial or proven experience in specific competencies, annual refresher	Responds to releases of hazardous substances in a defensive manner, without trying to stop the releases
3	HAZMAT Technician	24 hours of Level 2 and proven experience in specific competencies, annual refresher	Responds aggressively to stop releases of hazardous substances
4	HAZMAT Specialist	24 hours of Level 3 and proven experience in specific competencies, annual refresher	Responds with and in support of HAZMAT Technicians, but who have specific knowledge of various hazardous substances
5	On-scene Commander	24 hours of Level 2 and additional competencies, annual refresher	Assumes control of the incident scene beyond the first-responder awareness level

- 6.11 Qualifications for trainers. Trainers used by the company will be qualified to instruct employees about the subject matter that is being presented in training. Such trainers will have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they will have the academic credentials and instructional experience necessary for teaching the subjects. Instructors will demonstrate competent instructional skills and knowledge of the applicable subject matter.
- 6.12 Training verification. Employees and Supervisors that have received and successfully completed the training and field experience will be so certified by their instructor or the head instructor and trained Supervisor as having successfully completed the necessary training. A written certificate will be given to each person so trained. Any person who has not been so trained or who does not meet the requirements for entering the site will be prohibited from engaging in hazardous waste operations.
- 6.13 Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances will be trained in how to respond to such expected emergencies.
- 6.14 Refresher training. Employees, managers and Supervisors will receive eight hours of refresher training annually (any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics).
- 6.15 Equivalent training. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience. Employee's who can demonstrate that their work experience and/or training has resulted in equivalent credentials required for a 40 hour course will not be required attend formal training. However, employees new to a site will receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site

7. Definitions

- *Buddy System* - A system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.
- *Clean Up Operation* - An operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.
- *Decontamination* - The removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.

- *Emergency Response Corresponding to Emergencies* - A response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.
- *Facility* - Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located but does not include any consumer product in consumer use or any water-borne vessel.
- *Hazardous Materials Response (HAZMAT) Team* - An organized group of employees, designated by Progene Biomedical, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.
- *Hazardous Substance* - Any substance listed below to which an exposure results or may result in adverse affects on the health or safety of employees.
 - Any substance defined under section 101(14) of CERCLA.
 - Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring.
 - Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices.
 - Hazardous Waste
- *Hazardous Waste* - Waste or combination, as defined in 40 CFR 261.3. Substances defined as hazardous wastes in 49 CFR 171.8.
- *Hazardous Waste Operation* - Any operation conducted within the scope of 29 CFR 1910.120.
- *Hazardous Waste Site* - Any facility or location within the scope of 29 CFR 1910.120 at which hazardous waste operations take place.

- *Health Hazard* - A chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins; agents which act on the hematopoietic system and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in appendix A to 29 CFR 1910.1200.
- *IDLH (Immediately Dangerous to Life or Health)* - An atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.
- *Oxygen Deficiency* - That concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.
- *Permissible Exposure Limit* - The exposure, inhalation or dermal permissible exposure limit specified in 29 CFR part 1910, subparts G and Z.
- *Published Exposure Level* - The exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986 incorporated by reference, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987 incorporated by reference.
- *Post Emergency Response* - That portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response.
- *Qualified Person* - A person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.
- *Site Safety and Health Supervisor (or Official)* - The individual located on a hazardous waste site that is responsible to Progene Biomedical and has the authority and knowledge necessary to implement the Hazardous Waste Operations Safety Program and verify compliance with applicable safety and health requirements.
- *Small Quantity Generator* - A generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

- *Uncontrolled Hazardous Waste Site* - An area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

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PROGRAM OVERVIEW

JOB HAZARD ANALYSIS (JHA) SAFETY PROGRAM

REGULATORY STANDARD: 29 CFR §1910.132-138

INTRODUCTION

Provides an overview of the process for evaluating job hazards, analyzing the risks associated with tasks and activities in the workplace, and determining the control measures for reducing or eliminating identified risks.

TRAINING

Recommended for most workplaces.

ACTIVITIES

- Ensure hazards of tasks and activities are evaluated and controlled.
- Where required, implement protective equipment and procedures

FORMS

- JHA Form
- JHA Process Examples
- Training Attendance Roster

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JOB HAZARD ANALYSIS (JHA) SAFETY PROGRAM

- 1. Purpose.** A job hazard analysis, simply put, is a method to identify existing and/or potential hazards of a job. Each task undergoing a JHA will be studied and each step of the job recorded, so that the entire job process is considered. Hazards (or potential hazards) are then more easily identified, and the best way to reduce or eliminate those hazards can be determined.
- 2. Scope.** Applies to any area where a JHA process may be required (such as the use of highly hazardous chemicals above established quantity thresholds). Job hazard analysis techniques can also be performed in areas where job or task activities may require an evaluation of hazard potential and a determination of protective controls prior to the implementation of Personal Protective Equipment Requirements.

3. Responsibilities

3.1 Management

- 3.1.1 Ensure that all jobs and tasks have been evaluated and hazards appropriately addressed. Where possible, hazards will be controlled before the use of PPE is implemented. Controls include:
 - 3.1.1.1 Elimination of a product or process that generates the hazard
 - 3.1.1.2 Substitution of a non-hazardous or less-hazardous material or chemical
 - 3.1.1.3 Engineering methods such as ventilation or guarding
 - 3.1.1.4 Administrative controls such as procedures or task rotation
- 3.1.2 Select the appropriate controls to reduce or eliminate hazards, based on the types of tasks and activities performed.
- 3.1.3 Write operating procedures for tasks or activities that require controls, or include control requirements in existing work and task procedures.
- 3.1.4 Maintain control measures and equipment.
- 3.1.5 Once control measures have been implemented, review and assess at the one year interval the needs for continued (or additional) use of control measures and their requirements. These assessments should be documented as proof that controls are or are not required for certain tasks or activities. Documentation in the procedure is adequate to fulfill this need, however any specific testing or monitoring results will need to be documented and maintained separately.

3.2 Employees

- 3.2.1 Follow established procedures

- 3.2.2 Assist in providing assessment and documentation of job hazards, as needed or required

3.3 JHA Team

- 3.3.1 Verify the JHA steps and the viability of recommendations
- 3.3.2 Select those corrective actions that will be implemented
- 3.3.3 Track corrective actions to assure they are completed
- 3.3.4 Ensure corrective actions provide the appropriate level of safety and that they do not create additional hazards
- 3.3.5 Determine if procedures, checklists, training, etc require updating based on the recommended corrective actions.

4. Procedure

4.1 Hazard Evaluation and Determination

- 4.1.1 Ensure JHA's have been completed. The JHA should be documented, to facilitate a later review of the process or activity hazards.
 - 4.1.1.1 JHA's shall be performed in all areas to identify hazards that require the use of hazard controls (including PPE requirements). Priority may be given to areas or tasks with higher injury/risk potential.
 - 4.1.1.2 A JHA or other hazard assessment must be completed before any non-routine task (task not evaluated as part of the current hazard assessments) is started and before changes are made to operating procedures and when incidents result from inadequate controls or PPE.

4.2 JHA Process – General

- 4.2.1 Prioritize readily hazardous processes and perform a JHA on these tasks and activities first.
- 4.2.2 Form a team to look at the process (at least two people, frequently more, depending upon the hazards and risks)
- 4.2.3 JHA's are conducted by listing the job steps, determining the hazards presented by each step and determining control methods (including PPE) to use to eliminate or reduce the hazard levels.
- 4.2.4 Corrective actions may be required or recommended, based on the type of task or activities evaluated.

5. Safety Information

5.1 JHA Prioritization

- 5.1.1 JHA's assist in providing early recognition of hazards that may cause an injury or occupational illness, or environmental harm. Although all jobs and tasks should eventually undergo a JHA, any higher hazard jobs should be prioritized to reduce the likelihood of injury or illness.
 - 5.1.1.1 Jobs where injuries have previously occurred, or have a high frequency of injury, illness, environmental harm or equipment damage, should be first priority.
 - 5.1.1.2 Second priority would be jobs that have a high potential for accidents due to the frequent use of hazardous materials or equipment, or those that have a history of "near misses".
 - 5.1.1.3 Third priority would be new jobs or tasks that involve the introduction of new equipment, tools, chemicals or materials, or that have changes in the process of how to perform the job or have regulations that guide the method in which the job is performed.

5.2 JHA Team

- 5.2.1 JHA's should be a team effort and normally involve more than one person. However, in a small business setting, two or three people may be sufficient to perform a JHA.
- 5.2.2 The most experienced person who performs that job should be on the team. This person has the most familiarity with the job, how it is performed, and any hazards associated with the job. Other operators, who may perform the task differently, may also be included, as well as any new operators, who can bring a "fresh set of eyes", and a different perspective, to the JHA.
- 5.2.3 Supervisors are usually included, as they may know of potential workplace changes that can affect the job, and can usually provide any funding needed for JHA recommended changes.
- 5.2.4 Maintenance staff that service and repair any equipment should be included.
- 5.2.5 If available, any technical experts (safety, engineers, environmental specialists, etc) may be included, as they generally have understanding and knowledge of any regulations that may affect the job, and understand how they are implemented.

5.3 Where to Perform a JHA

- 5.3.1 At the workplace, where the job is performed is the best place to perform a JHA. By doing the JHA on-site, no steps will be overlooked, and the workplace conditions (lighting, noise, layout, etc.) can be assessed. Recommendations for changes may be more readily implemented, as well. If possible, the team should watch the job being performed so they can understand the sequence of steps and the significance of each step (what is done, in what order, and why).
- 5.3.2 JHA's can be more limited in scope, as well, and jobs can be reviewed verbally. This is usually done only when the job cannot be performed first, it is not a "routine" job, if it is one part of a larger job sequence, or the workplace conditions are not conducive to observing the job (i.e. dark area, or small workspace).
- 5.3.3 JHA's can also be performed using video surveillance. By using video, there can be better visibility for team members and the task can be viewed many times, slowed down, or even paused for analyzing hazards. However, employees are frequently uncomfortable being videotaped and the video tape is only from one angle, so some hazards may be overlooked.

5.4 Conducting the JHA

- 5.4.1 List the Basic Job Steps - Nearly every job can be broken down into steps. Each step should be observed by the JHA team. The steps should be discussed, so that everyone understands them, and the reasons the steps are included. The steps should be listed in order of performance. (The JHA form at the end of this module can be used for this, or another form of your choosing.) Action words should be used to describe the steps and they should be numbered sequentially.
 - 5.4.1.1 There are typically between 3 and 12 steps in a JHA. If there are fewer, then the scope of the JHA is too broad and some hazards may be overlooked. If there are more than 12 steps then the JHA is too detailed, and the JHA team may get "bogged down" with more detail than they need.
- 5.4.2 Determine the Potential Hazards - Hazards are then determined by asking questions such as:
 - 5.4.2.1 Can the employee receive a strain or sprain due to bending, twisting, lifting while performing any of the steps?
 - 5.4.2.2 Can the employee receive a crushing injury (be caught in, on or between equipment)?
 - 5.4.2.3 Can the employee receive a burn or irritation due to contact with chemicals, heat, or other physical or biological hazards?
 - 5.4.2.4 Could a chemical or material release occur?

5.4.3 List the Existing and Potential Hazards.

5.4.4 Make Recommendations to Reduce/Eliminate or Control Hazards - Where possible, eliminate the hazard, or substitute a non-hazardous material or condition that will achieve quality results. Where hazards can not be eliminated, provide engineering controls (barriers, interlocks, tools, etc.) that can reduce or eliminate hazardous conditions. Administrative control (procedures, training, limit the exposure time, etc) should be applied to the task where elimination and engineering are not feasible. When all the previous controls can not provide hazard reduction, personal protective equipment (PPE) should be considered (i.e., gloves, respirators, specialized clothing, etc.). PPE should be the last control considered. Remember that PPE frequently requires specialized training, cleaning, or maintenance, and records may need to be kept.

5.4.4.1 Make recommendations for every hazard identified, beginning with the first hazard listed. You can make several recommendations for one hazard, bearing in mind that one or more may not be feasible, cost effective or timely. Number each recommendation in accordance with its hazard. Recommendations should be specific (what type of gloves, what specific material will be substituted, etc.). Existing controls may already control or eliminate some hazards, be sure to list these, so they do not get changed and make the hazardous situation worse. Where needed, consider that some regulations require specific types of controls to be put in place, and if they are prescribed they may not be the most feasible or economical to implement.

6. Training and Information

Where needed or required, employees participating in JHA's may require training in the techniques used.

7. Definitions

- *JHA* - A method used to determine the hazards of a particular task or activity.
- *Personal Protective Equipment (PPE)* - Devices worn to protect employees from potential hazards encountered in the workplace.
- *Hazard Assessment* - An evaluation of the workplace to determine if hazards are present (or are likely to be present) which necessitate the use of PPE.

JOB HAZARD ANALYSIS

PAGE __ OF __

JOB OR TASK BEING EVALUATED:

DATE OF ANALYSIS:

JOB HAZARD ANALYSIS TEAM PARTICIPANTS:

STEPS:

POTENTIAL OR EXISTING
HAZARDS:

CORRECTIVE ACTION RECOMMENDATIONS:

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JOB HAZARD ANALYSIS PROCESS EXAMPLE

INTRODUCTION:

A job hazard analysis, simply put, is a method to identify existing and/or potential hazards of a job. Each task undergoing a JHA will be studied and each step of the job recorded, so that the entire job process is considered. Hazards (or potential hazards) are then more easily identified, and the best way to reduce or eliminate those hazards can be determined.

PRIORITIZATION:

A JHA can assist in providing early recognition of hazards that may cause an injury or occupational illness, or environmental harm. Although all jobs and tasks should eventually undergo a JHA, any higher hazard jobs should be prioritized to reduce the likelihood of injury or illness.

Jobs where injuries have previously occurred, or have a high frequency of injury, illness, environmental harm or equipment damage, should be first priority.

Second priority would be jobs that have a high potential for accidents due to the frequent use of hazardous materials or equipment, or those that have a history of "near misses".

Third priority would be new jobs or tasks that involve the introduction of new equipment, tools, chemicals or materials, or that have changes in the process of how to perform the job or have regulations that guide the method in which the job is performed.

WHO DOES A JHA?

JHA's should be a team effort and normally involve more than one person. However, in a small business setting, two or three people may be sufficient to perform a JHA.

The most experienced person who performs that job should be on the team. This person has the most familiarity with the job, how it is performed, and any hazards associated with the job. Other operators, who may perform the task differently, may also be included, as well as any new operators, who can bring a "fresh set of eyes", and a different perspective, to the JHA.

Supervisors are usually included, as they may know of potential workplace changes that can affect the job, and can usually provide any funding needed for JHA recommended changes.

Maintenance staff that service and repair any equipment should be included.

If available, any technical experts (safety, engineers, environmental specialists, etc) may be included, as they generally have understanding and knowledge of any regulations that may affect the job, and understand how they are implemented.

WHERE TO PERFORM A JHA:

At the workplace, where the job is performed is the best place to perform a JHA. By doing the JHA on-site, not steps will be overlooked, and the workplace conditions (lighting, noise, layout, etc.) can be assessed. Recommendations for changes may be more readily implemented, as well. If possible, the team should watch the job being performed so they can understand the sequence of steps and the significance of each step (what is done, in what order, and why).

JHA's can be more limited in scope, as well, and jobs can be reviewed verbally. This is usually done only when the job cannot be performed first, it is not a "routine" job, if it is one part of a larger job sequence, or the workplace conditions are not conducive to observing the job (i.e. dark area, or small workspace).

JHA's can also be performed using video surveillance. By using video, there can be better visibility for team members and the task can be viewed many times, slowed down, or even paused for analyzing hazards. However, employees are frequently uncomfortable being videotaped and the video tape is only from one angle, so some hazards may be overlooked.

CONDUCTING THE JHA - List the Basic Job Steps

Nearly every job can be broken down into steps. Each step should be observed by the JHA team. The steps should be discussed, so that everyone understands them, and the reasons the steps are included. The steps should be listed in order of performance. (The JHA form at the end of this module can be used for this, or another form of your choosing.) Action words should be used to describe the steps and they should be numbered sequentially.

Determine the Potential Hazards:

Hazards are then determined by asking questions such as:

1. Can the operator receive a strain or sprain due to bending, twisting, and lifting while performing any of the steps?
2. Can the operator receive a crushing injury being caught in, on or between equipment?
3. Can they receive a burn or irritation due to contact with chemicals, heat, or other physical or biological hazards?
4. Could a chemical or material release occur?

EXAMPLE 2 - Swing Grinder. The following picture details a swing grinding operation.



Based on what is shown in the picture, follow the steps to complete a JHA.

The first step is to list the tasks involved in the swing grinding operation.

1. Remove any potential fire hazards and combustibles from the area
2. Inspect the grinder to assure it is in good operating condition
3. Assure all castings and materials to be ground are accessible, but out of way of any direct hazards
4. Double check the grinding wheel to assure it is the proper size and strength to perform the operation
5. Put on Personal Protective Equipment
6. Turn grinder on
7. Grind castings

The second step of the JHA is to ask the questions about existing or potential hazards. Noise, Fire, body strain, burns, vibration, dust, fumes, light, flying particles are just a few hazards that are apparent from the picture. Each of these hazards is associated with one or more of the steps involved in the swing grinding operation. They should be listed and numbered accordingly:

- 1a) Body strain from lifting/twisting
- 1b) Potential fire if materials are not moved
- 2a) Operator getting caught in a pinch point
- 2b) Body strain from lifting grinder
- 2c) Dust or particles in eye from previous activity or unkempt workplace
- 2d) Potential for breaking grinding wheel if inspection is not performed or performed improperly
- 3a) Wasted energy to start and stop grinder if materials are not accessible
- 3b) Potential fire or tripping hazard if materials are in the way.
- 4a) Potential to break grinding wheel if improper size or type for operation
- 5a) Hearing loss from excessive noise
- 5b) Burns from grinding dust and sparks
- 5c) Body strain from lifting, movement while grinding and/or vibration
- 5d) Dust or particles in eye
- 6a) Potential for breaking grinding wheel if inspection is not performed or performed improperly
- 7a) Body strain from lifting/twisting
- 7b) Potential fire if materials are not moved
- 7c) Operator getting caught in a pinch point, or laceration from contact with grinding surface
- 7d) Dust or particles in eye from previous activity or unkempt workplace
- 7e) Potential for breaking grinding wheel if inspection is not performed or performed improperly
- 7f) Wasted energy to start and stop grinder if materials are not accessible
- 7g) Potential fire or tripping hazard if materials are in the way.
- 7h) Hearing loss from excessive noise
- 7i) Burns from grinding dust and sparks
- 7j) Body strain from lifting, movement while grinding and/or vibration
- 7k) Dust or particles in eye

The next step is to make the recommendations to reduce or eliminate the existing or potential hazards:

- 1a1) Assure operator is trained in how to lift/twist without injury
- 1a2) Assure operator has the strength/capability of operating the grinder
- 1b1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
- 1b2) Assure that materials to be ground are in non-combustible containers
- 2a1) Assure that pinch points are properly guarded.
- 2a2) Assure that operator is aware of where pinch points are.
- 2b1) Assure operator is trained in how to lift/twist without injury
- 2b2) Assure operator has the strength/capability of operating the grinder
- 2c1) Assure proper eye protection (full face shield or welding mask)
- 2c2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.
- 2d1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
- 3a1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
- 3b1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
- 3b2) Assure appropriate fire protection systems are in place and operational.
- 4a1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
- 4a2) Assure proper eye protection (full face shield or welding mask)
- 5a1) Assure proper hearing protection is used by operator and any other exposed people.
- 5a2) Assure noise levels require hearing protection
- 5a3) Assure grinder is operating at appropriate velocity and parts are secured to reduce vibration, noise and potential for breakage.
- 5b1) Assure proper clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn during operation.
- 5c1) Assure operator is trained in how to lift/twist without injury
- 5c2) Assure operator has the strength/capability of operating the grinder
- 5c3) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration.
- 5d1) Assure proper eye protection (full face shield or welding mask)
- 5d2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.

6a1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation
 6a2) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration.
 7a1) Assure operator is trained in how to lift/twist without injury
 7a2) Assure operator has the strength/capability of operating the grinder
 7b1) Use a checklist before operations to assure materials are moved to their correct distance or location.
 7b2) Assure appropriate fire protection systems are in place and operational.
 7b3) Assure housekeeping is performed after and as needed between grinding operations to reduce or eliminate dust from area.
 7c1) Assure that pinch points are properly guarded.
 7c2) Assure that operator is aware of where pinch points are.
 7c3) Assure that protective clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn.
 7d1) Assure proper eye protection (full face shield or welding mask)
 7d2) Assure housekeeping is performed after and as needed between grinding operations and to reduce or eliminate dust from area.
 7e1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation
 7e2) Assure grinder is operating at appropriate velocity and parts are secured to reduce vibration, noise and potential for breakage.
 7e3) Assure grinding wheel is properly guarded.
 7e4) Assure materials are properly secured during grinding.
 7f1) Use a checklist before operations to assure materials are moved to their correct distance or location.
 7g1) Use a checklist before operations to assure materials are moved to their correct distance or location.
 7h1) Assure proper hearing protection is used by operator and any other exposed people.
 7h2) Assure noise levels require hearing protection
 7h3) Assure grinder is operating at appropriate velocity and parts are secured to reduce vibration, noise and potential for breakage.
 7i1) Assure that proper protective clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn.
 7i2) Assure proper eye protection (full face shield or welding mask)
 7i3) Assure housekeeping is performed after and as needed between grinding operations and to reduce or eliminate dust from area.
 7i4) Assure proper eye protection (full face shield or welding mask)
 7j1) Assure grinder is operating at appropriate velocity and parts are secured to reduce vibration, noise and potential for breakage.
 7j2) Assure operator is trained in how to lift/twist without injury
 7j3) Assure operator has the strength/capability of operating the grinder
 7k1) Assure proper eye protection (full face shield or welding mask)
 7k2) Assure housekeeping is performed after and as needed between grinding operations to reduce or eliminate dust from area.
 All this information should be placed on the JHA form in the appropriate space. The end result will look like this:

EXAMPLE 2 - Swing Grinder:

JOB HAZARD ANALYSIS		PAGE 1 OF 5
JOB OR TASK BEING EVALUATED: <i>Swing Grinding Operation</i>		DATE OF ANALYSIS: <i>July, 2004</i>
JOB HAZARD ANALYSIS TEAM PARTICIPANTS: <i>Jim Grinder, Jane Doe</i>		
STEP(S)	POTENTIAL OR EXISTING HAZARD(S)	CORRECTIVE ACTION RECOMMENDATIONS
1. Remove any potential fire hazards and combustibles from the area	1a) Body strain from lifting/twisting	1a1) Assure operator is trained in how to lift/twist without injury
		1a2) Assure operator has the strength/capability of operating the grinder
	1b) Potential fire if materials are not moved	1b1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
		1b2) Assure that materials to be ground are in non-combustible containers
2. Inspect the grinder to assure it is in good operating condition	2a) Operator getting caught in a pinch point	2a1) Assure that pinch points are properly guarded.
		2a2) Assure that operator is aware of where pinch points are.
	2b) Body strain from lifting grinder	2b1) Assure operator is trained in how to lift/twist without injury
		2b2) Assure operator has the strength/capability of operating the grinder
	2c) Dust or particles in eye from previous activity or unkempt workplace	2c1) Assure proper eye protection (full face shield or welding mask)
		2c2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.

JOB HAZARD ANALYSIS

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OF 5**

STEP(S)	POTENTIAL OR EXISTING HAZARD(S)	CORRECTIVE ACTION RECOMMENDATIONS
	2d) Potential for breaking grinding wheel if inspection is not performed or performed improperly	2d1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
3. Assure all castings and materials to be ground are accessible, but out of way of any direct hazards	3a) Wasted energy to start and stop grinder if materials are not accessible	3a1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
	3b) Potential fire or tripping hazard if materials are in the way.	3b1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
		3b2) Assure appropriate fire protection systems are in place and operational.
4. Double check the grinding wheel to assure is it the proper size and strength to perform the operation	4a) Potential to break grinding wheel if improper size or type for operation	4a1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
		4a2) Assure proper eye protection (full face shield or welding mask)
5. Put on Personal Protective Equipment	5a) Hearing loss from excessive noise	5a1) Assure proper hearing protection is used by operator and any other exposed people.
		5a2) Assure noise levels require hearing protection
		5a3) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration, noise and potential for breakage.
	5b) Burns from grinding dust and sparks	5b1) Assure proper clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn during operation.

JOB HAZARD ANALYSIS

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OF 5**

STEP(S)	POTENTIAL OR EXISTING HAZARD(S)	CORRECTIVE ACTION RECOMMENDATIONS
	5c) Body strain from lifting, movement while grinding and/or vibration	5c1) Assure operator is trained in how to lift/twist without injury
		5c2) Assure operator has the strength/capability of operating the grinder
		5c3) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration.
	5d) Dust or particles in eye	5d1) Assure proper eye protection (full face shield or welding mask)
		5d2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.
6. Turn grinder on	6a) Potential for breaking grinding wheel if inspection is not performed or performed improperly	6a1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
		6a2) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration.
7. Grind castings	7a) Body strain from lifting/twisting	7a1) Assure operator is trained in how to lift/twist without injury
		7a2) Assure operator has the strength/capability of operating the grinder
	7b) Potential fire if materials are not moved	7b1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
		7b2) Assure appropriate fire protection systems are in place and operational.
		7b3) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.

JOB HAZARD ANALYSIS

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OF 5**

STEP(S)	POTENTIAL OR EXISTING HAZARD(S)	CORRECTIVE ACTION RECOMMENDATIONS
	7c) Operator getting caught in a pinch point, or laceration from contact with grinding surface	7c1) Assure that pinch points are properly guarded.
		7c2) Assure that operator is aware of where pinch points are.
		7c3) Assure that proper protective clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn during operation.
	7d) Dust or particles in eye from previous activity or unkempt workplace	7d1) Assure proper eye protection (full face shield or welding mask)
		7d2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.
	7e) Potential for breaking grinding wheel if inspection is not performed or performed improperly	7e1) Assure operator or other appropriate individual performs appropriate inspection(s) prior to each grinding operation or weekly, whichever is more frequent. (The inspection can be part of the checklist in 1b1.)
		7e2) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration, noise and potential for breakage.
		7e3) Assure grinding wheel is properly guarded.
		7e4) Assure materials are properly secured during grinding.
	7f) Wasted energy to start and stop grinder if materials are not accessible	7f1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.
	7g) Potential fire or tripping hazard if materials are in the way.	7g1) Have a checklist or other system to assure materials are moved to their correct distance or location. The operator must check off the items on the list prior to beginning the operation.

JOB HAZARD ANALYSIS

**PAGE 5
OF 5**

STEP(S)	POTENTIAL OR EXISTING HAZARD(S)	CORRECTIVE ACTION RECOMMENDATIONS
	7h) Hearing loss from excessive noise	7h1) Assure proper hearing protection is used by operator and any other exposed people.
		7h2) Assure noise levels require hearing protection
		7h3) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration, noise and potential for breakage.
	7i) Burns from grinding dust and sparks	7i1) Assure that proper protective clothing (long pants, long sleeve shirts, leggings and/or protective sleeves, and gloves) are worn during operation.
		7i2) Assure proper eye protection (full face shield or welding mask)
		7i3) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.
		7i4) Assure proper eye protection (full face shield or welding mask)
	7j) Body strain from lifting, movement while grinding and/or vibration	7j1) Assure grinder is operating at appropriate velocity and parts are properly secured to reduce vibration, noise and potential for breakage.
		7j2) Assure operator is trained in how to lift/twist without injury
		7j3) Assure operator has the strength/capability of operating the grinder
	7k) Dust or particles in eye	7k1) Assure proper eye protection (full face shield or welding mask)
		7k2) Assure housekeeping is performed after each grinding operation, as needed between grinding operations and as needed during grinding operations to reduce or eliminate dust from area.

JHA COMPLETION:

Supervisors or managers, and/or the JHA team are responsible for:

1. Verifying the JHA steps and the viability of recommendations
2. Selecting those corrective actions that will be implemented
3. Tracking corrective actions to assure they are completed
4. Ensuring corrective actions provide the appropriate level of safety and that they do not create additional hazards
5. Determining if procedures, checklists, training, etc require updating based on the recommended corrective actions.

SUMMARY:

JHA's can be useful tools, especially when hazards may not be easily identifiable. By performing JHA's, a company can improve their safety performance, potentially reduce operating costs and keep employees involved in the safety process.

TRAINING ATTENDANCE ROSTER									
JOB HAZARD ANALYSIS									

Job Hazard Analysis Training Includes:

- What is a JHA
- What is required and who performs the JHA
- General process
- The forms used
- Eliminating or reducing hazards

- Job Hazard Analysis Training Includes:***
- What is a JHA
 - What is required and who performs the JHA
 - General process
 - The forms used
 - Eliminating or reducing hazards

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

LOCK-OUT/TAG-OUT (LO/TO) SAFETY PROGRAM

REGULATORY STANDARD - OSHA - 29 CFR 1910.147

INTRODUCTION

OSHA's Control of Hazardous Energy (Lockout/Tagout) standard covers working on or around equipment where employees may be exposed to the unexpected energization, motion or start-up of machines or equipment. This program details the minimum performance requirements and has provisions for employee training, group lockout/tagout, inspection certifications, protective materials & hardware, application & test of controls, and procedures for shift or personnel changes. The standard does not apply to cord and plug connected electrical equipment where the plug is under the control of the servicing mechanic, or hot tap (i.e. welding) operations.

TRAINING

- Training will be provided to Authorized, Affected and Other employees, based on their exposure to LO/TO and Hazardous Energy Control procedures
- Training is required upon initial assignment, when changes in job responsibilities occur, when there are changes to the process or equipment, or whenever deficiencies or deviations from established procedures are noted
- When tag-out only systems are used, all employees will be trained on the limitations of tags

ACTIVITIES

- Evaluate the potential hazards of specific equipment
- Establish a written program and procedures for each piece or type of equipment
- Communicate with contractors, as required
- Train employees (3 levels: Authorized, Affected and Other)
- Verify Lock/Tag application process
- Evaluate all new equipment (or changes to old equipment) and processes for LO/TO capability
- Perform annual procedure inspections, as required

FORMS

- LOTO Absent Employee Lock Removal Procedure
- LOTO Determination of Applicability
- LOTO Equipment List
- LOTO Written Procedure (template)
- LOTO Written Procedure Inspection Certificate
- LOTO Written Procedure Acknowledgement
- Training Attendance Roster

Table of Contents

1. Purpose
2. Scope
3. Responsibilities
4. Procedure
5. Safety Information
6. Training and Information
7. Definitions

LOCK-OUT/TAG-OUT (LO/TO) SAFETY PROGRAM

1. **Purpose.** This program covers working on or around equipment where employees may be exposed to the unexpected energization, motion or start-up of machines or equipment. This program assists in compliance with 29CFR1910.147 regulations for the control of hazardous energy.
2. **Scope.** This standard applies to all locations and covers the servicing and/or maintenance of machines and other equipment and processes. The standard does not apply only to cord and plug connected electrical equipment where the plug is under the control of the servicing mechanic, or hot tap (i.e. welding) operations. Stand alone equipment like generators and automobiles have lockout restrictions that apply.

3. Responsibilities

3.1 Management

- 3.1.1 Evaluate the potential hazards of specific equipment
- 3.1.2 Establish a written program
- 3.1.3 Establish written LO/TO procedures for each individual or group of similar machines in place
- 3.1.4 Communicate with contractors regarding the company's Lock-Out/Tag-Out Program and exposures
- 3.1.5 Train employees (3 levels: Authorized, Affected and Other)
- 3.1.6 Verify Lock/Tag application process
- 3.1.7 Account for new equipment and processes
- 3.1.8 Establish group lockout process as needed
- 3.1.9 Implement Lock Removal for Absent Employee procedures
- 3.1.10 Perform annual and periodic inspections, as required
- 3.1.11 Account for shift and personnel changes, as needed or required

4. Procedure

4.1 Written Program

- 4.1.1 This document serves as the written lock-out/tag-out program for the company. Before performing service or maintenance on equipment or machinery where energy or motion could release and cause injury, the energy sources must be isolated and "locked out".

4.2 Written Procedures

- 4.2.1 Up-to-date written procedures are in place and followed for the isolation of an energy source (including locking, blocking and tagging). Procedures must be written for both routine and non-routine service and maintenance work, and including production work such as set-up, cleaning and un-jamming. These procedures must include sufficient detail to provide each employee with control over all hazardous energy they may be exposed to (such as electrical, mechanical, gravitational, hydraulic, pneumatic, chemical, thermal, or other hazards). A template-form is included with this program to assist in writing the required procedures.
- 4.2.2 Informing contractors of company devices and procedures
- 4.2.3 Informing employees about differences in the contractor's devices and procedures and about company procedures
- 4.2.4 Assuring procedures are in place to maintain LO/TO requirements during shift changes or personnel changes to maintain the integrity and continuity of LO/TO requirements

4.3 Application of Locks and Tags or Other Energy Control Devices

4.3.1 The Six Steps of LO/TO

- 4.3.1.1 Preparation for Shutdown – the Authorized Employee must have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled and the methods and means to control the energy. This knowledge should include a review of the written procedure.
- 4.3.1.2 Machine or Equipment Shutdown – Shutdown machine or equipment using the established written procedures (normal operating procedures) after notifying Affected Employees in the area of the shut-down.
- 4.3.1.3 Machine or Equipment Isolation - Locate and isolate all energy sources.
- 4.3.1.4 Hazardous Energy Control Device Application – Apply or affix Lock and Tag (or other device) so that equipment is held in a “safe” or “off” position.
- 4.3.1.5 Stored Energy – Relieve, disconnect or restrain all energy sources so that they are made safe.
- 4.3.1.6 Verification of Isolation – The authorized employee will verify the isolation and de-energizing of the machine or equipment by trying to activate the machine.

4.3.2 Tags without Locks

4.3.2.1 Tags will accompany LO/TO specific locks at all times, unless:

4.3.2.1.1 If locks cannot be used, tags must be supplemented by other means to ensure an equivalent level of safety to that of a lock application (Example: removing a control switch, circuit breaker or valve handle).

4.3.2.1.2 Where locks are not used, the supplemental means (and its written procedure) must be reviewed with each authorized and affected employee at least annually.

4.3.2.1.3 When equipment is being taken out of service (i.e. abandoned in place or no longer used), non-LO/TO locks and tags will be used. The tag will contain the words "Out of Service" and an appropriate description.

4.3.3 Other Energy Control Devices

4.3.3.1 Blocks, chains, wedges, adapter pins, self-locking fasteners may be used to block machines or equipment from unexpected energization. (For example: A block may be used to wedge open a mechanical power press during tool changes to prevent the machine from cycling).

4.3.3.2 Automotive repair personnel should consult with the vehicle service guidelines to determine if removal of the ignition key is sufficient to ensure energy hazards are controlled, or if batteries must be disconnected during diagnostic or repair activities.

4.3.3.3 Generators and similar stand alone equipment must have the energy sources controlled, through disconnect of the spark plug or lock out of the controls for the engine.

4.3.4 Release from LO/TO or Restoring Equipment to Service

4.3.4.1 Check the work area to ensure that tools and other non-essential items have been removed and that the machine or equipment components are intact.

4.3.4.2 Check the area to ensure that employees have been safely moved away from the work area.

4.3.4.3 Verify that the machine controls are in neutral or off.

4.3.4.4 Remove the lock-out/tag-out device(s).

4.3.4.5 Reenergize the machine or equipment. NOTE: the removal of some forms of blocking may require reenergizing of the machine before safe removal.

- 4.3.4.6 Notify area employees that the servicing or maintenance work is completed and the machine is ready for use.

4.4 Lock Removal for Absentee Employee Process

- 4.4.1 Each LO/TO device shall be removed from the energy isolating device by the employee who applied the device.
- 4.4.2 When the Authorized Employee who applied the LO/TO device is not available to removed it, the device may be removed under the direction of a single designated person at the company provided this designated person follow specific procedures. At a minimum, these include:
 - 4.4.2.1 Verification that the Authorized Employee who applied the device is not at the facility
 - 4.4.2.2 Efforts are made to contact the Authorized Employee to inform them that their LO/TO device has been removed
 - 4.4.2.3 There are methods followed to ensure the Authorized Employee knows their device was removed BEFORE they resume work
- 4.4.3 The Safety Officer will either serve as the responsible person or management will designate an individual to serve in this capacity.
- 4.4.4 To assist in the consistent application of the absentee lock removal process, a form has been provided with this program.

4.5 Tag Application

- 4.5.1 Use only company approved LO/TO locks, tags, blocks and other devices
 - 4.5.1.1 Attach tags with nylon cable ties or an equivalent strength material
 - 4.5.1.2 Attach tags to the locks
 - 4.5.1.3 Tags will contain the following information:
 - 4.5.1.3.1 Name of equipment being secured
 - 4.5.1.3.2 Name of person securing
 - 4.5.1.3.3 Date of application (securing)
 - 4.5.1.3.4 How to contact person securing
 - 4.5.1.3.5 Reason for being secured (e.g. taken out of service, repair, etc.)

4.5.1.3.6 A statement prohibiting removal or tampering with the lock or tag

4.5.2 Tags must include a statement such as “Do Not Start”, “Do Not Open”, “Do Not Close”, “Do Not Energize” or “Do Not Operate”.

4.6 New Equipment Design or Major Modifications to Existing Equipment

4.6.1 Machinery must be able to be locked out or made lockable when they are:

4.6.1.1 Replaced or undergo major repairs

4.6.1.2 Renovated or modified

4.6.1.3 Purchased and installed

4.6.2 New equipment installations must be capable of being locked out as an integral part of the machine (i.e. without the use of chains, etc.).

4.7 Group Lock-Outs

4.7.1 Group Lock outs will incorporate the use of a group lockout device. Devices may include a lockable container (like a strong-box) to hold the process lock keys and tag-out records for large jobs and long duration work, or a multiple lock adapter (that will not release until all locks have been removed) for single machines that require more than one lock. These group devices are used as controls where there are complex situations involving many different people who all require the machine or process to be locked before they work on it.

4.7.1.1 One "Primary Authorized Person" will be assigned, and vested as responsible, for all the locks on the project and assuring continuity of energy control for the entire group.

4.7.2 A master locking device provides protection from the main energy source. The “Primary Authorized Person” is solely responsible for applying and removing this device.

4.7.3 Each authorized employee involved in the group lockout must affix a personal lock-out or tag-out device to the machine, equipment or into group lockbox or onto the device when their work begins and remove it when their work is completed.

4.8 Shift/Personnel Change Procedures

4.8.1 Specific procedures to account for shift or personnel changes must ensure the continuity of LO/TO protection, and must include a provision for the transfer of devices between off-going and on-coming employees. This will minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment or the release of stored energy.

4.9 Required Periodic Inspections

- 4.9.1 Inspect LO/TO procedures and actual lock-outs (at least annually) to assure they meet regulatory requirements. The inspection is led by a “LO/TO Authorized” employee who has been trained in that procedure. This person must be someone other than the one performing the lock-out. The inspections requirements include:
 - 4.9.1.1 Checking training records to verify people have been trained to the level necessary.
 - 4.9.1.2 That the procedure document was reviewed within the last calendar year. Reviews must ensure the procedures are adequate, understandable and being followed.
 - 4.9.1.3 All employees authorized to use that procedure participate in this review (group meeting reviews are acceptable).
 - 4.9.1.4 Field check the actual lock-out to assure the equipment is being locked out properly. The inspector and the person locking the equipment are required to participate, at a minimum.
 - 4.9.1.5 Asking operators how they would lock/tag equipment, and verify by demonstration.
 - 4.9.1.6 Note and correct any deficiencies.
 - 4.9.1.7 Document this assessment using the inspection certificate form provided with this program, or an equivalent record. Both the inspector and the person performing the LO/TO must sign the assessment certificate.
- 4.9.2 If the procedure is found lacking or deficient, it must be revised and all employees who would use that procedure must be retrained to the new procedure before servicing or maintaining that equipment.
- 4.9.3 Each procedure that is used for “normal” or “routine” lock-outs must be reviewed at least once per year. “Non-routine” lock-outs must have a procedure reviewed before the procedure is used, if it hasn’t been used in the last calendar year.

5. **Safety Information**

5.1 Specific Requirements for Electrical LO/TO with Greater than 50 volts to Ground:

- 5.1.1 Only an “Electrical Qualified Person” (Electricians or persons specifically trained by an electrician) can operate the equipment or otherwise verify that the equipment can not be restarted.
- 5.1.2 Only an “Electrical Qualified Person” can use test equipment to test the circuit elements and electrical parts of the equipment, including exposure to back-feed or inadvertently induced voltage.

- 5.1.3 Only an “Electrical Qualified Person” can conduct tests and inspections to verify that the equipment can be safely re-energized.
- 5.1.4 Locks must be accompanied by tags
- 5.1.5 Safe de-energizing and re-energizing procedures must be determined before service or maintenance is performed and approved in writing by an “Electrical Qualified Person” before the actual LO/TO is performed.

5.2 Records

- 5.2.1 Training records will be maintained. Training records include:
 - 5.2.1.1 The name of the employee trained
 - 5.2.1.2 The date of training
 - 5.2.1.3 As needed, information on the specific procedure to which the employee is trained (i.e. a non-routine task).
- 5.2.2 Copies of training materials (i.e. the specific written procedure and signed inspection certificate) used for non-routine tasks must be kept.

6. Training and Information

6.1 LO/TO Training – General

- 6.1.1 Training will be provided to Authorized, Affected and Other employees, based on their exposure to LO/TO and Hazardous Energy Control procedures.
- 6.1.2 Training is required:
 - 6.1.2.1 upon initial assignment
 - 6.1.2.2 when changes in job responsibilities occur
 - 6.1.2.3 when new equipment is brought into an area
 - 6.1.2.4 when new processes that present new hazards are introduced
 - 6.1.2.5 when there are changes in the hazardous energy control procedures
 - 6.1.2.6 when deficiencies or deviations from established procedures are noted
 - 6.1.2.7 when an inspection or review reveals deficiencies
- 6.1.3 There are three specific levels of training required:

6.1.3.1 Authorized employees will receive formal LO/TO training:

6.1.3.1.1 The training should also be supplemented by localized application, procedure or equipment-specific instruction, which includes written procedures and hands-on instruction in LO/TO application.

6.1.3.1.2 The training should enable the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace and the methods and means necessary for energy isolation and control.

6.1.3.2 Affected employees will receive a mid-range level of training to inform them of the purpose of the program, and their limitations and responsibilities under the program.

6.1.3.3 Training for Other employees can be verbally or by another method, and will inform employees about the procedure and program, about the prohibition relating to attempts to start machines or equipment that are locked out or tagged out, and in recognizing LO/TO devices and their purpose.

6.1.4 All levels of training should include information on who serves as the responsible person designated for the Lock Removal for Absent Employee process.

6.2 Tag-Out Only Systems

6.2.1 When tag-out only systems are used, all employees will be trained on the limitations of tags, including:

6.2.1.1 Tags are warning devices only and do not provide physical restraint

6.2.1.2 Tags may not be removed, except by the person who applied it.

6.2.1.3 Tags must be legible and understandable by all employees

6.2.1.4 Tags must stand up to the conditions where they are applied (wet, cold, heat, etc.)

6.2.1.5 Tags must be secure so they do not inadvertently fall off or get removed

6.2.1.6 Tags may evoke a “false sense of security” and must not be used as a sole-system when locks or other devices can be applied.

6.3 Re-training

6.3.1 Re-training is required for both Authorized and Affected Employees when:

- 6.3.1.1 Employee lock-outs are performed incorrectly, reviews reveal deficiencies, or when there is reason to believe there are inadequacies in the employees knowledge of the energy control procedures
- 6.3.1.2 A change in job assignment requires re-training
- 6.3.1.3 Modifications to equipment occur which affects the LO/TO procedure or present a new hazard
- 6.3.1.4 A procedure has been changed since the last time the employee performed LO/TO on that equipment or machinery.

7. Definitions

- *Authorized Employee* - A person who locks-out or tags-out machines or equipment in order to perform servicing or maintenance (set up operators and tools changes).
- *Affected Employee* – A person whose job requires them to work in an area or operate machinery or equipment on which servicing or maintenance is being performed under lock-out or tag-out.
- *Capable of Being Locked-Out* - An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which (or through which) a lock can be affixed, or it has a locking mechanism built into it. Other energy-isolating devices are "capable of being locked-out" if energy isolation can be achieved without the need to dismantle, rebuild or replace the isolating device, or permanently alter its capability.
- *Energized* – Connected to an energy source or containing residual or stored energy
- *LO/TO or Energy-Isolating Device* - A mechanical device that physically prevents the transmission or release of energy, including, but not limited to the following:
 - a manually-operated electrical circuit breaker, a disconnect switch, or a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, where no pole can be operated independently
 - a line valve
 - a block
 - any similar device used to block or isolate energy
 - Push buttons, selector switches and other control-circuit type devices are not energy-isolating devices.
- *Energy source* - Any source of mechanical, hydraulic, pneumatic, chemical, natural, thermal or other energy
- *Other employees* - All persons who are or may be in an area when LO/TO procedures or devices may be utilized.
- *Primary Authorized Person* - An authorized person with the primary responsibility for group lockout applications.

- *Qualified* - Familiar with the construction and operation of the equipment and the hazards involved.
- *Servicing and/or Maintenance* – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes where the employee may be exposed to the **unexpected** energization or startup of the equipment, or a release of hazardous energy.

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LOTO ABSENT EMPLOYEE LOCK REMOVAL PROCEDURE

_____ is the single, designated person to contact when a lock or other device requires removal by someone other than the authorized employee who applied the device.

List the steps taken to verify that the absent employee is not at the facility:

List the steps taken to contact the absent employee (if different from above):

List the steps taken to ensure the absent employee knows their device has been removed (if different from above):

Completed by: _____ Date: _____

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LOTO DETERMINATION OF APPLICABILITY

Equipment Designation:		Location:	
Date Assessed:	Related Operating Procedures Reviewed: <div style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	Related Maintenance Procedures Reviewed: <div style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div>	
LOCK OUT TAG OUT ASSESSMENT CHECKLIST			
Is there a potential for stored, residual, or reaccumulation of energy after shutdown?		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
Does the unit have multiple energy sources that cannot be readily identified and isolated?		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
The isolation and lock out of energy sources will not completely deenergize or deactivate the unit!		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
The unit is not isolated from its energy source and locked out during servicing or maintenance!		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
A single lockout device will not achieve a locked out condition!		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
The lockout device is not under the exclusive control of an "Authorized Employee"!		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
The servicing or maintenance creates hazards for other employees!		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
Have accidents involving unexpected activation/reenergization occurred during servicing?		<input type="checkbox"/> Yes *	<input type="checkbox"/> No
*Written procedures must be developed if any "Yes" answers have been given!			
ASSESSED ENERGY SOURCES: (indicate specific sources with initials)			
Initials	Energy Source	Magnitude and Unit of Measure	Method to Dissipate or Restrain
	Chemical:		
	Hydraulic:		
	Pneumatic:		
	Mechanical:		
	Electrical:		
	Thermal:		
	Radioactive:		
	Kinetic:		
	Other:		
TYPES AND LOCATIONS OF OPERATING CONTROLS: * Further Detailed on Attachment: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Types of Operating Controls		Location on Unit	
TYPES AND LOCATIONS OF ENERGY ISOLATING DEVICE(S): * Further Detailed on Attachment: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Types of Energy Isolating Devices		Location(s)	
METHODS TO VERIFY ISOLATION OF THE UNIT: * Further Detailed on Attachment: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Verification Method		Location(s)	

DIAGRAM OR PHOTOS OF UNIT:		Schematic/Blue Print Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	
WRITTEN PROCEDURES AUTHOR:	To be Developed by (date)	To be Implemented by (date)	
REMARKS:			
<input type="checkbox"/> Approved <div style="text-align: center;"><u>AUTHORIZATION</u></div> <p>I acknowledge that I have conducted a Lockout Tagout Assessment of the equipment or machine named above and have detailed the findings of the assessment on this form.</p> <p style="text-align: center;">* Further detailed on attachment: <input type="checkbox"/> Yes <input type="checkbox"/> No</p>			
Name:		Signature:	
Title:		Date:	Time:
<u>ASSESSMENT FORM RETENTION INFORMATION</u>		<u>ATTACHMENTS</u>	
Permanent Retention File:	Location:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Date Filed:	Filed By:	*See Following Pages	

LOTO EQUIPMENT LIST

LO/TO equipment must be:

- Used for LO/TO only
- Identified (either through marking and labeling or training) as LO/TO devices
- Durable and capable of withstanding the environment and pressures applied to them
- Standardized (same color, unique shape, same size/type of print, etc.).
- Substantial in that locks may not be easily removable (without the use of tools or excessive force) and that tags must not be accidentally removed or fall off.
- Identifiable to the person who applied them, either by name or number system.

The locks/tags and other devices specified below are the **only** authorized LO/TO devices to be used at the company and SHALL NOT be used for locking equipment other than for LO/TO and Energy Control purposes.

LO/TO Equipment	Stock #
Personal Safety Padlock	
Tag (general) –laminated write on w/grease-pencil	
Tag (multi-part) - can be laminated with or without pictures - but wording may not be altered.	
Plastic Bag	
Tie Strap	
Multiple Lock Adapter (Scissor)	
Multiple Lock Hasp/Adapter	
High Voltage Tag (Specifically Trained Personnel Use ONLY)	
Safety Devices (circuit breakers & plastic covers etc.)	
Valves, Cords and Other Equipment	

Completed by: _____ Date: _____

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LOTO WRITTEN PROCEDURE

LO/TO Procedure for Machinery Name or Type:

Purpose: This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energizing or start-up of the machine or equipment or release of stored energy could cause injury.

Specific Restrictions and Compliance Steps for the above named machine(s) are:

All employees are required to comply with the restrictions and limitations imposed upon them during the use of LO/TO. The authorized employees are required to perform the LO/TO in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize or use that machine or equipment.

Sequence of LO/TO

1. Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

Names/Job Titles of affected employees and how to notify:

2. The types and magnitude of energy hazards, and methods to control them are listed.

Check the type of energy hazards associated with this equipment or machine:

<input type="checkbox"/> Electrical	<input type="checkbox"/> Natural (Wind, Gravity, Etc.)
<input type="checkbox"/> Chemical	<input type="checkbox"/> Pneumatic
<input type="checkbox"/> Hydraulic	<input type="checkbox"/> Thermal
<input type="checkbox"/> Mechanical	<input type="checkbox"/> Kinetic
<input type="checkbox"/> Other _____	

List the magnitude of the hazard if known (>50Volts, 500 lbs of force, etc.)

List the devices that are used to control the energy hazards:

3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.).
List the location of the operating controls for the machine or equipment:

4. De-activate the energy source so that the machine or equipment is isolated from the energy source(s).
5. Lock out the energy source(s) with lock(s).
6. List the components that contain the energy (such as: capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure, etc.)

and the methods to dissipate or restrain the energy (such as grounding, repositioning, blocking, bleeding down, etc) :

7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. **CAUTION:** *return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.*

Method of verifying the isolation of the equipment:

8. The machine or equipment is now locked out.

Restoring Equipment to Service

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

1. Check the machine or equipment and the immediate area around to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the lockout device(s) and reenergize the machine or equipment. NOTE: the removal of some forms of blocking may require reenergizing of the machine before safe removal.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Completed by: _____ Date: _____

LOTO WRITTEN PROCEDURE INSPECTION CERTIFICATE

Company or Department Name:

Internal Procedure number (if applicable):

Last Updated:

Machinery/Equipment Name or Type:

Persons trained as "Authorized" for this procedure:

<i>Name</i>	<i>Employee Identification Number</i>

Elements of Inspection:

Preparation for Shutdown - knowledge of the type and magnitude of the hazardous energy

Machine or Equipment Shutdown - performed using established procedure

Machine or Equipment Isolation - all energy sources located and isolated

Hazardous Energy Control Device Application - affixed to the energy isolation device by authorized individuals

Stored Energy - all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained and otherwise rendered safe

Verification of Isolation - authorized employee will verify the isolation and de-energizing of the machine or equipment has been accomplished.

Verification:

A field-check of the utilization of this procedure was performed on the following "Authorized" individuals (enter name and/or other employee identification):

<i>Name</i>	<i>Employee Identification Number</i>

Authorization:

This field check was performed by the following person authorized to use this procedure and not the person being field-checked:

<i>Name</i>	<i>Date</i>

Deficiencies noted during field-check (if any):

Verification Statement:

The inspected individuals demonstrated adequate knowledge of locking/tagging this piece of equipment. Any deficiencies noted above have been corrected and proper techniques have been verified.

Signature of field-check Inspector:

Signature of LO/TO Employee:

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LOTO WRITTEN PROCEDURE ACKNOWLEDGEMENT

NAME OF MACHINE OR Procedure	Date Procedure Originally Written	Annual Review Date	Authorized Employee Signature

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TRAINING ATTENDANCE ROSTER LOCKOUT/TAG-OUT	
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Lockout/Tagout (Authorized) Training Includes:

- Reasons for Lockout
- Types of Energy
- Materials and Equipment Requirements
- When LOTO Applies
- Written Procedures
- LOTO Process (Single and Group Lockouts)
- Lock Removal and Absentee Removal
- Contractors
- Limitations of Tags

- Lockout/Tagout (Authorized) Training Includes:***
- Reasons for Lockout
 - Types of Energy
 - Materials and Equipment Requirements
 - When LOTO Applies
 - Written Procedures
 - LOTO Process (Single and Group Lockouts)
 - Lock Removal and Absentee Removal
 - Contractors
 - Limitations of Tags

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

MACHINE GUARDING SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.212 - 219

INTRODUCTION: This program specifies the requirements for safeguarding machines and equipment in order to protect employees from contact with potential machine hazards. The program defines types & methods of safeguarding that can be used to protect employees from the hazards.

TRAINING:

- Recommended for most workplaces
- Training is required where guards must be removed, or whenever forging equipment is used.

ACTIVITIES:

- Identify risk factors for machinery operations
- Ensure original guards or equivalent measures are in place.
- Ensure safeguarding practices are implemented for any non-routine task where existing guarding practices are insufficient to protect operators.

FORMS:

- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Machine Guarding Safety Program

1. **Purpose.** Each site or location shall have a process in place to ensure that machines and equipment are provided with guarding systems in order to eliminate or control employee exposure to hazards. This program outlines the principles and performance requirements of machine safeguarding.
2. **Scope.** This program applies to each type of powered machines, tools and equipment that requires guarding.

Note: portable power tools and mechanical power presses are not covered in this program, and have their own separate programs based on specific regulatory requirements for these types of equipment.

3. Responsibilities.

3.1 Management will ensure that:

- 3.1.1 Procedures are in place for safeguarding machines and equipment during normal operations.
- 3.1.2 New and modified equipment is purchased with or provided with guards and/or safeguarding devices, as appropriate.
- 3.1.3 Safeguarding features will be reviewed or approved by competent personnel during:
 - the design phase of capital projects
 - before newly purchased equipment is placed into service
 - prior to relocation or refurbishment of existing equipment
- 3.1.4 Guards and safeguarding-devices are maintained.
- 3.1.5 Routine preventive maintenance and inspection procedures are followed, to ensure proper operation of guards and safeguarding devices.
- 3.1.6 Operators receive initial training in specific safeguarding operations, as appropriate
- 3.1.7 An environment is promoted where operators are encouraged to report unsafe machines and conditions and suggest improvements to management.
- 3.1.8 Assure employees understand the function and operation of all safety devices and controls on machines to which employees are assigned.

3.2 Employees will:

- 3.2.1 Report all unsafe machines and equipment.
- 3.2.2 Assist, as needed or required, in determining the safeguarding requirements for all machines, tools and equipment that may require them.
- 3.2.3 Attend training as needed or required.
- 3.2.4 Understand the function and operation of all safety devices and controls on machines to which they are assigned.
- 3.2.5 Test safeguarding and control devices prior to the start of each shift as needed or required by procedure.
- 3.2.6 Immediately report malfunctioning, incorrectly positioned, or missing safeguarding and not operate machinery until the problem is corrected by personnel authorized and qualified to make such repairs.

4. Procedure.

4.1 General Requirements:

- 4.1.1 Guards and/or safeguarding devices must be provided to protect employees and machine operators from hazards such as pinch-points, point-of-operation, in-running nip points, rotating parts (pulleys, belts, ropes and chain drives, gears sprockets, etc) flying chips and sparks.
- 4.1.2 Safeguards will meet these minimum general requirements:
 - *Prevent contact:* The safeguard must prevent hands, arms, and any other part of a worker's body from making contact with dangerous moving parts. A proper safeguarding system eliminates the possibility of the operator or another worker from contacting hazardous moving parts.
 - *Secured:* Guards will be secured in place to prevent removal or tampering with the safeguards.
 - *Durable material:* Guards and safety devices will be made of durable material that will withstand the conditions of normal use.
 - *Protected from falling objects:* Safeguards will be placed to ensure objects cannot fall into moving parts.
 - *Create no new hazards:* Safeguards will be designed in a manner that will not create a hazard such as a shear point, a jagged edge, or an unfinished surface.
 - *Create no interference:* Safeguards will be installed that will not impede a worker from performing the job quickly and comfortably. The safeguards

will be designed to not obstruct the operator's view or to prevent employees from doing a job.

- *Allow safe lubrication:* Safeguards will be installed in a manner allowing for machine lubrication without removing the safeguards, as appropriate.

4.1.3 Revolving drums, barrels, and containers require interlocked enclosures so that the system cannot revolve unless the guard enclosure is in place.

4.1.4 Mechanical power transmission apparatus and fan blades located at a height greater than 7 feet above the ground does not require guarding.

4.1.5 Fixed machinery must be anchored and secured to prevent walking or movement during operation.

4.2 Inspections:

Guards will be inspected regularly. It is recommended that inspections take place before each working shift for regularly used equipment, or before each use for intermittently used equipment, to assure guards are in good operating condition.

4.3 Maintenance:

Employees who perform service or maintenance (including repair, lubrication, clearing jammed parts or materials, and tool changes) will be knowledgeable about the equipment, the guards and the hazards of the maintenance tasks.

4.4 New or Altered Equipment Review:

Each piece of machinery or equipment will be reviewed for safeguarding requirements when they are purchased, installed, or when they undergo significant changes to their structure or use.

5. Safety Information.

5.1 Primary Guards:

Guards that provide a physical barrier enclosing dangerous machine parts and preventing employees from contacting them will be installed as appropriate including:

5.1.1 *Fixed.* Guards permanently secured in place and at the point of operation.

5.1.2 *Interlocked.* Guards that trip the controls on a machine or portion of a machine so the power is controlled or eliminated. Shuts off or disengages power when guard is open and prevents the machine or equipment from activating when the guard or interlock is not engaged.

5.1.3 *Adjustable.* Guards at the point of operation that can be adjusted manually to allow flexibility in accommodating various sizes of stock.

- 5.1.4 *Self Adjusting.* Guards that move in accordance with the size of the stock. As the operator moves the stock into the point of operation, the guard is pushed away, providing an opening which is only large enough to admit the stock. After the stock is removed, the guard returns to the rest position.

5.2 Primary Safeguarding Devices.

Controls or attachments designed to prevent access by employee to hazardous machine areas. Primary Safeguarding Devices will be used in place of Primary Guards or as supplemental control measure when guards alone do not adequately enclose the hazards. Safeguarding devices that will be used as appropriate include:

- 5.2.1 *Presence-Sensing devices.* Use light to determine if an object or person is in the danger zone. If the light curtain is broken, the machine controls will not function.
- 5.2.2 *Pullback devices.* Utilize a series of cables attached to the operator's hands, wrists, and/or arms. This type of device is primarily used on machines with stroking action. When the slide/ram is up between cycles, the operator is allowed access to the point of operation. When the slide/ram begins to cycle by starting its descent, a mechanical linkage automatically assures withdrawal of the hands from the point of operation.
- 5.2.3 *Restraints devices.* Utilizes cables or straps that are attached to the operator's hands at a fixed point. The cables or straps must be adjusted to let the operator's hands travel within a predetermined safe area. There is no extending or retracting action involved. Consequently, hand-feeding tools are often necessary if the operation involves placing material into the danger area.
- 5.2.4 *Two-Hand Controls/Trip.* Require use of both the operators' hands to be on the activation switches for the equipment to operate the equipment or machine. The two-hand control requires constant, concurrent pressure by the operator to activate the machine. This kind of control requires a part-revolution clutch, brake, and a brake monitor if used on a power press. With this type of device, the operator's hands are required to be at a safe location (on control buttons) and at a safe distance from the danger area while the machine completes its closing cycle. To be effective, both two-hand controls and trips must be located so that the operator cannot use two hands or one hand and another part of his/her body to trip the machine.
- 5.2.5 *Gates.* A gate is a movable barrier that protects the operator at the point of operation before the machine cycle can be started. Gates are, in many instances, designed to be operated with each machine cycle. To be effective, the gate must be interlocked so that the machine will not begin a cycle unless the gate guard is in place. It must be in the closed position before the machine can function.

5.3 Secondary Safeguarding Devices.

Secondary safeguarding devices may also provide employees with some protection from machine hazards. While these devices/methods do not give complete protection from machine hazards, they provide the operator with an extra margin of safety. Several examples of secondary safeguarding devices that will be used as appropriate include:

- 5.3.1 *Awareness devices.* Include barriers and warning signals. These devices warn employees (by a physical barrier or audible or visual signal) that he or she is approaching the danger area. Awareness devices do not provide physical protection from the machine hazard. Generally, awareness barriers are not considered adequate when continual exposure to the hazard exists.
- 5.3.2 *Shields.* Used to provide protection from flying particles, splashing cutting oils, or coolants.
- 5.3.3 *Safe Distance or Location Guarding.* Restricts personnel access to the work area or machine. This may be accomplished by:
 - Locating a machine so that the hazardous parts of the machine are located away from operator work stations or other areas where employees walk or work.
 - Installing enclosure walls or fences that restrict access to machines while in operation.
 - Positioning rotating parts at a height of 7 feet or more above the ground out of the normal reach of any worker.
 - Locating machine control stations at a safe distance away from the machine as appropriate.
 - Using an automatic feeding process where operator involvement is not necessary after the machine is set up.
- 5.3.4 *Safe Work Procedures.* Include Standard Operating Procedures (SOP) which covers machine-specific operating procedures and safety controls that must be reviewed before operating the machinery. Loose clothing and/or jewelry should be prohibited. Use hair nets to prevent hair entanglement

5.4 Complimentary equipment.

Used in conjunction with safeguarding techniques and is not, by itself, a safeguarding method. Complimentary equipment that will be used as appropriate includes:

- 5.4.1 *Emergency stop devices.* Emergency stops must be available to stop the machine in an emergency, and must be readily accessible to the operator at all times. They are designed to be used in reaction to an incident and will not detect or prevent exposure to a machine hazard. Emergency Stop devices include stop buttons, rope pulls, pressure sensitive body bars, etc.

- 5.4.2 *Hand-Feeding tools.* The operator uses a tool to place or remove stock, particularly from or into the point of operation of a machine.
- 5.4.3 *Foot controls:* The operator uses a foot control device to begin machine operation. The foot control must be securely fixed at a safe distance away from the machinery and guarded to prevent accidental activation
- 5.5 Machine- specific guarding requirements
 - 5.5.1 Woodworking Machinery – per 29 CFR 1910.213 - Specific guarding is required for the blades, chains or other exposed hazardous parts on ripsaws, crosscut saws and circular saws, swing and radial saws, band-saws, jointers, tensioning machines, shapers, planers, boring equipment, sanders, lathes, cutters and similar machinery.
 - 5.5.2 Abrasive Wheel machinery (with wheel diameters >2 inches) – per 29 CFR 1910.215 - requires specific size guards and wheel mounting that restrict wheel access, protect operators from flying particles should the wheel break or shatter, and prevent inadvertent wheel movement.
 - 5.5.3 Mills and Calendars (rubber and plastics industry only) – per 29 CFR 1910.216 - requires either interlocks, sensing devices or location control guards to prevent an operator from reaching through, over, under or around and coming into contact with a roll bite or to be caught between a roll bite and processing materials. Limit stopping devices must be installed to prevent materials from traveling too fast or beyond the machine limits.
 - 5.5.4 Forging machinery – per 29 CFR 1910.218 - has specific requirement for guarding of hammers presses, and up setters. Also there are specific requirements for materials of construction to assure the equipment and guard are capable of withstanding the forces and pressures required of them.
 - 5.5.5 Mechanical Power Transmission – per 29 CFR 1910.219 - equipment requires guarding of exposed parts, belts and chains that are more than 7 feet from the floor surface. Guarding requirements include specific distances for guards from the hazard or total enclosure of the hazard. Specific materials are required (and in some cases specific bracing and methods of affixing guarding) to assure that guards can withstand the forces and power applied.

6. Training and Information:

- 6.1 Operators and maintenance personnel will receive initial machine operation training that should include machine safeguarding operation.
- 6.2 Where required, Lock-Out/Tag-Out (LOTO) training will be provided.
- 6.3 Refresher training will be provided prior to operating new or modified equipment, when procedures change, or when employee behavior indicates a need for retraining.

- 6.4 Only qualified and trained employees are authorized to interface with moving webs or machine mechanisms and only as outlined by specific written procedures for the equipment.

7. Definitions.

- *Point of operation* - The area on a machine where work is actually performed upon the material being processed.
- *LOTO* – Lock out/tag-out

TRAINING ATTENDANCE ROSTER

MACHINE GUARDING (General)

General Machine Guarding Training Includes:

- **Hazardous Motions and Actions**
- **General Requirements**
- **Safeguarding Requirements**
- **Personal Protective Equipment Requirements**
- **Methods of Guarding**
- **Guard Construction**
- **Maintenance and Repair**
- **Inspection**

Specific Training was also provided in:

- ☐ Abrasive Equipment Use
- ☐ Forging Equipment Use
- ☐ Mechanical Power Transmission Use
- ☐ Mills and Calenders Use
- ☐ Woodworking Equipment Use

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

NOISE EXPOSURE AND HEARING CONSERVATION SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.95
- 29 CFR 1926.52

INTRODUCTION

OSHA mandates employers to protect their employees against occupational noise exposure when sound levels exceed established the action level of 85 dBa over an 8-hour time weighted average. This program ensures adherence to the OSHA standard by detailing requirements for audiometric testing, hearing conservation, and training. It also contains recordkeeping parameters and offers guidance in computing noise exposure and estimating the adequacy of hearing protector attenuation.

TRAINING

Institute an annual training program for all employees who are exposed to noise at or above an 8-hour time weighted average of 85 decibels

ACTIVITIES

- Determine where noise levels exist above regulatory levels, conduct monitoring
- Establish a Hearing Conservation Program
- Establish engineering controls, administrative controls or protective equipment requirements (in that order) to reduce or eliminate the health and safety effects of noise
- Notify employees exposed at or above action levels
- Ensure employees exposed at or above the action level receive baseline and annual audiograms
- Record any noise related hearing loss as required on OSHA recordkeeping forms
- Ensure protective equipment and materials are available, as needed or required
- Track employee training to assure annual and refresher training programs are provided
- Post and make available to affected employees a copy of the Standard

FORMS

- Hearing Conservation Program Responsibilities
- Noise Exposure Computation and Rating Tables
- Text of Noise Exposure and Hearing Conservation Standard
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

NOISE EXPOSURE AND HEARING CONSERVATION SAFETY PROGRAM

1. **Purpose.** The employer is required to protect employees from potentially harmful noise by implementing appropriate hearing conservation and noise control measures.
2. **Scope.** This program applies to all company facilities or job-sites where noise exposures exist above regulatory levels.

3. Responsibilities

3.1. Management/Supervisors

- 3.1.1. Establish a Hearing Conservation Program
- 3.1.2. Establish engineering controls, administrative controls or protective equipment requirements (in that order) to reduce or eliminate the health and safety effects of noise.
- 3.1.3. Develop and implement a noise monitoring program.
- 3.1.4. Ensure employees exposed at or above the action level receive baseline and annual audiograms.
- 3.1.5. Ensure hearing protection is available, as needed or required.
- 3.1.6. Provide initial and annual training to affected employees.
- 3.1.7. Provide employees access to audiometric testing results, monitoring results, and the Occupational Noise Exposure Standard.
- 3.1.8. Provide employees the opportunity to observe (or participate in) audiometric testing.

3.2. Employees

- 3.2.1. Report signs and symptoms of noise exposure to supervisors immediately.
- 3.2.2. Attend required training.
- 3.2.3. Utilize hearing protective devices, when required.

4. Procedure

4.1. Hearing Conservation Program

4.1.1. The employer will administer a continuing, effective Hearing Conservation Program, whenever employee noise exposures equal or exceed an 8 hour time weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the Hearing Conservation Program, employee noise exposures will be computed without regard to any attenuation provided by the use of personal protective equipment. (An 8-hour time weighted average of 85 decibels or a dose of fifty percent will also be referred to as the *action level*.)

4.2. Monitoring. When information indicates that any employee's exposure may equal or exceed an 8-hour time weighted average of 85 decibels, this monitoring program will be implemented.

4.2.1. The company will conduct sampling on an annual basis, at a minimum, where noise levels are known or suspected to exceed regulatory thresholds. Sampling is designed to identify employees for inclusion in the Hearing Conservation Program and to enable the proper selection of hearing protectors.

4.2.2. Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring ineffective, the employer will use representative personal sampling to comply with the regulatory monitoring requirements.

4.2.3. All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels will be integrated into the noise measurements.

4.2.4. Instruments used to measure employee noise exposure will have been calibrated to ensure measurement accuracy.

4.2.5. Monitoring will be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:

4.2.5.1. Additional employees may be exposed at or above the action level.

4.2.5.2. The attenuation or reduction in noise levels provided by hearing protectors are or may be rendered inadequate to meet the requirements.

4.2.6. Employee notification. The company will notify each employee exposed at or above an 8-hour time weighted average of 85 decibels of the results of the monitoring.

4.2.7. Observation of monitoring. The company will provide affected employees or their representatives with an opportunity to observe any noise measurements conducted.

4.3. Audiometric Testing Program

4.3.1. An audiometric testing program will be maintained that is free of charge for employees whose exposures equal or exceed noise action level (85dBA over 8 hours).

4.3.2. Audio metric tests will be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

4.3.3. All audiograms obtained pursuant to this section shall meet the requirements of Appendix C: "Audiometric Measuring Instruments."

4.4. Baseline audiogram

4.4.1. Within 6 months of an employee's first exposure at or above the action level, the company will establish a valid baseline audiogram against which subsequent audiograms can be compared. Where baseline audiograms cannot be obtained within this timeframe, employees will wear hearing protectors until the baseline audiogram is obtained.

4.4.2. Mobile test van exception. Where mobile test vans are used to meet the audiometric testing obligation, the employer shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

4.4.3. Testing to establish a baseline audiogram will be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise. The company will notify employees of the need to avoid high levels of non-Noise exposure during the 14-hour period immediately preceding the audiometric examination.

4.5. Annual audiogram. At least annually after obtaining the baseline audiogram, the company will obtain a new audiogram for each employee exposed at or above an 8-hour time weighted average of 85 decibels.

4.6. Evaluation of audiogram. Each employee's annual audiogram will be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. This comparison may be done by an individual trained to the audiometric technician level.

4.6.1. If the annual audiogram shows that an employee has suffered a standard threshold shift, a retest will be accomplished within 30 days and the results considered as the annual audiogram.

4.6.2. Problem audiograms. The company will ensure that an audiologist, otolaryngologist, or physician review problem audiograms and determine whether there is a need for further evaluation. The reviewer will be provided the following information:

- 4.6.2.1. A copy of the requirements of the Occupational Noise Exposure standard.
- 4.6.2.2. The baseline audiogram and most recent audiogram of the employee to be evaluated.
- 4.6.2.3. Measurements of background sound pressure levels in the audiometric test room, (if the testing was not conducted at the reviewer's facility).
- 4.6.2.4. Records of audiometer calibrations, (if the testing was not conducted at the reviewer's facility).
- 4.6.3. Follow-up procedures. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift has occurred, the employee will be informed of this fact in writing, within 21 days of the determination.
- 4.6.4. Standard threshold shift. A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear. In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram in accordance with the regulatory standards. Unless a physician determines that the standard threshold shift is not work related or aggravated by Noise exposure, the company will ensure that the following steps are taken when a standard threshold shift occurs:
 - 4.6.4.1. Employees exposed or potentially exposed to high noise will be fitted with hearing protectors, trained in their use and care, and required to use them. For known high noise job assignments, employees will be fitted and trained prior to job assignment.
 - 4.6.4.2. Employees already using hearing protectors will be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
 - 4.6.4.3. Employees will be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
 - 4.6.4.4. Employees will be informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.
 - 4.6.4.5. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8 hour TWA of 90 decibels indicates that a standard threshold shift is not persistent, the company:
 - 4.6.4.5.1. Will inform the employee of the new audiometric interpretation.
 - 4.6.4.5.2. May discontinue the required use of hearing protectors for that employee.

4.6.5. Revised baseline. An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram determine that:

4.6.5.1. The standard threshold shift revealed by the audiogram is persistent.

4.6.5.2. The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

4.7. Audiometric test requirements. Audiometric tests conducted will meet all regulatory requirements and be administered by a licensed audiologist or other equivalent professional. Audiometric examinations will be administered in a room meeting the regulatory requirements for Audiometric Test Rooms.

4.8. Audiometer calibration. The functional operation of the audiometer will be checked and calibrated before each day's use, in accordance with manufacturer's requirements and/or regulatory standards.

4.8.1.1. An exhaustive calibration will be performed at least every two years. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.

4.9. Hearing protectors

4.9.1. The company will make hearing protections available to all employees exposed to an 8-hour time weighted average of 85 decibels or greater at no cost to the employees.

4.9.2. The employer will require employees to wear hearing protection when:

4.9.2.1. Noise levels meet or exceed the following levels:

PERMISSIBLE NOISE EXPOSURES	
Duration per day, hours	Sound level dBA <i>slow response</i>
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

4.9.2.2. By any employee who is required by previous testing to wear personal protective equipment.

- 4.9.2.3. By any employee who is exposed to an 8-hour time weighted average of 85 decibels or greater, and who: has not yet had a baseline audiogram established, or has experienced a standard threshold shift.
- 4.9.3. Employees will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided.
- 4.9.4. The company will ensure proper initial fitting and supervise the correct use of all hearing protectors.
- 4.10. Hearing protector attenuation. The company will evaluate hearing protector attenuation for the specific noise environments in which the protector will be used in accordance with regulatory requirements. One of the evaluation methods described in Appendix B: Methods for Estimating the Adequacy of Hearing Protection Attenuation will be used.
- 4.10.1. Selected hearing protectors will attenuate employee exposure at least to an 8 hour time weighted average of 90 decibels.
- 4.10.2. For employees who have experienced a standard threshold shift, selected hearing protectors must attenuate their exposure to an 8-hour time weighted average of 85 decibels or below.
- 4.10.3. The adequacy of hearing protector attenuation will be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. More effective hearing protectors will be provided where necessary.

5. Safety Information

5.1. Recordkeeping

- 5.1.1. Exposure measurements. The company will maintain an accurate record of all employee exposure measurements.
- 5.1.2. Audiometric tests. The company will maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms. Additionally, all employee audiometric test records will be retained. These employee records will include as a minimum:
- 5.1.2.1. Name and job classification of the employee
 - 5.1.2.2. Date of the audiogram
 - 5.1.2.3. The examiner's name
 - 5.1.2.4. Date of the last acoustic or exhaustive calibration of the audiometer
 - 5.1.2.5. Employee's most recent noise exposure assessment

5.1.3. Record retention. The company will retain audiometric and related records for at least the following periods.

5.1.3.1. Noise exposure measurement records for two years.

5.1.3.2. Audiometric test records for the duration of the affected employee's employment.

5.1.4. Access to records. All records cited in this safety program will be provided upon request to employees, former employees, representatives designated by the individual employee, and representatives of OSHA. Copies of this program and the text of the regulation (29CFR1910.95) will be available and will be posted in the work place noise zone.

5.1.5. Transfer of records. If the company ceases to do business, the records will be transferred to the successor employer and maintained by the successor employer. Should the company cease to function entirely; the records will be provided to the respective employees, or as required by current law.

6. Training and Information

6.1. The company will institute a training program for all employees who are exposed to noise at or above an 8-hour time weighted average of 85 decibels, and will ensure employee participation in such program.

6.2. The training program will be repeated annually for each employee included in the Hearing Conservation Program. Information provided in the training program will be updated to be consistent with changes in protective equipment and work processes. Each employee will be informed of the following:

6.2.1. The effects of noise on hearing.

6.2.2. The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.

6.2.3. The purpose of audiometric testing, and an explanation of the test procedures.

7. Definitions

- *Action level*--An 8-hour time weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.
- *Audiogram*--A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.
- *Audiologist*--A professional specializing in the study and rehabilitation of hearing that is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.
- *Baseline audiogram*--The audiogram against which future audiograms are compared.

- *DBA (Decibel "A" weighted)* - A sound level measured using the "A" weighted scale of a sound level meter.
- *Noise dosimeter*--An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.
- *Noise Reduction Rating (NRR)* - The reduction in sound level that may be obtained by a hearing protection device if it is worn properly.
- *Otolaryngologist*-A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.
- *Standard Threshold Shift (STS)* - defined by OSHA as "a change in hearing threshold relative to the baseline audiogram of an average of 10 dBA or more at 2000, 3000 and 4000 Hz in either ear".
- *Time weighted average sound level*--That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

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HEARING CONSERVATION PROGRAM RESPONSIBILITIES

General:

_____ is responsible for maintaining the Hearing Conservation Program.

Noise monitoring will be conducted by _____ using the **Noise Exposure Measurements** form or other applicable document.

Audiometric Testing:

Notification of employees of the need to avoid high levels of non-occupational noise exposure during the 14 hour period immediately preceding the audiometric examination will be conducted by _____.

_____ is responsible for maintaining a record of all employee audiometric test records.

_____ will inform the employee, in writing, within 21 days of this determination, of the existence of a permanent Standard Threshold Shift. A copy of the STS letter will also be sent to the employee's supervisor.

The employees will be instructed by _____ on the importance of using hearing protectors and refer the employee for further clinical evaluation if necessary.

If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that a Standard Threshold Shift is not persistent, _____

- a. Shall inform the employee of the new audiometric interpretation.
- b. May discontinue the required use of hearing protectors for that employee.

Protective Equipment:

_____ shall ensure that hearing protectors are worn per the requirements of this program.

_____ will provide training in the use and care of all hearing protectors.

_____ will ensure proper initial fitting and supervise the correct use of all hearing protectors.

_____ will evaluate the attenuation characteristics of the hearing protectors to ensure that a given protector will reduce the individual's exposure to the required decibels using the **Hearing Protection Equipment Summary**.

Employee Educational Training:

An annual training program for each employee included in the hearing conservation program will be conducted by _____ and will include all information required by this program.

_____ is responsible for keeping training records.

Program Evaluation:

The Hearing Protection Program will be evaluated periodically by _____. After the evaluation, the changes/revisions to the program deemed necessary will be made as soon as possible.

Completed by: _____

Date: _____

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NOISE EXPOSURE COMPUTATION AND RATING TABLES

Age Correction Values in Decibels (reference tables F-1 and F-2).

Audiometric test frequency (Hz)					
Age	1000	2000	3000	4000	6000
32	6	5	7	10	14
27	5	4	6	7	11
<i>Difference</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>3</i>	<i>3</i>

The difference represents the amount of hearing loss that may be attributed to aging in the time period between the baseline audiogram and the most recent audiogram. In this example, the difference at 4000 Hz is 3 dB. This value is subtracted from the hearing level at 4000 Hz, which in the most recent audiogram is 25, yielding 22 after adjustments. Then the hearing threshold in the baseline audiogram at 4000 Hz (5) is subtracted from the adjusted annual audiogram-hearing threshold at 4000 Hz (22). Thus, the age-corrected threshold shift would be 17 dB (as opposed to a threshold shift of 20 dB without age correction).

Appendix A, 29 CFR 1910.95 - Noise Exposure Computation

Computation of Employee Noise Exposure

- When the sound level, L, is constant over the entire work shift, the noise dose, D, in percent, is given by: $D = 100 C/T$ where C is the total length of the work day, in hours, and T is the reference duration corresponding to the measured sound level, L, as given in Table G-16a below or by the formula shown as a footnote to that table.
- When the work-shift noise exposure is composed of two or more periods of noise at different levels, the total noise dose over the work day is given by:

$$D = 100 (C_1/T_1 + C_2/T_2 + \dots + C_n/T_n)$$
- Where C_n indicates the total time of exposure at a specific noise level, and T_n indicates the reference duration for that level as given by Table G-16a (as per attached). The eight-hour time weighted average sound level (TWA), in decibels, may be computed from the dose, in percent, by means of the formula: $TWA = 16.61 \log_{10} (D/100) + 90$. For an eight-hour work shift with the noise level constant over the entire shift, the TWA is equal to the measured sound level.

Conversion Between "Dose" and "8-Hour Time-Weighted Average" Sound Level

- Compliance will be determined by the amount of exposure to noise in the workplace, usually measured with an audio dosimeter which gives a readout in terms of "dose" and then converted to an "8 hour time weighted average" (TWA). Reference Table A-1 of the regulations to make the conversion.
- If the dose as read on the dosimeter is less than or greater than, the values found in Table A-1, the TWA may be calculated by using the formula: $TWA = 16.61 \log_{10} (D/100) + 90$ where TWA = 8-hour time weighted average sound level and D = accumulated dose in percent exposure.

Appendix B, 29 CFR 1910.95

Estimating the Adequacy of Hearing Protector Attenuation

- For employees who have experienced a significant threshold shift, hearing protection provided will have an attenuation that is sufficient to reduce employee exposure to a TWA of 85 dB. The following method will be used to estimate the adequacy of hearing protector attenuation (reduction or protectiveness).
- The Noise Reduction Rating (NRR) developed by the Environmental Protection Agency (EPA) will be used. Only approved hearing protection equipment showing the NRR on the hearing protector package will be used by the company. The NRR will be related to an individual employee's noise environment in order to assess the adequacy of the attenuation of a given hearing protector. When using the NRR to assess hearing protector adequacy, one of the following methods will be used:
 - Dosimeter (C-weighted):
 - Obtain the C-weighted dose for the entire work shift, and convert to TWA.
 - Subtract the NRR from the C-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.
 - Dosimeter (not capable of C-weighted measurements):
 - Convert the A-weighted dose to TWA.
 - Subtract 7 dB from the NRR.
 - Subtract the remainder from the A-weighted TWA to obtain the estimated A weighted TWA under the ear protector.
 - Sound level meter (set to the A-weighting network):
 - Obtain the A-weighted TWA.
 - Subtract 7 dB from the NRR, and subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.
 - Sound level meter (set to the C-weighting network):
 - Obtain a representative sample of the C-weighted sound levels in the area.
 - Subtract the NRR from the C-weighted average sound level to obtain the estimated A-weighted TWA under the ear protector.
 - When using area monitoring procedures and a sound level meter set to the A-weighting network.
 - Obtain a representative sound level for the area in question.
 - Subtract 7 dB from the NRR and subtract the remainder from the A-weighted sound level for that area.
 - When using area monitoring procedures and a sound level meter set to the C-weighting network:
 - Obtain a representative sound level for the area in question.
 - Subtract the NRR from the C-weighted sound level for that area.

NOISE EXPOSURE RATINGS

TABLE A-1

<u>Dose or percent noise</u>	<u>TWA exposure</u>	<u>Dose or percent noise</u>	<u>TWA exposure</u>
10	73.4	87	89.0
15	76.3	88	89.1
20	78.4	89	89.2
25	80.0	90	89.2
30	81.3	91	89.3
35	82.4	92	89.4
40	83.4	93	89.5
45	84.2	94	89.6
50	85.0	95	89.6
55	85.7	96	89.7
60	86.3	97	89.8
65	86.9	98	89.9
70	87.4	99	89.9
75	87.9	100	90.0
80	88.4	101	90.1
81	88.5	102	90.1
82	86.6	103	90.2
83	88.7	104	90.3
84	88.7	105	90.4
85	88.8	106	90.4
86	88.9		

NOISE EXPOSURE RATINGS

TABLE F-1

Age Correction Values in Decibels for *Males* Audiometric test frequency (Hz)

Years	1000	2000	3000	4000	6000	Years	1000	2000	3000	4000	6000
20 & under	5	3	4	5	8	41	7	6	10	14	20
21	5	3	4	5	8	42	8	7	11	16	20
22	5	3	4	5	8	43	8	7	12	16	21
23	5	3	4	6	9	44	8	7	12	17	22
24	5	3	5	6	9	45	8	7	13	18	23
25	5	3	5	7	10	46	8	8	13	19	24
26	5	4	5	7	10	47	8	8	14	19	24
27	5	4	6	7	11	48	9	8	14	20	25
28	6	4	6	8	11	49	9	9	15	21	26
29	6	4	6	8	12	50	9	9	16	22	27
30	6	4	6	9	12	51	9	9	16	23	28
31	6	4	7	9	13	52	9	10	17	24	29
32	6	5	7	10	14	53	9	10	18	25	30
33	6	5	7	10	14	54	10	10	18	26	31
34	6	5	8	11	15	55	10	11	19	27	32
35	7	5	8	11	15	56	10	11	20	28	34
36	7	5	9	12	16	57	10	11	21	29	35
37	7	6	9	12	17	58	10	12	22	31	36
38	7	6	9	13	17	59	11	12	22	32	37
39	7	6	10	14	18	60 & over	11	13	23	33	38
40	7	6	10	14	19						

NOISE EXPOSURE RATINGS

TABLE F-2

Age Correction Values in Decibels for Females Audiometric test frequency (Hz)

Years	1000	2000	3000	4000	6000	Years	1000	2000	3000	4000	6000
20 & under	7	4	3	3	6	41	10	8	8	8	13
21	7	4	4	3	6	42	10	8	9	9	13
22	7	4	4	4	6	43	11	8	9	9	14
23	7	5	4	4	7	44	11	8	9	9	14
24	7	5	4	4	7	45	11	8	10	10	15
25	8	5	4	4	7	46	11	9	10	10	15
26	8	5	5	4	8	47	11	9	10	11	16
27	8	5	5	5	8	48	12	9	11	11	16
28	8	5	5	5	8	49	12	9	11	11	16
29	8	5	5	5	9	50	12	10	11	12	17
30	8	6	5	5	9	51	12	10	12	12	17
31	8	6	6	5	9	52	12	10	12	13	18
32	9	6	6	6	10	53	13	10	13	13	18
33	9	6	6	6	10	54	13	11	13	14	19
34	9	6	6	6	10	55	13	11	14	14	19
35	9	6	7	7	11	56	13	11	14	15	20
36	9	7	7	7	11	57	13	11	15	15	20
37	9	7	7	7	12	58	14	12	15	16	21
38	10	7	7	7	12	59	14	12	16	16	21
39	10	7	8	8	12	60 & over	14	12	16	17	22
40	10	7	8	8	13						

NOISE EXPOSURE RATINGS

TABLE G 16-A

<u>A-weighted sound level,</u> <u>L (decibel)</u>	<u>Reference</u> <u>duration, T (hour)</u>	<u>A-weighted sound level,</u> <u>L (decibel)</u>	<u>Reference duration,</u> <u>T (hour)</u>
80	32.0	106	0.87
81	27.9	107	0.76
82	24.3	108	0.66
83	21.1	109	0.57
84	18.4	110	0.50
85	16.0	111	0.44
86	13.9	112	0.38
87	12.1	113	0.33
88	10.6	114	0.29
89	9.2	115	0.25
90	8.0	116	0.22
91	7.0	117	0.19
92	6.1	118	0.16
93	5.3	119	0.14
94	4.6	120	0.125
95	4.0	121	0.11
96	3.5	122	0.095
97	3.0	123	0.082
98	2.6	124	0.072
99	2.3	125	0.063
100	2.0	126	0.054
101	1.7	127	0.047
102	1.5	128	0.041
103	1.3	129	0.036
104	1.1	130	0.031
105	1.0		

In the above table the reference duration
T is computed by where L is the measured A-weighted sound level.

$$T = \frac{8}{2(L-90)/5}$$

Text of Noise and Hearing Conservation Standard
Must be posted in work areas where hearing protection is required

1910.95(a)

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table G-16 when measured on the A scale of a standard sound level meter at slow response. When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:

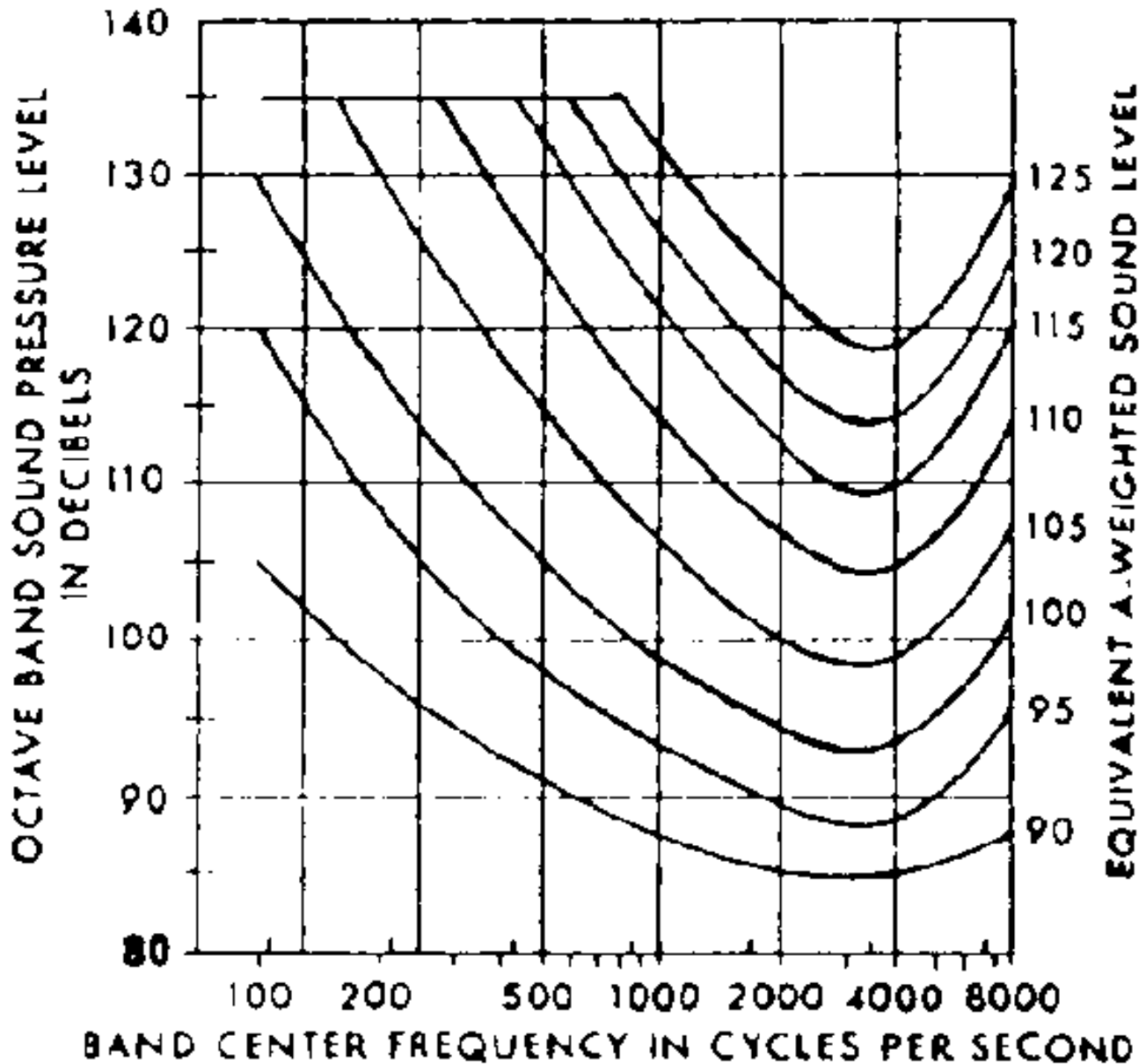


FIGURE G-9

Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from Table 1.G-16.

1910.95(b)(1)

When employees are subjected to sound exceeding those listed in Table G-16, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table G-16, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

1910.95(b)(2)

If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES (1)
Duration per day, hours | Sound level dBA slow response

8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2	102
1.....	105
1/2	110
1/4 or less.....	115

Footnote(1) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C(1)/T(1) + C(2)/T(2) + C(n)/T(n)$ exceeds unity, then, the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

1910.95(c)

"Hearing conservation program."

1910.95(c)(1)

The employer shall administer a continuing, effective hearing conservation program, as described in paragraphs (c) through (o) of this section, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with appendix A and Table G-16a, and without regard to any attenuation provided by the use of personal protective equipment.

1910.95(c)(2)

For purposes of paragraphs (c) through (n) of this section, an 8-hour time-weighted average of 85 decibels or a dose of fifty percent shall also be referred to as the action level.

1910.95(d)

"Monitoring."

1910.95(d)(1)

When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employer shall develop and implement a monitoring program.

1910.95(d)(1)(i)

The sampling strategy shall be designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.

1910.95(d)(1)(ii)

Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, the employer shall use representative personal sampling to comply with the monitoring requirements of this paragraph unless the employer can show that area sampling produces equivalent results.

1910.95(d)(2)(i)

All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.

1910.95(d)(2)(ii)

Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.

1910.95(d)(3)

Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:

1910.95(d)(3)(i)

Additional employees may be exposed at or above the action level; or

1910.95(d)(3)(ii)

The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of paragraph (j) of this section.

1910.95(e)

"Employee notification." The employer shall notify each employee exposed at or above an 8-hour time-weighted average of 85 decibels of the results of the monitoring.

1910.95(f)

"Observation of monitoring." The employer shall provide affected employees or their representatives with an opportunity to observe any noise measurements conducted pursuant to this section.

1910.95(g)

"Audiometric testing program."

1910.95(g)(1)

The employer shall establish and maintain an audiometric testing program as provided in this paragraph by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.

1910.95(g)(2)

The program shall be provided at no cost to employees.

1910.95(g)(3)

Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

1910.95(g)(4)

All audiograms obtained pursuant to this section shall meet the requirements of Appendix C: "Audiometric Measuring Instruments."

1910.95(g)(5)

"Baseline audiogram."

1910.95(g)(5)(i)

Within 6 months of an employee's first exposure at or above the action level, the employer shall establish a valid baseline audiogram against which subsequent audiograms can be compared.

1910.95(g)(5)(ii)

"Mobile test van exception." Where mobile test vans are used to meet the audiometric testing obligation, the employer shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

1910.95(g)(5)(iii)

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

1910.95(g)(5)(iv)

The employer shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

1910.95(g)(6)

"Annual audiogram." At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

1910.95(g)(7)

"Evaluation of audiogram."

1910.95(g)(7)(i)

Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift as defined in paragraph (g)(10) of this section has occurred. This comparison may be done by a technician.

1910.95(g)(7)(ii)

If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.

1910.95(g)(7)(iii)

The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. The employer shall provide to the person performing this evaluation the following information:

1910.95(g)(7)(iii)(A)

A copy of the requirements for hearing conservation as set forth in paragraphs (c) through (n) of this section;

1910.95(g)(7)(iii)(B)

The baseline audiogram and most recent audiogram of the employee to be evaluated;

1910.95(g)(7)(iii)(C)

Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.

1910.95(g)(7)(iii)(D)

Records of audiometer calibrations required by paragraph (h)(5) of this section.

1910.95(g)(8)

"Follow-up procedures."

1910.95(g)(8)(i)

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined in paragraph (g)(10) of this section has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.

1910.95(g)(8)(ii)

Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:

1910.95(g)(8)(ii)(A)

Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.

1910.95(g)(8)(ii)(B)

Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

1910.95(g)(8)(ii)(C)

The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

1910.95(g)(8)(ii)(D)

The employee is informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

1910.95(g)(8)(iii)

If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that a standard threshold shift is not persistent, the employer:

1910.95(g)(8)(iii)(A)

Shall inform the employee of the new audiometric interpretation; and

1910.95(g)(8)(iii)(B)

May discontinue the required use of hearing protectors for that employee.

1910.95(g)(9)

"Revised baseline." An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:

1910.95(g)(9)(i)

The standard threshold shift revealed by the audiogram is persistent; or

1910.95(g)(9)(ii)

The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

1910.95(g)(10)

"Standard threshold shift."

1910.95(g)(10)(i)

As used in this section, a standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

1910.95(g)(10)(ii)

In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F: "Calculation and Application of Age Correction to Audiograms."

1910.95(h)

"Audiometric test requirements."

1910.95(h)(1)

Audiometric tests shall be pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000, and 6000 Hz. Tests at each frequency shall be taken separately for each ear.

1910.95(h)(2)

Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used in accordance with, American National Standard Specification for Audiometers, S3.6-1969, which is incorporated by reference as specified in Sec. 1910.6.

1910.95(h)(3)

Pulsed-tone and self-recording audiometers, if used, shall meet the requirements specified in Appendix C: "Audiometric Measuring Instruments."

1910.95(h)(4)

Audiometric examinations shall be administered in a room meeting the requirements listed in Appendix D: "Audiometric Test Rooms."

1910.95(h)(5)

"Audiometer calibration."

1910.95(h)(5)(i)

The functional operation of the audiometer shall be checked before each day's use by testing a person with known, stable hearing thresholds, and by listening to the audiometer's output to make sure that the output is free from distorted or unwanted sounds. Deviations of 10 decibels or greater require an acoustic calibration.

1910.95(h)(5)(ii)

Audiometer calibration shall be checked acoustically at least annually in accordance with Appendix E: "Acoustic Calibration of Audiometers." Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check. Deviations of 15 decibels or greater require an exhaustive calibration.

1910.95(h)(5)(iii)

An exhaustive calibration shall be performed at least every two years in accordance with sections 4.1.2; 4.1.3.; 4.1.4.3; 4.2; 4.4.1; 4.4.2; 4.4.3; and 4.5 of the American National Standard Specification for Audiometers, S3.6-1969. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.

1910.95(i)

"Hearing protectors."

1910.95(i)(1)

Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary.

1910.95(i)(2)

Employers shall ensure that hearing protectors are worn:

1910.95(i)(2)(i)

By an employee who is required by paragraph (b)(1) of this section to wear personal protective equipment; and

1910.95(i)(2)(ii)

By any employee who is exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:

1910.95(i)(2)(ii)(A)

Has not yet had a baseline audiogram established pursuant to paragraph (g)(5)(ii); or

1910.95(i)(2)(ii)(B)

Has experienced a standard threshold shift.

1910.95(i)(3)

Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.

1910.95(i)(4)

The employer shall provide training in the use and care of all hearing protectors provided to employees.

1910.95(i)(5)

The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

1910.95(j)

"Hearing protector attenuation."

1910.95(j)(1)

The employer shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. The employer shall use one of the evaluation methods described in Appendix B: "Methods for Estimating the Adequacy of Hearing Protection Attenuation."

1910.95(j)(2)

Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels as required by paragraph (b) of this section.

1910.95(j)(3)

For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposure to an 8-hour time-weighted average of 85 decibels or below.

1910.95(j)(4)

The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. The employer shall provide more effective hearing protectors where necessary.

1910.95(k)

"Training program."

1910.95(k)(1)

The employer shall institute a training program for all employees who are exposed to noise at or above an 8-hour time-weighted average of 85 decibels, and shall ensure employee participation in such program.

1910.95(k)(2)

The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

1910.95(k)(3)

The employer shall ensure that each employee is informed of the following:

1910.95(k)(3)(i)

The effects of noise on hearing;

1910.95(k)(3)(ii)

The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and

1910.95(k)(3)(iii)

The purpose of audiometric testing, and an explanation of the test procedures.

1910.95(l)

"Access to information and training materials."

1910.95(l)(1)

The employer shall make available to affected employees or their representatives copies of this standard and shall also post a copy in the workplace.

1910.95(l)(2)

The employer shall provide to affected employees any informational materials pertaining to the standard that are supplied to the employer by the Assistant Secretary.

1910.95(l)(3)

The employer shall provide, upon request, all materials related to the employer's training and education program pertaining to this standard to the Assistant Secretary and the Director.

1910.95(m)

"Recordkeeping" -

1910.95(m)(1)

"Exposure measurements." The employer shall maintain an accurate record of all employee exposure measurements required by paragraph (d) of this section.

1910.95(m)(2)

"Audiometric tests."

1910.95(m)(2)(i)

The employer shall retain all employee audiometric test records obtained pursuant to paragraph (g) of this section:

1910.95(m)(2)(ii)

This record shall include:

1910.95(m)(2)(ii)(A)

Name and job classification of the employee;

1910.95(m)(2)(ii)(B)

Date of the audiogram;

1910.95(m)(2)(ii)(C)

The examiner's name;

1910.95(m)(2)(ii)(D)

Date of the last acoustic or exhaustive calibration of the audiometer; and

1910.95(m)(2)(ii)(E)

Employee's most recent noise exposure assessment.

1910.95(m)(2)(ii)(F)

The employer shall maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

1910.95(m)(3)

"Record retention." The employer shall retain records required in this paragraph (m) for at least the following periods.

1910.95(m)(3)(i)

Noise exposure measurement records shall be retained for two years.

1910.95(m)(3)(ii)

Audiometric test records shall be retained for the duration of the affected employee's employment.

1910.95(m)(4)

"Access to records." All records required by this section shall be provided upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary. The provisions of 29 CFR 1910.1020 (a)-(e) and (g)-

1910.95(m)(4)(i)

apply to access to records under this section.

1910.95(m)(5)

"Transfer of records." If the employer ceases to do business, the employer shall transfer to the successor employer all records required to be maintained by this section, and the successor employer shall retain them for the remainder of the period prescribed in paragraph (m)(3) of this section.

1910.95(n)

"Appendices."

1910.95(n)(1)

Appendices A, B, C, D, and E to this section are incorporated as part of this section and the contents of these appendices are mandatory.

1910.95(n)(2)

Appendices F and G to this section are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

1910.95(o)

"Exemptions." Paragraphs (c) through (n) of this section shall not apply to employers engaged in oil and gas well drilling and servicing operations.

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TRAINING ATTENDANCE ROSTER NOISE AND HEARING CONSERVATION

Noise and Hearing Conservation Training Includes:

- *Purpose of equipment*
- *Effects of noise on hearing ability*
- *Warning signs of hearing loss*
- *Sound levels and choosing the right protection*
- *Types and effectiveness of protective equipment*
- *How to wear equipment*
- *Care and maintenance of equipment*
- *Audiograms*
- *Recordkeeping and documentation*

<u>INSTRUCTOR:</u>	<u>DATE:</u>	<u>LOCATION:</u>
NAME (Please Print) FIRST - MI - LAST	SIGNATURE	
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed		

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

OSHA RECORDKEEPING SAFETY PROGRAM

REGULATORY STANDARD - OSHA - 29 CFR 1904

INTRODUCTION

The OSHA Recordkeeping Standard requires certain industry segments with greater than 10 employees to evaluate workplace injuries and illnesses, and mandates these employers to collect, compile, retain, analyze and communicate this information to employees. This program establishes criteria for logging occupational injuries or illnesses, posting the annual summary and record retention.

TRAINING

Recommended that for supervisors and managers to assist in determining what is recordable.

ACTIVITIES

- For all employers regardless of exemptions, notify OSHA within 8 hours of fatalities and within 24 hours of work related inpatient hospitalization, amputation, or loss of an eye
- Maintain appropriate records: OSHA 300, 300A, and 301 (or equivalent) forms
- Supply the records and documentation to OSHA, as needed or required
- Post appropriate summaries of the OSHA recordkeeping forms
- Electronically submit injury and illness data to OSHA, as required
- Encourage employees to report any incidents (injuries, illnesses, and near-miss incidents)
- Report the contents and summaries of these documents upon being notified in writing by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses
- Retain log and summary of all recordable occupational injuries and illnesses (OSHA 300 and OSHA 300A or equivalent) for 5 years

FORMS

- Certain High-Risk Industries List
- OSHA 300 Form
- OSHA 300A Form
- OSHA 301 Form
- Training attendance roster

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- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

OSHA RECORDKEEPING SAFETY PROGRAM

1. **Purpose.** Records are required to be kept by most employers that indicate the number, types and severity of work related injuries, illnesses and fatalities. The OSHA Recordkeeping Safety Program is designed to assist the company in compliance with the requirements of 29CFR1904 (OSHA's Recordkeeping Standard). The company will review and evaluate this safety program:

- 1.1 When changes occur to 29 CFR 1904 that prompt revision of this document.

- 1.2 When facility operational changes occur that require a revision of this document.

2. **Scope.** The OSHA Recordkeeping Safety Program applies to all facilities and job sites where company employees work.

3. **Responsibilities**

- 3.1 Management/Supervisors

- 3.1.1 Maintain appropriate records.

- 3.1.2 Supply the records and documentation to OSHA, as needed or required.

- 3.1.3 Notify OSHA within 8 hours of fatalities or within 24 hours of work related inpatient hospitalization, amputation, or loss of an eye.

- 3.1.4 Post the 300A form.

- 3.1.5 Encourage employees to report any incidents (injuries, illnesses, property damage, and near-miss incidents).

- 3.2 Employees

- 3.2.1 Report any work related injuries or illnesses immediately to management or your supervisor.

4. Procedure

4.1 General Recordkeeping Requirements

4.1.1 Companies with eleven (11) or more employees at any time during the calendar year must comply with the provisions of the recordkeeping standard (29 CFR 1904).

4.1.2 The company will maintain a log of occupational injuries and illnesses on the required OSHA 300, 300A and 301 (or equivalent) forms.

4.1.2.1 The company will report the contents and summaries of these documents upon being notified in writing by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses.

4.2 Log and Summary of Occupational Injuries and Illnesses (OSHA 300). The log will be used for classifying occupational injuries and illnesses, and for noting the extent of each case. The log shows when the occupational injury or illness occurred, to whom, the regular job of the injured or ill person at the time of the injury or illness exposure, the department or area in which the person was employed, the type of injury or illness, how much time was lost, whether the case resulted in a fatality, etc. The company will:

4.2.1 Maintain a log and summary of all recordable occupational injuries and illnesses by calendar year, each year. Past logs must be maintained for 5 years, after which they may be discarded.

- Each year's form will be updated to include newly discovered cases and to reflect changes that occur in recorded cases after the end of the calendar year. If, during the 5-year retention period, there is a change in the extent or outcome of an injury or illness which affects an entry on a previous year's log, then the first entry will be lined out and a corrected entry made on that log. New entries for previously unrecorded cases that are discovered will also be documented. Log totals will also be modified to reflect these changes.

4.2.2 Enter each recordable injury and illness on the log and summary as early as practicable but no later than 7 working days after receiving information that a recordable injury or illness has occurred. For this purpose OSHA Form No. 300 or an equivalent document will be used. The log and summary will be completed in the detail provided in the form and instructions on form OSHA 300.

4.2.3 If the company elects to maintain the log of occupational injuries and illnesses at a place other than the main facility or by means of data-processing equipment, or both, it will meet the following criteria:

- 4.2.3.1 There will be available at the place where the log is maintained sufficient information to complete the log to a date within 7 working days after receiving information that a recordable case has occurred.
- 4.2.3.2 At each facility there will be available a copy of the log which reflects separately the injury and illness experience of that establishment complete and current to a date within 45 calendar days.

4.3 Supplementary Record (OSHA 301)

In addition to the log of occupational injuries and illnesses (OSHA 300) the company will have (within 7 working days after receiving information that a recordable case has occurred) a supplementary record for each occupational injury or illness for that establishment. The record will be completed in the detail prescribed in the instructions accompanying Occupational Safety and Health Administration OSHA Form 301. Workmen's compensation, insurance, or other alternative records (provided they contain the information required by OSHA Form 301) are acceptable substitutes.

4.4 Annual Summary

The company will post an annual summary of occupational injuries and illnesses for each facility under our control. This summary will consist of a copy of the year's totals from the form OSHA 300 and the following information from that 300 form:

- Calendar year covered.
- Company name and establishment address.
- Verification signature, title, and date.
- A form OSHA No. 300-A will be used in presenting the summary. If no injuries or illnesses occurred in the year, zeros will be entered on the total line, and the form posted.
- The summary will be completed by February 1 of each calendar year. Management, or the officer or employee of the employer who supervises the preparation of the log and summary of occupational injuries and illnesses, will verify that the annual summary of occupational injuries and illnesses is true and complete. The verification will be accomplished by affixing their signature, attesting that the summary is true and complete.

- The company will post a copy of the establishment's summary (OSHA Form 300A) in each facility in a place accessible to employees and in a location where employees would normally look for such information. The summary covering the previous calendar year will be posted no later than February 1 and will remain in place until April 30. For employees who do not primarily report or work at a fixed site belonging to the company, or who do not report to any fixed site on a regular basis, we will satisfy this posting requirement by presenting or mailing a copy of the summary during the month of February of the following year to each such employee who receives pay during that month.
- 4.5 Some employers are required to submit workplace injuries and illnesses information to OSHA electronically annually, on OSHA's website OSHA.GOV.
- Employers with 250 or more employees that are currently required to keep OSHA injury and illness records must electronically submit information from OSHA Forms 300 — Log of Work-Related Injuries and Illnesses, 300A — Summary of Work-Related Injuries and Illnesses, and 301 — Injury and Illness Incident Report.
 - Employers with 20-249 employees that are classified in certain high-risk industries must electronically submit information from OSHA Form 300A. The certain high-risk industries are listed on the Certain High-Risk Industries List.

5. Safety Information

- 5.1 Records Retention. Records maintained by the company will be retained for the following time periods following the end of the year to which they relate.
- 5.1.1 Log and summary of all recordable occupational injuries and illnesses (OSHA 300 and OSHA 300A or equivalent). Retained for 5 years.
 - 5.1.2 Supplementary records (OSHA 301 or equivalent) for each occupational injury or illness for this facility. Retained for 5 years.
 - 5.1.3 Employee exposure and medical records for company employees. Retained for the duration of employment plus an additional 30 years.
 - 5.1.4 Noise exposure measurement records. Retained for the duration of employment plus an additional 30 years.
 - 5.1.5 Audiometric test records. Retained for the duration of the affected employee's employment.
- 5.2 Access to Records. The company will provide, upon request, these established records, for inspection and copying by any representative of OSHA or the DOL (or state equivalent agencies) for the purpose of carrying out the provisions of the OSHA act, and for statistical compilation.

- 5.2.1 The log and summary of all recordable occupational injuries and illnesses (OSHA No. 300) will, upon request, be made available to any employee, former employee, and to their representatives for examination and copying in a reasonable manner and at reasonable times. The employee, former employee, and their representatives will have access to the log for any establishment in which the employee is or has been employed.
- 5.3 Reporting of Fatality or Work Related inpatient hospitalization, amputation, or loss of an eye. Within 8 hours after a fatality or within 24 hours of work related inpatient hospitalization, amputation, or loss of an eye, the company will report the accident by telephone. The report will relate the circumstances of the accident, the number of fatalities, and the extent of any injuries. It is understood that the Area OSHA Director may require such additional reports, in writing or otherwise, as he deems necessary concerning the accident. This report is to be made to the nearest office of the Occupational Safety and Health Administration. You may also use the OSHA toll free central number 1-800-321-6742. A listing of the current offices can be accessed on the OSHA website (www.OSHA.gov).
- 5.4 Change of Ownership. In the event a change of company ownership should occur, the company will notify the buyers of the requirement to preserve those records of the prior ownership, if any are required to be maintained.
- 5.5 Petitions for Recordkeeping Exceptions. In the event the company chooses to maintain records in a manner different from that required, the company will submit a petition containing the information specified by the Regional Commissioner of the Bureau of Labor Statistics in our region.
- 5.6 Employees Not In Fixed Establishments. Recording requirements for company employees engaged in physically dispersed operations (such as construction, installation, repair or service activities) who do not report to any fixed company establishment on a regular basis but are subject to common supervision will be satisfied by:
- 5.6.1 Maintaining the required records for each operation or group of operations which is subject to common supervision (field superintendent, field supervisor, etc.) in the main office of the company.
- 5.6.2 Having the address and telephone number of the main office available at each worksite.
- 5.6.3 Having personnel available at the main office during normal business hours to provide information from the records maintained there by telephone and by mail.

5.7 Statistical Safety Program. The company will comply with all requirements to maintain, provide, and use statistical summaries. Upon receipt of an Occupational Injury and Illnesses Survey Form, the company will promptly complete the form in accordance with the instructions contained therein, and return it in accordance with the instructions.

5.8 Recordable Classification

5.8.1 Case analysis. The following decision logic will be followed:

5.8.1.1 Determine whether a case occurred (death, injury, illness).

5.8.1.2 Establish that the case was work related.

- Case resulting from an event or exposure in the work environment. In addition to the physical location, equipment or materials used in the course of an employee's work are also considered part of the employee's work environment.
- Case resulting from an event or exposure in other locations where employees are engaged in work-related activities or are present as a condition of their employment.

5.8.1.3 Establishing that the case was not work related.

- The case will be considered not work related when an employee is off duty on our premises as a member of the general public and not as an employee.
- The case will be considered not work related when an employee has symptoms that merely surface on company premises, but are the result of a non-work related event or exposure off the premises.

5.8.1.3 Determining if the case is an illness or injury.

- Illness cases. Illnesses usually result from a long-term exposures or cases where the illness does not develop as the result of an instantaneous event. This concept of illness includes acute illnesses which result from exposures of relatively short duration.
- Injury cases. Injuries are only required to be recorded when they require medical attention (other than first aid). Injuries are usually caused by instantaneous events in the work environment. Cases resulting from anything other than instantaneous events are considered illnesses.

- Recordable case. If the case is an injury, decide if it is recordable. The following criteria will be used as a basis for recordability. The case will be recorded if the employee has:
 - A work related injury.
 - Medical treatment other than first aid.
 - Has a loss of consciousness.
 - Experiences restriction of work or motion.
 - Been transferred to another job.

5.8.1.4.1 Illness case. Generally, occupationally induced illness should be recorded as a separate entry on the OSHA 300 (or equivalent) log. However, certain illnesses, such as silicosis, may have prolonged effects which recur over time. The recurrence of these symptoms will not be recorded as new cases on the OSHA forms. The recurrence of symptoms of previous illness may require adjustments of entries on the log for previously recorded illnesses to reflect possible change in the extent or outcome of the particular case. Where it is unclear where an entry should be made, contact the company Safety Officer or the local OSHA office to obtain advice for proper annotation.

5.8.2 Categories for Evaluating the Extent of Recordable cases. Once the company decides that a recordable injury or illness has occurred, the case must be evaluated to determine its extent or outcome. There are three categories that OSHA recognizes as recordable cases. Every recordable case will be placed in only one of the following categories:

5.8.2.1 Fatalities. All work fatalities must be recorded, regardless of the time between the injury and the death, or the length of the illness.

5.8.2.2 Lost Workday cases. Lost workday cases will be determined to have occurred when the injured or ill employee experiences either days away from work, days of restricted work activity, or both, for days after the date of the incident. Record the actual number of days away or of restricted work after the date of injury. Note that if a physician requires a set number of days for the employee to be out of work, that number of days must be recorded on the log, even if the employee returns to work earlier than recommended by the physician. Include any weekends (or normally scheduled days off) in the count, if the employee was scheduled to work the next business day and does not report to work. No more than 180 days should be logged, regardless if the employee loses additional time.

- 5.8.2.3 Cases not resulting in death or lost workdays. These cases consist of the relatively less serious injuries and illnesses which satisfy the criteria for recordability but which do not result in death or require the affected employee to have days away from work or days of restricted work activity beyond the date of injury or onset of illness.

6. Training and Information

None at this time.

7. Definitions.

- *DOL* – U.S. Department of Labor
- *Fatality* – an incident that results in death
- *Hospitalization* – admittance to a hospital or similar facility where employees are provided with medical care and treatment. Emergency room visits are not considered hospitalization
- *Incident* – an unintended event in the workplace
- *Injury* – an incident that results in a detrimental physical effect to an employee
- *Illness* – an incident that results in an acute or chronic health effect to an employee
- *Near-miss Incident* – an incident that could have resulted in an injury, illness or fatality, but did not
- *OSHA* – U.S. Occupational Safety and Health Administration
- *Property Damage* – an incident that results in damage to buildings, structures, equipment, tools or other tangible assets of the company

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Certain High-Risk Industries List

The following industries with 20 to 249 employees must submit injury and illness summary (Form 300A) data to OSHA electronically.

NAICS	INDUSTRY	NAICS	INDUSTRY
11	Agriculture, forestry, fishing and hunting	5152	Cable and other subscription programming
22	Utilities	5311	Lessors of real estate
23	Construction	5321	Automotive equipment rental and leasing
31-33	Manufacturing	5322	Consumer goods rental
42	Wholesale trade	5323	General rental centers
4413	Automotive parts, accessories, and tire stores	5617	Services to buildings and dwellings
4421	Furniture stores	5621	Waste collection
4422	Home furnishings stores	5622	Waste treatment and disposal
4441	Building material and supplies dealers	5629	Remediation and other waste management services
4442	Lawn and garden equipment and supplies stores	6219	Other ambulatory health care services
4451	Grocery stores	6221	General medical and surgical hospitals
4452	Specialty food stores	6222	Psychiatric and substance abuse hospitals
4521	Department stores	6223	Specialty (except psychiatric and substance abuse) hospitals
4529	Other general merchandise stores	6231	Nursing care facilities
4533	Used merchandise stores	6232	Residential mental retardation, mental health and substance abuse facilities
4542	Vending machine operators	6233	Community care facilities for the elderly
4543	Direct selling establishments	6239	Other residential care facilities
4811	Scheduled air transportation	6242	Community food and housing, and emergency and other relief services
4841	General freight trucking	6243	Vocational rehabilitation services
4842	Specialized freight trucking	7111	Performing arts companies
4851	Urban transit systems	7112	Spectator sports
4852	Interurban and rural bus transportation	7121	Museums, historical sites, and similar institutions
4853	Taxi and limousine service	7131	Amusement parks and arcades
4854	School and employee bus transportation	7132	Gambling industries
4855	Charter bus industry	7211	Traveler accommodation
4859	Other transit and ground passenger transportation	7212	RV (recreational vehicle) parks and recreational camps
4871	Scenic and sightseeing transportation, land	7213	Rooming and boarding houses
4881	Support activities for air transportation	7223	Special food services
4882	Support activities for rail transportation	8113	Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance
4883	Support activities for water transportation	8123	Dry-cleaning and laundry services
4884	Support activities for road transportation		
4889	Other support activities for transportation		
4911	Postal service		
4921	Couriers and express delivery services		
4922	Local messengers and local delivery		
4931	Warehousing and storage		

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Log of Work-Related Injuries and Illnesses

Year _____

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

City _____ State _____

[illegible]

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

(1)	Injury
(2)	Skin Disorder
(3)	Respiratory Condition
(4)	Poisoning
(5)	Hearing Loss
(6)	All other illnesses

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OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
_____	_____	_____	_____
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
_____	_____
(K)	(L)

Injury and Illness Types

Total number of... (M)	
(1) Injury	(4) Poisoning
(2) Skin Disorder	(5) Hearing Loss
(3) Respiratory Condition	(6) All Other Illnesses

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

Establishment information

Your establishment name _____
Street _____
City _____ State _____ Zip _____
Industry description (e.g., Manufacture of motor truck trailers) _____
Standard Industrial Classification (SIC), if known (e.g., SIC 3715) _____

OR North American Industrial Classification (NAICS), if known (e.g., 336212) _____

Employment information

Annual average number of employees _____
Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive Title

Phone Date

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OSHA's Form 301

Injuries and Illnesses Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary*, these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____
Title _____
Phone _____ Date _____

Information about the employee

- 1) Full Name _____
- 2) Street _____
City _____ State _____ Zip _____
- 3) Date of birth _____
- 4) Date hired _____
- 5) ☐ Male
☐ Female

Information about the physician or other health care professional

- 6) Name of physician or other health care professional

- 7) If treatment was given away from the worksite, where was it given?
Facility _____
Street _____
City _____ State _____ Zip _____

- 8) Was employee treated in an emergency room?
☐ Yes
☐ No
- 9) Was employee hospitalized overnight as an in-patient?
☐ Yes
☐ No

Information about the case

- 10) Case number from the Log _____ (Transfer the case number from the Log after you record the case.)
- 11) Date of injury or illness _____
- 12) Time employee began work _____ AM/PM
- 13) Time of event _____ AM/PM ☐ Check if time cannot be determined
- 14) **What was the employee doing just before the incident occurred?** Describe the activity, as well as the tools, equipment or material the employee was using. Be specific. Examples: "climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."
- 15) **What happened?** Tell us how the injury occurred. Examples: "When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."
- 16) **What was the injury or illness?** Tell us the part of the body that was affected and how it was affected; be more specific than "hurt", "pain", or "sore." Examples: "strained back"; "chemical burn, hand"; "carpal tunnel syndrome."
- 17) **What object or substance directly harmed the employee?** Examples: "concrete floor"; "chlorine"; "radial arm saw." If this question does not apply to the incident, leave it blank.
- 18) **If the employee died, when did death occur?** Date of death _____

Public reporting burden for this collection of information is estimated to average 22 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a current valid OMB control number. If you have any comments about this estimate or any other aspects of this data collection, including suggestions for reducing this burden, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

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TRAINING ATTENDANCE ROSTER	
OSHA RECORDKEEPING	

OSHA Recordkeeping Training Includes:

- **Overview of Forms**
- **Determining Recordability**
- **What is Medical Treatment and First Aid**
- **Counting the Days**
- **Privacy**
- **Reporting to OSHA and the BLS**

- OSHA Recordkeeping Training Includes:**
- **Overview of Forms**
 - **Determining Recordability**
 - **What is Medical Treatment and First Aid**
 - **Counting the Days**
 - **Privacy**
 - **Reporting to OSHA and the BLS**

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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**CALIFORNIA
OSHA RECORDKEEPING
Additional Requirements**

REPORTING WORK RELATED FATALITIES AND SERIOUS INJURIES – 8 CCR 342

- All fatal and serious injuries must be reported within 8 hours.
(In very limited circumstances must be reported with 24 hours)
- Failure to do so will result in automatic \$5,000 fine.
- Serious injury or illness is when:
 - An employee suffers a “loss of any member of the body”.
 - An employee suffers a “serious degree of permanent disfigurement”.
 - An employee receives “inpatient hospitalization for a period in excess of 24 hours for other than medical observation”.

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**Personal Protective
Equipment**

PROGRAM OVERVIEW

PERSONAL PROTECTIVE EQUIPMENT SAFETY PROGRAM

REGULATORY STANDARD: 29 CFR §1910.132-138

INTRODUCTION

Personal protective equipment (PPE), when its use is required, must be provided and used by employees. PPE should only be used where engineering and work practice controls are not sufficient to prevent exposure to a hazard. The type of personal protective equipment and the reasons for its use must be documented. Where required, employees must be trained in how to use the equipment, reasons for its use, the care and maintenance of the equipment and disposal considerations.

TRAINING

- Training and information is required for employees who use PPE.
- Additional training is required for specific types and uses of PPE (respirators, hearing protection, etc.)

ACTIVITIES

- Conduct and document a Hazard Assessment
- Provide protective equipment, as required
- Ensure employees are trained in the use, care and maintenance of the equipment

FORMS

- Certification of Hazard Assessment
- Information for Filtering Facepiece (Dust Mask) Use
- Training Attendance Roster

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PERSONAL PROTECTIVE EQUIPMENT (PPE) SAFETY PROGRAM

1. Purpose. Personal Protective Equipment (PPE) shall be used in areas where there is potential exposure to hazards which cannot be adequately controlled by elimination, substitution, engineering methods or administrative controls. PPE is to be considered the last line of defense against exposure to chemical hazards, radiation hazards, biological agents, temperature extremes, noise, electrical energy, mechanical forces, irritants, or projectiles which can produce injury or illness. This defines the required elements for implementing a PPE program.

1.1 Exclusions: PPE requirements for hearing conservation, fall protection, cartridge type respiratory protection, eyewash/safety shower, and electrical work are covered in separate, specific standards. Back Belts and Wrist Braces used in mitigation of ergonomic disorders as part of an ergonomics evaluation are not considered PPE.

2. Scope. Applies to any area where Personal Protective Equipment is required or used by company employees.

3. Responsibilities

3.1 Management

3.1.1 Conduct and document a Hazard Assessment of the workplace.

3.1.2 Select the appropriate PPE to reduce or eliminate hazards, based on the types of tasks and activities performed at the company.

3.1.3 Maintain PPE or provide employees with the proper training and tools to maintain PPE used at the company.

3.1.4 Best practice is to post signs to inform employees where PPE is required.

3.1.5 Provide appropriate protective equipment to employees, visitors or other personnel, as needed or required. The employer is not required to pay for steel-toe shoes and prescription safety glasses (if allowed to be worn off the job), logging boots, everyday clothing, normal work boots, winter coat, sunglasses, and sunscreen.

3.1.6 Provide training to each employee who is required to use PPE.

3.2 Employees

3.2.1 Wear PPE as required and trained.

3.2.2 Maintain PPE, as required by this program

3.2.3 Report concerns, issues or violations of this program to Supervisors or management.

4. Procedure

4.1 Certification of Hazard Assessment

- 4.1.1 Conduct a hazard assessment of the workplace to identify the hazards associated with each job task or facility.
- 4.1.2 A Certification of Hazard Assessment shall be completed as verification that a hazard assessment was performed. The "certification document" may be completed by job task or operation, for buildings, or for organizations. If you do not use the provided form for this purpose, your documentation must specifically be identified as a "Certification of Hazard Assessment", and contain all the required elements (person certifying, date, location evaluated)
 - 4.1.2.1 This document shall be updated for changes to operating procedures, when the method of performing the job changes and/or when incident investigations determine those PPE modifications are necessary.

4.2 PPE Selection

- 4.2.1 Obtain the appropriate PPE. Selected PPE may include: eye and face, hand and arm, foot, head, torso and body protection, etc.
 - 4.2.1.1 The type of PPE must protect against the hazards identified.
 - 4.2.1.2 Inform affected employees of the PPE they are required to wear.
 - 4.2.1.3 Selected PPE must fit each affected employee.
 - 4.2.1.4 For chemical protective clothing, manufacturer information is maintained by the company. For suits, gloves, apron, eyewear/goggles - generic chemical permeation data (what the item is resistant to or not resistant to for general groupings of chemicals) will be maintained.

4.3 Access to and Maintenance of PPE

- 4.3.1 Ensure adequate supplies, storage, and employee access to PPE when required for a specific work area or operation.
- 4.3.2 PPE must be maintained in a sanitary and reliable condition. Ensure that damaged or defective PPE is taken out of service and not used, and that contaminated clothing and PPE are disposed of or cleaned properly.

5. Safety Information

5.1 Types of PPE and Their Use(s)

5.1.1 Eye and Face Protection

- 5.1.1.1 Safety glasses, goggles, and face shields are designed to protect the eyes and/or face of individuals who may be exposed to flying particles, molten metal, liquid chemicals, acid or caustic liquids, chemical gases or vapors, etc.
- 5.1.1.2 Only safety glasses and face protection meeting ANSI Z87 requirements shall be worn.
- 5.1.1.3 In special applications, such as welding or laser operations, helpers shall be protected to the same level as the operator.
- 5.1.1.4 Individuals, who work on or near exposed electrically energized circuit parts, at 50 volts and above, shall wear non-conductive eyewear. Non-conductive eyewear is also necessary for individuals exposed to electrical burn hazards (e.g.: working on systems less than 50 volts, but with high current levels such as electroplating systems, large capacity batteries, etc.). Metal frame glasses are not permitted for these activities.
- 5.1.1.5 Where contact lenses are permitted, they shall be worn with required PPE appropriate to the exposure. Safety non-prescription glasses shall be available to wearers of contact lenses.

5.1.2 Gloves and Hand Protection

- 5.2.2.1 Gloves, gauntlets, and protective sleeves are designed to protect the hands and arms of individuals who may be exposed to skin contact and/or absorption of chemical or biological agents, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes. Materials used in the manufacture of clothing must be resistant to the chemicals or materials being handled.
- 5.2.2.2 Gloves shall be removed properly so as not to expose an unprotected hand or part of the arm.
- 5.2.2.3 After removing gloves, hands should be thoroughly washed with soap and water.
- 5.2.2.4 Disposable gloves shall be disposed of at the end of each use. Chemical contact, signs of physical wear, or loss of glove integrity shall require more frequent disposal.

- 5.2.2.5 Latex Gloves: Due to the increasing concerns with latex gloves and associated skin reactions, latex gloves may be selected based on latex content, protein content (usually <50ug/g) or other requirements based on employee needs. Gloves may be required to be powdered or powder-free, depending upon the needs of the business activities.

5.2.2 Foot Protection

- 5.2.3.1 Foot protection is designed to protect the foot when working in areas where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole, and exposure to electrical hazards.
- 5.2.3.2 Where safety shoes are required, only foot protection meeting ANSI Z41 requirements shall be worn.
- 5.2.3.3 Electricians should select shoes rated for electrical hazards and/or use insulating mats when working on or near energized equipment.

5.2.4 Head Protection

- 5.2.4.1 Head Protection is designed to provide protection against impact and penetration from falling or stationary objects. They also may provide protection against electrical shock and burns caused when coming in contact with energized parts.
- 5.2.4.2 Where head protection is required, only Head protection meeting ANSI Z89 requirements shall be worn.
- 5.2.4.3 Types of Head Protection
 - 5.2.4.2.1 Hard Hats - There are two types and three classes of hard hats. The type and class used or required at the facility or site will be documented based on the hazards.
 - 5.2.4.2.2 Bump Caps - Provide protection from impact against stationary objects but do NOT protect against impact or penetration from falling objects or electrical shock hazards.
 - 5.2.4.2.3 Welding Helmets - Provide protection against ultraviolet, infrared, and visible radiation sources during welding operations.
 - 5.2.4.2.4 Hair Nets/Hats - Protect employees from entanglement hazards (e.g. equipment with moving parts, etc.) This can be done with the use of hair restraining devices, such as hair nets, hats, etc.

5.2.5 Hearing Protection

- 5.2.5.2 Hearing Protection is designed to protect against the affects of noise exposure in the workplace.
- 5.2.5.3 Where noise levels equal or exceed an 8 hour time weighted average of 85 dba, a Hearing Conservation program must be implemented and hearing protection shall be made available to affected employees.
- 5.2.5.4 Employers shall ensure hearing protection is worn when:
 - 5.2.5.4.5 Employees are exposed to noise levels equal or exceed an 8 hour time weighted average of 90 dba.
 - 5.2.5.4.6 Any employee who is exposed to an 8 hour time weighted average of 85 dba or greater who has not had their baseline audiogram or has experienced a standard threshold shift.
- 5.2.5.5 Voluntary Use: Employers can offer hearing protection to employees for voluntary use where noise levels do not exceed the requirements specified above.

5.2.6 Protective Clothing

- 5.2.5.1 Clothing such as suits, aprons, coveralls, coats, and pants are available to protect the torso and body of individuals who may be exposed to skin absorption of chemical or biological agents, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes. Materials used in the manufacture of such clothing must be matched in resistance to the chemicals or materials being handled.
 - 5.2.5.2 Company provided clothing: Laundering of company-issued work clothing shall be provided by the company to avoid the need for employees to launder clothing at home whenever there is a potential for infectious material or chemical contamination such as asbestos, lead, cadmium, arsenic, sensitizers, etc.
- 5.2.5 Dust Mask (Filtering Facepiece) Protection – Voluntary Use: This section applies to employees at any company facility or job-site where the use of a dust mask is utilized for voluntary use by employees.
- 5.2.5.1 Required and voluntary use of a cartridge respirator or required use of a dust mask must comply with the Respiratory Protection standard.
 - 5.2.5.2 Dust mask will be packed or stored to prevent deformation of the face piece and/or exhalation valve.

- 5.2.5.3 The employer must provide employees with Information for Voluntary Respirator Use form or equivalent Appendix D from the OSHA standard.

5.3 Signs

- 5.3.5 Signs should be posted, as needed, to warn employees and other personnel when protective equipment is required.
- 5.3.6 Signs may read “Safety Glasses Required”; “DANGER – Eye/Face Hazard area – Do Not Enter Without Protective Equipment”; or “DANGER – Hard Hat Required Area” or similar language may be used.

6. Training and Information

- 6.1 Employees must be trained in the when PPE is necessary, what PPE is necessary, limitations, proper use, cleaning, storage and disposal practices for any PPE used in the workplace
- 6.2 Training must be documented.
- 6.3 Employees must demonstrate their understanding of the training and ability to properly use PPE before performing work. This can be done at the time of training (quizzes, classroom discussion, etc.) or through demonstration of work practices in the workplace.
- 6.4 Retraining will be performed when changes to the workplace necessitate different equipment or when changes to the type/design of the PPE are made which require a new skill or knowledge for its successful use. Retraining will also be done when an employee exhibits a lack of understanding or skill to use the equipment properly.

7. Definitions

- *Filtering facepiece (dust mask)* - A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
- *Personal Protective Equipment (PPE)* - Devices worn to protect employees from potential hazards encountered in the workplace.
- *Certification of Hazard Assessment* - Certification that the Hazard Assessment has been conducted.

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CERTIFICATION OF HAZARD ASSESSMENT

This is to certify that an evaluation has taken place for the tasks and activities performed at this workplace, hazards have been identified as indicated, appropriate Personal Protective Equipment (PPE) has been issued, and its use enforced.

Area Assessed:		Assessment Date:	
Assessment Completed By:		Signature:	

Job Task	Identified Hazard	Required PPE

Examples of Types of PPE as determined applicable to the Job Hazard:

Body Protection: Chemical Apron, Arm/Sleeve Protection, Fire Resistive Clothing, Welding Apron, Tyvek Suits

Eye/Face Protection: Safety Glasses w/ Side shields, Goggles, Face Shield, Welding Shield

Fall Protection: PFAS, Lanyard, Harness

Foot Protection: Work Boots, Steel-toe shoes, Metatarsal Guards, Leather slip resistant shoes

Hearing Protection: Ear Muffs, Ear Plugs, Canal Caps

Head Protection: Bump Caps, Hard Hat, Hair nets

Hand Protection: Neoprene Gloves, Nitrile Gloves, Electrical Gloves, Heat Resistant Gloves, Leather Gloves

Respiratory Protection: Dust Mask, Cartridge Respirator, SCBA/Airline Respirator

Examples of Hazards (add more specifics to facility operations):

Flying debris

Chemical splash

Welding sparks

High heat

Sharp objects (knives, box cutters, wire)

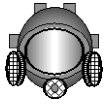
Potential Bloodborne Pathogen Exposure

Dust

Chemical fumes/vapors exceeding OSHA PELs

Falling debris from overhead

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❖ Information for Filtering Facepiece (Dust Mask) Use❖
When Respirators Not Required Under 29 CFR 1910.134 - Appendix D

To the employer: The statement below must be read by all employees (or read to them in an understandable fashion) who are using filtering facepiece (dust mask type). A copy of this document must be given to the employee.

To the employee: Ensure you keep a copy of this form for your personal records.

EMPLOYEE INFORMATION

Employee Name:	ID Number:
Facility:	Work Location:
Job Title:	Dept./Phone:

VERIFICATION: I acknowledge that I have read and/or understand the information below (OSHA Respiratory Protection Statement) as is required by the Occupational Safety and Health Administration (OSHA).

EMPLOYEE SIGNATURE:		DATE:	
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OSHA RESPIRATORY PROTECTION STATEMENT

To The User:

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You Should Do The Following:

- Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
- Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
- Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- Keep track of your respirator so that you do not mistakenly use someone else's respirator.

FORM RETENTION INFORMATION

Retention File:	Location:
Date Filed:	Filed By:

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TRAINING ATTENDANCE ROSTER									
PERSONAL PROTECTIVE EQUIPMENT									

Personal Protective Equipment Training Includes:

- Hazards and Workplace Requirements
- Using and Maintaining PPE
- Eye and Face Protection
- Foot Protection
- Hand Protection
- Head Protection
- Hearing Protection
- Body and Clothing Protection
- Dust Masks

- Personal Protective Equipment Training Includes:***
- Hazards and Workplace Requirements
 - Using and Maintaining PPE
 - Eye and Face Protection
 - Foot Protection
 - Hand Protection
 - Head Protection
 - Hearing Protection
 - Body and Clothing Protection
 - Dust Masks

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

PORTABLE LADDER SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.25 Portable Wood Ladders
- 29 CFR 1910.26 Portable Metal Ladders
- 29 CFR 1926.1050-1060

INTRODUCTION: Details minimum requirements for the construction, care, and use of the common types of portable ladders ensuring safe use under normal conditions. The program has provisions for step, extension, and rung ladders.

TRAINING:

Employers must train all employees to recognize hazards of ladder use, the inspection of ladders and in the limitations of ladders to minimize the risk exposure.

ACTIVITIES:

- Ensure the appropriate type of ladder is selected based on the nature of the project
- Ensure employees are trained to inspect ladders for defects and in the safe use of ladders
- Ensure ladder inspections are performed
- Ensure ladders are properly repaired and maintained in accordance with regulatory standards or are properly disposed of when they are found to be defective (and or are removed from service)
- Ladders will be selected based on the type of work anticipated to be performed, and in accordance with applicable OSHA regulatory standards

FORMS:

- Ladder Safety Checklist
- Training attendance roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Portable Ladder Safety Program

- 1. Purpose.** Effective implementation for the safe use of ladders. This safety program is designed to establish safe use and handling requirements and will be communicated to all required personnel.

1.1 When changes occur to the governing regulatory standards

1.2 When facility operational changes occur that require a revision of this document

- 2. Scope.** This program applies to the total workplace, regardless of the number of workers, work shifts or numbers and types of ladders used.

- 3. Responsibilities.**

3.1 Management and Supervisors:

3.1.1 Procure the appropriate type of portable ladders

3.1.2 Ensure employees are trained (as needed or required) in the inspection techniques used to inspect ladders and in the safe use of ladders (proper pitch, angle and hazard awareness)

3.1.3 Ensure ladder inspections are performed (pre-use and periodic inspection)

3.1.4 Ensure ladders are properly repaired in accordance with regulatory standards or properly disposed of when they are found to be defective or are removed from service

3.2 Employees:

3.2.1 Inspect ladders daily or before each use if ladders are not used daily

3.2.2 Do not use ladders that have not passed inspection

3.2.3 Notify management or supervisors if ladders are found to be defective and promptly tag them with a do not use sign and remove them from service

3.3 Competent Person:

3.3.1 Train employees in ladder inspection techniques

3.3.2 Provide recommendations for procurement, repair and disposal of ladders.

- 4. Procedure.**

4.1 General Requirements.

- 4.1.1 A stairway or ladder must be provided at all personnel points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.
 - 4.1.2 A uniform step spacing must be employed which must be not more than 12 inches. Steps must be parallel and level when the ladder is in position for use.
 - 4.1.3 Rungs and steps shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.
 - 4.1.4 Rungs should be kept free of grease and oil.
 - 4.1.5 Ladders will be maintained in good condition at all times, the joint between the steps and side rails will be tight, all hardware and fittings securely attached, and the movable parts will operate freely without binding or undue play.
 - 4.1.6 Ladders will not be placed in front of doors opening toward the ladder unless the door is blocked, locked, or guarded.
 - 4.1.7 Ladders will not be placed on boxes, barrels, or other unstable bases to obtain additional height.
 - 4.1.8 Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment will not be used, ladders having any of these conditions present will be destroyed and disposed of. Improvised repairs will not be made.
 - 4.1.9 Short ladders will not be spliced together to provide long sections.
 - 4.1.10 Ladders made by fastening cleats across a single rail will not be used.
 - 4.1.11 Ladders will not be used as guys, braces, or skids, or for other than their intended purposes.
- 4.2 Step Ladders.
- 4.2.1 Tops of ordinary stepladders will not be used as steps.
 - 4.2.2 The bracing on the back legs of step ladders is designed solely for increasing stability and not for climbing.
 - 4.2.3 The metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open positions must be properly maintained for each stepladder. The spreader must have all sharp points covered or removed to protect the user.
 - 4.2.4 Stepladders longer than 20 feet will not be used.
 - 4.2.5 Stepladders of one of the following types specified will be used:

- Type I--Industrial stepladder, 3 to 20 feet for heavy duty, such as utilities, contractors, and industrial use.
 - Type II--Commercial stepladder, 3 to 12 feet for medium duty, such as painters, offices, and light industrial use.
- 4.2.6 The minimum width between side rails at the top, inside to inside, must be not less than 11 1/2 inches. From top to bottom, the side rails must spread at least 1 inch for each foot of length of stepladder.
- 4.2.7 Painter's stepladders longer than 12 feet will not be used.
- 4.3 Extension/Rung Ladders.
- 4.3.1 Metal bearings of locks, wheels, pulleys, etc., will be frequently lubricated.
- 4.3.2 Frayed or badly worn rope will be replaced.
- 4.3.3 Safety feet and other auxiliary equipment will be kept in good condition to ensure proper performance.
- 4.3.4 Equipped with non-slip bases when there is a hazard of slipping. Non-slip bases are not intended as a substitute for care in safely placing, lashing, or holding a ladder that is being used upon oily, metal, concrete, or slippery surfaces.
- 4.3.5 The length of single ladders or individual sections of ladders must not exceed 30 feet.
- 4.3.6 Two-section ladders shall not exceed 48 feet in length and over two-section ladders must not exceed 60 feet in length.
- 4.3.7 Trestle ladders, or extension sections or base sections of extension trestle ladders longer than 20 feet will not be used.
- 4.3.8 Ladders will be so placed that the side rails have a secure footing, unless equipped with a single support attachment. The top rest for portable rung and cleat ladders will be reasonably rigid and will have ample strength to support the applied load.
- 4.3.9 No ladder should be used to gain access to a roof or elevated work area unless the top of the ladder is extended at least 3 feet above the point of support.
- 4.3.10 Rung and cleat ladders will, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working length of the ladder (the length along the ladder between the foot and the top support). The ladder will be so placed as to prevent slipping, or it will be lashed, or held in position. Ladders will not be used in a horizontal position as platforms, runways, or scaffolds.

- 4.3.11 On two-section extension ladders the minimum overlap for the two sections in use will be as follows:

<u>Size of Ladder (in Feet)</u>	<u>Overlap (in Feet)</u>
Up to and including 36	3
Over 36 up to and including 48	4
Over 48 up to and including 60	5

- 4.3.12 Ladders with reinforced rails will only be used with the metal reinforcement on the underside.
- 4.3.13 Mason's ladder. A mason's ladder is defined as a special type of single ladder intended for use in heavy construction work. Mason's ladders longer than 40 feet will not be used.

5. Safety Information.

- 5.1 Ladders will be inspected frequently and those which have developed defects will be taken out of service until repaired by either maintenance department or the manufacturer.
- 5.2 If a ladder is involved in any of the following, immediate inspection is necessary:
- 5.2.1 If ladders tip over, inspect ladder for side rails dents or bends, or excessively dented rungs; check all rung-to-side-rail connections; check hardware connections; check rivets for shear.
 - 5.2.2 If ladders are exposed to oil and grease, equipment should be cleaned of oil, grease, or slippery materials.
- 5.3 Portable ladders are designed as a one-man working ladder based on a 200-pound load.
- 5.4 When ascending or descending, the climber must face the ladder.
- 5.5 Ladders should not be used as a brace, skid, guy or gin pole, gangway, or for other uses than that for which they were intended, unless specifically recommended for use by the manufacturer.
- 5.6 Metal ladders will not be used when work is performed on or near electric circuits.
- 5.7 Procurement and Disposal of Ladders. All procurement and disposal of ladders will be performed through or with the knowledge of the competent person or other designated person. Ladders will be destroyed beyond use prior to disposal to prevent further use by anyone. Procurement of ladders will be accomplished based on the type of work anticipated to be performed and in accordance with this safety program and applicable OSHA regulatory standards.

6. Training and Information.

- 6.1 Employees will be trained, as needed or required, in the inspection techniques related to daily or pre-use ladder inspections.
- 6.2 Employees will be trained in the safe use requirements of ladders (pitch, angle, etc.) and in their limitations of use (not near electrical current, not placed on top of other materials to increase height, etc.).

7. Definitions.

- *Competent Person* - is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them.

Ladder Safety Checklist

Date of Inspection:	Name of Inspector:	Ladder Number:
Type of Ladder: () Extension () Step		
Construction of Ladder: () Wood () Metal () Fiberglass		
General	Compliant?	Needs Repair
All labels/markings/weight limits on the ladder are in place and legible.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
There are no lose or missing steps or rungs (loose if can be moved by hand).	<input type="checkbox"/> YES <input type="checkbox"/> NO	
There are no loose nails, screws, bolts, or other fasteners.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The ladder is not cracked, splintered, split, or broken uprights, braces, steps, or rungs.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The ladder is free from grease, oil, or slippery materials.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The joints between rungs and side rails are tight (loose if can be moved by hand).	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The ladder rungs/steps are tight and corrugated or knurled on metal ladders.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
All movable parts operate freely.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The non-slip bases are not damaged or worn.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Rails are free from cracks/splitting	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Hinge spreaders are not loose or bent allowing ladder to wobble.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
The hinge spreaders are not broken and do not have sharp or loose edges.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
There are no loose, broken, or missing extension locks.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
There are no defective locks that do not seat properly when ladder is extended.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Ladder ropes are not frayed, worn or missing.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Single section ladders do not exceed 30 feet in length	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Two-section extension ladders do not exceed 48 feet in length for metal ladders and 60 feet in length for wood ladders.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Ladders with more than two sections do not exceed 60 feet in length.	<input type="checkbox"/> YES <input type="checkbox"/> NO	
Comments		

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TRAINING ATTENDANCE ROSTER									
PORTABLE AND FIXED LADDERS AND MOBILE STAIRS									

<p><i>Portable Ladders and Mobile Stairs Training Includes:</i></p> <ul style="list-style-type: none">• <i>General Ladder Safety Requirements</i>• <i>Inspection of Equipment</i>• <i>Portable Step Ladder Use</i>• <i>Portable Rung Ladder Use</i>• <i>Fixed Ladder Use</i>• <i>Mobile Stairs Use</i>
--

- | |
|--|
| <p><i>Portable Ladders and Mobile Stairs Training Includes:</i></p> <ul style="list-style-type: none">• <i>General Ladder Safety Requirements</i>• <i>Inspection of Equipment</i>• <i>Portable Step Ladder Use</i>• <i>Portable Rung Ladder Use</i>• <i>Fixed Ladder Use</i>• <i>Mobile Stairs Use</i> |
|--|

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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**CALIFORNIA
PORTABLE LADDERS
Additional Requirements**

PORTABLE LADDERS – 8 CCR 3276

- All ladders must be inspected at least 13 times a year.

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PROGRAM OVERVIEW

RESPIRATORY PROTECTION SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.134 & 1926.103 and ANSI - Z88.2

INTRODUCTION

This safety program addresses the evaluation of potential respiratory hazards, communicating information concerning these hazards, and establishing appropriate respiratory protective measures for employees. This program applies to employees at any facility where the use of cartridges or supplied air respiratory protective equipment is utilized (required or voluntary). The program details the required procedures for respirator use, care, training, fit testing, medical evaluation, etc.

TRAINING

- Training will be conducted before initial assignment, on an annual basis, and as needed
- Retraining is required if exposures change and as needed

ACTIVITIES

- Evaluate the need for respiratory protection
- Establish and maintain a written Respiratory Protection Program
- Appoint a respiratory protection coordinator to oversee the implementation of this program
- Ensure respirator users are medically fit to use the equipment and perform the duties required
- Provide NIOSH-approved respirators, suitable to the hazard
- Train and fit-test employees who use respirators
- Ensure respiratory equipment is properly stored in a convenient, clean, and sanitary location
- Evaluate the facility and program to ensure it is effective and appropriate

FORMS

- Respirator Cleaning and Inspection Record
- Respirator Filter Change Out Schedule
- Respirator Information for Voluntary Use
- Respirator Medical Appraisal Response
- Respirator Medical Evaluation Questionnaire
- Respirator Seal Check Procedure
- Respirator Selection and Fit Test Record
- Respirator Wallet Card for Fit Test Certification
- Respiratory Protection Assigned Protection Factors
- Respiratory Protection Fit Testing Procedures
- Respiratory Protection Text of the Regulatory Standard and Appendices
- Respiratory Protection Written Program
- Training Attendance Roster

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

RESPIRATORY PROTECTION SAFETY PROGRAM

1. **Purpose.** The purpose of this program is to provide protective equipment that will control and/or minimize the threat of occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. The primary objective is to prevent atmospheric contamination through accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be used, as required. The company will review and evaluate this safety program:

- 1.1 When changes occur to governing regulatory sources that require revision.
- 1.2 When changes occur to related company procedures that require a revision.
- 1.3 When facility operational changes occur that requires a revision.
- 1.4 When there is an accident or close-call that relates to this area of safety.
- 1.5 Anytime the procedures fail.

2. **Scope.** This program applies to employees at any company facility or job-site where the use of respiratory protective equipment is utilized (either by requirement or voluntary use by employees). The only exception to this requirement is the *voluntary* use of respirators by employees when the company does not require the use of respirators, but the employee chooses to wear one.

3. Responsibilities

3.1 Management/Supervisors

- 3.1.1 Evaluate the need for respiratory protection.
- 3.1.2 Provide NIOSH-approved respirators when they are necessary to protect employee health. Other respiratory equipment may be utilized only when NIOSH approved equipment is inappropriate for the situation.
- 3.1.3 Ensure the respirator provided is suitable for the intended use and appropriate to the type of hazard.
- 3.1.4 Offer at least two types of respirators for employees to select from, in appropriate sizes.
- 3.1.5 Establish and maintain the written program and documentation required.
- 3.1.6 Appoint a respiratory protection coordinator to oversee the development and implementation of this program.

- 3.1.7 Ensure all employees are appropriately trained in the use, care, maintenance, storage and disposal of respirators.
- 3.1.8 Ensure respirator fit testing is performed.
- 3.1.9 Ensure respirator users are medically fit to use the equipment and perform the duties required.
- 3.1.10 Ensure respiratory equipment is properly stored in a convenient, clean, and sanitary location.

3.2 Employees

- 3.2.1 Attend appropriate training.
- 3.2.2 Use the respiratory protection in accordance with instructions and training received.
- 3.2.3 Guard against damage to the respirator, and immediately replace suspect respirators.
- 3.2.4 Clean and disinfect respiratory equipment before and after each use.
- 3.2.5 Inspect respirators prior to use to ensure they are in good condition, defective parts or equipment will be immediately removed from service until repaired or replaced. SCBA equipment must be inspected at least monthly and before each use, regardless of the frequency used.
- 3.2.6 Report any trouble with or malfunction of the respirator to your supervisor immediately.

3.3 Respiratory Protection Coordinator

- 3.3.1 Attend the appropriate training to ensure that the knowledge and capabilities are established to oversee the Respiratory Protection Safety Program.
- 3.3.2 Maintain records for the respirator program including fit testing, training and medical records.
- 3.3.3 Assist in hazard evaluations for the facility, site or work area, as needed.
- 3.3.4 Ensure availability of proper equipment based on the hazards encountered in the workplace and the requirements of this program.
- 3.3.5 Ensure equipment is properly used, stored, maintained, inspected and disposed of, as needed or required.
- 3.3.6 Provide for fit testing and other required training for respirator users.
- 3.3.7 Regularly evaluate the effectiveness of the program.

4. Procedure

4.1 Respiratory Selection Policy

- 4.1.1 Selection type. The company will provide a selection of NIOSH certified respirators from at least two (2) different types of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
- 4.1.2 Protective Capabilities. Selection of respirator protective capabilities will be made according to the specific hazard involved. Where a determination can not be made as to the hazard, the worst case will be assumed and appropriate respiratory equipment will be supplied.
- 4.1.3 Specific regulatory standards and hazards. OSHA has specific definitions and requirements for Assigned Protection Factors (APFs) and Maximum Use Concentrations (MUCs). Proper respirator selection using APFs is an important component of an effective respiratory protection program. Accordingly, OSHA concludes that the use of APFs is necessary to protect employees who must use respirators and to protect the employees from airborne contaminants. Please refer to the form on APFs within this manual for more information.
- 4.1.4 IDLH Atmospheres. The company will supply either NIOSH certified full face-piece pressure demand 30-minute SCBA respirators, or a combination full face-piece pressure demand SAR with auxiliary self-contained air supply respirators. Escape only equipment will be capable of performing in the atmosphere and be appropriate to the hazard.
- 4.1.5 Oxygen Deficient Atmospheres. All oxygen deficient atmospheres are considered IDLH unless it can be demonstrated that oxygen levels can be maintained within acceptable ranges. In these cases, any atmosphere supplied respirator may be used. In situations where companies are located in higher altitudes, the effectiveness of the respirator may be reduced and additional measures may need to be taken.
- 4.1.6 Gases and Vapors. Atmosphere supplying respirators may be used. Air purifying respirators may be used if they are either equipped with an NIOSH approved end-of-service-life (ESLI) indicator or there is a written and enforced canister/cartridge change schedule that ensures the cartridges are changed out before their end of service life. The written procedures must describe the information and data relied upon to make this determination.
- 4.1.7 Particulates. Atmosphere supplying respirators may be used. Air purifying respirators that are equipped with a High Efficiency Particulate Air (HEPA) filter or equipped with filters certified by NIOSH for the specific particulate size.

4.2 Identification of filters, cartridges, and canisters

The company will ensure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approved label and that the label is not removed and remains legible.

4.3 Breathing Air Quality and Use

4.3.1 Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration will be of high purity.

4.3.1.1 Oxygen will meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen.

4.3.1.2 Breathing air will meet at least the requirements for Type 1-Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

4.3.1.2.1 Oxygen content (v/v) of 19.5-23.5%

4.3.1.2.2 Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less

4.3.1.2.3 Carbon monoxide (CO) content of 10 ppm or less

4.3.1.2.4 Carbon dioxide content of 1,000 ppm or less

4.3.1.2.5 Lack of noticeable odor

4.3.1.3 Oxygen must never be used with air line respirators.

4.3.1.4 Breathing air may be supplied to respirators from cylinders or air compressors.

4.3.1.5 Compressed oxygen will not be used in atmosphere-supplying respirators, supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed oxygen.

4.3.2 Cylinders used to supply breathing air to respirators must meet the following requirements:

4.3.2.1 Tested and maintained (per DOT- 49 CFR Part 173 and 178 requirements).

4.3.2.2 Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Type 1--Grade D breathing air.

4.3.2.3 The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

4.3.3 Compressors for Supplied Air must be constructed and situated to:

4.3.3.1 Prevent entry of contaminated air into the air-supply system.

4.3.3.2 Minimize moisture content to 10° below ambient temperature at 1 atm pressure.

- 4.3.3.3 Have suitable sorbent beds and filters to ensure air quality. Beds and filter must be maintained and replaced or refurbished per manufacturer's instructions.
- 4.3.3.4 Have a tag or other documentation indicating the change date and signature of the person who changed it.
- 4.3.3.5 Ensure that Carbon-Monoxide levels do not exceed 10 ppm.
- 4.3.3.6 Ensure that couplings are incompatible with non-respirable gas system valves and outlets.
- 4.3.3.7 Ensure that markings and labels are maintained in legible and readable condition. Breathing gas containers will be marked in accordance with the NIOSH requirements (42 CFR Part 84 and 29 CFR 1910.101)
- 4.3.3.8 Have, for oil-lubricated compressor equipment, high temperature alarms and carbon-monoxide detection equipment to ensure levels do not exceed 10 ppm.

4.4 Use of Respirators

- 4.4.1 Face-piece seal protection. Facial hair or other conditions that interfere with the contact of the face to the face-piece of the respirator or with the functioning of valves is prohibited. In such cases tight-fitting face-piece respirators may not be used, or the conditions that interfere with the respirator effectiveness must be changed (i.e. the user must keep facial hair shaved).
- 4.4.2 Corrective eyewear. Corrective eyewear must be worn in a manner that does not interfere with the seal or the effectiveness of the respirator.
- 4.4.3 Seal Checks. Seal checks must be performed each time a user puts on the respirator for use.
- 4.4.4 Surveillance of conditions of use. Appropriate surveillance and evaluations of the working conditions will be performed to assess the degree of employee exposure and stress associated with respirator use, and the effectiveness of the respirators.
- 4.4.5 Respirator Use Limitations
 - 4.4.5.1 Employees must leave the respirator use area when:
 - 4.4.5.1.1 They detect vapor or gas breakthrough, changes in breathing resistance or leakage of the face-piece. In these situations, respirators must be repaired or replaced prior to the employee returning to the work area.
 - 4.4.5.1.2 Replacement of the filter, cartridges, canister, or the respirator itself is required.
 - 4.4.5.1.3 Washing of the face or respirator components is required to prevent eye or skin irritation.

4.4.5.2 IDLH limitations

4.4.5.2.1 At least one employee (attendant) must be located outside the IDLH atmosphere. This person must be trained to contact or provide emergency rescue, and provided with:

4.4.5.2.1.1 Either pressure demand or other positive pressure SCBA respirator or SAR with auxiliary SCBA

4.4.5.2.1.2 Either appropriate retrieval equipment to facilitate rescue or equivalent means for providing rescue.

4.4.5.2.2 Visual, voice or signal communications must be maintained at all times between the attendant and the respirator user inside the IDLH atmosphere.

4.4.5.2.3 Managers, supervisors or another designate person must be made aware that entry is taking place when entering the IDLH atmosphere.

4.4.5.2.4 Provisions for emergency rescue must be made before entry.

4.4.5.3 Interior Structural Firefighting

4.4.5.3.1 All of the elements for IDLH limitations must be met (attendant or incident commander, equipment, communications, emergency rescue and notification).

4.4.5.3.2 At least two employees must work together inside the IDLH and remain in visual or voice contact with one another at all times.

4.4.5.3.3 At least two attendants or designated persons must remain outside the IDLH area. One of these may be the incident commander.

4.4.5.3.4 SCBA respiratory protection is required for all persons engaged in interior structural firefighting.

5. Safety Information

5.1 Inspection, Maintenance, and Care of Respiratory Equipment

5.1.1 The company will provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by our employees. Equipment will be properly maintained to retain its original state of effectiveness.

- 5.1.2 Cleaning and disinfecting. The company will provide each respirator user with a respirator that is clean, sanitary, and in good working order. Respirators will be cleaned and disinfected using OSHA approved procedures or equally effective procedures recommended by the respirator manufacturer. The respirators will be cleaned and disinfected at the following intervals:
 - 5.1.2.1 Exclusive use respirators - as often as necessary to be maintained in a sanitary condition.
 - 5.1.2.2 Respirators issued to more than one employee - before being worn by different individuals.
 - 5.1.2.3 Respirators maintained for emergency use only - after each use.
 - 5.1.2.4 Respirators used in fit testing- after each use.
- 5.1.3 Storage of respirators
 - 5.1.3.1 All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they will be packed or stored to prevent deformation of the face piece and exhalation valve.
- 5.1.4 Emergency respirators will be:
 - 5.1.4.1 Kept accessible to the work area.
 - 5.1.4.2 Stored in compartments or in covers that are clearly marked as containing emergency respirators.
 - 5.1.4.3 Stored in accordance with any applicable manufacturer instructions.
- 5.1.5 Inspection. Respirators will be inspected as follows:
 - 5.1.5.1 Routine use respirators - before each use and during cleaning in accordance with manufacturer specifications.
 - 5.1.5.2 Emergency use respirators - at least monthly and after each use. Inspection will be in accordance with the manufacturer recommendations, and equipment will be checked for proper function before and after each use. Monthly inspections will be documented and this documentation will be retained with the equipment. Documentation is retained until superseded or the equipment is permanently removed from service. Documentation includes the date of the inspection, the name or signature of the inspector, the findings, required corrective actions and a serial number or other means of identifying the equipment.

- 5.1.5.3 Emergency escape-only respirators - before being carried into the workplace for use.
- 5.1.5.4 Self-contained breathing apparatus - monthly. Air and oxygen cylinders will be maintained in a fully charged state and will be recharged when the pressure falls to 90% of the manufacturer recommended pressure level. Regulator and warning devices will be monitored for proper function.
- 5.1.6 Repairs. Respirators that fail an inspection or are otherwise found to be defective will be removed from service, and discarded, repaired or adjusted only by persons appropriately trained to perform such operations and will use only the respirator manufacturer NIOSH-approved parts designed for the respirator.

5.2 Respirator Fit Testing

- 5.2.1 General. The company will conduct fit testing before an employee is required to use any respirator.
 - 5.2.1.1 The employee must be fit tested with the same make, model, style, and size of respirator that will be used.
 - 5.2.1.2 Fit testing is performed at least annually, and when changes to the type, make, or model of the respirator occur and when facial features of the user change (scarring, dental changes, cosmetic surgery or obvious changes in body weight).
 - 5.2.1.3 In all cases the respirator should be reasonably comfortable for the user, or a different selection of respirators will be offered (and any associated fit testing or other evaluations performed).
 - 5.2.1.4 Fit testing must be administered using OSHA accepted protocols.
- 5.2.2 Fit Factor, Qualitative (QLFT) and Quantitative (QNFT) fit testing
 - 5.2.2.1 Negative pressure air-purifying respirators that must achieve a factor of 100 or less must use qualitative testing.
 - 5.2.2.2 Tight-fitting half face-piece respirators must achieve a fit factor of 100 or greater.
 - 5.2.2.3 Tight-fitting full face-piece respirators must achieve a fit factor of 500 or greater.
 - 5.2.2.4 Tight-fitting atmosphere supplied respirators must be tested in negative pressure mode. If the respirator must be converted from positive to negative pressure for the test through the use of filters, the testing must occur in the breathing zone of the user (between the nose and mouth) using a sampling adapter, and any modifications for the conversions must be completely removed and the face-piece restored to its NIOSH-approved configuration before use.

5.3 Respirator Seal and Seal-Check

- 5.3.1 Fit instructions. Every respirator wearer will receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. The face piece fit will be checked by the wearer each time they put on the respirator.
- 5.3.2 Hair/apparel. If hair growth or apparel interferes with a satisfactory fit, then the employee will be requested to alter or remove them so as to eliminate interference and allow a satisfactory fit. If a satisfactory fit is still not attained, the employee must use a positive-pressure respirator such as powered air-purifying respirators, supplied air respirator, or self-contained breathing apparatus.
- 5.3.3 Seal Check procedures. An adequate seal must be attained each time the respirator is worn. Face-piece Positive and/or Negative Pressure Checks.
 - 5.3.3.1 Positive pressure check. Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.
 - 5.3.3.2 Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

5.4 Medical Evaluation and Questionnaire

- 5.4.1 General. Using a respirator may place a physical burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. The company will provide for a medical evaluation to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. Medical evaluations for respirator use will discontinue when the employee is no longer required to use a respirator.
- 5.4.2 Medical evaluation procedures. The company will identify a Physician or other Licensed Health Care Professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire.

- 5.4.3 Follow-up medical examination. The company will ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions 1 through 8 in the medical evaluation questionnaire and/or demonstrates the need for a follow-up medical examination. The follow-up medical examination will include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.
- 5.4.4 Administration of the medical questionnaire and examinations. The medical questionnaire and examinations will be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire will be administered in a manner that ensures that the employee understands its content. An opportunity to discuss the questionnaire and examination results with the PLHCP will be provided to the employee.
- 5.4.5 Information to be provided to the PLHCP. The following information will be provided to the PLHCP before a recommendation is made concerning an employee's ability to use a respirator:
- 5.4.5.1 The type and weight of the respiratory equipment to be used.
 - 5.4.5.2 The duration and frequency of expected use.
 - 5.4.5.3 The expected physical work effort.
 - 5.4.5.4 Additional protective clothing and equipment to be worn.
 - 5.4.5.5 Temperature and humidity extremes that may be encountered.
 - 5.4.5.6 The type and weight of the respirator to be used by the employee.
 - 5.4.5.7 The duration and frequency of respirator use (including use for rescue and escape).
 - 5.4.5.8 Any supplemental information provided previously to the PLHCP regarding an employee need not be provided for a subsequent medical evaluation if the information and the PLHCP remain the same.
 - 5.4.5.9 Copy of the written Respiratory Protection Safety Program.
 - 5.4.5.10 Copy of the 29 CFR 1910.134 plus Appendices.
 - 5.4.5.11 Note: When a new PLHCP is used, the information and documents will be transferred, as appropriate. Re-evaluations are not required solely because a new PLHCP has been selected.
- 5.4.6 Medical determination
- 5.4.6.1 Obtain a written recommendation from the PLHCP.

- 5.4.6.2 Determine any limitations on respirator use including whether or not the employee is medically able to use the respirator, or restrictions required by the PLHCP.
- 5.4.6.3 Determine the need, if any, for follow-up medical evaluations.
- 5.4.6.4 Ensure that the employee has received a written copy of the PLHCP recommendation.
- 5.4.6.5 Powered Air Pressure Respirators (PAPR) may be used, if approved by the PLHCP, when the medical condition of the employee prohibits the use of a negative pressure respirator.
- 5.4.7 Additional medical evaluations. As a minimum, the company will provide additional medical evaluations based on the following conditions:
 - 5.4.7.1 If an employee reports medical signs or symptoms that are related to his or her ability to use a respirator.
 - 5.4.7.2 If a PLHCP, supervisor, or the respirator program administrator determines that re-evaluation is needed.
 - 5.4.7.3 When the program requires, or fit testing determines the necessity for reevaluation.
 - 5.4.7.4 If changes occur in workplace conditions (e.g., increased physical work effort, additional protective clothing, temperature extremes, or types of hazard).
- 5.4.8 Medical evaluation. Records of medical evaluations will be retained and made available to employees, their legal representatives and OSHA for the duration of employment plus and additional 30 years. If the company ceases to do business or is sold, records will be transferred to the new owner or OSHA will be contacted to determine retention.

5.5 Program Evaluation

- 5.5.1 Program evaluations will be conducted as necessary, to ensure that the program is effectively implemented.
- 5.5.2 Employees required to use respiratory protection will be consulted during this evaluation to determine or identify problems or concerns with the program or equipment.
- 5.5.3 Program evaluation and assessment includes the fit, selection, conditions of use and maintenance of respirators and respiratory protective equipment.

5.6 Recordkeeping

- 5.6.1 The company will establish and retain written information regarding medical evaluations, fit testing, and the Respiratory Protection Safety Program.

5.6.2 **Fit Testing Records.** Records of the qualitative (QLFT) and quantitative (QNFT) fit tests administered to an employee will be maintained. These records include:

5.6.2.1 Date of test

5.6.2.2 Type of fit test performed

5.6.2.3 The name or identification of the employee tested

5.6.2.4 Specific make, model, style, and size of respirator tested

5.6.2.5 Fit test records will be retained for respirator users until the next fit test is administered

5.6.2.6 The pass/fail results for QLFT or the fit factor and strip chart recording or other recording of the test results for QNFT

5.6.3 **Medical Records.** Records of medical evaluations will be retained and made available to employees, their legal representatives and OSHA for the duration of employment plus and additional 30 years. If the company ceases to do business or is sold, records will be transferred to the new owner or OSHA will be contacted to determine retention.

5.6.4 **Training Records.** The company will document that the required respiratory training has been accomplished. Documentation includes the employee's name, the signature or initials of the trainer, and the dates of training.

5.7 **Voluntary Use of Respirators**, where not required in the workplace:

5.7.1 Employees who choose to wear cartridge or supplied air respiratory protection when it is not required in the workplace must:

5.7.1.1 Be medically cleared to use that respirator

5.7.1.2 Maintain, clean, and store the respirator so that its use does not present a health hazard to the user.

5.7.1.3 Be provided the information contained in Appendix D to the Respiratory Protection Standard, "Information for Employees Using Respirators When Not Required Under the Standard."

5.7.2 The company is required to have a Written Respiratory Protection program if there is voluntary use of any respiratory protective equipment other than filtering facepieces (dust-masks).

5.7.3 For filtering facepiece (dust-mask) programs, required use is covered in the Personal Protective Equipment section of this safety manual. Voluntary use of filtering facepieces does not require any program or documentation.

6. Training and Information

- 6.1 The company will develop a standardized training format to meet the requirement for a Respiratory Protection Training program. The training will be conducted on an annual basis, or more frequently as needed, in a comprehensive and understandable format.
- 6.2 Training will be provided to each affected employee:
 - 6.2.1 Before the employee is first assigned duties that require respiratory protection.
 - 6.2.2 Before there is a change in assigned duties.
 - 6.2.3 Whenever there is a change in operations that present a hazard for which an employee has not previously been trained.
 - 6.2.4 Whenever there is reason to believe that there are deviations from established respiratory procedures or inadequacies in the employee's knowledge or use of these procedures.
- 6.3 Training includes and knowledge must be demonstrated by the trainee, in the following items, at a minimum:
 - 6.3.1 The reasons for respiratory protection and the hazards encountered that require respirators, including any limitations on their use.
 - 6.3.2 The proper fit, use, inspection, maintenance and storage of respirators.
 - 6.3.3 Putting on and removing respirators (donning and doffing), including seal checks.
 - 6.3.4 Emergency situation respirator use, including situations where respirator malfunctions may occur.
 - 6.3.5 Procedures for regularly evaluating the effectiveness of the program and how to recognize the signs or symptoms that may be caused by ineffective respiratory equipment.
 - 6.3.6 Where respirator use is not required.
 - 6.3.7 The general requirements of OSHA's Respirator Standard 29 CFR 1910.134.
- 6.4 Training Records. The company will document that the required respiratory training has been accomplished. Documentation includes the employee's name, the signature or initials of the trainer, and the dates of training.

7. Definitions

- *Air-purifying respirator* - A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

- *Assigned Protection Factor* - the level of protection that a properly functioning respirator would be expected to provide to a properly fitted and trained user. For example, an APF of 10 for a respirator means that a user could expect to inhale no more than one tenth of the airborne contaminant present.
- *Atmosphere-supplying respirator* - A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.
- *Canister or cartridge* - A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.
- *Demand respirator* means: An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.
- *Emergency situation* - Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.
- *Employee exposure* - Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.
- *End-of-service-life indicator (ESLI)* - A system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.
- *Escape-only respirator* means: A respirator intended to be used only for emergency exit.
- *Filter or air purifying element* - A component used in respirators to remove solid or liquid aerosols from the inspired air.
- *Filtering facepiece (dust mask)* - A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
- *Fit factor* - A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.
- *Fit test* - The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)
- *High efficiency particulate air (HEPA) filter* means: A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
- *Immediately dangerous to life or health (IDLH)* - An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

- *Loose-fitting facepiece* - A respiratory inlet covering that is designed to form a partial seal with the face.
- *Negative pressure respirator (tight fitting)* - A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.
- *Oxygen deficient atmosphere* - An atmosphere with oxygen content below 19.5% by volume.
- *Physician or other licensed health care professional (PLHCP)* - An individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by the respiratory protection standard.
- *Positive pressure respirator* - A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.
- *Powered air-purifying respirator (PAPR)* - An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
- *Pressure demand respirator* - A positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.
- *Qualitative fit test (QLFT)* - A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
- *Quantitative fit test (QNFT)* - An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
- *Respiratory inlet covering* - That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.
- *Self-contained breathing apparatus (SCBA)* - An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
- *Service life* - The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.
- *Supplied-air respirator (SAR) or airline respirator* - An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.
- *Tight-fitting facepiece* - A respiratory inlet covering that forms a complete seal with the face.
- *User seal check* - An action conducted by the respirator user to determine if the respirator is properly seated to the face.



❖ RESPIRATOR CLEANING AND INSPECTION RECORD ❖

OWNER INFORMATION

OWNER

(if individually issued):

LAST NAME

FIRST

MIDDLE INITIAL

COMPANY NAME

DEPT:

EMPLOYEE ID # (if applicable)

WORK PHONE:

RESPIRATOR INFORMATION

RESPIRATOR TYPE

MANUFACTURER

MODEL #

SIZE #

RESPIRATOR ID NUMBER:

DATE OF INSPECTION

TIME:

CLEANING REQUIREMENTS TIGHT FITTING RESPIRATORS

Estimated Frequency: (Check all that apply)

☐ Hourly

☐ Twice each Shift

☐ Daily

☐ Weekly

☐ Monthly

☐ Before
Use

☐ After Use

COMPONENT:

CLEANING REQUIREMENTS (edit in accordance with manufacturers instructions)

Cartridge Holder:

Cartridge Threads/Fittings:

Connections:

Elastomeric Parts Deteriorating?

Elastomeric Parts Pliable?

Exhalation Valve Assembly:

Facepiece:

Gaskets:

Harness Assembly:

Headbands:

Hose Assembly:

Inhalation Valve:

Nosecup Valves:

Speaking Diaphragm:

COMMENTS:

CLEANING REQUIREMENTS TIGHT FITTING RESPIRATORS – [Continued]**Respirator Cleaning Procedures (Mandatory)**

These procedures are provided for employee use when cleaning respirators. They are general in nature, and the employee as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed in 29 CFR 1910.134 Appendix B-2 (see below). Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth below.

Procedures for Cleaning Respirators:

- Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure - demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
- Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
- Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
- When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
 - Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
 - Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
 - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
- Components should be hand-dried with a clean lint-free cloth or air-dried.
- Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
- Test the respirator to ensure that all components work properly.

INSPECTOR'S NAME/TITLE:**SIGNATURE:****DATE:****FORM RETENTION INFORMATION****ATTACHMENTS**

Retention File:

Location:

***Yes ☐ No ☐**

Date Filed:

Filed By:

***See Following Pages ☐**

RESPIRATOR FILTER CHANGE OUT SCHEDULE

Instructions: Use this form to keep a running total of each cartridge's usage. Note the type of filter and the frequency of change (1 hour, 8 hours, etc.). Note for how long you use the cartridge each time in the "time used" column. Then keep a running total in the "total used time" column so you can determine when you are getting close to the recommended change out frequency. Note any problems with use in the "comments" section. Contact your Supervisor if necessary.

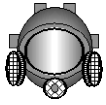
Employee Name	Job Title
----------------------	------------------

Respirator Manufacturer	Model	Size
--------------------------------	--------------	-------------

Date	Filter Type	Change-Out Frequency	Time Used	Total Time Used	Comments

Completed by: _____ Date: _____

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❖ Respirator Information for Voluntary Use❖
❖ When Respirators Not Required Under 29 CFR 1910.134❖

To the employer: The statement below must be read by all employees (or read to them in an understandable fashion) who are using Cartridge or Supplied Air respirators. A copy of this document should be given to the employee.

To the employee: Ensure you keep a copy of this form for your personal records.

EMPLOYEE INFORMATION

Employee Name:	ID/Clock Number:
Facility:	Work Location:
Job Title:	Dept./Phone:

VERIFICATION: I acknowledge that I have read and/or understand the information below (OSHA Respiratory Protection Statement) as is required by the Occupational Safety and Health Administration (OSHA).

EMPLOYEE SIGNATURE:		DATE:	
----------------------------	--	--------------	--

OSHA RESPIRATORY PROTECTION STATEMENT

To The User:

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You Should Do The Following:

- Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
- Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
- Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- Keep track of your respirator so that you do not mistakenly use someone else's respirator.

FORM RETENTION INFORMATION

Retention File:	Location:
Date Filed:	Filed By:

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RESPIRATOR MEDICAL APPRAISAL RESPONSE

_____ was examined on _____
(Patient's Name) (Date)

OR

The medical evaluation form for _____
(Patient's Name)

was reviewed on _____
(Date)

This individual is:

___ Approved to wear positive or negative pressure respirators

___ NOT approve to wear positive or negative pressure respirators

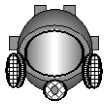
___ Approved WITH THE FOLLOWING LIMITATIONS to wear
positive or negative pressure respirators

Limitations of use (time limits, type of equipment restrictions, etc):

(Signature of Licensed Physician/Health Care Professional)

(Print Physician/Health Care Professional's Name)

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❖Respirator Medical Evaluation Questionnaire❖

❖Appendix C to 29 CFR 1910.134❖

To the employer:

Answers to questions in Section 1 and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

Today's date:				
Your name:				
Your age:				
Sex:	Male	<input type="checkbox"/>	Female	<input type="checkbox"/>
Your height:	ft. in.			
Your weight:	lbs			
Your job title:				
A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code):	()			
The best time to phone you at this number:				

Has your employer told you how to contact the health care professional who will review this questionnaire?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
--	-----	--------------------------	----	--------------------------

Check the type of respirator you will use (you can check more than one category):

<input type="checkbox"/>	N, R, or P disposable respirator (filter-mask, non- cartridge type only).
<input type="checkbox"/>	Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

Have you worn a respirator?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----------------------------	-----	--------------------------	----	--------------------------

If "yes" what type(s)?

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator.

	Yes	No
Do you currently smoke tobacco, or have you smoked tobacco in the last month?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had any of the following conditions:		
Seizures (fits)?	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes (sugar disease)?	<input type="checkbox"/>	<input type="checkbox"/>
Allergic reactions that interfere with your breathing?	<input type="checkbox"/>	<input type="checkbox"/>
Claustrophobia (fear of closed-in places)?	<input type="checkbox"/>	<input type="checkbox"/>
Trouble smelling odors?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had any of the following pulmonary or lung problems?		
Asbestosis?	<input type="checkbox"/>	<input type="checkbox"/>
Asthma?	<input type="checkbox"/>	<input type="checkbox"/>
Chronic bronchitis?	<input type="checkbox"/>	<input type="checkbox"/>
Emphysema?	<input type="checkbox"/>	<input type="checkbox"/>
Pneumonia?	<input type="checkbox"/>	<input type="checkbox"/>

❖ OSHA Respirator Medical Evaluation Questionnaire ❖

	Yes	No
Tuberculosis?	<input type="checkbox"/>	<input type="checkbox"/>
Silicosis?	<input type="checkbox"/>	<input type="checkbox"/>
Pneumothorax?	<input type="checkbox"/>	<input type="checkbox"/>
Lung cancer?	<input type="checkbox"/>	<input type="checkbox"/>
Broken ribs?	<input type="checkbox"/>	<input type="checkbox"/>
Any chest injuries or surgeries?	<input type="checkbox"/>	<input type="checkbox"/>
Any other lung problem that you've been told about?	<input type="checkbox"/>	<input type="checkbox"/>
Do you currently have any of the following symptoms of pulmonary or lung illness?		
Shortness of breath?	<input type="checkbox"/>	<input type="checkbox"/>
Shortness of breath when walking fast on level ground or walking up a slight hill or incline?	<input type="checkbox"/>	<input type="checkbox"/>
Shortness of breath when walking with other people at an ordinary pace on level ground?	<input type="checkbox"/>	<input type="checkbox"/>
Have to stop for breath when walking at your own pace on level ground?	<input type="checkbox"/>	<input type="checkbox"/>
Shortness of breath when washing or dressing yourself?	<input type="checkbox"/>	<input type="checkbox"/>
Shortness of breath that interferes with your job?	<input type="checkbox"/>	<input type="checkbox"/>
Coughing that produces phlegm (thick sputum)?	<input type="checkbox"/>	<input type="checkbox"/>
Coughing that wakes you early in the morning?	<input type="checkbox"/>	<input type="checkbox"/>
Coughing that occurs mostly when you are lying down?	<input type="checkbox"/>	<input type="checkbox"/>
Coughing up blood in the last month?	<input type="checkbox"/>	<input type="checkbox"/>
Wheezing?	<input type="checkbox"/>	<input type="checkbox"/>
Wheezing that interferes with your job?	<input type="checkbox"/>	<input type="checkbox"/>
Chest pain when you breathe deeply?	<input type="checkbox"/>	<input type="checkbox"/>
Any other symptoms that you think may be related to lung problems?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had any of the following cardiovascular or heart problems:		
Heart attack?	<input type="checkbox"/>	<input type="checkbox"/>
Stroke?	<input type="checkbox"/>	<input type="checkbox"/>
Angina?	<input type="checkbox"/>	<input type="checkbox"/>
Heart failure?	<input type="checkbox"/>	<input type="checkbox"/>
Swelling in your legs or feet (not caused by walking)?	<input type="checkbox"/>	<input type="checkbox"/>
Heart arrhythmia (heart beating irregularly)?	<input type="checkbox"/>	<input type="checkbox"/>
High blood pressure?	<input type="checkbox"/>	<input type="checkbox"/>
Any other heart problem that you've been told about?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had any of the following cardiovascular or heart symptoms:		
Frequent pain or tightness in your chest?	<input type="checkbox"/>	<input type="checkbox"/>
Pain or tightness in your chest during physical activity?	<input type="checkbox"/>	<input type="checkbox"/>
Pain or tightness in your chest that interferes with your job?	<input type="checkbox"/>	<input type="checkbox"/>
In the past two years, have you noticed your heart skipping or missing a beat?	<input type="checkbox"/>	<input type="checkbox"/>
Heartburn or indigestion that is not related to eating?	<input type="checkbox"/>	<input type="checkbox"/>
Any other symptoms that you think may be related to heart or circulation problems?	<input type="checkbox"/>	<input type="checkbox"/>
Do you currently take medication for any of the following problems:		
Breathing or lung problems?	<input type="checkbox"/>	<input type="checkbox"/>
Heart trouble?	<input type="checkbox"/>	<input type="checkbox"/>
Blood pressure?	<input type="checkbox"/>	<input type="checkbox"/>
Seizures (fits)?	<input type="checkbox"/>	<input type="checkbox"/>

❖ OSHA Respirator Medical Evaluation Questionnaire ❖

	Yes	No
If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)	<input type="checkbox"/>	<input type="checkbox"/>
Eye irritation?	<input type="checkbox"/>	<input type="checkbox"/>
Skin allergies or rashes?	<input type="checkbox"/>	<input type="checkbox"/>
Anxiety?	<input type="checkbox"/>	<input type="checkbox"/>
General weakness or fatigue?	<input type="checkbox"/>	<input type="checkbox"/>
Any other problem that interferes with your use of a respirator?	<input type="checkbox"/>	<input type="checkbox"/>
Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?	<input type="checkbox"/>	<input type="checkbox"/>

Questions below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

	Yes	No
Have you ever lost vision in either eye (temporarily or permanently)?	<input type="checkbox"/>	<input type="checkbox"/>
Do you currently have any of the following vision problems:	<input type="checkbox"/>	<input type="checkbox"/>
Wear contact lenses?	<input type="checkbox"/>	<input type="checkbox"/>
Wear glasses?	<input type="checkbox"/>	<input type="checkbox"/>
Color blind?	<input type="checkbox"/>	<input type="checkbox"/>
Any other eye or vision problem?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had an injury to your ears, including a broken ear drum?	<input type="checkbox"/>	<input type="checkbox"/>
Do you currently have any of the following hearing problems:	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty hearing?	<input type="checkbox"/>	<input type="checkbox"/>
Wear a hearing aid?	<input type="checkbox"/>	<input type="checkbox"/>
Any other hearing or ear problem?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever had a back injury?	<input type="checkbox"/>	<input type="checkbox"/>
Do you currently have any of the following musculoskeletal problems:	<input type="checkbox"/>	<input type="checkbox"/>
Weakness in any of your arms, hands, legs, or feet?	<input type="checkbox"/>	<input type="checkbox"/>
Back pain?	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty fully moving your arms and legs?	<input type="checkbox"/>	<input type="checkbox"/>
Pain or stiffness when you lean forward or backward at the waist?	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty fully moving your head up or down?	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty fully moving your head side to side?	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty bending at your knees?	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty squatting to the ground?	<input type="checkbox"/>	<input type="checkbox"/>
Climbing a flight of stairs or a ladder carrying more than 25 lbs?	<input type="checkbox"/>	<input type="checkbox"/>
Any other muscle or skeletal problem that interferes with using a respirator?	<input type="checkbox"/>	<input type="checkbox"/>

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

	Yes	No
In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions?	<input type="checkbox"/>	<input type="checkbox"/>
At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," name the chemicals if you know them:		

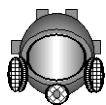
❖ OSHA Respirator Medical Evaluation Questionnaire ❖

	Yes	No
Have you ever worked with any of the materials, or under any of the conditions, listed below:		
Asbestos?	<input type="checkbox"/>	<input type="checkbox"/>
Silica (e.g., in sandblasting)?	<input type="checkbox"/>	<input type="checkbox"/>
Tungsten/cobalt (e.g., grinding or welding this material)?	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium?	<input type="checkbox"/>	<input type="checkbox"/>
Aluminum?	<input type="checkbox"/>	<input type="checkbox"/>
Coal (for example, mining)?	<input type="checkbox"/>	<input type="checkbox"/>
Iron?	<input type="checkbox"/>	<input type="checkbox"/>
Tin?	<input type="checkbox"/>	<input type="checkbox"/>
Dusty environments?	<input type="checkbox"/>	<input type="checkbox"/>
Any other hazardous exposures?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," describe these exposures:		
List any second jobs or side businesses you have:		
List your previous occupations:		
List your current and previous hobbies:		
Have you been in the military services?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," were you exposed to biological or chemical agents (either in training or combat)?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever worked on a HAZMAT team?	<input type="checkbox"/>	<input type="checkbox"/>
Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," name the medications if you know them:		
Will you be using any of the following items with your respirator(s)?		
HEPA Filters	<input type="checkbox"/>	<input type="checkbox"/>
Canisters (for example, gas masks)	<input type="checkbox"/>	<input type="checkbox"/>
Cartridges	<input type="checkbox"/>	<input type="checkbox"/>
How often are you expected to use the respirator(s)?		
Escape only (no rescue)	<input type="checkbox"/>	<input type="checkbox"/>
Emergency rescue only	<input type="checkbox"/>	<input type="checkbox"/>
Less than 5 hours per week	<input type="checkbox"/>	<input type="checkbox"/>
Less than 2 hours per day	<input type="checkbox"/>	<input type="checkbox"/>
2 to 4 hours per day	<input type="checkbox"/>	<input type="checkbox"/>
Over 4 hours per day	<input type="checkbox"/>	<input type="checkbox"/>
During the period you are using the respirator(s), is your work effort		
Light (less than 200 kcal per hour)	<input type="checkbox"/>	<input type="checkbox"/>
If "yes" how long does this period last during the average shift	hrs.	mins
Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.		

❖ OSHA Respirator Medical Evaluation Questionnaire ❖

	Yes	No
Moderate (200 to 350 kcal per hour)	<input type="checkbox"/>	<input type="checkbox"/>
If "yes" how long does this period last during the average shift	hrs.	mins.
Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.		
Heavy (above 350 kcal per hour)	<input type="checkbox"/>	<input type="checkbox"/>
If "yes" how long does this period last during the average shift	hrs.	mins.
Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).		
Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator?	<input type="checkbox"/>	<input type="checkbox"/>
If "yes," describe this protective clothing and/or equipment:		
Will you be working under hot conditions (exceeding 77 deg. F)?	<input type="checkbox"/>	<input type="checkbox"/>
Will you be working under humid conditions?	<input type="checkbox"/>	<input type="checkbox"/>
Describe the work you'll be doing while you're using your respirator(s)		
Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):		
Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):		
Name of the first toxic substance:		
Estimated maximum exposure level per shift:		
Duration of exposure per shift:		
Name of the second toxic substance:		
Estimated maximum exposure level per shift:		
Duration of exposure per shift:		
Name of the third toxic substance:		
Estimated maximum exposure level per shift:		
Duration of exposure per shift:		
Duration of exposure per shift:		
The name of any other toxic substances that you'll be exposed to while using your respirator:		
Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):		

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❖Respirator Seal Check Procedure❖

❖As Required Under 29 CFR 1910.134 (Mandatory)❖

To the employer: The seal check procedures listed below must be accomplished by all employees using respirators.

To the employee: Your employer is required to have you perform check seal procedures if you are using a respirator. The procedures must be accomplished each time you put on a respirator before entering a hazardous respiratory environment. Ensure you keep a copy of this form for your personal records.

EMPLOYEE INFORMATION

Employee Name:

ID/Clock Number:

Facility:

Work Location:

Job Title:

Dept./Phone:

VERIFICATION: I acknowledge that I have read and understand the below procedures as required by the Occupational Safety and Health Administration (OSHA).

EMPLOYEE SIGNATURE:

DATE:

OSHA RESPIRATORY PROTECTION SEAL CHECK PROCEDURES

To The Respirator User:

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the OSHA required positive and negative pressure checks, or the respirator manufacturers recommended user seal check method must be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

Facepiece Positive and/or Negative Pressure Checks:

- Positive pressure check. Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.
- Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

Manufacturer's Recommended User Seal Check Procedures:

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

FORM RETENTION INFORMATION

ATTACHMENTS

Retention File:

Location:

Date Filed:

Filed By:

*Yes ☐

No ☐

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❖RESPIRATOR SELECTION and FIT TEST RECORD❖

COMPANY and/or EMPLOYEE INFORMATION

EMPLOYEE JOB TITLE/WORK AREA:	LAST NAME	FIRST	MIDDLE INITIAL
SIGNATURE			COMPANY NAME:
EMPLOYEE ID # (if applicable)		WORK PHONE:	

JOB/HAZARD ASSESSMENT INFORMATION

Source of Data for Hazard Assessment (objective data, monitoring type, etc.)		Title and location of documentation for Hazard Assessment (if not attached):	
Date of Hazard Assessment:		Name of Hazard Assessor:	
Job Title of Hazard Assessor:		Signature of Hazard Assessor:	

FIT TEST INFORMATION

Date of Fit Test:		Name of Fit Tester:	
Job Title of Fit Tester:		Signature of Fit Tester:	

REMARKS	
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RESPIRATOR SELECTION DATA

Exposure Means:			Size of Respirator	Make/Model of Respirator	Type of Cartridge to be used:
Activity/Chemical (Painting, MEK Solvent)	Vapor, Dust, Mist, etc.	Expected Exposure Levels			

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RESPIRATOR WALLET CARD FOR FIT TEST CERTIFICATION

RESPIRATOR FIT CERTIFICATION

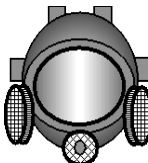
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

RESPIRATOR FIT CERTIFICATION

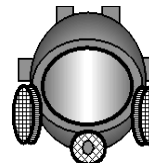
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

RESPIRATOR FIT CERTIFICATION

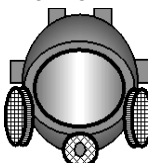
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

RESPIRATOR FIT CERTIFICATION

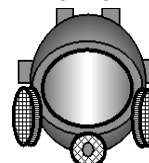
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

RESPIRATOR FIT CERTIFICATION

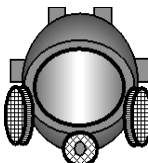
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

RESPIRATOR FIT CERTIFICATION

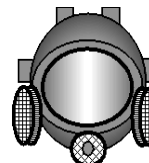
THIS IS TO CERTIFY THAT _____

ASSOCIATE

HAS BEEN SUCCESSFULLY FIT TESTED AND TRAINED IN
RESPIRATOR USE AND CARE AND IS QUALIFIED TO USE THE
RESPIRATORS LISTED ON THE BACK OF THIS CERTIFICATION.

ASSOCIATE SIGNATURE

DATE



CERTIFIER SIGNATURE

DATE

LICENSE CONTROL NUMBER

INSTRUCTIONS FOR USE.

1. DEVELOP A NUMBERING
SYSTEM FOR USE WITH THE
CONTROL NUMBERS.
2. PRINT THE LICENSES ON
ORDINARY CARD STOCK IN
THE COLOR OF YOUR CHOICE.
3. DESIGNATE A
RESPIRATOR
TRAINER AND CERTIFIER TO
CONDUCT THE TRAINING AND
FIT TEST ASSOCIATES.
4. AFTER ALL INFORMATION
IS FILLED IN, CONSIDER
LAMINATING.
5. COPY THIS FORM FOR
FUTURE USES.

FRONT OF FORM

Page 29-30

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

LICENSE CONTROL NUMBER _ _ _ _

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

LICENSE CONTROL NUMBER _ _ _ _

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

LICENSE CONTROL NUMBER _ _ _ _

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

LICENSE CONTROL NUMBER _ _ _ _

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

LICENSE CONTROL NUMBER _ _ _ _

RESPIRATOR FIT CERTIFICATION

THIS IS TO CERTIFY THAT

HAS BEEN FIT TESTED AND IS CERTIFIED
TO WEAR THE FOLLOWING RESPIRATORS:

_____ Respirator Brand	_____ Size
_____ Respirator Brand	_____ Size

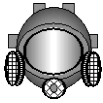
LICENSE CONTROL NUMBER _ _ _ _

RESPIRATORY PROTECTION - ASSIGNED PROTECTION FACTORS

The Assigned Protection Factor (APF) of a Respirator reflects the level of protection that a properly functioning Respirator would be expected to provide to a properly fitted and trained user. For example, an APF of 10 for a Respirator means that a user could expect to inhale no more than one-tenth of the airborne contaminant present.

Respirator Class and Type	OSHA	NIOSH
<i>Air Purifying:</i>		
Filtering Face piece	10	10
Half-Mask	10	10
Full-Face piece	50	50
<i>Powered Air Purifying:</i>		
Half-Mask	50	50
Full-Face piece	250	50
Loose Fitting Face piece	25	25
Hood or Helmet	25	25
<i>Supplied Air:</i>		
Half-Mask-Demand	10	10
Half-Mask-Continuous	50	50
Half-Mask-Pressure Demand	1000	1000
Full-Face piece Demand	50	50
Full-Face piece Continuous Flow	250	50
Full-Face piece Pressure Demand	1000	2000
Loose Fitting Face piece	25	25
Hood or Helmet	25	25
<i>Self Contained Breathing Apparatus (SCBA):</i>		
Demand	50	50
Pressure Demand	>1000	10,000

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❖Respiratory Protection - Fit Testing Procedures❖

Appendix A to 29 CFR 1910.134: Fit Testing Procedures (Mandatory)

PART I. OSHA – ACCEPTED FIT TEST PROTOCOLS

Fit Testing Procedures--General Requirements. The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA- accepted fit test methods, both QLFT and QNFT.

- The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
- Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.
- The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.
- The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
- The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following item A.6. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
- Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
 - Position of the mask on the nose
 - Room for eye protection
 - Room to talk
 - Position of mask on face and cheeks
- The following criteria shall be used to help determine the adequacy of the respirator fit:
 - Chin properly placed;
 - Adequate strap tension, not overly tightened;
 - Fit across nose bridge;
 - Respirator of proper size to span distance from nose to chin;
 - Tendency of respirator to slip;
 - Self-observation in mirror to evaluate fit and respirator position.
- The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B- 1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the user seal check tests.
- The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.
- If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.
- If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.
- Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.
- The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

- Test Exercises.
 - The following test exercises are to be performed for all fit testing methods prescribed in this appendix, except for the CNP method. A separate fit testing exercise regimen is contained in the CNP protocol. The test subject shall perform exercises, in the test environment, in the following manner:
 - Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.
 - Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
 - Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
 - Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
 - Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the following, count backward from 100, or recite a memorized poem or song.
Rainbow Passage:
When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.
 - Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)
 - Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.
 - Normal breathing. Same as exercise (1).
 - Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

Qualitative Fit Test (QLFT) Protocols

- General
 - The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order.
 - The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.
- Isoamyl Acetate Protocol. *Note: This protocol is not appropriate to use for the fit testing of particulate respirators. If used to fit test particulate respirators, the respirator must be equipped with an organic vapor filter.
 - Odor Threshold Screening. Odor threshold screening, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate at low levels.
 - Three 1 liter glass jars with metal lids are required.
 - Odor-free water (e.g., distilled or spring water) at approximately 25 deg. C (77 deg. F) shall be used for the solutions.
 - The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 ml of pure IAA to 800 ml of odor-free water in a 1 liter jar, closing the lid and shaking for 30 seconds. A new solution shall be prepared at least weekly.
 - The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well-ventilated to prevent the odor of IAA from becoming evident in the general room air where testing takes place.
 - The odor test solution is prepared in a second jar by placing 0.4 ml of the stock solution into 500 ml of odor-free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.
 - A test blank shall be prepared in a third jar by adding 500 cc of odor-free water.

- The odor test and test blank jar lids shall be labeled (e.g., 1 and 2) for jar identification. Labels shall be placed on the lids so that they can be peeled off periodically and switched to maintain the integrity of the test.
- The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, and then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."
- The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.
- If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.
- If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.
- Isoamyl Acetate Fit Test
 - The fit test chamber shall be a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. If no drum liner is available, a similar chamber shall be constructed using plastic sheeting. The inside top center of the chamber shall have a small hook attached.
 - Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors.
 - After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well-ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.
 - A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.
 - Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 ml of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber. An IAA test swab or ampule may be substituted for the IAA wetted paper towel provided it has been demonstrated that the alternative IAA source will generate an IAA test atmosphere with a concentration equivalent to that generated by the paper towel method.
 - Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the test exercises; or to demonstrate some of the exercises.
 - If at any time during the test, the subject detects the banana-like odor of IAA, the test is failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.
 - If the test is failed, the subject shall return to the selection room and remove the respirator. The test subject shall repeat the odor sensitivity test, select and put on another respirator, return to the test area and again begin the fit test procedure described in (b) (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait at least 5 minutes before retesting. Odor sensitivity will usually have returned by this time.
 - If the subject passes the test, the efficiency of the test procedure shall be demonstrated by having the subject break the respirator face seal and take a breath before exiting the chamber.
 - When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test, so that there is no significant IAA concentration buildup in the chamber during subsequent tests. The used towels shall be kept in a self-sealing plastic bag to keep the test area from being contaminated.
- Saccharin Solution Aerosol Protocol. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.
 - Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.
 - *Note: If the test subject eats or drinks something sweet before the screening test, he/she may be unable to taste the weak saccharin solution.

- During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.
- The test enclosure shall have a 3/4-inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.
- The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a sweet taste.
- Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.
- The threshold check solution is prepared by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution (see (b) (5) below) in 100 ml of distilled water.
- To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.
- Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.
- If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.
- If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.
- The test conductor will take note of the number of squeezes required to solicit a taste response.
- If the saccharin is not tasted after 30 squeezes (step 10), the test subject is unable to taste saccharin and may not perform the saccharin fit test.
- If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.
- Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.
- The nebulizer shall be thoroughly rinsed in water, shaken dry and refilled at least each morning and afternoon or at least every four hours.
- Saccharin solution aerosol fit test procedure.
 - The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.
 - The fit test uses the same enclosure described in 3. (a) above.
 - The test subject shall don the enclosure while wearing the respirator selected in section A.1 of this appendix. The respirator shall be properly adjusted and equipped with a particulate filter(s).
 - A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.
 - The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.
 - As before, the test subject shall breathe through the slightly open mouth with tongue extended, and report if he/she tastes the sweet taste of saccharin.
 - The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of saccharin fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.
 - After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.
 - Every 30 seconds the aerosol concentration shall be replenished using one half the original number of squeezes used initially (e.g., 5, 10 or 15).

- The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected. If the test subject does not report tasting the saccharin, the test is passed.
- If the taste of saccharin is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).
- Since the nebulizer has a tendency to clog during use, the test operator must make periodic checks of the nebulizer to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid.
- Bitrex™ (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol. The Bitrex™ (Denatonium benzoate) solution aerosol QLFT protocol uses the published saccharin test protocol because that protocol is widely accepted. Bitrex is routinely used as a taste aversion agent in household liquids which children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.
 - Taste Threshold Screening. The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex.
 - During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #14 and #15 combined, is adequate.
 - The test enclosure shall have a 3/4 inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.
 - The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste.
 - Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.
 - The Threshold Check Solution is prepared by adding 13.5 milligrams of Bitrex to 100 ml of 5% salt (NaCl) solution in distilled water.
 - To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.
 - An initial ten squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. If the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.
 - If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.
 - If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.
 - The test conductor will take note of the number of squeezes required to solicit a taste response.
 - If the Bitrex is not tasted after 30 squeezes (step 10), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.
 - If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.
 - Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.
 - The nebulizer shall be thoroughly rinsed in water, shaken to dry and refilled at least each morning and afternoon or at least every four hours.
 - Bitrex Solution Aerosol Fit Test Procedure.
 - The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.
 - The fit test uses the same enclosure as that described in 4. (a) above.

- The test subject shall don the enclosure while wearing the respirator selected according to section I. A. of this appendix. The respirator shall be properly adjusted and equipped with any type particulate filter(s).
- A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.
- The fit test solution is prepared by adding 337.5 mg of Bitrex to 200 ml of a 5% salt (NaCl) solution in warm water.
- As before, the test subject shall breathe through his or her slightly open mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.
- The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.
- After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.
- Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes used initially (e.g., 5, 10 or 15).
- The test subject shall indicate to the test conductor if at any time during the fit test the taste of Bitrex is detected. If the test subject does not report tasting the Bitrex, the test is passed.
- If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).
- Irritant Smoke (Stannic Chloride) Protocol. This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.
 - General Requirements and Precautions
 - The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).
 - Only stannic chloride smoke tubes shall be used for this protocol.
 - No form of test enclosure or hood for the test subject shall be used.
 - The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.
 - The fit test shall be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.
 - Sensitivity Screening Check. *The person to be tested must demonstrate his or her ability to detect a weak concentration of the irritant smoke.
 - The test operator shall break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.
 - The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.
 - The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.
 - Irritant Smoke Fit Test Procedure
 - The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).
 - The test subject shall be instructed to keep his/her eyes closed.
 - The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test subject, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the facepiece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

- If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.
- The exercises identified in section I.A. 14. of this appendix shall be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.
- If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.
- Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check, with the smoke from the same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.
- If a response is produced during this second sensitivity check, then the fit test is passed.

Quantitative Fit Test (QNFT) Protocols. The following quantitative fit testing procedures have been demonstrated to be acceptable: Quantitative fit testing using a non- hazardous test aerosol (such as corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS], or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator; Quantitative fit testing using ambient aerosol as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit; Quantitative fit testing using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a facepiece to quantify the respirator fit.

- General
 - The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.
 - The employer shall ensure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.
 - Generated Aerosol Quantitative Fit Testing Protocol
 - Apparatus.
 - Instrumentation. Aerosol generation, dilution, and measurement systems using particulates (corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS] or sodium chloride) as test aerosols shall be used for quantitative fit testing.
 - Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the test agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the test agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.
 - When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high efficiency particulate air (HEPA) or P100 series filter supplied by the same manufacturer.
 - The sampling instrument shall be selected so that a computer record or strip chart record may be made of the test showing the rise and fall of the test agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.
 - The combination of substitute air-purifying elements, test agent and test agent concentration shall be such that the test subject is not exposed in excess of an established exposure limit for the test agent at any time during the testing process, based upon the length of the exposure and the exposure limit duration.
 - The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g., where the respirator is probed), a free air flow is allowed into the sampling line at all times, and there is no interference with the fit or performance of the respirator. The in-mask sampling device (probe) shall be designed and used so that the air sample is drawn from the breathing zone of the test subject, midway between the nose and mouth and with the probe extending into the facepiece cavity at least 1/4 inch.
 - The test setup shall permit the person administering the test to observe the test subject inside the chamber during the test.
 - The equipment generating the test atmosphere shall maintain the concentration of test agent constant to within a 10 percent variation for the duration of the test.

- The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event and its being recorded.
- The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.
- The exhaust flow from the test chamber shall pass through an appropriate filter (i.e., high efficiency particulate or P100 series filter) before release.
- When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.
- The limitations of instrument detection shall be taken into account when determining the fit factor.
- Test respirators shall be maintained in proper working order and be inspected regularly for deficiencies such as cracks or missing valves and gaskets.
- Procedural Requirements.
 - When performing the initial user seal check using a positive or negative pressure check, the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these pressure checks.
 - The use of an abbreviated screening QLFT test is optional. Such a test may be utilized in order to quickly identify poor fitting respirators that passed the positive and/or negative pressure test and reduce the amount of QNFT time. The use of the CNC QNFT instrument in the count mode is another optional method to obtain a quick estimate of fit and eliminate poor fitting respirators before going on to perform a full QNFT.
 - A reasonably stable test agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain types of test units, the determination of the test agent's stability may be established after the test subject has entered the test environment.
 - Immediately after the subject enters the test chamber, the test agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.
 - A stable test agent concentration shall be obtained prior to the actual start of testing.
 - Respirator restraining straps shall not be over-tightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonably comfortable fit typical of normal use. The respirator shall not be adjusted once the fit test exercises begin.
 - The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested.
 - Calculation of fit factors.
 - The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration measured inside the respirator for each test exercise except the grimace exercise.
 - The average test chamber concentration shall be calculated as the arithmetic average of the concentration measured before and after each test (i.e., 7 exercises) or the arithmetic average of the concentration measured before and after each exercise or the true average measured continuously during the respirator sample.
 - The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:
 - Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers that calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.
 - Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.
 - Integration by calculation of the area under the individual peak for each exercise except the grimace exercise. This includes computerized integration.

- The calculation of the overall fit factor using individual exercise fit factors involves first converting the exercise fit factors to penetration values, determining the average, and then converting that result back to a fit factor. This procedure is described in the following equation:
 - *Where ff1, ff2, ff3, etc. are the fit factors for exercises 1, 2, 3, etc.
- The test subject shall not be permitted to wear a half mask or quarter facepiece respirator unless a minimum fit factor of 100 is obtained, or a full facepiece respirator unless a minimum fit factor of 500 is obtained.
- Filters used for quantitative fit testing shall be replaced whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media.
- Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol. The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount TM) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device, installed on the respirator that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model, and size that the employer uses and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer, TSI Inc., also provides probe attachments (TSI sampling adapters) that permit fit testing in an employee's own respirator. A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator and a minimum fit factor pass level of at least 500 is required for a full facepiece negative pressure respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.
- Portacount Fit Test Requirements.
 - Check the respirator to make sure the respirator is fitted with a high-efficiency filter and that the sampling probe and line are properly attached to the facepiece.
 - Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.
 - Check the following conditions for the adequacy of the respirator fit: Chin properly placed; Adequate strap tension, not overly tightened; Fit across nose bridge; Respirator of proper size to span distance from nose to chin; Tendency of the respirator to slip; Self-observation in a mirror to evaluate fit and respirator position.
 - Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same model respirator, or another model of respirator.
 - Follow the manufacturer's instructions for operating the Portacount and proceed with the test.
 - The test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.
 - After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.
- Portacount Test Instrument.
 - The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.
 - Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance in this Appendix.
 - A record of the test needs to be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

▪ Controlled negative pressure (CNP) quantitative fit testing protocol. The CNP protocol provides an alternative to aerosol fit test methods. The CNP fit test method technology is based on exhausting air from a temporarily sealed respirator facepiece to generate and then maintain a constant negative pressure inside the facepiece. The rate of air exhaust is controlled so that a constant negative pressure is maintained in the respirator during the fit test. The level of pressure is selected to replicate the mean inspiratory pressure that causes leakage into the respirator under normal use conditions. With pressure held constant, air flow out of the respirator is equal to air flow into the respirator. Therefore, measurement of the exhaust stream that is required to hold the pressure in the temporarily sealed respirator constant yields a direct measure of leakage air flow into the respirator. The CNP fit test method measures leak rates through the facepiece as a method for determining the facepiece fit for negative pressure respirators. The CNP instrument manufacturer Dynatech Nevada also provides attachments (sampling manifolds) that replace the filter cartridges to permit fit testing in an employee's own respirator. To perform the test, the test subject closes his or her mouth and holds his/her breath, after which an air pump removes air from the respirator facepiece at a pre-selected constant pressure. The facepiece fit is expressed as the leak rate through the facepiece, expressed as milliliters per minute. The quality and validity of the CNP fit tests are determined by the degree to which the in-mask pressure tracks the test pressure during the system measurement time of approximately five seconds. Instantaneous feedback in the form of a real-time pressure trace of the in-mask pressure is provided and used to determine test validity and quality. A minimum fit factor pass level of 100 is necessary for a half-mask respirator and a minimum fit factor of at least 500 is required for a full facepiece respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

- CNP Fit Test Requirements.

- The instrument shall have a non-adjustable test pressure of 15.0 mm water pressure.
- The CNP system defaults selected for test pressure shall be set at -1.5 mm of water (-0.58 inches of water) and the modeled inspiratory flow rate shall be 53.8 liters per minute for performing fit tests.

Note: CNP systems have built-in capability to conduct fit testing that is specific to unique work rate, mask, and gender situations that might apply in a specific workplace. Use of system default values, which were selected to represent respirator wear with medium cartridge resistance at a low-moderate work rate, will allow inter- test comparison of the respirator fit.)

- The individual who conducts the CNP fit testing shall be thoroughly trained to perform the test.
- The respirator filter or cartridge needs to be replaced with the CNP test manifold. The inhalation valve downstream from the manifold either needs to be temporarily removed or propped open.
- The test subject shall be trained to hold his or her breath for at least 20 seconds.
- The test subject shall don the test respirator without any assistance from the individual who conducts the CNP fit test.
- The QNFT protocol shall be followed according to section I. C. 1. of this appendix with an exception for the CNP test exercises.

- CNP Test Exercises.

- Normal breathing. In a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject needs to hold head straight ahead and hold his or her breath for 10 seconds during the test measurement.
- Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply for 1 minute, being careful not to hyperventilate. After the deep breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during test measurement.
- Turning head side to side. Standing in place, the subject shall slowly turn his or her head from side to side between the extreme positions on each side for 1 minute. The head shall be held at each extreme momentarily so the subject can inhale at each side. After the turning head side to side exercise, the subject needs to hold head full left and hold his or her breath for 10 seconds during test measurement. Next, the subject needs to hold head full right and hold his or her breath for 10 seconds during test measurement.

- Moving head up and down. Standing in place, the subject shall slowly move his or her head up and down for 1 minute. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling). After the moving head up and down exercise, the subject shall hold his or her head full up and hold his or her breath for 10 seconds during test measurement. Next, the subject shall hold his or her head full down and hold his or her breath for 10 seconds during test measurement. Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song for 1 minute. After the talking exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.
- Grimace. The test subject shall grimace by smiling or frowning for 15 seconds.
- Bending Over. The test subject shall bend at the waist as if he or she were to touch his or her toes for 1 minute. Jogging in place shall be substituted for this exercise in those test environments such as shroud-type QNFT units that prohibit bending at the waist. After the bending over exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.
- Normal Breathing. The test subject shall remove and re-don the respirator within a one-minute period. Then, in a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement. After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of a respirator shall be tried.
- CNP Test Instrument.
 - The test instrument shall have an effective audio warning device when the test subject fails to hold his or her breath during the test. The test shall be terminated whenever the test subject failed to hold his or her breath. The test subject may be refitted and retested.
 - A record of the test shall be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style and size of respirator used; and date tested.

PART II. NEW FIT TEST PROTOCOLS.

- Any person may submit to OSHA an application for approval of a new fit test protocol. If the application meets the following criteria, OSHA will initiate a rulemaking proceeding under section 6(b)(7) of the OSH Act to determine whether to list the new protocol as an approved protocol in this Appendix A.
- The application must include a detailed description of the proposed new fit test protocol. This application must be supported by either:
 - A test report prepared by an independent government research laboratory (e.g., Lawrence Livermore National Laboratory, Los Alamos National Laboratory, the National Institute for Standards and Technology) stating that the laboratory has tested the protocol and had found it to be accurate and reliable; or
 - An article that has been published in a peer-reviewed industrial hygiene journal describing the protocol and explaining how test data support the protocol's accuracy and reliability.
 - If OSHA determines that additional information is required before the Agency commences a rulemaking proceeding under this section, OSHA will so notify the applicant and afford the applicant the opportunity to submit the supplemental information. Initiation of a rulemaking proceeding will be deferred until OSHA has received and evaluated the supplemental information.

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RESPIRATORY PROTECTION TEXT OF THE REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

RESPIRATORY PROTECTION – 1910.134

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title Occupational Safety and Health Standards
- Subpart I
- Subpart Title Personal Protective Equipment
- Standard Number 1910.134
- Title Respiratory Protection
- Appendix A, B-1, B-2, C, D

This section applies to General Industry (part 1910), Shipyards (part 1915), Marine Terminals (part 1917), Long Shoring (part 1918), and Construction (part 1926).

1910.134(a) Permissible practice.

1910.134(a)(1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.

1910.134(a)(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program which shall include the requirements outlined in paragraph (c) of this section.

1910.134(b) Definitions. The following definitions are important terms used in the respiratory protection standard in this section.

- **Air-purifying respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
- **Assigned protection factor (APF)** [Reserved]
- **Atmosphere-supplying respirator** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.
- **Canister or cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.
- **Demand respirator** means an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.
- **Emergency situation** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.
- **Employee exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.
- **End-of-service-life indicator (ESLI)** means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.
- **Escape-only respirator** means a respirator intended to be used only for emergency exit.
- **Filter or air purifying element** means a component used in respirators to remove solid or liquid aerosols from the inspired air.
- **Filtering facepiece (dust mask)** means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
- **Fit factor** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.
- **Fit test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)
- **Helmet** means a rigid respiratory inlet covering that also provides head protection against impact and penetration.
- **High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
- **Hood** means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.
- **Immediately dangerous to life or health (IDLH)** means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

- **Interior structural firefighting** means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)
 - **Loose-fitting facepiece** means a respiratory inlet covering that is designed to form a partial seal with the face.
 - **Maximum use concentration (MUC)** [Reserved].
 - **Negative pressure respirator (tight fitting)** means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.
 - **Oxygen deficient atmosphere** means an atmosphere with oxygen content below 19.5% by volume.
 - **Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section.
 - **Positive pressure respirator** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.
 - **Powered air-purifying respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
 - **Pressure demand respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.
 - **Qualitative fit test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
 - **Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
 - **Respiratory inlet covering** means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.
 - **Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
 - **Service life** means the period of time that a respirator, filter or sorbent or other respiratory equipment provides adequate protection to the wearer.
 - **Supplied-air respirator (SAR) or airline respirator** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.
 - **This section** means this respiratory protection standard.
 - **Tight-fitting facepiece** means a respiratory inlet covering that forms a complete seal with the face.
 - **User seal check** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.
- 1910.134(c) Respiratory protection program.** This paragraph requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. The Small Entity Compliance Guide contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the Small Entity Compliance Guide will be available on or about April 8, 1998 from the Occupational Safety and Health Administration's Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).
- 1910.134(c)(1)** In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable:
- 1910.134(c)(1)(i)** Procedures for selecting respirators for use in the workplace;
 - 1910.134(c)(1)(ii)** Medical evaluations of employees required to use respirators;
 - 1910.134(c)(1)(iii)** Fit testing procedures for tight-fitting respirators;
 - 1910.134(c)(1)(iv)** Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;
 - 1910.134(c)(1)(v)** Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;
 - 1910.134(c)(1)(vi)** Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;
 - 1910.134(c)(1)(vii)** Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations;
 - 1910.134(c)(1)(viii)** Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and
 - 1910.134(c)(1)(ix)** Procedures for regularly evaluating the effectiveness of the program.
- 1910.134(c)(2)** Where respirator use is not required:
- 1910.134(c)(2)(i)** An employer may provide respirators at the request of employees or permit employees to use their own respirators, if the employer determines that such respirator use will not in itself create a hazard. If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard"); and

1910.134(c)(2)(ii) In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

1910.134(c)(3) The employer shall designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

1910.134(c)(4) The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

1910.134(d) Selection of respirators. This paragraph requires the employer to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors. The paragraph also specifies appropriately protective respirators for use in IDLH atmospheres, and limits the selection and use of air-purifying respirators.

1910.134(d)(1) General requirements.

1910.134(d)(1)(i) The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.

1910.134(d)(1)(ii) The employer shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.

1910.134(d)(1)(iii) The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH.

1910.134(d)(1)(iv) The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

1910.134(d)(2) Respirators for IDLH atmospheres.

1910.134(d)(2)(i) The employer shall provide the following respirators for employee use in IDLH atmospheres:

1910.134(d)(2)(i)(A) A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or

1910.134(d)(2)(i)(B) A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

1910.134(d)(2)(ii) Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

1910.134(d)(2)(iii) All oxygen-deficient atmospheres shall be considered IDLH. Exception: If the employer demonstrates that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in Table II of this section (i.e., for the altitudes set out in the table), then any atmosphere-supplying respirator may be used.

1910.134(d)(3) Respirators for atmospheres that are not IDLH.

1910.134(d)(3)(i) The employer shall provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.

1910.134(d)(3)(i)(A) Assigned Protection Factors (APFs) [Reserved]

1910.134(d)(3)(i)(B) Maximum Use Concentration (MUC) [Reserved]

1910.134(d)(3)(ii) The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

1910.134(d)(3)(iii) For protection against gases and vapors, the employer shall provide:

1910.134(d)(3)(iii)(A) An atmosphere-supplying respirator, or

1910.134(d)(3)(iii)(B) An air-purifying respirator, provided that:

1910.134(d)(3)(iii)(B)(1) The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or

1910.134(d)(3)(iii)(B)(2) If there is no ESLI appropriate for conditions in the employer's workplace, the employer implements a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. The employer shall describe in the respirator program the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data.

1910.134(d)(3)(iv) For protection against particulates, the employer shall provide:

1910.134(d)(3)(iv)(A) An atmosphere-supplying respirator; or

1910.134(d)(3)(iv)(B) An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84; or

1910.134(d)(3)(iv)(C) For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

TABLE I.
ASSIGNED PROTECTION FACTORS
[RESERVED]

TABLE II

Altitude (ft.)	Oxygen deficient Atmospheres (% O ₂) for which the employer atmosphere-may rely on supplying respirators:
Less than 3,001	16.0-19.5
3,001-4,000	16.4-19.5
4,001-5,000	17.1-19.5
5,001-6,000	17.8-19.5
6,001-7,000	18.5-19.5
7,001-8,000 ¹	19.3-19.5.

¹Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

1910.134(e) Medical evaluation. Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Accordingly, this paragraph specifies the minimum requirements for medical evaluation that employers must implement to determine the employee's ability to use a respirator.

1910.134(e)(1) General. The employer shall provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

1910.134(e)(2) Medical evaluation procedures.

1910.134(e)(2)(i) The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire.

1910.134(e)(2)(ii) The medical evaluation shall obtain the information requested by the questionnaire in Sections 1 and 2, Part A of Appendix C of this section.

1910.134(e)(3) Follow-up medical examination.

1910.134(e)(3)(i) The employer shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of Appendix C or whose initial medical examination demonstrates the need for a follow-up medical examination.

1910.134(e)(3)(ii) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

1910.134(e)(4) Administration of the medical questionnaire and examinations.

1910.134(e)(4)(i) The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

1910.134(e)(4)(ii) The employer shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

1910.134(e)(5) Supplemental information for the PLHCP.

1910.134(e)(5)(i) The following information must be provided to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

1910.134(e)(5)(i)(A) (A) The type and weight of the respirator to be used by the employee;

1910.134(e)(5)(i)(B) The duration and frequency of respirator use (including use for rescue and escape);

1910.134(e)(5)(i)(C) The expected physical work effort;

1910.134(e)(5)(i)(D) Additional protective clothing and equipment to be worn; and

1910.134(e)(5)(i)(E) Temperature and humidity extremes that may be encountered.

1910.134(e)(5)(ii) Any supplemental information provided previously to the PLHCP regarding an employee need not be provided for a subsequent medical evaluation if the information and the PLHCP remain the same.

1910.134(e)(5)(iii) The employer shall provide the PLHCP with a copy of the written respiratory protection program and a copy of this section.

- **Note to Paragraph (e)(5)(iii):** When the employer replaces a PLHCP, the employer must ensure that the new PLHCP obtains this information, either by providing the documents directly to the PLHCP or having the documents transferred from the former PLHCP to the new PLHCP. However, OSHA does not expect employers to have employees medically reevaluated solely because a new PLHCP has been selected.

1910.134(e)(6) Medical determination. In determining the employee's ability to use a respirator, the employer shall:

1910.134(e)(6)(i) Obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation shall provide only the following information:

1910.134(e)(6)(i)(A) Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;

1910.134(e)(6)(i)(B) The need, if any, for follow-up medical evaluations; and

1910.134(e)(6)(i)(C) A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

1910.134(e)(6)(ii) If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the

employee's health at increased risk if the respirator is used, the employer shall provide a PAPR if the PLHCP's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer is no longer required to provide a PAPR.

1910.134(e)(7) *Additional medical evaluations.* At a minimum, the employer shall provide additional medical evaluations that comply with the requirements of this section if:

1910.134(e)(7)(i) An employee reports medical signs or symptoms that are related to ability to use a respirator;

1910.134(e)(7)(ii) A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;

1910.134(e)(7)(iii) Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or

1910.134(e)(7)(iv) A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

1910.134(f) *Fit testing.* This paragraph requires that, before an employee may be required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. This paragraph specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.

1910.134(f)(1) The employer shall ensure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as stated in this paragraph.

1910.134(f)(2) The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

1910.134(f)(3) The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

1910.134(f)(4) If after passing a QLFT or QNFT, the employee subsequently notifies the employer, program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.

1910.134(f)(5) The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of this section.

1910.134(f)(6) QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.

1910.134(f)(7) If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

1910.134(f)(8) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

1910.134(f)(8)(i) Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

1910.134(f)(8)(ii) Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

1910.134(f)(8)(iii) Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

1910.134(g) *Use of respirators.* This paragraph requires employers to establish and implement procedures for the proper use of respirators. These requirements include prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operation throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres or in interior structural firefighting situations.

1910.134(g)(1) *Facepiece seal protection.*

1910.134(g)(1)(i) The employer shall not permit respirators with tight-fitting facepieces to be worn by employees who have:

1910.134(g)(1)(i)(A) Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or

1910.134(g)(1)(i)(B) Any condition that interferes with the face-to-facepiece seal or valve function.

1910.134(g)(1)(ii) If an employee wears corrective glasses or goggles or other personal protective equipment, the employer shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

1910.134(g)(1)(iii) For all tight-fitting respirators, the employer shall ensure that employees perform a user seal check each time they put on the respirator using the procedures in Appendix B-1 or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in Appendix B-1 of this section.

1910.134(g)(2) *Continuing respirator effectiveness.*

1910.134(g)(2)(i) Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the employer shall reevaluate the continued effectiveness of the respirator.

1910.134(g)(2)(ii) The employer shall ensure that employees leave the respirator use area:

1910.134(g)(2)(ii)(A) To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or

1910.134(g)(2)(ii)(B) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or

1910.134(g)(2)(ii)(C) To replace the respirator or the filter, cartridge, or canister elements.

1910.134(g)(2)(iii) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the employer must replace or repair the respirator before allowing the employee to return to the work area.

1910.134(g)(3) *Procedures for IDLH atmospheres.* For all IDLH atmospheres, the employer shall ensure that:

1910.134(g)(3)(i) One employee or, when needed, more than one employee is located outside the IDLH atmosphere;

1910.134(g)(3)(ii) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;

1910.134(g)(3)(iii) The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;

1910.134(g)(3)(iv) The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;

1910.134(g)(3)(v) The employer or designee authorized to do so by the employer, once notified, provides necessary assistance appropriate to the situation;

1910.134(g)(3)(vi) Employee(s) located outside the IDLH atmospheres are equipped with:

1910.134(g)(3)(vi)(A) Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either

1910.134(g)(3)(vi)(B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or

1910.134(g)(3)(vi)(C) Equivalent means for rescue where retrieval equipment is not required under paragraph (g)(3)(vi)(B).

1910.134(g)(4) *Procedures for interior structural firefighting.* In addition to the requirements set forth under paragraph (g)(3), in interior structural fires, the employer shall ensure that:

1910.134(g)(4)(i) At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;

1910.134(g)(4)(ii) At least two employees are located outside the IDLH atmosphere; and

- **1910.134(g)(4)(iii)** All employees engaged in interior structural firefighting use SCBAs.
Note 1 to paragraph (g): One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.
- **Note 2 to paragraph (g):** Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

1910.134(h) *Maintenance and care of respirators.* This paragraph requires the employer to provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees.

1910.134(h)(1) *Cleaning and disinfecting.* The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures in Appendix B-2 of this section, or procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:

1910.134(h)(1)(i) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;

1910.134(h)(1)(ii) Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals;

1910.134(h)(1)(iii) Respirators maintained for emergency use shall be cleaned and disinfected after each use; and

1910.134(h)(1)(iv) Respirators used in fit testing and training shall be cleaned and disinfected after each use.

1910.134(h)(2) *Storage.* The employer shall ensure that respirators are stored as follows:

1910.134(h)(2)(i) All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

1910.134(h)(2)(ii) In addition to the requirements of paragraph (h)(2)(i) of this section, emergency respirators shall be:

1910.134(h)(2)(ii)(A) Kept accessible to the work area;

1910.134(h)(2)(ii)(B) Stored in compartments or in covers that are clearly marked as containing emergency respirators; and

1910.134(h)(2)(ii)(C) Stored in accordance with any applicable manufacturer instructions.

1910.134(h)(3) *Inspection.*

1910.134(h)(3)(i) The employer shall ensure that respirators are inspected as follows:

1910.134(h)(3)(i)(A) All respirators used in routine situations shall be inspected before each use and during cleaning;

1910.134(h)(3)(i)(B) All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use; and

1910.134(h)(3)(i)(C) Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

1910.134(h)(3)(ii) The employer shall ensure that respirator inspections include the following:

1910.134(h)(3)(ii)(A) A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and

1910.134(h)(3)(ii)(B) A check of elastomeric parts for pliability and signs of deterioration.

1910.134(h)(3)(iii) In addition to the requirements of paragraphs (h)(3)(i) and (ii) of this section, self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly.

1910.134(h)(3)(iv) For respirators maintained for emergency use, the employer shall:

1910.134(h)(3)(iv)(A) Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and

1910.134(h)(3)(iv)(B) Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

1910.134(h)(4) *Repairs.* The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with the following procedures:

1910.134(h)(4)(i) Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

1910.134(h)(4)(ii) Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

1910.134(h)(4)(iii) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

1910.134(i) *Breathing air quality and use.* This paragraph requires the employer to provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity.

1910.134(i)(1) The employer shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

1910.134(i)(1)(i) Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and

1910.134(i)(1)(ii) Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

1910.134(i)(1)(ii)(A) Oxygen content (v/v) of 19.5-23.5%;

1910.134(i)(1)(ii)(B) Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;

1910.134(i)(1)(ii)(C) Carbon monoxide (CO) content of 10 ppm or less;

1910.134(i)(1)(ii)(D) Carbon dioxide content of 1,000 ppm or less; and

1910.134(i)(1)(ii)(E) Lack of noticeable odor.

1910.134(i)(2) The employer shall ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.

1910.134(i)(3) The employer shall ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

1910.134(i)(4) The employer shall ensure that cylinders used to supply breathing air to respirators meet the following requirements:

1910.134(i)(4)(i) Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178);

1910.134(i)(4)(ii) Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and

1910.134(i)(4)(iii) The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

1910.134(i)(5) The employer shall ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:

1910.134(i)(5)(i) Prevent entry of contaminated air into the air-supply system;

1910.134(i)(5)(ii) Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg.C) below the ambient temperature;

1910.134(i)(5)(iii) Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.

1910.134(i)(5)(iv) Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.

1910.134(i)(6) For compressors that are not oil-lubricated, the employer shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.

1910.134(i)(7) For oil-lubricated compressors, the employer shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.

1910.134(i)(8) The employer shall ensure that breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.

1910.134(i)(9) The employer shall use breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

1910.134(j) *Identification of filters, cartridges, and canisters.* The employer shall ensure that all filters, cartridges and

canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

1910.134(k) *Training and information.* This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.

1910.134(k)(1) The employer shall ensure that each employee can demonstrate knowledge of at least the following:

1910.134(k)(1)(i) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

1910.134(k)(1)(ii) What the limitations and capabilities of the respirator are;

1910.134(k)(1)(iii) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

1910.134(k)(1)(iv) How to inspect, put on and remove, use, and check the seals of the respirator;

1910.134(k)(1)(v) What the procedures are for maintenance and storage of the respirator;

1910.134(k)(1)(vi) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

1910.134(k)(1)(vii) The general requirements of this section.

1910.134(k)(2) The training shall be conducted in a manner that is understandable to the employee.

1910.134(k)(3) The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.

1910.134(k)(4) An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph (k)(1)(i) through (vii) is not required to repeat such training provided that, as required by paragraph (k)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

1910.134(k)(5) Retraining shall be administered annually, and when the following situations occur:

1910.134(k)(5)(i) Changes in the workplace or the type of respirator render previous training obsolete;

1910.134(k)(5)(ii) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or

1910.134(k)(5)(iii) Any other situation arises in which retraining appears necessary to ensure safe respirator use.

1910.134(k)(6) The basic advisory information on respirators, as presented in Appendix D of this section, shall be provided by the employer in any written or oral format, to employees who wear respirators when such use is not required by this section or by the employer.

1910.134(l) *Program evaluation.* This section requires the employer to conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly.

1910.134(l)(1) The employer shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

1910.134(l)(2) The employer shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

1910.134(l)(2)(i) Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

1910.134(l)(2)(ii) Appropriate respirator selection for the hazards to which the employee is exposed;

1910.134(l)(2)(iii) Proper respirator use under the workplace conditions the employee encounters; and

1910.134(l)(2)(iv) Proper respirator maintenance.

1910.134(m) *Recordkeeping.* This section requires the employer to establish and retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the employer in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

1910.134(m)(1) *Medical evaluation.* Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020.

1910.134(m)(2) *Fit testing.*

1910.134(m)(2)(i) The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

1910.134(m)(2)(i)(A) The name or identification of the employee tested;

1910.134(m)(2)(i)(B) Type of fit test performed;

1910.134(m)(2)(i)(C) Specific make, model, style, and size of respirator tested;

1910.134(m)(2)(i)(D) Date of test; and

1910.134(m)(2)(i)(E) The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

1910.134(m)(2)(ii) Fit test records shall be retained for respirator users until the next fit test is administered.

1910.134(m)(3) A written copy of the current respirator program shall be retained by the employer.

1910.134(m)(4) Written materials required to be retained under this paragraph shall be made available upon request to affected employees and to the Assistant Secretary or designee for examination and copying.

1910.134(n) *Dates.*

1910.134(n)(1) *Effective date.* This section is effective April 8, 1998. The obligations imposed by this section commence on the effective date unless otherwise noted in this paragraph. Compliance with obligations that do not commence on the effective date shall occur no later than the applicable start-up date.

1910.134(n)(2) *Compliance dates.* All obligations of this section commence on the effective date except as follows:

1910.134(n)(2)(i) The determination that respirator use is required (paragraph (a)) shall be completed no later than September 8, 1998.

1910.134(n)(2)(ii) Compliance with provisions of this section for all other provisions shall be completed no later than October 5, 1998.

1910.134(n)(3) The provisions of 29 CFR 1910.134 and 29 CFR 1926.103, contained in the 29 CFR parts 1900 to 1910.99 and the 29 CFR part 1926 editions, revised as of July 1, 1997, are in effect and enforceable until October 5, 1998, or during any administrative or judicial stay of the provisions of this section.

1910.134(n)(4) Existing Respiratory Protection Programs. If, in the 12 month period preceding April 8, 1998, the employer has conducted annual respirator training, fit testing, respirator program evaluation, or medical evaluations, the employer may use the results of those activities to comply with the corresponding provisions of this section, providing that these activities were conducted in a manner that meets the requirements of this section.

1910.134(o) Appendices.

1910.134(o)(1) Compliance with Appendix A, Appendix B-1, Appendix B-2, and Appendix C of this section is mandatory.

1910.134(o)(2) Appendix D of this section is non-mandatory and is not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

RESPIRATORY PROTECTION REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

Fit Testing Procedures (Mandatory). - 1910.134 App A

Regulations (Standards - 29 CFR) - Table of Contents

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- Part Title Occupational Safety and Health Standards
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- Standard Number 1910.134 App
- Title Fit Testing Procedures (Mandatory)

Appendix A to § 1910.134: Fit Testing Procedures (Mandatory)

Part I. OSHA-Accepted Fit Test Protocols

A. Fit Testing Procedures -- General Requirements. The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.
3. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.
4. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following item A.6. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
6. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
 - (a) Position of the mask on the nose
 - (b) Room for eye protection
 - (c) Room to talk
 - (d) Position of mask on face and cheeks
7. The following criteria shall be used to help determine the adequacy of the respirator fit:
 - (a) Chin properly placed;
 - (b) Adequate strap tension, not overly tightened;
 - (c) Fit across nose bridge;
 - (d) Respirator of proper size to span distance from nose to chin;
 - (e) Tendency of respirator to slip;
 - (f) Self-observation in mirror to evaluate fit and respirator position.
8. The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B-1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face

by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the user seal check tests.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.

11. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

12. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

13. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises.

(a) Employers must perform the following test exercises for all fit testing methods prescribed in this appendix, except for the CNP quantitative fit testing protocol and the CNP REDON quantitative fit testing protocol. For these two protocols, employers must ensure that the test subjects (*i.e.*, employees) perform the exercise procedure specified in Part I.C.4(b) of this appendix for the CNP quantitative fit testing protocol, or the exercise procedure described in Part I.C.5(b) of this appendix for the CNP REDON quantitative fit-testing protocol. For the remaining fit testing methods, employers must ensure that employees perform the test exercises in the appropriate test environment in the following manner:

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.

(3) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(4) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (*i.e.*, when looking toward the ceiling).

(5) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

Rainbow Passage When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

(6) Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)

(7) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.

(8) Normal breathing. Same as exercise (1).

(b) Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

B. Qualitative Fit Test (QLFT) Protocols

1. General

(a) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order.

(b) The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

2. Isoamyl Acetate Protocol

Note: This protocol is not appropriate to use for the fit testing of particulate respirators. If used to fit test particulate respirators, the respirator must be equipped with an organic vapor filter.

(a) Odor Threshold Screening

Odor threshold screening, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate at low levels.

(1) Three 1 liter glass jars with metal lids are required.

(2) Odor-free water (*e.g.*, distilled or spring water) at approximately 25 deg. C (77 deg. F) shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 ml of pure IAA to 800 ml of odor-free water in a 1 liter jar, closing the lid and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be

well-ventilated to prevent the odor of IAA from becoming evident in the general room air where testing takes place.

(5) The odor test solution is prepared in a second jar by placing 0.4 ml of the stock solution into 500 ml of odor-free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor-free water.

(7) The odor test and test blank jar lids shall be labeled (e.g., 1 and 2) for jar identification. Labels shall be placed on the lids so that they can be peeled off periodically and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

(b) Isoamyl Acetate Fit Test

(1) The fit test chamber shall be a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. If no drum liner is available, a similar chamber shall be constructed using plastic sheeting. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well-ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 ml of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber. An IAA test swab or ampule may be substituted for the IAA wetted paper towel provided it has been demonstrated that the alternative IAA source will generate an IAA test atmosphere with a concentration equivalent to that generated by the paper towel method.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the test exercises; or to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana-like odor of IAA, the test is failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the test is failed, the subject shall return to the selection room and remove the respirator. The test subject shall repeat the odor sensitivity test, select and put on another respirator, return to the test area and again begin the fit test procedure described in (b) (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait at least 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) If the subject passes the test, the efficiency of the test procedure shall be demonstrated by having the subject break the respirator face seal and take a breath before exiting the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test, so that there is no significant IAA concentration buildup in the chamber during subsequent tests. The used towels shall be kept in a self-sealing plastic bag to keep the test area from being contaminated.

3. Saccharin Solution Aerosol Protocol

The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a 3/4-inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a sweet taste.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The threshold check solution is prepared by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution (see (b)(5) below) in 100 ml of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully

expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject is unable to taste saccharin and may not perform the saccharin fit test.

Note to paragraph 3. (a): If the test subject eats or drinks something sweet before the screening test, he/she may be unable to taste the weak saccharin solution.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Saccharin solution aerosol fit test procedure.

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in 3. (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section I. A. of this appendix. The respirator shall be properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.

(6) As before, the test subject shall breathe through the slightly open mouth with tongue extended, and report if he/she tastes the sweet taste of saccharin.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of saccharin fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the original number of squeezes used initially (e.g., 5, 10 or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected. If the test subject does not report tasting the saccharin, the test is passed.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

(12) Since the nebulizer has a tendency to clog during use, the test operator must make periodic checks of the nebulizer to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid.

4. Bitrex™ (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol

The Bitrex™ (Denatonium benzoate) solution aerosol QFT protocol uses the published saccharin test protocol because that protocol is widely accepted. Bitrex is routinely used as a taste aversion agent in household liquids which children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste Threshold Screening.

The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a 3/4 inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The Threshold Check Solution is prepared by adding 13.5 milligrams of Bitrex to 100 ml of 5% salt (NaCl) solution in distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.

(7) An initial ten squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. If the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste threshold is noted as

ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the Bitrex is not tasted after 30 squeezes (step 10), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Bitrex Solution Aerosol Fit Test Procedure.

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure as that described in 4. (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected according to section I. A. of this appendix. The respirator shall be properly adjusted and equipped with any type particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 337.5 mg of Bitrex to 200 ml of a 5% salt (NaCl) solution in warm water.

(6) As before, the test subject shall breathe through his or her slightly open mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes used initially (e.g., 5, 10 or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of Bitrex is detected. If the test subject does not report tasting the Bitrex, the test is passed.

(11) If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

5. Irritant Smoke (Stannic Chloride) Protocol

This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

(a) General Requirements and Precautions

(1) The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).

(2) Only stannic chloride smoke tubes shall be used for this protocol.

(3) No form of test enclosure or hood for the test subject shall be used.

(4) The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.

(5) The fit test shall be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.

(b) Sensitivity Screening Check

The person to be tested must demonstrate his or her ability to detect a weak concentration of the irritant smoke.

(1) The test operator shall break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.

(2) The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.

(3) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.

(c) Irritant Smoke Fit Test Procedure

(1) The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).

(2) The test subject shall be instructed to keep his/her eyes closed.

(3) The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test subject, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the facepiece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

(4) If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test

exercises.

(5) The exercises identified in section I.A. 14. of this appendix shall be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.

(6) If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.

(7) Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check, with the smoke from the same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.

(8) If a response is produced during this second sensitivity check, then the fit test is passed.

C. Quantitative Fit Test (QNFT) Protocols

The following quantitative fit testing procedures have been demonstrated to be acceptable: Quantitative fit testing using a non-hazardous test aerosol (such as corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS], or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator; Quantitative fit testing using ambient aerosol as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit; Quantitative fit testing using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a facepiece to quantify the respirator fit.

1. General

(a) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.

(b) The employer shall ensure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.

2. Generated Aerosol Quantitative Fit Testing Protocol

(a) Apparatus.

(1) Instrumentation. Aerosol generation, dilution, and measurement systems using particulates (corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS] or sodium chloride) as test aerosols shall be used for quantitative fit testing.

(2) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the test agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the test agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(3) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high efficiency particulate air (HEPA) or P100 series filter supplied by the same manufacturer.

(4) The sampling instrument shall be selected so that a computer record or strip chart record may be made of the test showing the rise and fall of the test agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(5) The combination of substitute air-purifying elements, test agent and test agent concentration shall be such that the test subject is not exposed in excess of an established exposure limit for the test agent at any time during the testing process, based upon the length of the exposure and the exposure limit duration.

(6) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g., where the respirator is probed), a free air flow is allowed into the sampling line at all times, and there is no interference with the fit or performance of the respirator. The in-mask sampling device (probe) shall be designed and used so that the air sample is drawn from the breathing zone of the test subject, midway between the nose and mouth and with the probe extending into the facepiece cavity at least 1/4 inch.

(7) The test setup shall permit the person administering the test to observe the test subject inside the chamber during the test.

(8) The equipment generating the test atmosphere shall maintain the concentration of test agent constant to within a 10 percent variation for the duration of the test.

(9) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event and its being recorded.

(10) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(11) The exhaust flow from the test chamber shall pass through an appropriate filter (i.e., high efficiency particulate filter) before release.

(12) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(13) The limitations of instrument detection shall be taken into account when determining the fit factor.

(14) Test respirators shall be maintained in proper working order and be inspected regularly for deficiencies such as cracks or missing valves and gaskets.

(b) Procedural Requirements.

(1) When performing the initial user seal check using a positive or negative pressure check, the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these pressure checks.

(2) The use of an abbreviated screening QLFT test is optional. Such a test may be utilized in order to quickly identify poor fitting respirators that passed the positive and/or negative pressure test and reduce the amount of QNFT time. The use of the CNC QNFT instrument in the count mode is another optional method to obtain a quick estimate of fit and eliminate poor fitting respirators before going on to perform a full QNFT.

(3) A reasonably stable test agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain types of test units, the determination of the test agent's stability may be established after the test subject has entered the test environment.

- (4) Immediately after the subject enters the test chamber, the test agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.
- (5) A stable test agent concentration shall be obtained prior to the actual start of testing.
- (6) Respirator restraining straps shall not be over-tightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonably comfortable fit typical of normal use. The respirator shall not be adjusted once the fit test exercises begin.
- (7) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested.
- (8) Calculation of fit factors.
 - (i) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration measured inside the respirator for each test exercise except the grimace exercise.
 - (ii) The average test chamber concentration shall be calculated as the arithmetic average of the concentration measured before and after each test (i.e., 7 exercises) or the arithmetic average of the concentration measured before and after each exercise or the true average measured continuously during the respirator sample.
 - (iii) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(A) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers that calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(B) Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(C) Integration by calculation of the area under the individual peak for each exercise except the grimace exercise. This includes computerized integration.

(D) The calculation of the overall fit factor using individual exercise fit factors involves first converting the exercise fit factors to penetration values, determining the average, and then converting that result back to a fit factor. This procedure is described in the following equation:

$$\text{Overall Fit Factor} = \frac{\text{Number of exercises}}{1/ff_1 + 1/ff_2 + 1/ff_3 + 1/ff_4 + 1/ff_5 + 1/ff_6 + 1/ff_7 + 1/ff_8}$$

Where ff_1 , ff_2 , ff_3 , etc. are the fit factors for exercises 1, 2, 3, etc.

(9) The test subject shall not be permitted to wear a half mask or quarter facepiece respirator unless a minimum fit factor of 100 is obtained, or a full facepiece respirator unless a minimum fit factor of 500 is obtained.

(10) Filters used for quantitative fit testing shall be replaced whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media.

3. Ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol.

The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount™) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device, installed on the respirator that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model, and size that the employer uses and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer, TSI Inc., also provides probe attachments (TSI sampling adapters) that permit fit testing in an employee's own respirator. A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator and a minimum fit factor pass level of at least 500 is required for a full facepiece negative pressure respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Portacount Fit Test Requirements.

(1) Check the respirator to make sure the sampling probe and line are properly attached to the facepiece and that the respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used for the fit test (e.g., NIOSH 42 CFR 84 series 100, series 99, or series 95 particulate filter) per manufacturer's instruction.

(2) Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.

(3) Check the following conditions for the adequacy of the respirator fit: Chin properly placed; Adequate strap tension, not overly tightened; Fit across nose bridge; Respirator of proper size to span distance from nose to chin; Tendency of the respirator to slip; Self-observation in a mirror to evaluate fit and respirator position.

(4) Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting facepiece, try another size of the same model respirator, or another model of respirator.

(5) Follow the manufacturer's instructions for operating the Portacount and proceed with the test.

(6) The test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(7) After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.

(b) Portacount Test Instrument.

(1) The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.

(2) Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance in this Appendix.

(3) A record of the test needs to be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

4. Controlled negative pressure (CNP) quantitative fit testing protocol.

The CNP protocol provides an alternative to aerosol fit test methods. The CNP fit test method technology is based on exhausting air from a temporarily sealed respirator facepiece to generate and then maintain a constant negative pressure inside the facepiece. The rate of air exhaust is controlled so that a constant negative pressure is maintained in the respirator during the fit test. The level of pressure is selected to replicate the mean inspiratory pressure that causes leakage into the respirator under normal use conditions. With pressure held constant, air flow out of the respirator is equal to air flow into the respirator. Therefore, measurement of the exhaust stream that is required to hold the pressure in the temporarily sealed respirator constant yields a direct measure of leakage air flow into the respirator. The CNP fit test method measures leak rates through the facepiece as a method for determining the facepiece fit for negative pressure respirators. The CNP instrument manufacturer Occupational Health Dynamics of Birmingham, Alabama also provides attachments (sampling manifolds) that replace the filter cartridges to permit fit testing in an employee's own respirator. To perform the test, the test subject closes his or her mouth and holds his/her breath, after which an air pump removes air from the respirator facepiece at a pre-selected constant pressure. The facepiece fit is expressed as the leak rate through the facepiece, expressed as milliliters per minute. The quality and validity of the CNP fit tests are determined by the degree to which the in-mask pressure tracks the test pressure during the system measurement time of approximately five seconds. Instantaneous feedback in the form of a real-time pressure trace of the in-mask pressure is provided and used to determine test validity and quality. A minimum fit factor pass level of 100 is necessary for a half-mask respirator and a minimum fit factor of at least 500 is required for a full facepiece respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) CNP Fit Test Requirements.

(1) The instrument shall have a non-adjustable test pressure of 15.0 mm water pressure.

(2) The CNP system defaults selected for test pressure shall be set at -- 15 mm of water (-0.58 inches of water) and the modeled inspiratory flow rate shall be 53.8 liters per minute for performing fit tests.

(Note: CNP systems have built-in capability to conduct fit testing that is specific to unique work rate, mask, and gender situations that might apply in a specific workplace. Use of system default values, which were selected to represent respirator wear with medium cartridge resistance at a low-moderate work rate, will allow inter-test comparison of the respirator fit.)

(3) The individual who conducts the CNP fit testing shall be thoroughly trained to perform the test.

(4) The respirator filter or cartridge needs to be replaced with the CNP test manifold. The inhalation valve downstream from the manifold either needs to be temporarily removed or propped open.

(5) The employer must train the test subject to hold his or her breath for at least 10 seconds.

(6) The test subject must don the test respirator without any assistance from the test administrator who is conducting the CNP fit test. The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test, and the test subject must repeat the fit test.

(7) The QNFT protocol shall be followed according to section I. C. 1. of this appendix with an exception for the CNP test exercises.

(b) CNP Test Exercises.

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject needs to hold head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply for 1 minute, being careful not to hyperventilate. After the deep breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during test measurement.

(3) Turning head side to side. Standing in place, the subject shall slowly turn his or her head from side to side between the extreme positions on each side for 1 minute. The head shall be held at each extreme momentarily so the subject can inhale at each side. After the turning head side to side exercise, the subject needs to hold head full left and hold his or her breath for 10 seconds during test measurement. Next, the subject needs to hold head full right and hold his or her breath for 10 seconds during test measurement.

(4) Moving head up and down. Standing in place, the subject shall slowly move his or her head up and down for 1 minute. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling). After the moving head up and down exercise, the subject shall hold his or her head full up and hold his or her breath for 10 seconds during test measurement. Next, the subject shall hold his or her head full down and hold his or her breath for 10 seconds during test measurement.

(5) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song for 1 minute. After the talking exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(6) Grimace. The test subject shall grimace by smiling or frowning for 15 seconds.

(7) Bending Over. The test subject shall bend at the waist as if he or she were to touch his or her toes for 1 minute. Jogging in place shall be substituted for this exercise in those test environments such as shroud-type QNFT units that prohibit bending at the waist. After the bending over exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement.

(8) Normal Breathing. The test subject shall remove and re-don the respirator within a one-minute period. Then, in a normal standing position, without talking, the subject shall breathe normally for 1 minute. After the normal breathing exercise, the subject shall hold his or her head straight ahead and hold his or her breath for 10 seconds during the test measurement. After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of

the protocol. If it has become unacceptable, another model of a respirator shall be tried.

(c) CNP Test Instrument.

(1) The test instrument must have an effective audio-warning device, or a visual-warning device in the form of a screen tracing, that indicates when the test subject fails to hold his or her breath during the test. The test must be terminated and restarted from the beginning when the test subject fails to hold his or her breath during the test. The test subject then may be refitted and retested.

(2) A record of the test shall be kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style and size of respirator used; and date tested.

5. Controlled negative pressure (CNP) REDON quantitative fit testing protocol.

(a) When administering this protocol to test subjects, employers must comply with the requirements specified in paragraphs (a) and (c) of Part I.C.4 of this appendix ("Controlled negative pressure (CNP) quantitative fit testing protocol"), as well as use the test exercises described below in paragraph (b) of this protocol instead of the test exercises specified in paragraph (b) of Part I.C.4 of this appendix.

(b) Employers must ensure that each test subject being fit tested using this protocol follows the exercise and measurement procedures, including the order of administration, described below in Table A-1 of this appendix.

Table A-1. -- CNP REDON Quantitative Fit Testing Protocol

Exercises ⁽¹⁾	Exercise procedure	Measurement procedure
Facing Forward	Stand and breathe normally, without talking, for 30 seconds.	Face forward, while holding breath for 10 seconds.
Bending Over	Bend at the waist, as if going to touch his or her toes, for 30 seconds.	Face parallel to the floor, while holding breath for 10 seconds
Head Shaking	For about three seconds, shake head back and forth vigorously several times while shouting.	Face forward, while holding breath for 10 seconds.
REDON 1	Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask.	Face forward, while holding breath for 10 seconds.
REDON 2	Remove the respirator mask, loosen all facepiece straps, and then redon the respirator mask again.	Face forward, while holding breath for 10 seconds.

¹ Exercises are listed in the order in which they are to be administered.

(c) After completing the test exercises, the test administrator must question each test subject regarding the comfort of the respirator. When a test subject states that the respirator is unacceptable, the employer must ensure that the test administrator repeats the protocol using another respirator model.

(d) Employers must determine the overall fit factor for each test subject by calculating the harmonic mean of the fit testing exercises as follows:

$$\text{Overall Fit Factor} = \frac{N}{\left[1/FF_1 + 1/FF_2 + \dots 1/FF_N \right]}$$

Where:

N = The number of exercises;

FF1 = The fit factor for the first exercise;

FF2 = The fit factor for the second exercise; and

FFN = The fit factor for the nth exercise.

Part II. New Fit Test Protocols

A. Any person may submit to OSHA an application for approval of a new fit test protocol. If the application meets the following criteria, OSHA will initiate a rulemaking proceeding under section 6(b)(7) of the OSH Act to determine whether to list the new protocol as an approved protocol in this Appendix A.

B. The application must include a detailed description of the proposed new fit test protocol. This application must be supported by either:

1. A test report prepared by an independent government research laboratory (e.g., Lawrence Livermore National Laboratory, Los Alamos National Laboratory, the National Institute for Standards and Technology) stating that the laboratory has tested the protocol and had found it to be accurate and reliable; or

2. An article that has been published in a peer-reviewed industrial hygiene journal describing the protocol and explaining how test data support the protocol's accuracy and reliability.

C. If OSHA determines that additional information is required before the Agency commences a rulemaking proceeding under this section, OSHA will so notify the applicant and afford the applicant the opportunity to submit the supplemental information.

Initiation of a rulemaking proceeding will be deferred until OSHA has received and evaluated the supplemental information.

[63 FR 20098, April 23, 1998; 69 FR 46993, August 4, 2004]

RESPIRATORY PROTECTION REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

USER SEAL CHECK PROCEDURES (MANDATORY) – 1910.134 App B-1

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title Occupational Safety and Health Standards
- Subpart I
- Subpart Title Personal Protective Equipment
- Standard Number 1910.134 App B-1
- Title User Seal Check Procedures (Mandatory)

Appendix B-1 to § 1910.134: User Seal Check Procedures (Mandatory) The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks

A. *Positive pressure check.* Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. *Negative pressure check.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

[63 FR 1152, Jan. 8, 1998]

RESPIRATORY PROTECTION REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

RESPIRATOR CLEANING PROCEDURES (MANDATORY) – 1910.134 App B-2

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title Occupational Safety and Health Standards
- Subpart I
- Subpart Title Personal Protective Equipment
- Standard Number 1910.134 App B-2
- Title Respirator Cleaning Procedures (Mandatory)

Appendix B-2 to § 1910.134: Respirator Cleaning Procedures (Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B- 2. Equivalent effectiveness simply means that the

procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

I. Procedures for Cleaning Respirators

A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,

2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,

3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

[63 FR 1152, Jan. 8, 1998]

RESPIRATORY PROTECTION REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (MANDATORY) – 1910.134 App C

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title: Occupational Safety and Health Standards
- Subpart: I
- Subpart Title: Personal Protective Equipment
- Standard Number: 1910.134 App C
- Title: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

Appendix C to Sec. 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex (circle one): Male/Female
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
 - a. _____ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
 - b. _____ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s): _____

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you **currently** smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you **ever had** any of the following conditions?
 - a. Seizures (fits): Yes/No
 - b. Diabetes (sugar disease): Yes/No
 - c. Allergic reactions that interfere with your breathing: Yes/No
 - d. Claustrophobia (fear of closed-in places): Yes/No
 - e. Trouble smelling odors: Yes/No
3. Have you **ever had** any of the following pulmonary or lung problems?
 - a. Asbestosis: Yes/No
 - b. Asthma: Yes/No
 - c. Chronic bronchitis: Yes/No
 - d. Emphysema: Yes/No
 - e. Pneumonia: Yes/No
 - f. Tuberculosis: Yes/No

- g. Silicosis: Yes/No
- h. Pneumothorax (collapsed lung): Yes/No
- i. Lung cancer: Yes/No
- j. Broken ribs: Yes/No
- k. Any chest injuries or surgeries: Yes/No
- l. Any other lung problem that you've been told about: Yes/No

4. Do you **currently** have any of the following symptoms of pulmonary or lung illness?

- a. Shortness of breath: Yes/No
- b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
- c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
- d. Have to stop for breath when walking at your own pace on level ground: Yes/No
- e. Shortness of breath when washing or dressing yourself: Yes/No
- f. Shortness of breath that interferes with your job: Yes/No
- g. Coughing that produces phlegm (thick sputum): Yes/No
- h. Coughing that wakes you early in the morning: Yes/No
- i. Coughing that occurs mostly when you are lying down: Yes/No
- j. Coughing up blood in the last month: Yes/No
- k. Wheezing: Yes/No
- l. Wheezing that interferes with your job: Yes/No
- m. Chest pain when you breathe deeply: Yes/No
- n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you **ever had** any of the following cardiovascular or heart problems?

- a. Heart attack: Yes/No
- b. Stroke: Yes/No
- c. Angina: Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Heart arrhythmia (heart beating irregularly): Yes/No
- g. High blood pressure: Yes/No
- h. Any other heart problem that you've been told about: Yes/No

6. Have you **ever had** any of the following cardiovascular or heart symptoms?

- a. Frequent pain or tightness in your chest: Yes/No
- b. Pain or tightness in your chest during physical activity: Yes/No
- c. Pain or tightness in your chest that interferes with your job: Yes/No
- d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
- e. Heartburn or indigestion that is not related to eating: Yes/ No
- f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you **currently** take medication for any of the following problems?

- a. Breathing or lung problems: Yes/No
- b. Heart trouble: Yes/No
- c. Blood pressure: Yes/No
- d. Seizures (fits): Yes/No

8. If you've used a respirator, have you **ever had** any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)

- a. Eye irritation: Yes/No
- b. Skin allergies or rashes: Yes/No
- c. Anxiety: Yes/No
- d. General weakness or fatigue: Yes/No
- e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or

a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you **ever lost** vision in either eye (temporarily or permanently): Yes/No

11. Do you **currently** have any of the following vision problems?

- a. Wear contact lenses: Yes/No
- b. Wear glasses: Yes/No
- c. Color blind: Yes/No
- d. Any other eye or vision problem: Yes/No

12. Have you **ever had** an injury to your ears, including a broken ear drum: Yes/No

13. Do you **currently** have any of the following hearing problems?

- a. Difficulty hearing: Yes/No
- b. Wear a hearing aid: Yes/No
- c. Any other hearing or ear problem: Yes/No

14. Have you **ever had** a back injury: Yes/No

15. Do you **currently** have any of the following musculoskeletal problems?

- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
- b. Back pain: Yes/No
- c. Difficulty fully moving your arms and legs: Yes/No
- d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
- e. Difficulty fully moving your head up or down: Yes/No
- f. Difficulty fully moving your head side to side: Yes/No
- g. Difficulty bending at your knees: Yes/No
- h. Difficulty squatting to the ground: Yes/No
- i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
- j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them:

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

- a. Asbestos: Yes/No
- b. Silica (**e.g.**, in sandblasting): Yes/No
- c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
- d. Beryllium: Yes/No
- e. Aluminum: Yes/No
- f. Coal (for example, mining): Yes/No
- g. Iron: Yes/No

- h. Tin: Yes/No
- i. Dusty environments: Yes/No
- j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: _____

4. List any second jobs or side businesses you have: _____

5. List your previous occupations: _____

6. List your current and previous hobbies: _____

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: _____

10. Will you be using any of the following items with your respirator(s)?

- a. HEPA Filters: Yes/No
- b. Canisters (for example, gas masks): Yes/No
- c. Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

- a. Escape only (no rescue): Yes/No
- b. Emergency rescue only: Yes/No
- c. Less than 5 hours **per week**: Yes/No
- d. Less than 2 hours **per day**: Yes/No
- e. 2 to 4 hours per day: Yes/No
- f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

- a. **Light** (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____hours . _____minutes.

Examples of a light work effort are **sitting** while writing, typing, drafting, or performing light assembly work; or **standing** while operating a drill press (1-3 lbs.) or controlling machines.

- b. **Moderate** (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____hours . _____minutes.

Examples of moderate work effort are **sitting** while nailing or filing; **driving** a truck or bus in urban traffic; **standing** while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; **walking** on a level

surface about 2 mph or down a 5-degree grade about 3 mph; or **pushing** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. **Heavy** (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____ hours . _____ minutes.

Examples of heavy work are **lifting** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; **shoveling**; **standing** while bricklaying or chipping castings; **walking** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: _____

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): _____

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you'll be exposed to while using your respirator: _____

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): _____

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

RESPIRATORY PROTECTION REGULATORY STANDARD AND APPENDICES (29 CFR 1910.134)

INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED UNDER STANDARD (MANDATORY) – 1910.134 App D

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title: Occupational Safety and Health Standards
- Subpart: I
- Subpart Title: Personal Protective Equipment
- Standard Number: 1910.134 App D
- Title: Information for Employees Using Respirators When Not Required Under Standard (Mandatory)

Appendix D to Sec. 1910.134 Information for Employees Using Respirators When Not Required Under the Standard (Mandatory)

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

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Respiratory Protection WRITTEN Program

(Insert Company Name)

Respirator Program Administrator _____

(insert name or title)

The Respirator Program Administrator's duties are to oversee the development of the respiratory program and, make sure it is carried out at the workplace. The administrator will also evaluate the program regularly to make sure procedures are followed, respirator use is monitored and respirators continue to provide adequate protection when job conditions change.

Scope

This Respiratory Protection Program applies to all employees *who are required* to wear respirators during normal work operations, and during non-routine or emergency operations, as required.

In addition, any employee who *voluntarily* wears a respirator in an area of the facility where respiratory protection is not required is subject to the medical evaluation, cleaning, maintenance, and storage elements of this program. Employees who voluntarily choose to wear a respirator will be provided a copy of Appendix D to 29 CFR 1910.134, included in the Safety Manual.

Selection of Respirators

We have evaluated our use of contaminants at this facility and found respirators must be used by employees in the following designated areas of the facility:

Department or Process	Respirator Type (1/2 face, full face, supplied air, etc.)

Where the use of half or full face-piece cartridge respirators are used, or where either SCBA or supplied-air type respiratory protection is used, the selection of the type, size and cartridges used by each employee will be documented. This written material will be maintained on the ***Respirator Selection and Fit Test Record*** located:

- ☐ In this Safety Manual
- ☐ At the following location: _____

Respirators are required based on the following information:

- ☐ Review of SDS
- ☐ Air monitoring results
- ☐ Advice of manufacturer or supplier
- ☐ Other _____

Medical Evaluations (required and voluntary use)

Every employee of this company who wears a respirator (*required or voluntary*) will be provided a medical evaluation before they are allowed to use the respirator.

A **medical questionnaire** is provided to applicable employees. Employees are required to complete the questionnaire in private. Non-readers or non-English-reading employees will be assisted by the Respirator Program Administrator. Completed questionnaires are confidential and will be sent directly to the following medical provider without review by management:

Medical Provider: _____

The Medical Provider conducts respirator evaluations for all applicable employees. A *respiratory evaluation or examination* may be provided at the discretion of the physician or medical provider.

The company will receive a written recommendation from the Medical Provider on whether or not the employee is medically able to wear a respirator.

Additional medical evaluations will be completed in the following situations:

- The Medical Provider recommends it
- The Respirator Program Administrator decides it is needed
- An employee shows signs of breathing difficulty
- Changes in work conditions that increase employee physical stress (such as high temperatures or greater physical exertion)

Respirator Fit-testing (required use)

Employees *required* to wear a respirator will be fit tested:

- Prior to being allowed to wear any respirator
- Annually
- When a different respirator facepiece is selected
- When there are changes in the employee's physical condition that could affect respiratory fit

Fit-testing is completed using one or more of the OSHA recommended fit-testing protocols. Respirators will be checked for proper sealing by the user whenever the respirator is first placed on, using the required seal check procedure, as outlined in the safety manual.

Fit-Testing records are located:

- ☐ In the safety manual
- ☐ At the following location: _____

Respirator Cleaning, Storage, Maintenance and Repair (required and voluntary use)

Cleaning

Respirators will be cleaned and disinfected according the manufacturer's instructions and according to the schedule specified in the ***Respirator Cleaning and Inspection Record located:***

- ☐ In the safety manual
- ☐ At the following location: _____

Storage

Cleaned respirators will be placed in a plastic bag and stored in a designated storage area within the facility. Respirators issued for the exclusive use of an employee shall be cleaned and placed in a bag marked with the employee name, as applicable. The storage area will be a designated clean, dry place such as a storage cabinet, locker or closet.

Maintenance and Repair

Cartridge respirators (half or full face-piece) will be inspected for damage, deterioration or improper functioning before and after every use and during cleaning. Defective parts shall be taken out of service immediately and repaired or replaced prior to use. Repairs and adjustments will be completed according to the manufacturer's instructions.

Vapor or gas cartridges will be regularly replaced, at the frequency required by the manufacturer and as documented in the ***Respirator Filter Change-Out Schedule*** located:

- ☐ In the safety manual
- ☐ At the following location: _____

Supplied air respirators will be checked by the user before each use for proper functioning of regulator and warning devices and amount of air in tanks where used. Repairs and adjustments shall be completed by the manufacturer or supplier, as appropriate.

If applicable, emergency respirators and self-contained tank-type supplied air respirators in storage will be inspected monthly or in accordance with manufacturer's instructions.

Respirator Use (required use)

Routine Use

Employees will not be allowed to wear tight-fitting respirators if they have facial hair, absence of normally worn dentures, facial deformities (e.g., scars, deep skin creases, prominent cheekbones), or other facial features that interfere with the facepiece seal or valve function. Employees are not permitted to wear headphones, corrective glasses, jewelry, headgear, or other personal protective equipment that may interfere with the seal of the facepiece to the face.

Employees shall conduct a user *seal check* each time they wear a respirator before use and document they understand this requirement. Copies of the ***Respirator Seal Check Procedure*** signed by each employee required to wear a respirator are located:

- ☐ In the safety manual
- ☐ At the following location: _____

The Program Administrator will make sure that the NIOSH labels and color-coding on respirator filters and cartridges remain readable and intact during use. The Program Administrator will monitor the work areas in order to be aware of changing conditions where employees are using respirators. For offsite locations, job site supervisors will monitor the work areas in order to be aware of changing conditions where employees are using respirators.

Emergency Situations

Employees will immediately leave the area where respirators are required for any of the following reasons:

- To replace filters or cartridges
- When they smell or taste a chemical inside the respirator
- When they notice a change in breathing resistance
- To adjust their respirator
- To wash their faces or respirator
- If they become ill
- If they experience dizziness, nausea, weakness, breathing difficulty, coughing, sneezing vomiting, fever or chills

IDLH Procedures

The Program Administrator has identified the following areas or job duties as presenting the potential for immediately dangerous to life or health (IDLH) conditions:

- ☐ Not Applicable
- ☐ At the following area(s): _____

Where any area or confined space is designated as IDLH, a minimum of one confined space attendant will be present outside the area. The attendants will remain in constant visual, voice or signal line communication with the employee(s) in the IDLH area. In the event of an emergency, the attendants will not enter the IDLH atmosphere to perform rescue or medical duties. However, the attendants will immediately notify the following appropriate responders:

- ☐ Additional onsite personnel trained in effective emergency rescue, equipped with pressure-demand self-contained breathing apparatus (SCBAs), and available on-call for emergency rescue.
- ☐ Offsite emergency responders will be utilized for emergency rescue or medical duties. Such response agencies will be informed of the IDLH entry prior to the start of the job or task.

Breathing Air Quality for Supplied Air Respirators (if used)

Only Grade D breathing air will be supplied to compressed air tanks for respirators using the following method(s):

- ☐ Not Applicable
- ☐ Compressors used for breathing air supply are non-oil lubricated and the air intake is located in an uncontaminated area. The brand name of our air compressor(s) and the location for the job or area is _____.
- ☐ Compressors are equipped with filters, water traps and sorbents to provide clean, safe air. They are maintained by _____. Maintenance records are located at _____.

- Oil-lubricated compressor(s) used for breathing air. These compressor(s) are equipped with carbon-monoxide alarms, high-temperature alarms or both. The compressors are located _____.
- For compressors without carbon monoxide alarms, monitoring is performed at the following intervals _____ by the Program Administrator or other persons appropriately trained in monitoring.
- Airline respirators are equipped with air couplings that are not compatible with couplings to non-respirable air (plant air for example) or other gas systems. If used, air cylinders for supplied air respirators are inspected and tested according to federal DOT regulations.
- Other (describe) _____

Respirator Training (required use)

All employees required to wear a respirator will complete Respirator Safety Training before conducting job tasks requiring the use of a respirator. Training will be completed annually thereafter as long as they wear respirators. Additional training will also be completed when:

- Changes in the workplace or the type of respirator render previous training obsolete.
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained respirator use understanding or skill. or
- Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Training will cover the following topics:

- Why the respirator is necessary
- Respirator capabilities and limitations
- Respirator inspection, donning, seal check, and use
- Fit Testing
- Maintenance and storage
- How to use a respirator in an emergency situation or when it fails
- Medical symptoms that may limit or prevent respirator use

Respiratory Program Evaluation

The respiratory program is evaluated for effectiveness by completing the following steps:

1. Checking results of fit-test results and health provider evaluations.
2. Talking with employees who wear respirators about their respirators – how they fit, do they feel they are adequately protecting them, do they notice any difficulties in breathing while wearing them, do they notice any odors while wearing them, etc.
3. Periodically checking employee job duties for changes in chemical exposure.
4. Periodically checking maintenance and storage of respirators.
5. Periodically checking how employees use their respirators.
6. Other _____

Recordkeeping

Medical records will be kept confidential from other records.

The following records will be kept:

- A copy of this completed respirator program
- Employees' latest fit-testing results
- Employee training records
- Written recommendations from our medical provider

The records will be kept at the following location: _____

Employees will have access to these records.

TRAINING ATTENDANCE ROSTER RESPIRATORY PROTECTION

GENERAL Respirator Training Includes:

- Hazard and Exposure Assessment
- Sampling
- Types of Equipment
- Assigned Protection Factors
- Medical Requirements
- Fit Testing
- Maintenance and Care

Air Purifying (half/full face mask) Respirator Training Includes:

- When required
- Equipment Use
- How they work
- Types of cartridges
- Protection factors
- Medical Evaluations and Fit tests
- Maintenance and Storage

Supplied Air Line and SCBA Respirator Training Includes:

- Hazard and Exposure Assessment
- Where and When To Use
- Oxygen Deficiency and IDLH
- Types of Equipment
- Air Quality and Compressors
- Medical Requirements and Fit Testing
- Maintenance and Care

Filtering Face Piece (Dust Mask) Respirator Training Includes:

- Limitations of use
- How to wear
- Types of masks
- Evaluations
- Fit
- Maintenance and Storage

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

SAFE DRIVING AND VEHICLE/FLEET SAFETY PROGRAM

REGULATORY STANDARD: OSHA General Duty Clause

INTRODUCTION: Company owned or leased vehicles must be maintained in proper condition, and drivers appropriately licensed to operate the type of vehicle. This program outlines the basic inspection techniques for using a company owned or leased vehicle. This program also outlines the basic safety requirements for operating both company owned and leased vehicles and for personal vehicles used for company business purposes.

TRAINING:

- Appropriate driver's licenses for the type of vehicle are required.
- Basic driver safety is recommended for employees who use vehicles for company business.

ACTIVITIES:

- Inspect vehicles prior to operation

FORMS:

- Safe Driving Vehicle Inspection
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Safe Driving and Fleet and Vehicle Management Safety Program

- 1. Purpose.** This program outlines the recommendations for managing and inspecting automobiles and trucks used by company employees for business reasons.
- 2. Scope.** This program applies to vehicles owned or leased by the company and to employee owned vehicles used for company business.

3. Responsibilities.

3.1 Management:

- 3.1.1 Ensure drivers are licensed and certified for the type of vehicle driven, without restrictions on their licenses.
 - 3.1.1.1 Where MVR reports are required annually or for pre-employment, ensure an adequate process to obtain and confidentially maintain this information is in place.
- 3.1.2 Ensure any vehicles are properly inspected, registered and maintained.
- 3.1.3 Ensure seat belts, safety chains for snow and other equipment is available and functional, as needed or required.
- 3.1.4 Ensure vehicle insurance is in place for any owned or leased vehicles.
- 3.1.5 Revoke the driving privileges for employees driving company owned or leased vehicles where the driving record or ability of the employee may be in question.

3.2 Employees or Drivers:

- 3.2.1 Ensure your driver's license is current
- 3.2.2 Ensure your driver's license is the appropriate type for the vehicle being used.
- 3.2.3 Inspect vehicles before driving.
- 3.2.4 Ensure you are capable of driving safely (physical, emotional and mental health)

3.3 Safety Officer:

- 3.3.1 Assist in the development and implementation of the written program, as needed.

4. Procedure.

4.1 General Requirements:

- 4.1.1 Only authorized personnel may drive company vehicles.
- 4.1.2 Driving while under the influence of alcohol, inhalants or illegal drugs, or after taking any medications that may impair your driving ability is prohibited.
- 4.1.3 Drivers must obey all traffic signals and devices, and obey traffic laws at all times.
- 4.1.4 Seatbelts must be worn at all times while the vehicle is in motion.
- 4.1.5 Only company authorized persons may ride as a passenger in a company owned or leased vehicle, based on company policy.
- 4.1.6 Drivers may only use “hands-free” style phone systems when the vehicle is in motion, based on state requirements.
- 4.2 Break Downs Involving Company Vehicles:
 - 4.2.1 Drivers must notify the company as soon as possible after any accident or incident with a company vehicle, regardless of how minor the incident may have been.
 - 4.2.2 Contact your supervisor or manager immediately for assistance obtaining towing or repair.
 - 4.2.3 If the company subscribes to a vehicle service agency (like AAA or other road-service provider), follow the established procedure for contacting that agency.
- 4.3 Vehicular Accidents. In the event of an accident, remain calm. Our first priority is the health and safety of our employees. Employees involved in a work-related vehicular accident must:
 - 4.3.1.1 Contact the appropriate local law enforcement agency. Even if the incident is minor, a police report is required for all vehicular accidents involving a company owned vehicle or for those occurring while the employee is performing company business.
 - 4.3.1.2 Notify company management or Supervisors as soon as possible.
 - 4.3.1.3 If possible, leave vehicles in their positions until the police arrive.
 - 4.3.1.4 Do not discuss the accident with others involved. Share your observations only with the police.
 - 4.3.1.5 Exchange, if possible, the following information with all other drivers involved:

- 4.3.1.5.1 The driver's name
- 4.3.1.5.2 The names of all other passengers (per involved vehicle)
- 4.3.1.5.3 The driver's/auto insurance information
- 4.3.1.5.4 The other vehicle information: make, model, year, color, and license plate number
- 4.3.1.5.5 The name of the driver's employer if the driver was traveling for business
- 4.3.1.6 If property damage occurred to a vehicle of an unknown owner (e.g. a parked car) or other property (e.g. a fence), do NOT leave the scene until a full police report is completed.

5. Safety Information.

5.1 Notification of Driver Suspension, Accidents or similar issues

- 5.1.1 Employees must notify their supervisor or manager within 24 hours of any citation of traffic or driving violation, if the violation occurred while using a company vehicle.
- 5.1.2 Employees who may be expected to drive for company business must notify their supervisor or manager if their license is suspended, revoked or restricted for any reason.

5.2 Companies will maintain owned or leased vehicles in a safe manner.

- 5.2.1 Employees who find defects or repair needs with any company vehicle must notify their supervisor or manager immediately.
- 5.2.2 Employees may not drive company vehicles that are in an unsafe condition.

5.3 Pre-Driving Inspection:

- 5.3.1 Tire condition and, if necessary, pressure
- 5.3.2 Spare tire available
- 5.3.3 Lights and turn signals operational
- 5.3.4 Windshield wipers functional
- 5.3.5 Windshield intact (no cracks or breaks)

- 5.3.6 Defroster operational
- 5.3.7 Oil and fluids (windshield cleaner, transmission, brake fluid) present at required levels.
- 5.3.8 Brakes functional
- 5.3.9 Mirrors are present, properly adjusted and clean.
- 5.3.10 Vehicle loads are secure
- 5.3.11 Emergency materials and equipment (fire extinguishers, accident reporting kit, vehicle registration, etc.) are present, as needed.
- 5.3.12 General vehicle condition is appropriate. Scrapes, scratches, dents or other damage should be reported before taking the vehicle on the road.

6. Training and Information.

- 6.1 It is recommended that employees undergo defensive driving or general safe driving training when they are required to operate company owned or leased vehicles.

7. Definitions.

- *Driving Responsibilities* – An employee who drives a vehicle (company owned or leased, or a personal vehicle) for company business purposes.
- *Vehicle* – a company owned or leased automobile, truck or motorcycle which requires a valid driver's license to operate on public roadways.

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SAFE DRIVING VEHICLE INSPECTION CHECKLIST		
ITEM	YES	NO
Tires are in good condition (tread, pressure)		
Spare tire is accessible		
Head-lights operational (regular and high beams)		
Turn signals operational		
Windshield wipers operational		
Washer fluid available		
Windshield intact (no cracks or breaks)		
Defroster operational, as needed		
Oil and fluid levels (brake, transmission, oil) present at required levels		
Brake lights function		
Mirrors (side and rearview) present and in good condition		
Mirrors adjusted for driver		
Vehicle loads and any storage of materials are secure		
Fire extinguishers are present, as needed		
Vehicle registration is available		
Accident reporting information is available		
Vehicle is in generally good condition.		
Note any dents, scratches or other damage issues present:		
Checklist completed by:		
Date:		Time of Day:

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TRAINING ATTENDANCE ROSTER									
SAFE DRIVING - BASIC AWARENESS									

Safe Driving Training Includes:

- ***The 3 Factors of Safe Driving***
- ***The 6 Conditions of Driving***
- ***The 5 Steps to Decision Driving***
- ***Passing and Collision Prevention***
- ***Right of Way***
- ***Stopping Distance and Types of Stopping***
- ***Tailgating***
- ***Driving Attitude***

- Safe Driving Training Includes:***
- ***The 3 Factors of Safe Driving***
 - ***The 6 Conditions of Driving***
 - ***The 5 Steps to Decision Driving***
 - ***Passing and Collision Prevention***
 - ***Right of Way***
 - ***Stopping Distance and Types of Stopping***
 - ***Tailgating***
 - ***Driving Attitude***

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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COMPANY SPECIFIC CORRECTIVE ACTIONS

DATE:	ASSESSOR:	DEPT OR AREA:	SUBMITTED TO:
<u>CONDITION</u>	<u>COMPLIANT</u>	<u>CORRECTED BY</u>	<u>COMPLETION DATE</u>
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
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	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<input type="checkbox"/> Yes <input type="checkbox"/> No		

TRAINING ATTENDANCE ROSTER

TRAINING TOPIC:

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

Name of Interpreter, if utilized: _____

CONSTRUCTION SAFETY CHECKLIST

Completed by:

Date:

ITEM	COMPLIANT?
Jobsite General	
Is an injury prevention program established for construction worksites?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Regular inspections by a designated competent person of the worksite, materials, and equipment are performed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Posters and safety signs/warnings?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Safety meetings held periodically?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Job related safety training completed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Accident reporting procedure established?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Traffic routes identified?	<input type="checkbox"/> YES <input type="checkbox"/> NO
In areas where harmful plants or animals may be present, have employees been instructed regarding the hazards, how to avoid injury, and first aid procedures to be used in the event of injury?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are only qualified employees (by training or experience) permitted to operate machinery?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Barricades	
Floor openings planked over or barricaded?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Roadways and sidewalks protected?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Barricades or covers installed (shafts, wall openings, stairways, stairwells, trenches, outriggers, etc.)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Chemicals	
Is there a list of all chemicals used available?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are Safety Data Sheets (SDS) available for every chemical?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Waste-chemical and waste-solvent containers are closed and clearly labeled?	<input type="checkbox"/> YES <input type="checkbox"/> NO
All containers of chemicals are clearly labeled with the name of the chemical, appropriate hazard warning, and name of manufacturer?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are all containers free of rust and corrosion?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees who use chemicals trained on the Hazard Communication standard?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is a Written Hazard Communication Program completed?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Chemicals - Flammables	
Are flammable liquids properly stored, in approved containers and correctly labeled?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Empty containers removed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Storage tanks properly grounded, bonded & pressure relief provided?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Compressed Gas	
Are cylinders legibly marked to clearly identify the gas contained?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Compressed gas cylinders not in use have caps in place?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Compressed gas cylinders stored secured and upright?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Oxygen/acetylene torch units have flash back arrestors?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Construction Area - Secured Access/After Hours	
Warning signs in place?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Open ditches protected?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Drop-offs protected?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Ladders lowered?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Loose materials secure from wind	<input type="checkbox"/> YES <input type="checkbox"/> NO
Hazard lights utilized?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Equipment secured?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Utility ditches flagged or barricaded?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Cranes/Hoist/Lifting Equipment	
Are annual inspections completed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are operators properly tested and physical exams current?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are daily inspections completed by operators?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Outriggers used?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Power lines deactivated, removed, or warning signs posted warning of at least 10 foot clearance from overhead power lines (voltages 50,000 volts or below)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Proper loading for capacity at lifting radius?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Operation in accordance with manufacturer's instruction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Signalmen where needed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Alarms working and audible?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Electrical Equipment	
Electrical equipment properly maintained?	<input type="checkbox"/> YES <input type="checkbox"/> NO
GFCI's used for all portable electrical hand tools?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Extension cords rated for hard or extra hard usage? (2 wire ribbon cord is unacceptable for industrial usage)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Electrical panels are labeled appropriately?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Electrical panel knockouts are in place?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Light bulbs for illumination protected from breakage?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Strain relief integrity for cords and plugs intact?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Electrical cords inspected & have all prongs intact?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Portable generators are grounded per NEC requirements?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Electric power tools are double insulated or grounded?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Lockout/Tagout is being used for appropriate tasks?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Emergency Items	
Emergency evacuation map posted near work area?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Emergency phone numbers posted and known by all?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Emergency eyewash and/or shower units accessible? (if required)	<input type="checkbox"/> YES <input type="checkbox"/> NO
First aid kit available at work site?	<input type="checkbox"/> YES <input type="checkbox"/> NO
First aid trained competent person available?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire extinguishers readily available (not blocked)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire extinguishers inspected monthly/yearly as needed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Excavations	
Are holes, trenches, and cuts over 5 feet deep shored, sloped or trench boxes used?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Operation supervised by competent person?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Spoil banks at least 2 feet from edges of cut?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Ladders placed to ensure no greater than 25 feet of lateral travel by worker?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Ladder properly secured?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Excavation barricaded and lighting provided?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are daily inspections completed by a competent person?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Fall Protection	
Fall protection in place above 6 feet in height?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Full body harness and lanyard used at all times?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Hand / Power Tools	
Employees are trained in proper tool use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Inspections and proper maintenance accomplished prior to use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Neatly stored, safely carried?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Tools grounded properly or double insulated?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are power tools used with the correct shield, guard or attachment, recommended by the manufacturer?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Damaged or malfunctioning tools tagged out until repaired or replaced?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Pneumatic power tools have hoses secured?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Handling and Storage of Materials	
Materials properly stored or stacked?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is material stored inside buildings placed more than 6 feet away from any hoist-way or inside floor openings, or more than 10 feet away from an exterior wall?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are brick stacks limited to 7 feet in height? Note: When a loose brick stack reaches a height of 4 feet, it must be tapered back 2 inches on every foot of height above the 4 foot level.	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are all lumber piles 20 feet or less in height? Note: lumber piles to be handled manually stacked a height of 16 feet or less	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are shelves, racks, and overhead storage load rated?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are passageways clear?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Materials protected from weather?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees protected from falling into hoppers and bins?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is dust protection used?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Housekeeping and Sanitation	
General neatness of work area(s)? Nails, boards, debris removed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Regular disposal of waste and trash?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Procedures to handle hazardous waste?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Passageways and walkways clear?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Adequate lighting?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Waste containers provided and used?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Sanitary facilities adequate and clean?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is an adequate supply of drinking water at or near the worksite?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Personal Protective Equipment (PPE)	
Protective equipment adequate for exposure?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Employees are issued and using PPE where needed? Safety glasses Face shield Hand protection Foot protection Hearing protection Hard hats Respirators	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is all protective equipment maintained in a sanitary condition and ready for use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees trained on how to use PPE?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is the Certification of Hazard Assessment form completed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Portable Ladders	
Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached and moveable parts operating freely without binding or undue play?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Do employees inspect ladders before use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are ladder rungs and steps free of grease and oil?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is it prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is it prohibited to place ladders on boxes, barrels or other unstable bases to obtain additional height?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees instructed to face the ladder when ascending or descending?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees prohibited from using ladders that are broken, missing steps, rungs or cleats, broken side rails or other faulty equipment?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees instructed not to use the top step of ordinary stepladders as a step?	<input type="checkbox"/> YES <input type="checkbox"/> NO
When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder extend at least 3 feet above the elevated surface?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, or it is lashed or otherwise held in place?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Respiratory Protection	
If employees are required to wear a respirator, have the employees received medical clearance to wear a respirator?	<input type="checkbox"/> YES <input type="checkbox"/> NO

If employees are required to wear a respirator, have they been fit tested to wear a specific make/model/size of respirator?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees trained on the Respiratory Protection standard including instructions on the correct usage and limitations of the respirators? Annually?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are respirators regularly inspected and cleaned, sanitized and maintained?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is there a written respiratory protection program?	<input type="checkbox"/> YES <input type="checkbox"/> NO
If applicable, is there a written respirator filter change-out schedule?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Where needed for emergency use, are respirators stored in a convenient, clean, and sanitary location?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Scaffolding	
Erection properly supervised?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are scaffolds erected on solid footing?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are working areas free of dirt, debris, snow, ice, grease, etc.?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are workers protected from falling objects?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are guard rails, intermediate rails, and toeboards in place?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Welding	
Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are precautions taken to prevent the mixture of air or oxygen with flammable gasses, except at a burner or in a standard torch?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are cylinders kept away from sources of heat?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is open circuit (no load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is grounding of the machine frame and safety ground connections of portable machines checked periodically?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are electrodes removed from the holders when not in use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is it required that electric power to the welder be shut off when no one is in attendance?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is suitable fire extinguishing equipment available for immediate use?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are work and electrode lead cables frequently inspected for wear and damage and replaced when needed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks and slag?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are fire watchers assigned when welding or cutting is performed outside a designated area?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are combustible floors kept wet, covered by damp sand or protected by fire-resistant shields?	<input type="checkbox"/> YES <input type="checkbox"/> NO
When floors are wet down, are personnel protected from possible electrical shock?	<input type="checkbox"/> YES <input type="checkbox"/> NO

Before hot work is begun, are used drums, barrels, tanks and other containers so thoroughly cleaned that no substances remain that could explode, ignite or produce toxic vapors?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are employees exposed to the hazards created by welding, cutting or brazing operations protected with personal protective equipment and clothing?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is a check made for adequate ventilation in and where welding or cutting is performed?	<input type="checkbox"/> YES <input type="checkbox"/> NO

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OSHA Compliance Self-Inspection Checklist

Checklist Completed by:

Date:

ABRASIVE WHEEL EQUIPMENT - GRINDERS

- ☐ Is the work rest used and kept adjusted to within 1/8 inch of the wheel?
- ☐ Is the adjustable tongue on the top side of the grinder used and kept adjusted to within 1/4 inch of the wheel?
- ☐ Do side guards cover the spindle, nut and flange and 75 percent of the wheel diameter?
- ☐ Are bench and pedestal grinders permanently mounted?
- ☐ Are goggles or face shields always worn when grinding?
- ☐ Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?
- ☐ Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method?
- ☐ Does each grinder have an individual on and off control switch?
- ☐ Is each electrically operated grinder effectively grounded?
- ☐ Before new abrasive wheels are mounted, are they visually inspected and ring tested?
- ☐ Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?
- ☐ Are splash guards mounted on grinders that use coolant to prevent the coolant reaching employees?
- ☐ Is cleanliness maintained around grinders?

OSHA Compliance Self-Inspection Check List

COMPRESSORS AND COMPRESSED AIR

- ☐ Are compressors equipped with pressure relief valves and pressure gauges?
- ☐ Are compressor air intakes installed and equipped so as to ensure that only clean uncontaminated air enters the compressor?
- ☐ Are air filters installed on the compressor intake?
- ☐ Are compressors operated and lubricated in accordance with the manufacturer's recommendations?
- ☐ Are safety devices on compressed air systems checked frequently?
- ☐ Before any repair work is done on the pressure system of a compressor, is the pressure bled off and the system locked-out?
- ☐ Are signs posted to warn of the automatic starting feature of the compressors?
- ☐ Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?
- ☐ Is it strictly prohibited to direct compressed air towards a person?
- ☐ Are employees prohibited from using highly compressed air for cleaning purposes?
- ☐ If compressed air is used for cleaning off clothing, is the pressure reduced to less than 10 psi?
- ☐ When using compressed air for cleaning, do employees wear protective chip guarding and personal protective equipment?
- ☐ Are safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard?
- ☐ Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked?
- ☐ When compressed air is used with abrasive blast cleaning equipment, is the operating valve a type that must be held open manually?
- ☐ When compressed air is used to inflate auto tires, is a clip-on chuck and an inline regulator preset to 40 psi required?
- ☐ Is it prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard?

OSHA Compliance Self-Inspection Check List

COMPRESSOR AIR RECEIVERS

- ☐ Is every receiver equipped with a pressure gauge and with one or more automatic, spring-loaded safety valves?
- ☐ Is the total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent?
- ☐ Is every air receiver provided with a drain pipe and valve at the lowest point for the removal of accumulated oil and water?
- ☐ Are compressed air receivers periodically drained of moisture and oil?
- ☐ Are all safety valves tested frequently and at regular intervals to determine whether they are in good operating condition?
- ☐ Is there a current operating permit used by the Division of Occupational Safety and Health?
- ☐ Is the inlet of air receivers and piping systems kept free of accumulated oil and carbonaceous materials?

OSHA Compliance Self-Inspection Check List

COMPRESSED GAS CYLINDERS

- ☐ Are cylinders with a water weight capacity over 30 pounds, equipped with means for connecting a valve protector device, or with a collar or recess to protect the valve?
- ☐ Are cylinders legibly marked to clearly identify the gas contained?
- ☐ Are compressed gas cylinders stored in areas which are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs or high temperature lines?
- ☐ Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or subjects to tampering by unauthorized persons?
- ☐ Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling?
- ☐ Are cylinders containing liquefied fuel gas, stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder?
- ☐ Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?
- ☐ Are all valves closed off before a cylinder is moved, when the cylinder is empty and at the completion of each job?
- ☐ Are low pressure fuel-gas cylinders checked periodically for corrosion, general distortion, cracks or any other defect that might indicate a weakness or render it unfit for service?
- ☐ Does the periodic check of low pressure fuel-gas cylinders include a close inspection of the cylinders' bottom?

OSHA Compliance Self-Inspection Check List

ELECTRICAL

- ☐ Do you specify compliance with OSHA for all contract electrical work?
- ☐ Are all employees required to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment or lines?
- ☐ Are employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines?
- ☐ When electrical equipment or lines are to be serviced, maintained or adjusted, are necessary switches opened, locked-out and tagged whenever possible?
- ☐ Are portable electrical tools and equipment grounded or of the double insulated type?
- ☐ Are electrical appliances such as vacuum cleaners, polishers, vending machines, etc. grounded?
- ☐ Do extension cords being used have a grounding conductor?
- ☐ Are multiple plug adapters prohibited?
- ☐ Are ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed?
- ☐ Are all temporary circuits protected by suitable disconnecting switches or plug connectors at the junction with permanent wiring?
- ☐ Do you have electrical installations in hazardous dust or vapor areas? If so, do they meet the National Electrical Code (NEC) for hazardous locations?
- ☐ Is exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?
- ☐ Are flexible cords and cables free of splices or taps?
- ☐ Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?
- ☐ Are all cord, cable and raceway connections intact and secure?
- ☐ In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?
- ☐ Is the location of electrical power lines and cables (over-head, underground, under-floor, other side of walls, etc.) determined before digging, drilling or similar work is begun?
- ☐ Are metal measuring tapes, ropes, hand-lines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors?

OSHA Compliance Self-Inspection Check List

ELECTRICAL (Page 2)

- ☐ Is the use of metal ladders prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors?
- ☐ Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?
- ☐ Are disconnecting means always opened before fuses are replaced?
- ☐ Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?
- ☐ Are all electrical raceways and enclosures securely fastened in place?
- ☐ Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?
- ☐ Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance?
- ☐ Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?
- ☐ Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates?
- ☐ Are disconnecting switches for electrical motors in excess of two horsepower, capable of opening the circuit when the motor is in a stalled condition, without exploding? (Switches must be horsepower rated equal to or in excess of the motor hp rating.)
- ☐ Is low voltage protection provided in the control device of motors driving machines or equipment which could cause probable injury from inadvertent starting?
- ☐ Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?
- ☐ Is each motor located within sight of its controller or the controller disconnecting means capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor?
- ☐ Is the controller for each motor in excess of two horsepower, rated in horsepower equal to or in excess of the rating of the motor it serves?
- ☐ Are employees who regularly work on or around energized electrical equipment or lines instructed in the cardio-pulmonary resuscitation (CPR) methods?
- ☐ Are employees prohibited from working alone on energized lines or equipment over 600 volts?

OSHA Compliance Self-Inspection Check List

ELEVATED SURFACES

- ☐ Are signs posted, when appropriate, showing the elevated surface load capacity?
- ☐ Are surfaces elevated more than 30 inches above the floor or ground provided with standard guardrails?
- ☐ Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe-boards?
- ☐ Is a permanent means of access and egress provided to elevated storage and work surfaces?
- ☐ Is required headroom provided where necessary?
- ☐ Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?
- ☐ Are dock boards or bridge plates used when transferring materials between docks and trucks or rail cars?

OSHA Compliance Self-Inspection Check List

EMPLOYER POSTING

- ☐ Is the required OSHA workplace poster displayed in a prominent location where all employees are likely to see it?
- ☐ Are emergency telephone numbers posted where they can be readily found in case of emergency?
- ☐ Where employees may be exposed to any toxic substances or harmful physical agents, has appropriate information concerning employee access to medical and exposure records and "Safety Data Sheets" been posted or otherwise made readily available to affected employees?
- ☐ Are signs concerning "Exiting from buildings," room capacities, floor loading, biohazards, exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?
- ☐ Is the Summary of Occupational Illnesses and injuries posted in the month of February?

OSHA Compliance Self-Inspection Check List

ENTERING CONFINED SPACES

- ☐ Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?
- ☐ Are all lines to a confined space, containing inert, toxic, flammable or corrosive materials valved off and blanked or disconnected and separated before entry?
- ☐ Is it required that all impellers, agitators or other moving equipment inside confined spaces be locked-out if they present a hazard?
- ☐ Is either natural or mechanical ventilation provided prior to confined space entry?
- ☐ Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?
- ☐ Is adequate illumination provided for the work to be performed in the confined space?
- ☐ Is the atmosphere inside the confined space frequently tested or continuously monitored during conduct of work?
- ☐ Is there an assigned safety standby employee outside of the confined space, when required, whose sole responsibility is to watch the work in progress, sound an alarm if necessary and render assistance?
- ☐ Is the standby employee appropriately trained and equipped to handle an emergency?
- ☐ Is the standby employee or other employees prohibited from entering the confined space without lifelines and respiratory equipment if there is any question as to the cause of an emergency?
- ☐ Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable?
- ☐ Is all portable electrical equipment required if the atmosphere inside the confined space cannot be made acceptable?
- ☐ Is all portable electrical equipment used inside confined spaces either grounded and insulated or equipped with ground fault protection?
- ☐ Before gas welding or burning is started in a confined space, are hoses checked for leaks, compressed gas bottles forbidden inside of the confined space, torches kept only outside of the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space?
- ☐ If employees will be using oxygen-consuming equipment such as salamanders, torches, furnaces, etc., in a confined space, is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume?
- ☐ Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?

OSHA Compliance Self-Inspection Check List

ENTERING CONFINED SPACES *(Page 2)*

- ☐ Is each confined space checked for decaying vegetation or animal matter which may produce methane?
- ☐ Is the confined space checked for possible industrial waste which could contain toxic properties?
- ☐ If the confined space is below the ground and near areas where motor vehicles will be operating, is it possible for vehicle exhaust or carbon monoxide to enter the space?

OSHA Compliance Self-Inspection Check List

ENVIRONMENTAL CONTROLS

- ☐ Are all work areas properly illuminated?
- ☐ Are employees instructed in proper first-aid and other emergency procedures?
- ☐ Are hazardous substances, blood and other potentially infectious materials identified, which may cause harm by inhalation, ingestion or skin absorption or contact?
- ☐ Are employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, caustics, etc.?
- ☐ Is employee exposure to chemicals in the workplace kept within acceptable levels?
- ☐ Can a less harmful method or produce be used?
- ☐ Is the work area's ventilation system appropriate for the work being performed?
Are spray painting operations done in spray rooms or booths equipped with an appropriate exhaust system?
- ☐ Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time or other means?
- ☐ Are welders and other workers nearby provided with flash shields during welding operations?
- ☐ If forklifts and other vehicles are used in buildings or other enclosed areas, are the carbon monoxide levels kept below maximum acceptable concentration?
- ☐ Has there been a determination that noise levels in the facilities are within acceptable levels?
- ☐ Are steps being taken to use engineering controls to reduce excessive noise levels?
- ☐ Are proper precautions being taken when handling asbestos and other fibrous materials?
- ☐ Are caution labels and signs used to warn of hazardous substances (e.g., asbestos) and biohazards (e.g., bloodborne pathogens?)
- ☐ Are wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials?
- ☐ Are engineering controls examined and maintained or replaced on a scheduled basis?
- ☐ Is vacuuming with appropriate equipment used whenever possible rather than blowing or sweeping dust?
- ☐ Are grinders, saws and other machines that produce respirable dusts vented to an industrial collector or central exhaust system?
- ☐ Are all local exhaust ventilation systems designed and operating properly such as air flow and volume necessary for the application, ducts not plugged or belts slipping?
- ☐ Is personal protective equipment provided, used and maintained wherever required?

OSHA Compliance Self-Inspection Check List

ENVIRONMENTAL CONTROLS *(Page 2)*

- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?
- ☐ Are restrooms and washrooms kept clean and sanitary?
- ☐ Is all water provided for drinking, washing and cooking potable?
- ☐ Are all outlets for water not suitable for drinking clearly identified?
- ☐ Are employees' physical capacities assessed before being assigned to jobs requiring heavy work?
- ☐ Are employees instructed in the proper manner of lifting heavy objects?
- ☐ Where heat is a problem, have all fixed work areas been provided with spot cooling or air conditioning?
- ☐ Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction?
- ☐ Are employees working on streets and roadways where they are exposed to the hazards of traffic, required to wear bright colored (traffic orange) warning vests?
- ☐ Are exhaust stacks and air intakes so located that contaminated air will not be re-circulated within a building or other enclosed area?
- ☐ Is equipment producing ultra-violet radiation properly shielded?
- ☐ Are universal precautions observed where occupational exposure to blood or other potentially infectious materials can occur and in all instances where differentiation of types of body fluids or potentially infectious materials is difficult or impossible?

OSHA Compliance Self-Inspection Check List

EXIT DOORS

- ☐ Are doors which are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct?
- ☐ Are windows which could be mistaken for exit doors, made inaccessible by means of barriers or railings?
- ☐ Are exit doors operable from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?
- ☐ Is a revolving, sliding or overhead door prohibited from serving as a required exit door?
- ☐ Where panic hardware is installed on a required exit door, will it allow the door to open by applying a force of 15 pounds or less in the direction of the exit traffic?
- ☐ Are doors on cold storage rooms provided with an inside release mechanism which will release the latch and open the door even if it is padlocked or otherwise locked on the outside?
- ☐ Where exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- ☐ Are doors that swing in both directions and are located between rooms where there is frequent traffic, provide with viewing panels in each door?

OSHA Compliance Self-Inspection Check List

EXITING OR EGRESS

- ☐ Are all exits marked with an exit sign and illuminated by a reliable light source?
- ☐ Are the directions to exits, when not immediately apparent, marked with visible signs?
- ☐ Are doors, passageways or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?
- ☐ Are exit signs provided with the word "EXIT" in lettering at least ½-inch wide?
- ☐ Are exit doors side-hinged?
- ☐ Are all exits kept free of obstructions?
- ☐ Are at least two means of egress provided from elevated platforms, pits or rooms where the absence of second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable or explosive substances?
- ☐ Are there sufficient exits to permit prompt escape in case of emergency?
- ☐ Are special precautions taken to protect employees during construction and repair operations?
- ☐ Is the number of exits from each floor of a building and the number of exits from the building itself, appropriate for the building occupancy load?
- ☐ Are exit stairways which are required to be separated from other parts of a building, enclosed by at least 2-hour fire-resistive construction in buildings more than four stories in height, and not less than 1-hour fire-resistive constructive elsewhere?
- ☐ Where ramps are used as part of required exiting from a building, is the ramp slope limited to 1 ft. vertical and 12 ft horizontal?
- ☐ Where exiting will be through frameless glass doors, glass exit doors, storm doors, etc., are the doors fully tempered and meet the safety requirements for human impact?

OSHA Compliance Self-Inspection Check List

FIRE PROTECTION

- ☐ Is your local fire department well acquainted with your facilities, its location and specific hazards?
- ☐ If you have a fire alarm system, is it certified as required?
- ☐ If you have a fire alarm system, is it tested at least annually?
- ☐ If you have interior stand pipes and valves, are they inspected regularly?
- ☐ If you have outside private fire hydrants, are they flushed at least once a year and on a routine preventative maintenance schedule?
- ☐ Are fire doors and shutters in good operating condition?
- ☐ Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights?
- ☐ Are fire door and shutter fusible links in place?
- ☐ Are automatic sprinkler system water control valves, air and water pressure checked weekly/periodically as required?
- ☐ Is the maintenance of automatic sprinkler systems assigned to responsible persons or to a sprinkler contractor?
- ☐ Are sprinkler heads protected by metal guards, when exposed to physical damage?
- ☐ Is proper clearance maintained below sprinkler heads?
- ☐ Are portable fire extinguishers provided in adequate number and type?
- ☐ Are fire extinguishers mounted in readily accessible locations?
- ☐ Are fire extinguishers recharged regularly and noted on the inspection tag?
- ☐ Are employees periodically instructed in the use of extinguishers and fire protection procedures?

OSHA Compliance Self-Inspection Check List

FLAMMABLE & COMBUSTIBLE MATERIALS

- ☐ Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the work site promptly?
- ☐ Is proper storage practiced to minimize the risk of the fire including spontaneous combustion?
- ☐ Are approved containers and tanks used for the storage and handling of flammable and combustible liquids?
- ☐ Are all connections on drums and combustible liquid piping, vapor and liquid tight?
- ☐ Are all flammable liquids kept in closed containers when not in use (e.g. parts cleaning tanks, pans, etc.?)
- ☐ Are bulk drums of flammable liquids grounded and bonded to containers during dispensing?
- ☐ Do storage rooms for flammable and combustible liquids have explosion-proof lights?
- ☐ Do storage rooms for flammable and combustible liquids have mechanical or gravity ventilation?
- ☐ Is liquefied petroleum gas stored, handled and used in accordance with safe practices and standards?
- ☐ Are "NO SMOKING" signs posted on liquefied petroleum gas tanks?
- ☐ Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?
- ☐ Are all solvent wastes and flammable liquids kept in fire-resistant, covered containers until they are removed from the work site?
- ☐ Is vacuuming used whenever possible rather than blowing or sweeping combustible dust?
- ☐ Are firm separators placed between containers of combustibles or flammables, when stacked one upon another, to assure their support stability?
- ☐ Are fuel gas cylinders and oxygen cylinders separated by distance, fire-resistant barriers, etc. while in storage?
- ☐ Are fire extinguishers selected and provided for the types of materials in areas where they are to be used?
 - Class A Ordinary combustible material fires.
 - Class B Flammable liquid, gas or grease fires.
 - Class C Energized-electrical equipment fires.
- ☐ Are appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquids, and within 10 feet of any inside storage area for such materials?
- ☐ Are extinguishers free from obstructions or blockage?

OSHA Compliance Self-Inspection Check List

FLAMMABLE & COMBUSTIBLE MATERIALS (Page 2)

- ☐ Are all extinguishers serviced, maintained and tagged at intervals not to exceed one year?
- ☐ Are all extinguishers fully charged and in their designated places?
- ☐ Where sprinkler systems are permanently installed, are the nozzle heads so directed or arranged that water will not be sprayed into operating electrical switch boards and equipment?
- ☐ Are "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored?
- ☐ Are safety cans used for dispensing flammable or combustible liquids at a point of use?
- ☐ Are all spills of flammable or combustible liquids cleaned up promptly?
- ☐ Are storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes?
- ☐ Are storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure?
- ☐ Are "NO SMOKING" rules enforced in areas involving storage and use of hazardous materials?

OSHA Compliance Self-Inspection Check List

FLOOR AND WALL OPENINGS

- ☐ Are floor openings guarded by a cover, a guardrail or equivalent on all sides (except at entrance to stairways or ladders?)
- ☐ Are toe-boards installed around the edges of permanent floor opening (where persons may pass below the opening?)
- ☐ Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?
- ☐ Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?
- ☐ Are grates or similar type covers over floor openings such as floor drains of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
- ☐ Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?
- ☐ Are manhole covers, trench covers and similar covers, plus their supports designed to carry a truck rear axle load of at 20,000 pounds when located in roadways and subject to vehicle traffic?
- ☐ Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with self-closing feature when appropriate?

OSHA Compliance Self-Inspection Check List

FUELING

- ☐ Is it prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running?
- ☐ Are fueling operations done in such a manner that likelihood of spillage will be minimal?
- ☐ When spillage occurs during fueling operations, is the spilled fuel washed away completely, evaporated or other measures taken to control vapors before restarting the engine?
- ☐ Are fuel tank caps replaced and secured before starting the engine?
- ☐ In fueling operations, is there always metal contact between the container and the fuel tank?
- ☐ Are fueling hoses of a type designed to handle the specific type of fuel?
- ☐ Is it prohibited to handle or transfer gasoline in open containers?
- ☐ Are open lights, open flames or sparking or arcing equipment prohibited near fueling or transfer of fuel operations?
- ☐ Is smoking prohibited in the vicinity of fueling operations?
- ☐ Are fueling operators prohibited in building or other enclosed areas that are not specifically ventilated for this purpose?
- ☐ Where fueling or transfer of fuel is done through a gravity flow system, are the nozzles of the self-closing type?

OSHA Compliance Self-Inspection Check List

GENERAL WORK ENVIRONMENT

- ☐ Are all work sites clean, sanitary and orderly?
- ☐ Are work surfaces kept dry or appropriate means taken to assure the surfaces are slip-resistant?
- ☐ Are all spilled hazardous materials or liquids, including blood and other potentially infectious materials, cleaned up immediately and according to proper procedures?
- ☐ Is combustible scrap, debris and waste stored safely and removed from the work-site promptly?
- ☐ Is all regulated waste, as defined in the OSHA bloodborne pathogens standard (29 CFR 1910.1030), discarded according to federal, state and local regulations?
- ☐ Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings, etc.?
- ☐ Is combustible dust cleaned up with a vacuum system to prevent the dust going into suspension?
- ☐ Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?
- ☐ Are covered metal waste cans used for oily and paint-soaked waste?
- ☐ Are all oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are not working?
- ☐ Are paint spray booths, dip tanks, etc., cleaned regularly?
- ☐ Are the minimum number of toilets and washing facilities provided?
- ☐ Are the toilets and washing facilities clean and sanitary?
- ☐ Are all the work areas adequately illuminated?
- ☐ Are pits and floor openings covered or otherwise guarded?

OSHA Compliance Self-Inspection Check List

HARMFUL SUBSTANCES CONTROL BY VENTILATION

- ☐ Is the volume and velocity of air in each exhaust system sufficient to gather the dusts, fumes, mists, vapors or gases to be controlled and to convey them to a suitable point of disposal?
- ☐ Are exhaust inlets, ducts and plenums designed, constructed and supported to prevent collapse or failure of any part of the system?
- ☐ Are clean-out ports or doors provided at intervals not to exceed 12 feet in all horizontal runs of exhaust ducts?
- ☐ Where two or more different type of operations are being controlled through the same exhaust system, will the combination of substances being controlled, constitute a fire, explosion or chemical reaction hazard in the duct?
- ☐ Is adequate makeup air provided to areas where exhaust systems are operating?
- ☐ Is the source point for makeup air located so that only clean, fresh air, which is free of contaminants, will enter the work environment?
- ☐ Where two or more ventilation systems are serving a work area, is their operation such that one will not offset the functions of the other?

OSHA Compliance Self-Inspection Check List

HAZARDOUS CHEMICAL EXPOSURE

- ☐ Are employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, etc.?
- ☐ Are employees aware of the potential hazards involving various chemicals stored or used in the workplace such as acids, bases, caustics, epoxies, phenols, etc.?
- ☐ Is employee exposure to chemicals kept within acceptable levels?
- ☐ Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?
- ☐ Are all containers, such as vats, storage tanks, etc., labeled as to their contents (e.g., "CAUSTICS")?
- ☐ Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)?
- ☐ Are flammable or toxic chemicals kept in closed containers when not in use?
- ☐ Are chemical piping systems clearly marked as to their content?
- ☐ Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipe lines, is adequate means readily available for neutralizing or disposing of spills or overflows properly and safely?
- ☐ Have standard operating procedures been established and are they being followed when cleaning up chemical spills?
- ☐ Where needed for emergency use, are respirators stored in a convenient, clean and sanitary location?
- ☐ Are respirators intended for emergency use adequate for the various uses for which they may be needed?
- ☐ Are employees prohibited from eating in areas where hazardous chemicals are present?
- ☐ Is personal protective equipment provided, used and maintained whenever necessary?
- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?
- ☐ If you have a respirator protection program, are your employees instructed on the correct usage and limitations of the respirators? Are the respirators NIOSH approved for this particular application? Are they regularly inspected and cleaned, sanitized and maintained?
- ☐ If hazardous substances are used in your processes, do you have a medical or biological monitoring system in operation?

OSHA Compliance Self-Inspection Check List

HAZARDOUS CHEMICAL EXPOSURE (Page 2)

- ☐ Are you familiar with the Threshold Limit Values or Permissible Exposure Limits of airborne contaminants and physical agents used in your workplace?
- ☐ Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, etc.?
- ☐ Whenever possible are hazardous substances handled in properly designed and exhausted booths or similar locations?
- ☐ Do you use general dilution or local exhaust ventilation systems to control dusts, vapors, gases, fumes, smoke, solvents or mists which may be generated in your workplace?
- ☐ Is ventilation equipment provided for removal of contaminants from such operations as: Production grinding, buffing, spray painting and/or vapor degreasing and is it operating properly?
- ☐ Do employees complain about dizziness, headaches, nausea, irritation or other factors of discomfort when they use solvents or other chemicals?
- ☐ Is there a dermatitis problem? Do employees complain about dryness, irritation or sensitization of the skin?
- ☐ Have you considered the use of an industrial hygienist or environmental health specialist to evaluate your operation?
- ☐ If internal combustion engines are used, is carbon monoxide kept within acceptable levels?
- ☐ Is vacuuming used, rather than blowing or sweeping dusts whenever possible for clean-up?
- ☐ Are materials which give off toxic asphyxiate, suffocating or anesthetic fumes, stored in remote or isolated locations when not in use?

OSHA Compliance Self-Inspection Check List

HAZARDOUS SUBSTANCES COMMUNICATION

- ☐ Is there a list of hazardous substances used in your workplace?
- ☐ Is there a current written exposure control plan for occupational exposure to bloodborne pathogens and other potentially infectious materials, where applicable?
- ☐ Is there a written hazard communication program dealing with Safety Data Sheets (SDS), labeling and employee training?
- ☐ Is each container for a hazardous substance (i.e., vats, bottles, storage tanks, etc.) labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards)?
- ☐ Is there a Safety Data Sheet readily available for each hazardous substance used?
- ☐ Is there an employee training program for hazardous substances?
- ☐ Does this program include: (1) An explanation of what an SDS is and how to use and obtain one; (2) SDS contents for each hazardous substance or class of substances; (3) Explanation of "Right to Know"; (4) Identification of where an employee can see the employers written hazard communication program and where hazardous substances are present in their work areas; (5) The physical and health hazards of substances in the work area and specific protective measures to be used; (6) Details of the hazard communication program, including how to use the labeling system and SDS
- ☐ Does the employee training program on the bloodborne pathogens standard contain the following elements: (1) An accessible copy of the standard and an explanation of its contents; (2) a general explanation of the epidemiology and symptoms of bloodborne diseases; (3) an explanation of the modes of transmission of bloodborne pathogens; (4) an explanation of the employer's exposure control plan and the means by which employees can obtain a copy of the written plan; (5) an explanation of the appropriate methods for recognizing tasks and the other activities that may involve exposure to blood and other potentially infectious materials; (6) an explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices and personal protective equipment; (7) information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment; (8) an explanation of the basis for selection of personal protective equipment; (9) information on the hepatitis B vaccine; (10) information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials; (11) an explanation of the procedure to follow if an exposure incident occurs, including the methods of reporting the incident and the medical follow-up that will be made available; and (12) information on post-exposure evaluations and follow-up; (13) an explanation of signs, labels and color coding?

OSHA Compliance Self-Inspection Check List

HAZARDOUS SUBSTANCES COMMUNICATION (*Page 2*)

- ☐ Are employees trained in the following? (1) How to recognize tasks that might result in occupational exposure? (2) How to use work practice and engineering controls and personal protective equipment and to know their limitations? (3) How to obtain information on the types, selection, proper use, location, removal, handling, decontamination and disposal of personal protective equipment? (3) Who to contact and what to do in an emergency?

OSHA Compliance Self-Inspection Check List

HOIST AND AUXILIARY EQUIPMENT

- ☐ Is each overhead electric hoist equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel?
- ☐ Will each hoist automatically stop and hold any load up to 125 percent of its rated load if its actuating force is removed?
- ☐ Is the rated load of each hoist legibly marked and visible to the operator?
- ☐ Are stops provided at the safe limits of travel for trolley hoist?
- ☐ Are the controls of hoist plainly marked to indicate the direction of travel or motion?
- ☐ Is each cage-controlled hoist equipped with an effective warning device?
- ☐ Are close-fitting guards or other suitable devices installed on hoist to assure hoist ropes will be maintained in the sheave grooves?
- ☐ Are all hoist chains or ropes of sufficient length to handle the full range of movement of the application while still maintain two full wraps on the drum at all times?
- ☐ Are nip points or contact points between hoist ropes and sheaves which are permanently located within seven feet of the floor, ground or working platform, guarded?
- ☐ Is it prohibited to use chains or rope slings that are kinked or twisted?
- ☐ Is it prohibited to use the hoist rope or chain wrapped around the load as a substitute, for a sling?
- ☐ Is the operator instructed to avoid carrying loads over people?

OSHA Compliance Self-Inspection Check List

INDUSTRIAL TRUCKS - FORKLIFTS

- ☐ Are only employees who have been trained in the proper use of hoists allowed to operate them?
- ☐ Are only trained personnel allowed to operate industrial trucks?
- ☐ Is substantial overhead protective equipment provided on high lift rider equipment?
- ☐ Are the required lift truck operating rules posted and enforced?
- ☐ Is directional lighting provided on each industrial truck that operates in an area with less than 2 foot candles per square foot of general lighting?
- ☐ Does each industrial truck have a warning horn, whistle, gong or other device which can be clearly heard above the normal noise in the areas where operated?
- ☐ Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded?
- ☐ Will the industrial trucks' parking brake effectively prevent the vehicle from moving when unattended?
- ☐ Are industrial trucks operating in areas where flammable gases or vapors, or combustible dust or ignitable fibers may be present in the atmosphere, approved for such locations?
- ☐ Are motorized hand and hand/rider trucks so designed that the brakes are applied, and power to the drive motor shuts off when the operator releases his or her grip on the device that controls the travel?
- ☐ Are industrial trucks with internal combustion engine, operated in buildings or enclosed areas, carefully checked to ensure such operations do not cause harmful concentration of dangerous gases or fumes?

OSHA Compliance Self-Inspection Check List

LOCKOUT / TAGOUT PROCEDURES

- ☐ Is all machinery or equipment capable of movement, required to be de-energized or disengaged and blocked or locked-out during cleaning, servicing, adjusting or setting up operations, whenever required?
- ☐ Where the power disconnecting means for equipment does not also disconnect the electrical control circuit:
- ☐ Are the appropriate electrical enclosures identified?
- ☐ Are means provided to assure the control circuit can also be disconnected and locked-out?
- ☐ Is the locking-out of control circuits in lieu of locking-out main power disconnects prohibited?
- ☐ Are all equipment control valve handles provided with a means for locking-out?
- ☐ Does the lock-out procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked-out for repairs?
- ☐ Are appropriate employees provided with individually keyed personal safety locks?
- ☐ Are employees required to keep personal control of their key(s) while they have safety locks in use?
- ☐ Is it required that only the employee exposed to the hazard, place or remove the safety lock?
- ☐ Is it required that employees check the safety of the lock-out by attempting a start up after making sure no one is exposed?
- ☐ Are employees instructed to always push the control circuit stop button prior to re-energizing the main power switch?
- ☐ Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?
- ☐ Are a sufficient number of accident preventive signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?
- ☐ When machine operations, configuration or size requires the operator to leave his or her control station to install tools or perform other operations, and that part of the machine could move if accidentally activated, is such element required to be separately locked or blocked-out?
- ☐ In the event that equipment or lines cannot be shut down, locked-out and tagged, is a safe job procedure established and rigidly followed?

OSHA Compliance Self-Inspection Check List

MACHINE GUARDING

- ☐ Is there a training program to instruct employees on safe methods of machine operation?
- ☐ Is there adequate supervision to ensure that employees are following safe machine operating procedures?
- ☐ Is there a regular program of safety inspection of machinery and equipment?
- ☐ Is all machinery and equipment kept clean and properly maintained?
- ☐ Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?
- ☐ Is equipment and machinery securely placed and anchored, when necessary to prevent tipping or other movement that could result in personal injury?
- ☐ Is there a power shut-off switch within reach of the operator's position at each machine?
- ☐ Can electric power to each machine be locked out for maintenance, repair or security?
- ☐ Are the non-current carrying metal parts of electrically operated machines bonded and grounded?
- ☐ Are foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects?
- ☐ Are manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible?
- ☐ Are all emergency stop buttons colored red?
- ☐ Are all pulleys and belts that are within 7 feet of the floor or working level properly guarded?
- ☐ Are all moving chains and gears properly guarded?
- ☐ Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?
- ☐ Are methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, in-going nip points, rotating parts, flying chips and sparks?
- ☐ Are machinery guards secure and so arranged that they do not offer a hazard in their use?
- ☐ If special hand tools are used for placing and removing material, do they protect the operator's hands?
- ☐ Are revolving drums, barrels and containers required to be guarded by an enclosure that is interlocked with the drive mechanism, so that revolution cannot occur unless the guard enclosure is in place, so guarded?

OSHA Compliance Self-Inspection Check List

MACHINE GUARDING *(Page 2)*

- ☐ Do arbors and mandrels have firm and secure bearings and are they free from play?
- ☐ Are provisions made to prevent machines from automatically starting when power is restored after a power failure or shut down?
- ☐ Are machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed?
- ☐ If machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards utilized to protect operators and other workers from eye and body injury?
- ☐ Are fan blades protected with a guard having openings no larger than ½ inch, when operating within 7 feet of the floor?
- ☐ Are saws used for ripping, equipped with anti-kick back devices and spreaders?
- ☐ Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released?

OSHA Compliance Self-Inspection Check List

MATERIALS HANDLING

- ☐ Is there safe clearance for equipment through aisles and doorways?
- ☐ Are aisleways designated, permanently marked and kept clear to allow unhindered passage?
- ☐ Are motorized vehicles and mechanized equipment inspected daily or prior to use?
- ☐ Are vehicles shut off and brakes set prior to loading or unloading?
- ☐ Are containers of combustibles or flammables, when stacked while being moved, always separated by dunnage sufficient to provide stability?
- ☐ Are dock boards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks?
- ☐ Are trucks and trailers secured from movement during loading and unloading operations?
- ☐ Are dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading?
- ☐ Are hand trucks maintained in safe operating condition?
- ☐ Are chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off?
- ☐ Are chutes and gravity roller sections firmly placed or secured to prevent displacement?
- ☐ At the delivery end of the rollers or chutes, are provisions made to brake the movement of the handled materials?
- ☐ Are pallets usually inspected before being loaded or moved?
- ☐ Are hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments won't accidentally slip off the hoist hooks?
- ☐ Are securing chains, ropes, chockers or slings adequate for the job to be performed?
- ☐ When hoisting materials or equipment, are provisions made to assure no one will be passing under the suspended loads?
- ☐ Are materials safety data sheets available to employees handling hazardous substances?

OSHA Compliance Self-Inspection Check List

MEDICAL SERVICES AND FIRST AID

- ☐ Is there a hospital, clinic or infirmary for medical care in proximity of your workplace?
- ☐ If medical and first-aid facilities are not in proximity of your workplace, is at least one employee on each shift currently qualified to render first aid?
- ☐ Have all employees who are expected to respond to medical emergencies as part of their work*

- (1) received first-aid training
- (2) had hepatitis B vaccination made available to them
- (3) had appropriate training on procedures to protect them from bloodborne pathogens, including universal precautions
- (4) have available and understand how to use appropriate personal protective equipment to protect against exposure to bloodborne diseases?

- ☐ Where employees have had an exposure incident involving bloodborne pathogens, did you provide an immediate post-exposure medical evaluation and follow-up?
- ☐ Are medical personnel readily available for advice and consultation on matters of employees' health?
- ☐ Are emergency phone numbers posted?
- ☐ Are first-aid kits easily accessible to each work area, with necessary supplies available, periodically inspected and replenished as needed?
- ☐ Have first-aid kit supplies been approved by a physician, indicating that they are adequate for a particular area or operation?
- ☐ Are means provided for quick drenching or flushing of the eyes and body in areas where corrosive liquids or materials are handled?

* Pursuant to an OSHA memorandum of July 1, 1992, employees who render first-aid only as a collateral duty do not have to be offered pre-exposure hepatitis B vaccine only if the employer puts the following requirements into his/her exposure control plan and implements them:

- (1) the employer must record all first-aid incidents involving the presence of blood or other potentially infectious materials before the end of the work shift during which the first-aid incident occurred
- (2) the employer must comply with post-exposure evaluation, prophylaxis and follow-up requirements of the standard with respect to "exposure incidents," as defined by the standard
- (3) the employer must train designated first-aid providers about the reporting procedure
- (4) the employer must offer to initiate the hepatitis B vaccination series within 24 hours to all unvaccinated first-aid providers who have rendered assistance in any situation involving the presence of blood or other potentially infectious materials.

OSHA Compliance Self-Inspection Check List

NOISE

- ☐ Are there areas in the workplace where continuous noise levels exceed 85dBA?
- ☐ Is there an ongoing preventive health program to educate employees in: safe levels of noise, exposures; effects of noise on their health; and the use of personal protection?
- ☐ Have work areas where noise levels make voice communication between employees difficult been identified and posted?
- ☐ Are noise levels being measured using a sound level meter or an octave band analyzer and records being kept?
- ☐ Have engineering controls been used to reduce excessive noise levels? Where engineering controls are determined to not be feasible, are administrative controls (i.e. worker rotation) being used to minimize individual employee exposure to noise?
- ☐ Is approved hearing protective equipment (noise attenuating devices) available to every employee working in noisy areas?
- ☐ Have you tried isolating noisy machinery from the rest of your operation?
- ☐ If you use ear protectors, are employees properly fitted and instructed in their use?
- ☐ Are employees in high noise areas given periodic audiometric testing to ensure that you have an effective hearing protection system?

OSHA Compliance Self-Inspection Check List

PERSONAL PROTECTIVE EQUIPMENT & CLOTHING

- ☐ Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
- ☐ Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
- ☐ Are employees who need corrective lenses (glasses or contacts) in working environments having harmful exposures, required to wear only approved safety glasses, protective goggles, or use other medically approved precautionary procedures?
- ☐ Are protective gloves, aprons, shields or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood or other potentially infectious materials. See 29 CFR 1910.1030(b) for the definition of "other potentially infectious materials."
- ☐ Are hard hats provided and worn where danger of falling objects exists?
- ☐ Are hard hats inspected periodically for damage to the shell and suspension system?
- ☐ Is appropriate foot protection required where there is the risk of foot injuries from hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions?
- ☐ Are approved respirators provided for regular or emergency use where needed?
- ☐ Is all protective equipment maintained in a sanitary condition and ready for use?
- ☐ Do you have eye wash facilities and a quick Drench Shower within the work area where employees are exposed to injurious corrosive materials?
- ☐ Where special equipment is needed for electrical workers, is it available?
- ☐ Where food or beverages are consumed on the premises, are they consumed in areas where there is no exposure to toxic material, blood or other potentially infectious materials?
- ☐ Is protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard?
- ☐ Are adequate work procedures, protective clothing and equipment provided and used when cleaning up spilled toxic or otherwise hazardous materials or liquids?
- ☐ Are there appropriate procedures in place for disposing of or decontaminating personal protective equipment contaminated with, or reasonably anticipated to be contaminated with, blood or other potentially infectious materials?

OSHA Compliance Self-Inspection Check List

PIPING SYSTEMS IDENTIFICATION

- ☐ When non-potable water is piped through a facility, are outlets or taps posted to alert employees that it is unsafe and not to be used for drinking, washing or other personal use?
- ☐ When hazardous substances are transported through above-ground piping, is each pipeline identified at points where confusion could introduce hazards to employees?
- ☐ When pipelines are identified by color painting, are all visible parts of the line so identified?
- ☐ When pipelines are identified by color painted bands or tapes, are the bands or tapes located at reasonable intervals and at each outlet, valve or connection?
- ☐ When pipelines are identified by color, is the color code posted at all locations where confusion could introduce hazards to employees?
- ☐ When the contents of pipelines are identified by name or name abbreviation, is the information readily visible on the pipe near each valve or outlet?
- ☐ When pipelines carrying hazardous substances are identified by tags, are the tags constructed of durable materials, the message carried clearly and permanently distinguishable and are tags installed at each valve or outlet?
- ☐ When pipelines are heated by electricity, steam or other external source, are suitable warning signs or tags placed at unions, valves or other serviceable parts of the system?

OSHA Compliance Self-Inspection Check List

PORTABLE LADDERS

- ☐ Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached and moveable parts operating freely without binding or undue play?
- ☐ Are non-slip safety feet provided on each ladder?
- ☐ Are non-slip safety feet provided on each metal or rung ladder?
- ☐ Are ladder rungs and steps free of grease and oil?
- ☐ Is it prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded?
- ☐ Is it prohibited to place ladders on boxes, barrels or other unstable bases to obtain additional height?
- ☐ Are employees instructed to face the ladder when ascending or descending?
- ☐ Are employees prohibited from using ladders that are broken, missing steps, rungs or cleats, broken side rails or other faulty equipment?
- ☐ Are employees instructed not to use the top step of ordinary stepladders as a step?
- ☐ When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least 3 feet above the elevated surface?
- ☐ Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, or it is lashed or otherwise held in place?
- ☐ Are portable metal ladders legibly marked with signs reading "CAUTION - DO NOT USE AROUND ELECTRICAL EQUIPMENT" or equivalent wording?
- ☐ Are employees prohibited from using ladders as guys, braces, skids, gin poles or for other than their intended purposes?
- ☐ Are employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder?)
- ☐ Are metal ladders inspected for damage?
- ☐ Are the rungs of ladders uniformly spaced at 12 inches, center to center?

OSHA Compliance Self-Inspection Check List

PORTABLE (POWER OPERATED) TOOLS & EQUIPMENT

- ☐ Are grinders, saws and similar equipment provided with appropriate safety guards?
- ☐ Are power tools used with the correct shield, guard or attachment, recommended by the manufacturer?
- ☐ Are portable circular saws equipped with guards above and below the base shoe?
- ☐ Are circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded?
- ☐ Are rotating or moving parts of equipment guarded to prevent physical contact?
- ☐ Are all cord-connected, electrically-operated tools and equipment effectively grounded or of the approved double insulated type?
- ☐ Are effective guards in place over belts, pulleys, chains, sprockets, on equipment such as concrete mixers, air compressors, etc.?
- ☐ Are portable fans provided with full guards or screens having openings ½ inch or less?
- ☐ Is hoisting equipment available and used for lifting heavy objects and are hoist ratings and characteristics appropriate for the task?
- ☐ Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction?
- ☐ Are pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage?

OSHA Compliance Self-Inspection Check List

POWDER-ACTUATED TOOLS

- ☐ Are employees who operate powder-actuated tools trained in their use and carry a valid operators card?
- ☐ Is each powder-actuated tool stored in its own locked container when not being used?
- ☐ Is a sign at least 7 inches by 10 with bold face type reading "POWDER-ACTUATED TOOL IN USE" conspicuously posted when the tool is being used?
- ☐ Are powder-actuated tools left unloaded until they are actually ready to be used?
- ☐ Are powder-actuated tools inspected for obstructions or defects each day before use?
- ☐ Do power-actuated tool operators have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors?

OSHA Compliance Self-Inspection Check List

RECORDKEEPING

- ☐ Are all occupational injury or illnesses, except minor injuries requiring only first aid, being recorded as required on the OSHA 300 log?
- ☐ Are employee medical records and records of employee exposure to hazardous substances or harmful physical agents up-to-date and in compliance with current OSHA standards?
- ☐ Are employee training records kept and accessible for review by employees, when required by OSHA standards?
- ☐ Have arrangements been made to maintain required records for the legal period of time for each specific type record? (Some records must be maintained for at least 40 years.)
- ☐ Are operating permits and records up-to-date for such items as elevators, air pressure tanks, liquefied petroleum gas tanks, etc.?

OSHA Compliance Self-Inspection Check List

SAFETY AND HEALTH PROGRAM

- ☐ Do you have an active safety and health program in operation that deals with general safety and health program elements as well as the management of hazards specific to your work site?
- ☐ Is one person clearly responsible for the overall activities of the safety and health program?
- ☐ Do you have a safety committee or group made up of management and labor representatives that meets regularly and report in writing on its activities?
- ☐ Do you have a working procedure for handling in-house employee complaints regarding safety and health?
- ☐ Are you keeping your employees advised of the successful effort and accomplishments you and/or your safety committee have made in assuring they will have a workplace that is safe and healthful?

OSHA Compliance Self-Inspection Check List

SANITIZING EQUIPMENT & CLOTHING

- ☐ Is personal protective clothing or equipment that employees are required to wear or use, of a type capable of being cleaned easily and disinfected?
- ☐ Are employees prohibited from interchanging personal protective clothing or equipment, unless it has been properly cleaned?
- ☐ Are machines and equipment, which process, handle or apply materials that could be injurious to employees, cleaned and/or decontaminated before being overhauled or placed in storage?
- ☐ Are employees prohibited from smoking or eating in any area where contaminants that could be injurious if ingested are present?
- ☐ When employees are required to change from street clothing into protective clothing, is a clean change room with separate storage facility for street and protective clothing provided?
- ☐ Are employees required to shower and wash their hair as soon as possible after a known contact has occurred with a carcinogen?
- ☐ When equipment, materials or other items are taken into or removed from a carcinogen regulated area, is it done in a manner that will contaminate non-regulated areas or the external environment?

OSHA Compliance Self-Inspection Check List

SPRAYING OPERATIONS

- ☐ Is adequate ventilation assured before spray operations are started?
- ☐ Is mechanical ventilation provided when spraying operations are done in enclosed areas?
- ☐ When mechanical ventilation is provided during spraying operations, is it so arranged that it will not circulate the contaminated air?
- ☐ Is the spray area free of hot surfaces?
- ☐ Is the spray area at least 20 feet from flames, sparks, operating electrical motors and other ignition sources?
- ☐ Are portable lamps, used to illuminate spray areas, suitable for use in hazardous location?
- ☐ Is approved respiratory equipment provided and used when appropriate during spraying operations?
- ☐ Do solvents used for cleaning have a flash point to 100° or more?
- ☐ Are fire control sprinkler heads kept clean?
- ☐ Are "NO SMOKING" signs posted in spray areas, paint rooms, paint booths and paint storage areas?
- ☐ Is the spray area kept clean of combustible residue?
- ☐ Are spray booths constructed of metal, masonry or other substantial noncombustible materials?
- ☐ Are spray booth floors and baffles noncombustible and easily cleaned?
- ☐ Is infrared drying apparatus kept out of the spray area during spraying operations?
- ☐ Is the spray booth completely ventilated before using the drying apparatus?
- ☐ Is the electric drying apparatus properly grounded?
- ☐ Are lighting fixtures for spray booths located outside of the booth and the interior lighted through sealed clear panels?
- ☐ Are the electric motors for exhaust fans placed outside booths or ducts?
- ☐ Are belts and pulleys inside the booth fully enclosed?
- ☐ Do ducts have access doors to allow cleaning?
- ☐ Do all drying spaces have adequate ventilation?

OSHA Compliance Self-Inspection Check List

STAIRS & STAIRWAYS

- ☐ Are standard stair rails or handrails on all stairways having four or more risers?
- ☐ Are all stairways at least 22 inches wide?
- ☐ Do stairs have landing platforms not less than 30 inches in the direction of travel and extend 22 inches in width at every 12 feet or less of vertical rise?
- ☐ Do stairs angle no more than 50 and no less than 30 degrees?
- ☐ Are stairs of hollow-pan type treads and landings filled to the top edge of the pan with solid material?
- ☐ Are step risers on stairs uniform from top to bottom?
- ☐ Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?
- ☐ Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?
- ☐ Do stairway handrails have at least 3 inches of clearance between the handrails and the wall or surface they are mounted on?
- ☐ Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches?
- ☐ Are stairway handrails capable of withstanding a load of 200 pounds, applied within 2 inches of the top edge, in any downward or outward direction?
- ☐ Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- ☐ Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?
- ☐ Is the vertical distance between stairway landings to 12 feet or less?

OSHA Compliance Self-Inspection Check List

TIRE INFLATION

- ☐ Where tires are mounted and/or inflated on drop center wheels, is a safe practice procedure posted and enforced?
- ☐ Where tires are mounted and/or inflated on drop center wheels, is a safe practice procedure posted and enforced?
- ☐ Where tires are mounted and/or inflated on wheels with split rims and/or retainer rings, is a safe practice procedure posted and enforced?
- ☐ Does each tire inflation hose have a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge?
- ☐ Does the tire inflation control valve automatically shutoff the air flow when the valve is released?
- ☐ Is a tire restraining device such as a cage, rack or other effective means used while inflating tires mounted on split rims, or rims using retainer rings?
- ☐ Are employees strictly forbidden from taking a position directly over or in front of a tire while it's being inflated?

OSHA Compliance Self-Inspection Check List

TRANSPORTING EMPLOYEES & MATERIALS

- ☐ Do employees who operate vehicles on public thoroughfares have valid operator's licenses?
- ☐ When seven or more employees are regularly transported in a van, bus or truck, is the operator's license appropriate for the class of vehicle being driven?
- ☐ Is each van, bus or truck used regularly to transport employees, equipped with an adequate number of seats?
- ☐ When employees are transported by truck, are provisions provided to prevent their falling from the vehicle?
- ☐ Are vehicles used to transport employees equipped with lamps, brakes, horns, mirrors, windshields and turn signals in good repair?
- ☐ Are transport vehicles provided with handrails, steps, stirrups or similar devices, so placed and arranged that employees can safely mount or dismount?
- ☐ Are employee transport vehicles equipped at all times with at least two reflective type flares?
- ☐ Is a full charged fire extinguisher, in good condition, with at least 4 B:C rating maintained in each employee transport vehicle?
- ☐ When cutting tools or tools with sharp edges are carried in passenger compartments of employee transport vehicles, are they placed in closed boxes or containers which are secured in place?
- ☐ Are employees prohibited from riding on top of any load which can shift, topple or otherwise become unstable?

OSHA Compliance Self-Inspection Check List

WALKWAYS

- ☐ Are aisles and passageways kept clear?
- ☐ Are aisles and walkways marked as appropriate?
- ☐ Are wet surfaces covered with non-slip materials?
- ☐ Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
- ☐ Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- ☐ Are materials or equipment stored in such a way that sharp projectiles will not interfere with the walkway?
- ☐ Are spilled materials cleaned up immediately?
- ☐ Are changes of direction or elevations readily identifiable?
- ☐ Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
- ☐ Is adequate headroom provided for the entire length of any aisle or walkway?
- ☐ Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground?
- ☐ Are bridges provided over conveyors and similar hazards?

OSHA Compliance Self-Inspection Check List

WELDING, CUTTING & BRAZING

- ☐ Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?
- ☐ Does each operator have a copy of the appropriate operating instructions and are they directed to follow them?
- ☐ Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting or leakage?
- ☐ Is care used in handling and storage of cylinders, safety valves, relief valves, etc., to prevent damage?
- ☐ Are precautions taken to prevent the mixture of air or oxygen with flammable gasses, except at a burner or in a standard torch?
- ☐ Are only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used?
- ☐ Are cylinders kept away from sources of heat?
- ☐ Are the cylinders kept away from elevators, stairs or gangways?
- ☐ Is it prohibited to use cylinders as rollers or supports?
- ☐ Are empty cylinders appropriately marked and their valves closed?
- ☐ Are signs reading: "DANGER—NO SMOKING, MATCHES OR OPENLIGHTS", or the equivalent, posted?
- ☐ Are cylinders, cylinder valves, couplings, regulators, hoses and apparatus kept free of oily or greasy substances?
- ☐ Is care taken not to drop or strike cylinders?
- ☐ Unless secured on special trucks, are regulators removed and valve-protection caps put in place before moving cylinders?
- ☐ Do cylinders without fixed wheels have keys, handles or non-adjustable wrenches on stem valves when in service?
- ☐ Are liquefied gases stored and shipped valve-end up with valve covers in place?
- ☐ Are provisions made to never crack a fuel-gas cylinder valve near sources of ignition?
- ☐ Before a regulator is removed, is the valve closed and gas released from the regulator?
- ☐ Is red used to identify the acetylene (and other fuel-gas) hose, green for oxygen hose and black for inert gas and air hose?
- ☐ Are pressure-reducing regulators used only for the gas and pressures for which they are intended?

OSHA Compliance Self-Inspection Check List

WELDING, CUTTING & BRAZING (Page 2)

- ☐ Is open circuit (no load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?
- ☐ Under wet conditions, are automatic controls for reducing no load voltage used?
- ☐ Is grounding of the machine frame and safety ground connections of portable machines checked periodically?
- ☐ Are electrodes removed from the holders when not in use?
- ☐ Is it required that electric power to the welder be shut off when no one is in attendance?
- ☐ Is suitable fire extinguishing equipment available for immediate use?
- ☐ Is the welder forbidden to coil or loop welding electrode cable around his body?
- ☐ Are wet machines thoroughly dried and tested before being used?
- ☐ Are work and electrode lead cables frequently inspected for wear and damage and replaced when needed?
- ☐ Do means for connecting cable lengths have adequate insulation?
- ☐ When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks and slag?
- ☐ Are fire watchers assigned when welding or cutting is performed in locations where a serious fire might develop?
- ☐ Are combustible floors kept wet, covered by damp sand or protected by fire-resistant shields?
- ☐ When floors are wet down, are personnel protected from possible electrical shock?
- ☐ When welding is done on metal walls, are precautions taken to protect combustibles on the other side?
- ☐ Before hot work is begun, are used drums, barrels, tanks and other containers so thoroughly cleaned that no substances remain that could explode, ignite or produce toxic vapors?
- ☐ Is it required that eye protection, helmets, hand shields and goggles meet appropriate standards?
- ☐ Are employees exposed to the hazards created by welding, cutting or brazing operations protected with personal protective equipment and clothing?
- ☐ Is a check made for adequate ventilation in and where welding or cutting is performed?
- ☐ When working in confined places, are environmental monitoring tests taken and means provided for quick removal of welders in case of an emergency?

PROGRAM OVERVIEW

SAFETY MEETINGS AND COMMITTEE CHARTER SAFETY PROGRAM

REGULATORY STANDARD: OSHA General Duty Clause

INTRODUCTION

Safety meetings provide the opportunity for employees and supervisors to engage in discussions on a variety of safety topics. Effective meetings promote cooperation and reinforce important safety and health operating philosophies and practices at the company and foster commitment and participation by both employees and management in the company's safety management program.

TRAINING

- Training is recommended for all safety committee members.

ACTIVITIES

- If required, establish a safety committee
- Meet on a regular basis (at least quarterly) to discuss safety issues or concerns appropriate to the workplace
- Ensure notes are taken at committee meetings and actions and activities are documented. Where corrective actions are required, ensure follow up is completed

FORMS

- Safety Committee Task Sheet
- Training Attendance Roster

Table of Contents

1. Purpose
2. Scope
3. Responsibilities
4. Procedure
5. Safety Information
6. Training and Information
7. Definitions

SAFETY MEETINGS AND COMMITTEE CHARTER SAFETY PROGRAM

1. **Purpose.** This program is designed to outline the format and process to enable supervisors, management, or a company safety committee to hold effective safety discussions that provide safety related information, and to hold committee or group meetings centered on safety topics.
2. **Scope.** Applies to safety related meetings or safety committee meetings held at the company.

3. Responsibilities

3.1 Management/Supervisors

- 3.1.1 Support the safety suggestions of the employees, as feasible.
- 3.1.2 Support the creation of a safety committee.
- 3.1.3 Communicate with the safety committee chairperson or with supervisors and other management on safety issues and concerns.
- 3.1.4 Assist in the development and implementation of solutions to safety issues.
- 3.1.5 Review this program and the status of safety actions taken at least annually.
- 3.1.6 Hold regularly scheduled discussions with employees on safety topics. Safety discussions should be held with employees:
 - 3.1.6.1 Upon initial job assignment or reassignment. A well-planned and well-executed safety orientation forms the foundation for each individual's future safety and health performance. Each supervisor should ensure that new employees receive a copy of specific safe work practices and procedures, as appropriate to the job or position.
 - 3.1.6.2 When workplace changes occur that require updated information. Process changes, new materials or changes to existing procedures or equipment may prompt a safety discussion on how to safely use or handle the material or equipment.
 - 3.1.6.3 When new jobs or tasks are planned. Discussion involving work being planned should include listing potential hazards, developing suggested "engineering" approaches to reduce risk, identifying safety equipment to be used, and developing basic safe operating procedures.

- 3.1.6.4 When a workplace injury or incident occurs. Discussion should focus on the facts surrounding the incident, the injury, and the various causes that allowed the incident to occur, rather than on the injury or illness itself. Medical privacy concerns may need to be considered during discussions.
- 3.1.6.5 When employee behaviors are noted that require a safety discussion. Discussion of a failure to adhere to a safety procedure should cover why such a behavior is wrong, the potential hazards, and constructive discussion on how to correctly follow procedures.
- 3.1.6.6 When defective tools or equipment are identified (by employees or the manufacturer).
- 3.1.6.7 When regulatory changes require updated information.

3.2 Employees

- 3.2.1 Follow established safety procedures.
- 3.2.2 Report safety issues, concerns or violations to your supervisor.
- 3.2.3 Participate, as needed or required, in safety meetings.
- 3.2.4 Participate, if appropriate, on the safety committee.

3.3 Safety Committee (as needed or required)

- 3.3.1 Meet at least quarterly to discuss safety issues and needs at the company. Monthly meetings are recommended.
- 3.3.2 Keep discussions pertinent and productive.
- 3.3.3 Complete any action items assigned.
- 3.3.4 Perform incident reviews, inspections or audits, if appropriate.

3.4 Safety Committee Chairperson (as needed or required)

- 3.4.1 Maintain a current listing of safety committee membership.
- 3.4.2 Schedule meetings with committee membership at least quarterly. Monthly meetings are recommended.
- 3.4.3 Set the discussion topics or agenda for the meeting.
- 3.4.4 Facilitate the meeting, keeping the discussion pertinent and productive.
- 3.4.5 Take meeting notes, or designate another member as note-taker.

- 3.4.6 Distribute meeting notes to committee members and, as appropriate, to management.
- 3.4.7 Assure action items assigned at the meetings are tracked and completed.
- 3.4.8 Enlist management assistance, as needed or required.

4. Procedure

4.1 Supervisory and Employee Discussions

- 4.1.1 Supervisors, in conjunction with management and/or the company's Safety Officer or Safety Committee will conduct regular meetings with employees on various safety topics.
- 4.1.2 The level of detail required to ensure that the information is relevant to the employees is determined by the supervisor.
- 4.1.3 Safety briefings will be provided at least quarterly. Discussions may be more frequently conducted (i.e. monthly or weekly), based on the type of business and workplace hazards.
- 4.1.4 Safety discussions may be held as a part of routine group meetings, or as part of routine job inspections, procedure reviews or within job hazard analysis review. In this situation, 10-15 minutes should provide sufficient time for a review of a specific topic or procedure.
- 4.1.5 Formal meetings devoted solely to safety topics may include:
 - 4.1.5.1 An explanation of the objectives of the meeting or training.
 - 4.1.5.2 A breakdown of the points or part of the procedure, identifying each key step, and the safety measure for each step.
 - 4.1.5.3 Using a demonstration of proper methods rather than a verbal explanation.

4.2 Principal Activities of the Safety Committee

- 4.2.1 Assemble at least quarterly (monthly is recommended) to conduct safety meetings.
- 4.2.2 Discuss and report on unfinished business or action items from previous meetings.
- 4.2.3 Discuss new business, issues or concerns.
- 4.2.4 Maintain records of meetings (notes or meeting minutes are recommended).

- 4.2.5 If appropriate to the business of the company, or at management direction, the following additional duties may be performed by the committee:
 - 4.2.5.1 Direct and monitor group or departmental safety meetings.
 - 4.2.5.2 Direct and monitor employee safety training needs and requirements.
 - 4.2.5.3 Perform or oversee departmental safety inspections.
 - 4.2.5.4 Review accident/injury information and discuss corrective actions.

5. Safety Information

5.1 Safety Committee Charter

- 5.1.1 The safety committee will encourage safety awareness among all employees. It will be established to monitor safety performance, safety inspections, and aid the Safety Officer and management in administering the safety program. The committee is charged to:
 - 5.1.1.1 Discuss strategies to reduce incidents.
 - 5.1.1.2 Assist in implementing corrective or preventive actions to increase safety and reduce hazards.
 - 5.1.1.3 Be aware of conditions in all work areas that can produce injuries.
 - 5.1.1.4 Aid the company in complying with all applicable laws and regulations pertaining to safety.
 - 5.1.1.5 Assist in assuring that no employee is required to work at a job that is not safe or healthful. The safety and health of each employee is of primary importance to the company.
 - 5.1.1.6 Assist management in making recommendations for tools, equipment, and controls for safety and health in keeping with the highest standards.
 - 5.1.1.7 Assist in maintaining a safety and health program conforming to the best management practices of our industry or market segment.
 - 5.1.1.8 Assist in establishing a safety management program that instills the proper attitudes toward injury and illness prevention not only on the part of employees, but also between each employee and his or her co-workers.

5.2 Safety Committee Composition

- 5.2.1 The safety committee is, primarily, a voluntary group. There are occasions when management may appoint members.
 - 5.2.1.1 It is recommended that committee membership be rotated among different employees. Recommended term of service is one year.
- 5.2.2 The safety committee should consist of at least three members from the employee base, and one member of supervision or management. Greater membership may be based on the size of the company, or the types of hazards encountered in the workplace.
- 5.2.3 Each department or work area should be represented on the committee.
- 5.2.4 A member to take notes or meeting minutes should be designated or elected.
- 5.2.5 A committee chairperson should be elected by the committee. The supervisory/management member should not be the committee chairperson. The Safety Officer may be present to offer advice or to act as committee chairperson or note-taker if these designated people are absent.

5.3 Safety Committee Meeting Rules

- 5.3.1 Safety committee meetings will be conducted in such a manner as to foster a productive work environment. The principal goal being to determine solutions to safety issues affecting our employees. The following ground rules apply.
 - 5.3.1.1 Notes or meeting minutes will be taken at each meeting. Meeting minutes should be distributed to each member of the committee and to members of management, as appropriate.
 - 5.3.1.2 Time limits may be set for each issue or topic, in order to establish and maintain a productive course of action. Discussion time limits on each safety topic will be typically kept to a 20 minute time limit.
 - 5.3.1.3 Action items or subcommittees may be formed when an issue cannot be resolved in a reasonable amount of time. Investigation of an issue and/or development of recommendations may be required, and timeframes may be established for action item completion. Action items of this nature will be classified as “old business” and integrated into the next Safety Committee Meeting as appropriate. Where issues can not be reasonably resolved, company management will be consulted to assist in the issue resolution.

- 5.3.1.4 Safety issues may be classified and prioritized. All priority one issues will be immediately addressed by company management and supervisors. Corrective and preventive actions may be reviewed by the committee, but reporting of the issue will be immediate upon discovery.
- 5.3.1.4.1 *Priority 1 Hazards* are the most serious type of unsafe condition or unsafe work practice that could cause loss of life, permanent disability, the loss of a body part (amputation or crippling injury), or extensive loss of structure, equipment, or material.
- 5.3.1.4.2 *Priority 2 Hazards* are unsafe conditions or work practices that could cause serious injury, industrial illness, or disruptive property damage.
- 5.3.1.4.3 *Priority 3 Hazards* are unsafe conditions or work practices that might cause a recordable injury or industrial illness or non-disruptive property damage.
- 5.3.1.4.4 *Priority 4 Hazards* are minor conditions, a housekeeping item or unsafe work practice infraction with little likelihood of injury or illness other than perhaps a first-aid case.
- 5.3.1.5 Safety issue resolution will be determined based on the following decision tier: Engineering controls will be considered as a first priority (equipment, guards, or process design); Administrative controls will be considered as a second priority (written procedures, restriction of exposure time, substitution of a less-hazardous material); Personal Protective Equipment (PPE) will be considered as a third and last priority.

6. Training and Information

6.1 Safety Committee Members

- 6.1.1 Members of the committee may be required to attend additional safety-related training, as appropriate to the activities of the committee. Such training may include: accident investigation techniques, hazard recognition, and auditing/inspection methods.

6.2 Supervisors

- 6.2.1 Supervisors may be required to attend training, as appropriate to the hazards encountered by their employees in the work area. At a minimum, supervisors should have a basic understanding of accident investigation techniques, hazard recognition, and auditing/inspection methods.

7. Definitions

- *None at this time*

SAFETY COMMITTEE TASK SHEET

SAFETY MEETING DATE:

SUBCOMMITTEE TASK TITLE:

ASSIGNED SUBCOMMITTEE MEMBERS

MEMBER:

DEPARTMENT:

PHONE:

MEMBER:

DEPARTMENT:

PHONE:

MEMBER:

DEPARTMENT:

PHONE:

MEMBER:

DEPARTMENT:

PHONE:

Supervisor Notified:
☐ Yes ☐ No

Related Operating Procedures Reviewed:
☐ Yes ☐ No

All Affected Employees Notified:
☐ Yes ☐ No

Date:

Date:

Date

COMMITTEE NARRATIVE OF TASKING

COMMITTEE INITIAL FINDINGS AND RECOMMENDATIONS

DATE SUBMITTED TO SAFETY COMMITTEE:

SAFETY COMMITTEE POINT OF CONTACT:

SAFETY COMMITTEE ACTIONS		
INITIAL ACTION(s)		
NARRATIVE OF INITIAL ACTION(s) TAKEN		
FOLLOW-UP ACTION(s)		
RESPONSIBLE PERSON:	PHONE:	DATE:
RECOMMENDATIONS:		
ESTIMATED COMPLETION DATE:		
RESPONSIBLE PERSON:	PHONE:	DATE:
RECOMMENDATIONS:		
TASK COMPLETED		
RESPONSIBLE PERSON:	PHONE:	DATE:
SUMMARY OF ACTIONS TAKEN:		
TASK CLOSURE		
I acknowledge that I have investigated the subcommittee tasking detailed in this report and have taken the necessary steps to ensure correction of safety deficiencies noted.		
* Further detailed on attachment: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Name:	Signature:	
Title:	Date:	Time:
REPORT FORM RETENTION INFORMATION		ATTACHMENTS
Permanent Retention File:	Location:	*Yes <input type="checkbox"/> No <input type="checkbox"/>
Date Filed:	Filed By:	*See Following Pages

TRAINING ATTENDANCE ROSTER SAFETY COMMITTEE	
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<p>Safety Committee Training Includes:</p> <ul style="list-style-type: none">• <i>Purpose of a Committee</i>• <i>Positions and Responsibilities</i>• <i>Charter and Meeting Rules</i>• <i>Accident Investigationand Inspection</i>• <i>Reporting Hazards</i>• <i>Leading and Participating in Meetings</i>• <i>Job Hazard Analysis Methods</i>
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INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
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SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

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Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

SCISSOR LIFT PROGRAM

REGULATORY STANDARD: OSHA 29CFR1910.29 and 1926.452

INTRODUCTION: A scissor lift is a type of mobile or moveable scaffold that is power driven and able to lift a platform vertically (up and down). Scissor Lifts must be inspected before use and operators must understand the controls and safety functions of the lift.

TRAINING:

Operators must be trained in the safe use requirements of each type of lift used per manufacturer's recommendations. Ensure the operators show they can use a scissor lift properly and are trained in fall protection where its use would be required.

ACTIVITIES:

- Identify the tasks that require a scissor lift
- Maintain manufacturer's requirements, limits and documentation
- Conduct daily inspections prior to use, recommended to document inspections
- Ensure only trained operators use lift equipment
- Implement, maintain, and inspect fall arrest systems when required

FORMS:

- Scissor Lift Operator Daily Checklist
- Scissor Lift Operator Evaluation Assessment
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training Information & Requirements**
- 7. Definitions**

General Safety Awareness Program

- 1. Purpose.** This document provides a written safety program outlining the rules and requirements for the use of mobile work platforms (scissor lifts) and similar mobile devices.
- 2. Scope.** Applies to any use of scissor lift equipment by company employees.
- 3. Responsibilities.**

3.1 Management:

- 3.1.1 Ensures equipment is maintained in a safe condition for use.
- 3.1.2 Ensures operators are appropriately trained in the use of the equipment, and protective systems, based on manufacturer's recommendations.

3.2 Employees:

- 3.2.1 Complete operator safety training.
- 3.2.2 Uses the equipment in a safe manner, in accordance with manufacturer and company requirements.
- 3.2.3 Inspect equipment before use.
- 3.2.4 Utilizes fall protection systems, as required.

4. Procedure.

- 4.1 Operators must inspect the scissor lift controls and components before use. Report problems and malfunctions to management.
- 4.2 Operators must remain in the lift, with both feet on the floor system, unless a fall protection harness is used. If the lift is equipped with a platform that extends outside the wheelbase of the lift, fall protection must be worn when working from the extended portion, even if a guardrail system is in place.
- 4.3 Before a scissor lift is moved, each employee on the lift shall be made aware of the move.
- 4.4 Fall Protection Systems:

- 4.4.1 Fall Protection (body harness and lanyard) is required if the operator or worker will:
 - 4.4.1.1 Step off the lift onto another surface area (with a fall hazard of 6 feet or more) that is not protected by a guardrail.
 - 4.4.1.2 Step onto the toe-board, mid-rail or top rail for any reason.
 - 4.4.1.3 Lean out over the guardrail for any reason.
 - 4.4.1.4 Step out onto an extendable platform (as part of the scissor lift), that extends outside the wheelbase of the lift.
- 4.4.2 From a scissor lift, it is allowable to secure your personal fall arrest system (lanyard attached to a full body harness) to an adjacent pole, structure, or equipment while working, but only if that practice does not present a hazard and other means of tie-off or fall protection means are not feasible.
- 4.5 Equipment Specifications: Scissor lifts must conform and be maintained to original manufacturer requirements.

5. Safety Information.

- 5.1 Safe Work Practices. Scissor lifts must comply with the following requirements:
 - 5.1.1 They must be braced or have brake controls to hold the basket in place and to prevent collapse.
 - 5.1.2 Will not be moved horizontally while employees are on them, unless the lift has been designed specifically for such movement.
 - 5.1.3 Platforms that extend beyond the wheel base may not be used unless outrigger frames or equivalent stability devices are used.
 - 5.1.4 Before a lift is moved, each employee on the lift shall be made aware of the move.

- 5.1.5 Select work locations with firm and level surfaces away from hazards that can cause the lift to be unstable (e.g., drop-offs or holes, slopes, bumps or ground obstructions, or debris)
- 5.1.6 Select work locations that are clear of electrical power sources (e.g., power lines, transformers) - by at least 10 feet - and other overhead hazards (e.g., other utilities, branches, overhangs, etc.)
- 5.1.7 Operate lifts only during weather conditions that are safe for use (e.g., not in high winds, rain, snow, sleet, etc.)
- 5.1.8 Ensure the lift is not overloaded

5.2 Guardrail Systems:

- 5.2.1 All sides must be protected by a standard guardrail system (top rail at approximately 42" height, mid-rail approximately 21" from standing surface) which meets the requirements for guardrail system height and strength requirements.
- 5.2.2 Toe-boards are required if the lift goes 10 feet or higher from the ground or floor surface.

5.3 Entry and exit area:

- 5.3.1 The opening must be provided with a movable gate, or safety chains which meet equivalent strength requirements for guardrail systems. If chains are used, they must have both a top and mid-rail chain.
- 5.3.2 Safe access to the lift must be provided by a ladder or steps. These ladder steps are normally built into the scissor lift and must be used to safely enter and exit the lift.
- 5.3.3 Jumping from the lift to the ground to dismount is prohibited.
- 5.3.4 Climbing the cross-braces to access the lift is prohibited.

5.4 Safe Operation:

- 5.4.1 Lifts must be stable when stationary, in either the folded or extended mode, and be prevented from tipping during movement.
- 5.4.2 Lifts shall be plumb, level, and squared. All brace connections shall be secured.

- 5.4.3 Platforms must be free from holes, pits or deformities through which materials may fall, or where these deformities may contribute to the collapse of the system or similar hazards.
- 5.4.4 Speed must be limited to 1 foot per second or less.
- 5.4.5 Operators must understand the controls and function of the lift.
- 5.4.6 Maintain safe clearances from internal fixtures (lights, sprinkler heads and pipes)

6. Training and Information

Operators must be trained in the safe use requirements of each type of lift used per manufacturer's recommendations. Ensure the operators show they can use a scissor lift properly and are trained in fall protection where its use would be required.

7. Definitions.

- *Scissor Lift* - a type of mobile or moveable scaffold that is power driven and able to lift a platform vertically (up and down). Scissor lifts may have a platform that extends outward, but the basket of the lift does not rotate or move outside the wheelbase of the lift (like a cherry picker, fire truck or utility truck).

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SCISSOR LIFT OPERATOR DAILY CHECKLIST

Items to Be Inspected	OK
Emergency controls are in proper working condition? (Emergency Stop Device and emergency lowering function)	<input type="checkbox"/>
Safety devices are functional? (Foot pedal, spring lock, etc.)	<input type="checkbox"/>
All safety indicator lights work properly and motion alarms are functional?	<input type="checkbox"/>
Fire extinguisher on platform (recommended)?	<input type="checkbox"/>
All controls function properly, are clean and clearly labeled?	<input type="checkbox"/>
Ground operating controls successfully over-ride the aerial controls?	<input type="checkbox"/>
Fuel level is acceptable and the system is not leaking?	<input type="checkbox"/>
Hydraulic level is acceptable and the system is not leaking?	<input type="checkbox"/>
Are there any loose or missing parts? (Bolts, fasteners, braces, brackets, etc.)	<input type="checkbox"/>
Work platform is clean, dry and clear of debris?	<input type="checkbox"/>
Tires, wheels, and lug nuts are in good condition?	<input type="checkbox"/>
No defects such as cracked welds, damaged control cables, damaged wire harness or other obvious damage.	<input type="checkbox"/>
Slide pad is not worn down?	<input type="checkbox"/>
Braking devices are operating properly?	<input type="checkbox"/>
The manufacturer's operations manual is stored on the lift (in all languages of the operators)?	<input type="checkbox"/>
All switch and mechanical guards are in good condition and properly installed?	<input type="checkbox"/>
Platform gate and Guardrails are in place and in good condition?	<input type="checkbox"/>
Other personal protective devices are in good condition?	<input type="checkbox"/>
Stabilizers, outriggers and/or extending axles function properly?	<input type="checkbox"/>
Working lights are operational?	<input type="checkbox"/>
All manufacturer required inspections of all hydraulic control relief valves and other manufacturer requirements have been completed within the required time period? Check inspection sticker on equipment for validation.	<input type="checkbox"/>
Battery indicator shows an acceptable level remaining?	<input type="checkbox"/>
Is the total load within the rated capacity?	<input type="checkbox"/>
SCISSOR LIFT INSPECTED BY:	
Signature:	Date:
Scissor lift is safe to operate?	__ Yes __ No
Comments:	

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Scissor Lift Performance Evaluation

Operator: _____ Date: _____

Instructor: _____ Company Name: _____

	Satisfactory	Needs Improvement
Follows Pre-Operation Inspection		
Safe Start Up		
Clear the area of bystanders		
Determine if power line precautions are required		
Vehicle is positioned on level ground		
Set the parking brake		
Chock the wheels		
Engage power supply		
Set the outriggers (as applicable)		
Make sure vehicle is stable before entering platform and raising and lowering the platform		
Follow additional procedures in operator's manual		
Safe Maneuvering		
Does not endanger people or property		
Avoids jerking controls		
Avoids potential crush points		
Understands each control and its specific function		
Smoothly moves machine in forward & reverse		
Smoothly extends and retracts lift platform		
Operates equipment according to manufacturer's instructions		
Safe Shut-down		
Slowly lowers boom to rest on supports		
Raises the outriggers (as applicable)		
Shuts off power supply		
Removes outrigger pads (if applicable) and wheel chocks		
Follows procedures in operator's manual		

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TRAINING ATTENDANCE ROSTER									
SCISSOR LIFT USE									

<p>Scissor Lift Training Includes:</p> <ul style="list-style-type: none">• What is a Scissor Lift• General Use Rules• Fall Protection Requirements
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Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

SILICA SAFETY PROGRAM

REGULATORY STANDARD: OSHA – 29 CFR 1910.1053
29 CFR 1926.1153

INTRODUCTION

Silica dust can cause respiratory disease, if you have significant exposure to high levels or consistent exposure to intermediate levels of the dust. This program outlines the exposure types and actions to be taken in the event that the company has silica exposures.

TRAINING

- Where exposures above the PEL (permissible exposure limit) occur, employees will be trained, as appropriate, in the method of respiratory protection provided by the company.
- Where exposures above the AL (action level) occur, employees must be informed of the hazards posed by respirable crystalline silica. This may occur separately or as part of the hazard communication training for the company.

ACTIVITIES

- Determine if silica exposure levels are of concern for employee job tasks
- Implement exposure monitoring program for each employee who may reasonably be expected to be exposed to respirable crystalline silica at or above the action level
- Utilize engineering and work practice controls to reduce exposure wherever feasible
- In general industry applications only, you must post signs and limit access to regulated areas where silica exposure levels may exceed the Permissible Exposure Limit (PEL)
- Establish and implement a Silica Exposure Control Plan
- Implement a medical surveillance program appropriate to exposure levels
- Provide personal protective equipment, including respirators when required.
- Maintain records of all exposure measurements taken during the exposure assessment
- Train employees and document the training

FORMS

- Authorization for Crystalline Silica Exposure information to the Employer
- Silica Exposure Control Plan
- Written Medical Opinion from PLHCP to Employee
- Written Medical Opinion from PLHCP to Employer
- Silica Text of the Regulatory Standard
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Silica Safety Program

1. **Purpose.** This document outlines the requirements for reducing or eliminating exposure to respirable crystalline silica.
2. **Scope.** This document applies to all occupational exposures to respirable crystalline silica in general industry and in construction work, except where employee exposure will remain below the action level (AL) of 25 micrograms per cubic meter of air (25 µg/m³) as an 8-hour time-weighted average (TWA) under any foreseeable conditions. Any exposure at or above the permissible exposure limit (PEL) of 50 ug/m³, calculated as an 8-hour TWA.

3. Responsibilities

3.1. Management/Supervisors

- 3.1.1. Ensure compliance with the requirements of this standard.
- 3.1.2. Assess exposure levels and provide PPE as needed or required, including respirators and/or ventilation.
- 3.1.3. For construction activities, management will (for tasks performed indoors or in enclosed areas) provide a means of exhaust as needed to minimize the accumulation of visible airborne dust
 - 3.1.3.1. For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;

3.2. Employees

- 3.2.1. Will use protective equipment as required
- 3.2.2. Report any exposure concerns to management.

4. Procedure

4.1. Exposure Determination

- 4.1.1. The table below identifies, engineering controls, work practices, and respiratory protection applicable to silica exposure. Note that when combinations of tasks requiring protection or controls are performed, the highest level of protection indicated will be used.
 - 4.1.1.1. For any activity not in the table, comply by using alternative exposure assessment.

4.1.1.2. For measures that include an enclosed cab or booth, ensure that the cab or booth:

- Is maintained as free as practicable from settled dust;
- Has door seals and closing mechanisms that work properly;
- Has gaskets and seals that are in good condition and working properly;
- Is under positive pressure through continuous delivery of fresh air;
- Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
- Has heating and cooling capabilities.

SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment/Task	Engineering and work practice controls	Respiratory Protection (and Minimum Assigned Protection Factor – APF)	
		≤4 Hrs/shift	>4 Hrs/shift
Stationary Masonry Saw	Integrated water delivery to continuously feed water to the blade. (Wet Saw)	None	None
Handheld Power Saw	Integrated water delivery to continuously feed water to the blade. (Wet Saw)		
	- When Used Outdoors	None	APF 10
	- When Used Indoors or in Enclosed Area	APF 10	APF 10
Handheld Power Saw for cutting fiber-cement board (tile backer board) with blade diameter 8" or less	When performed outdoors: - Use commercially available dust collection system with 99% efficiency filter	None	None
Walk-Behind Saw	Integrated water delivery to continuously feed water to the blade. (Wet Saw)		
	- When Used Outdoors	None	None
	- When Used Indoors or in Enclosed Area	APF 10	APF 10
Drivable Saw	When performed outdoors: Integrated water delivery to continuously feed water to the blade. (Wet Saw)	None	None
Rig-mounted Core Saw or Drill	Integrated water delivery to continuously feed water to the blade. (Wet Saw)	None	None
Rotary Hammer Drills and similar handheld and stand-mounted drills	Use drill equipped with commercially available shroud or cowl with dust collection system. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None

Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10
Vehicle-mounted drilling rigs for rock and concrete.	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.	None	None
Jackhammers and hand-held powered chippers	Use tool that supplies a continuous stream or spray of water at the point of impact:		
	- When used outdoors	None	APF 10
	- When used indoors or in an enclosed area OR Use tools equipped with commercially available shroud and dust collection system.	APF 10	APF 10
Handheld grinders for mortar removal (<i>i.e.</i> , tuckpointing).	Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism:		
	- When used outdoors	None	APF 10
	- When used indoors or in an enclosed area OR Use grinders equipped with commercially available shroud and dust collection system. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 10
Handheld grinders for uses other than mortar removal.	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. (wet grinding)	None	None
	OR Use grinders equipped with commercially available shroud and dust collection system. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism:		
	- When used outdoors		None
	- When used indoors or in an enclosed area	None	APF 10
Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. OR Use machine equipped with dust collection system recommended by the manufacturer. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None	None
Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.	None	None

Large drivable milling machines (half-lane and larger).	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.	None	None
	For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.	None	None
Crushing Machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). OR Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials.	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials.	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

4.2. Alternative Exposure Assessment

4.2.1. The employer shall assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level. This may be done by evaluating and characterizing exposure levels using objective data over an 8 hour TWA or by physical monitoring of exposure levels.

4.2.1.1. When monitoring, breathing zone air samples will be taken from one or more employees on each shift, for each job classification, in each work area. Employees expected to have the highest exposure to respirable crystalline silica will be sampled. All samples taken will be analyzed by approved laboratory methods.

- If monitoring is below the action level, no action needs to be taken.
- If monitoring is above the action level but below the PEL, monitoring will be repeated within 6 months. When levels are reduced to below the action level, monitoring will take place

until two consecutive measurements taken 7 (or more) days apart show exposures below the action level.

- If monitoring is above the PEL, monitoring will be repeated within 3 months until the levels are below the PEL

4.2.2. Exposure Re-Assessment

- 4.2.2.1. The employer shall reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level, or when the employer has any reason to believe that new or additional exposures at or above the action level have occurred.

4.2.3. Notification of Sampling Results

- 4.2.3.1. For employees in General Industry, each affected employee will be notified of the sampling results within 15 working days after completion of the exposure assessment.
- 4.2.3.2. For employees in Construction, each affected employee will be notified of the sampling results within 5 working days after completion of the exposure assessment.
- 4.2.3.3. Notification can be made through posting the results in an area accessible to all affected employees or through a written notification to each affected employee.
- 4.2.3.4. Where results are over the PEL, the corrective action to be taken to reduce exposures to levels below the PEL will be included in the notification.

4.2.4. Sampling Observation and Protection

- 4.2.4.1. Employees affected by the sampling processes have the right to observe the monitoring process.
- 4.2.4.2. Any person involved or observing the monitoring must be appropriately protected from exposure and personal protective equipment (and suitable training in the use of the equipment) must be provided.

4.3. Regulated Areas (General Industry Only)

- 4.3.1. The employer shall establish a regulated area wherever an employee's exposure to airborne concentrations of respirable silica is, or can reasonably be expected to be, in excess of the PEL.
- 4.3.2. The employer shall demarcate regulated areas from the rest of the workplace in a manner that minimizes the number of employees exposed to respirable

crystalline silica within the regulated area, and shall post signs at all entrances to regulated areas that bear the legend specified in the Communication section of this program.

- 4.3.3. The employer shall limit access to regulated areas to:
 - 4.3.3.1. Persons authorized by the employer and required by work duties to be present in the regulated area.
 - 4.3.3.2. Designated representatives of employees for the purpose of exercising the right to observe monitoring procedures.
 - 4.3.3.3. Any person authorized by the Occupational Safety and Health Act or regulations issued under it to be in a regulated area.
- 4.3.4. The employer shall provide each employee and the employee's designated representative entering a regulated area with an appropriate respirator and shall require each employee and the employee's designated representative to use the respirator while in a regulated area.

5. Safety Information

- 5.1. The employer shall use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL, unless the employer can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection that complies with this section.
 - 5.1.1. Fracking activities will have appropriate engineering controls in place to reduce or eliminate exposure to below the PEL. Controls are required to be in place on or before June 23, 2021. Until this time, respirators will be provided as protective measures when needed.
 - 5.1.2. Other standards may be applicable where abrasive blasting is conducted, using crystalline silica-containing blasting agents, or where abrasive blasting is conducted on substrates that contain crystalline silica.
- 5.2. Respiratory protection
 - 5.2.1. Where required, respirators will be provided at no cost to the employee.
 - 5.2.2. Will be used during the implementation, testing, maintenance or repair of engineering controls whenever there is exposure potential.
 - 5.2.2.1. In general Industry, respirators must be worn during periods when an employee is in a regulated area, or when exposed to levels at or above the action level for more than 30 days
 - 5.2.2.2. In construction, respirators will be provided whenever exposure occurs for more than 30 days per year.

- 5.2.3. When feasible engineering controls and work practice controls are not sufficient to reduce exposures below the PEL.
- 5.2.4. Respirator programs will comply with OSHA requirements for respiratory protection.

5.3. Housekeeping

- 5.3.1. The employer shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.
- 5.3.2. The employer shall not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless:
 - 5.3.2.1. The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
 - 5.3.2.2. No alternative method is feasible.

5.4. Written exposure control plan

- 5.4.1. The employer shall establish and implement a written exposure control plan that contains at least the following elements:
 - 5.4.1.1. A description of the tasks in the workplace that involve exposure to respirable crystalline silica;
 - 5.4.1.2. A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task;
 - 5.4.1.3. A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica; and
 - 5.4.1.4. When performing construction activities, a description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.
- 5.4.2. The employer shall review and evaluate the effectiveness of the written exposure control plan at least annually and update it as necessary.
- 5.4.3. The employer shall make the written exposure control plan readily available for examination and copying, upon request.

- 5.4.4. When performing construction activities, the employer shall designate a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.

5.5. Medical surveillance

- 5.5.1. The employer shall make medical surveillance available at no cost to the employee, and at a reasonable time and place, for each employee:

5.5.1.1. For General Industry: as of June 23, 2018 above the PEL and June 23, 2020 if above the Action Level.

5.5.1.2. For Construction: as of June 23, 2017.

- 5.5.2. The employer shall ensure that all medical examinations and procedures required by this section are performed by a physician or other licensed health care professional (PLHCP).

- 5.5.3. The employer shall make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of this section within the last three years. The examination shall consist of:

5.5.3.1. A medical and work history, with emphasis on: Past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and smoking status and history;

- A physical examination with special emphasis on the respiratory system;
- A chest X-ray;
- A pulmonary function test;
- Testing for latent tuberculosis infection; and
- Any other tests deemed appropriate by the PLHCP.

- 5.5.4. The employer shall make available medical examinations that include the initial examination procedures (except latent tuberculosis infection testing) at least every three years, or more frequently if recommended by the PLHCP.

- 5.5.5. The employer shall ensure that the examining PLHCP has a copy of this standard, and shall provide the PLHCP with the following information:

5.5.5.1. A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to respirable crystalline silica;

- 5.5.5.2. The employee's former, current, and anticipated levels of occupational exposure to respirable crystalline silica;
 - 5.5.5.3. A description of any personal protective equipment used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and
 - 5.5.5.4. Information from records of employment-related medical examinations previously provided to the employee and currently within the control of the employer.
- 5.5.6. The employer shall ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:
- 5.5.6.1. A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to respirable crystalline silica and any medical conditions that require further evaluation or treatment;
 - 5.5.6.2. Any recommended limitations on the employee's use of respirators;
 - 5.5.6.3. Any recommended limitations on the employee's exposure to respirable crystalline silica; and;
 - 5.5.6.4. A statement that the employee should be examined by a specialist if the chest X-ray indicates it is needed.
- 5.5.7. The employer shall obtain a written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion shall contain only the following:
- 5.5.7.1. The date of the examination;
 - 5.5.7.2. A statement that the examination has met the requirements of this section; and
 - 5.5.7.3. Any recommended limitations on the employee's use of respirators.
 - 5.5.7.4. If the employee provides written authorization, the written opinion shall also contain either or both of the following:
 - Any recommended limitations on the employee's exposure to respirable crystalline silica;
 - A statement that the employee should be examined by a specialist if the chest X-ray indicates it is needed.

5.5.7.5. The employer shall ensure that each employee receives a copy of the written medical opinion within 30 days of each medical examination performed.

5.5.8. Additional examinations

5.5.8.1. If the PLHCP's written medical opinion indicates that an employee should be examined by a specialist, the employer shall make available a medical examination by a specialist within 30 days after receiving the PLHCP's written opinion.

5.5.8.2. The employer shall ensure that the examining specialist is provided with all of the information that the employer is obligated to provide to the PLHCP.

5.5.8.3. The employer shall ensure that the specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report shall meet the requirements of the PLHCP's written medical report for the employee.

5.5.8.4. The employer shall obtain a written opinion from the specialist within 30 days of the medical examination. The written opinion shall meet the requirements of the PLHCP's written medical opinion for the employer.

5.6. Recordkeeping

5.6.1. Air monitoring data

5.6.1.1. The employer shall make and maintain an accurate record of all exposure measurements taken during the exposure assessment.

5.6.1.2. This record shall include at least the following information:

- The date of measurement for each sample taken;
- The task monitored;
- Sampling and analytical methods used;
- Number, duration, and results of samples taken;
- Identity of the laboratory that performed the analysis;
- Type of personal protective equipment, such as respirators, worn by the employees monitored; and
- Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

5.6.1.3. The employer shall ensure that exposure records are maintained and made available in accordance with regulatory requirements.

5.6.2. Objective data

5.6.2.1. The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of this section.

- This record shall include at least the following information:
- The crystalline silica-containing material in question;
- The source of the objective data;
- The testing protocol and results of testing;
- A description of the process, task, or activity on which the objective data were based; and
- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

5.6.2.2. The employer shall ensure that objective data are maintained and made available in accordance with regulatory requirement.

5.6.3. Medical surveillance

5.6.3.1. The employer shall make and maintain an accurate record for each employee covered by medical surveillance.

5.6.3.2. The record shall include the following information about the employee:

- Name and social security number;
- A copy of the PLHCPs' and specialists' written medical opinions; and
- A copy of the information provided to the PLHCPs and specialists.

5.6.3.3. The employer shall ensure that medical records are maintained and made available in accordance with regulatory requirements.

6. Training and Information

6.1. Communication of respirable crystalline silica hazards to employees

- 6.1.1. The company will either provide separate training or include respirable crystalline silica in the program established to comply with the hazard communication standard (HCS). This includes labeling of containers that have silica, access to safety data sheets, and training. At a minimum the following hazards must be addressed: Cancer, lung effects, immune system effects, and kidney effects.
- 6.1.2. Where respirators are used, the company will comply with the provisions of the respiratory protection standard. This includes training, fit testing, and medical clearance for respirator use.
- 6.1.3. Employee information and training
 - 6.1.3.1. The employer shall ensure that each employee covered by this section can demonstrate knowledge and understanding of at least the following:
 - The health hazards associated with exposure to respirable crystalline silica;
 - Specific tasks in the workplace that could result in exposure to respirable crystalline silica;
 - Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;
 - The contents of this section;
 - The identity of the competent person designated by the employer; and
 - The purpose and a description of the medical surveillance program.
 - 6.1.4. The employer shall ensure a copy of the standard regarding respirable silica is available without cost to each employee covered by this section.
 - 6.1.5. In general industry, the employer shall post signs at all entrances to regulated areas that bear the following legend:
DANGER
RESPIRABLE CRYSTALLINE SILICA
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
WEAR RESPIRATORY PROTECTION IN THIS AREA
AUTHORIZED PERSONNEL ONLY

7. Definitions

- Action level - means a concentration of airborne respirable crystalline silica of 25 µg/m³, calculated as an 8-hour TWA.
- Competent person - means an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.
- Employee exposure - means the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.
- High-efficiency particulate air [HEPA] filter - means a filter that is at least 99.97 percent efficient in removing mono-dispersed particles of 0.3 micrometers in diameter.
- Objective data - means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.
- Physician or other licensed health care professional [PLHCP] - means an individual who is legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required.
- Respirable crystalline silica - means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for industry accepted respirable-particle-size-selective samplers.
- Specialist - means an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

This form must be filled out by employees who undergo medical surveillance for silica exposure. It must be given to the health care provider who is providing the medical surveillance to the employee.

AUTHORIZATION FOR CRYSTALLINE SILICA OPINION TO EMPLOYER

Your medical surveillance exam for Respirable Crystalline Silica could potentially reveal to your employer a medical condition that you may have which could result in:

- (1) limitations on respirator use,
- (2) limitations on exposure to crystalline silica, or
- (3) the need for an examination by a specialist in pulmonary disease or occupational medicine.

Recommended limitations on respirator use will be included in the written opinion to the employer. If you want your employer to know about limitations on crystalline silica exposure or recommendations for a specialist examination, you will need to give authorization and/or permission for the written opinion to the employer to include one or both of those recommendations.

I hereby authorize the opinion to the employer to contain the following information, if relevant: (please check all that apply):

- ☐ Recommendations for limitations on crystalline silica exposure
- ☐ Recommendation for a specialist examination

OR

I do not authorize the opinion to the employer to contain anything other than recommended limitations on respirator use.

Please read and initial:

- ☐ I understand that if I do not authorize my employer to receive the recommendation for specialist examination, the employer will not be responsible for arranging and covering costs of a specialist examination.

Name (printed)

Signature

Date

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SILICA EXPOSURE CONTROL PLAN

Do not use or consider the use of any PPE when making determinations for #1

1) The listing of job classifications (by job title or group) that involve respirable crystalline silica exposure:

2) Description of engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task:

3) Description of housekeeping measures used to limit employee exposure to respirable crystalline silica:

This exposure control plan shall be reviewed and evaluated for effectiveness at least annually and updated as necessary (when conditions or job tasks involving crystalline silica exposure change).

This written exposure control plan shall be made readily available for examination and copying, upon request, to each employee covered by this section, their designated representatives, the Assistant Secretary, and the Director.

The following sections are required for construction related activities:

Procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors:

The employer shall designate a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement this written exposure control plan.

Designated Competent Person: _____

Completed by: _____ Date: _____

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WRITTEN MEDICAL OPINION FROM PLHCP FOR EMPLOYEE

Employee Name: _____ Date of Exam: _____

TYPE OF EXAMINATION:

☐ Initial examination ☐ Periodic examination ☐ Specialist examination ☐ Other:

RESULTS OF MEDICAL EXAMINATION:

Physical Examination – ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Chest X-Ray – ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Breathing Test (Spirometry) – ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Test for Tuberculosis – ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Other: _____ ☐ Normal ☐ Abnormal (see below) ☐ Not performed

Results reported as abnormal: _____

☐ Your health may be at increased risk from exposure to respirable crystalline silica due to the following: _____

RECOMMENDATIONS:

☐ No limitations on respirator use

☐ Recommended limitations on use of respirator: _____

☐ Recommended limitations on exposure to respirable crystalline silica:

Dates for recommended limitations, if applicable: _____ to _____

☐ I recommend that you be examined by a Board Certified Specialist in Pulmonary Disease or Occupational Medicine

☐ Other recommendations*:

Your next periodic examination for silica exposure should be in:

☐ 3 years ☐ Other: _____

Examining Provider: _____ Date: _____
(signature)

Provider Name: _____

Office Address: _____ Phone: _____

*These findings may not be related to respirable crystalline silica exposure or may not be work-related, and therefore may not be covered by the employer. These findings may necessitate follow-up and treatment by your personal physician. Respirable Crystalline Silica standard (§ 1910.1053 or 1926.1153)

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This form will be filled out by the evaluating physician and provided to the employer.

WRITTEN MEDICAL OPINION FROM PLHCP TO EMPLOYER

EMPLOYER: _____

EMPLOYEE NAME: _____

EXAMINATION DATE: _____

TYPE OF EXAMINATION: ☐ Initial examination ☐ Periodic examination

☐ Specialist examination ☐ Other: _____

USE OF RESPIRATOR:

☐ No limitations on respirator use

☐ Recommended limitations on use of respirator: _____

Dates for recommended limitations (if applicable): _____ to _____
mm/dd/yyyy mm/dd/yyyy

The employee has provided written authorization for disclosure of the following to the employer (as applicable Authorization for Crystalline Silica Opinion to Employer_FORM):

☐ This employee should be examined by an American Board Certified Specialist in Pulmonary Disease or Occupational Medicine

☐ Recommended limitations on exposure to respirable crystalline silica: _____

Dates for exposure limitations noted above: _____ to _____
mm/dd/yyyy mm/dd/yyyy

NEXT PERIODIC EVALUATION: ☐ 3 years ☐ Other (date): _____

☐ I attest that the results have been explained to the employee.

The following is required to be checked by the Physician or other Licensed Health Care Professional (PLHCP):

☐ I attest that this medical examination has met the requirements of the medical surveillance section of the OSHA Respirable Crystalline Silica standard (§ 1910.1053(h) or 1926.1153(h)).

Examining Provider: _____ Date: _____
(signature)

Provider Name: _____

Provider's specialty: _____

Office Address: _____

Office Phone: _____

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SILICA TEXT OF THE REGULATORY STANDARD

§1926.1153 Respirable crystalline silica.

- (a) Scope and application. This section applies to all occupational exposures to respirable crystalline silica in construction work, except where employee exposure will remain below 25 micrograms per cubic meter of air ($25 \mu\text{g}/\text{m}^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.
- (b) Definitions. For the purposes of this section the following definitions apply:

Action level means a concentration of airborne respirable crystalline silica of $25 \mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Competent person means an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them. The competent person must have the knowledge and ability necessary to fulfill the responsibilities set forth in paragraph (g) of this section.

Employee exposure means the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.

High-efficiency particulate air [HEPA] filter means a filter that is at least 99.97 percent efficient in removing mono-dispersed particles of 0.3 micrometers in diameter.

Objective data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

Physician or other licensed health care professional [PLHCP] means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by paragraph (h) of this section.

Respirable crystalline silica means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality – Particle Size Fraction Definitions for Health-Related Sampling.

Specialist means an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

This section means this respirable crystalline silica standard, 29 CFR 1926.1153.

- (c) Specified exposure control methods. (1) For each employee engaged in a task identified on Table 1, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1, unless the employer assesses and limits the exposure of the employee to respirable crystalline silica in accordance with paragraph (d) of this section.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA**

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p>	None	None
(ii) Handheld power saws (any blade diameter)	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> — When used outdoors. — When used indoors or in an enclosed area. 	<p>None</p> <p>APF 10</p>	<p>APF 10</p> <p>APF 10</p>
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	<p>For tasks performed outdoors only:</p> <p>Use saw equipped with commercially available dust collection system.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.</p>	None	None
(iv) Walk-behind saws	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> — When used outdoors. — When used indoors or in an enclosed area. 	<p>None</p> <p>APF 10</p>	<p>None</p> <p>APF 10</p>

(v) Drivable saws	<p>For tasks performed outdoors only:</p> <p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p>	None	None
(vi) Rig-mounted core saws or drills	<p>Use tool equipped with integrated water delivery system that supplies water to cutting surface.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p>	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	<p>Use drill equipped with commercially available shroud or cowling with dust collection system.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</p> <p>Use a HEPA-filtered vacuum when cleaning holes.</p>	None	None
(viii) Dowel drilling rigs for concrete	<p>For tasks performed outdoors only:</p> <p>Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</p> <p>Use a HEPA-filtered vacuum when cleaning holes.</p>	APF 10	APF 10
(ix) Vehicle-mounted drilling rigs for rock and concrete	<p>Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.</p> <p>OR</p> <p>Operate from within an enclosed cab and use water for dust suppression on drill bit.</p>	<p>None</p> <p>None</p>	<p>None</p> <p>None</p>

	<p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.</p> <ul style="list-style-type: none"> - When used outdoors. - When used indoors or in an enclosed area. 	<p>None</p> <p>None</p>	
(xiii) Walk-behind milling machines and floor grinders	<p>Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>OR</p> <p>Use machine equipped with dust collection system recommended by the manufacturer.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</p> <p>When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.</p>	<p>None</p> <p>None</p>	<p>None</p> <p>None</p>
(xiv) Small drivable milling machines (less than half-lane)	<p>Use a machine equipped with supplemental water sprays designed to suppress dust.</p> <p>Water must be combined with a surfactant.</p> <p>Operate and maintain machine to minimize dust emissions.</p>	<p>None</p>	<p>None</p>

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA**

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
	OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

(2) When implementing the control measures specified in Table 1, each employer shall:

- (i) For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
- (ii) For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
- (iii) For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:
 - (A) Is maintained as free as practicable from settled dust;
 - (B) Has door seals and closing mechanisms that work properly;
 - (C) Has gaskets and seals that are in good condition and working properly;
 - (D) Is under positive pressure maintained through continuous delivery of fresh air;
 - (E) Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
 - (F) Has heating and cooling capabilities.

(3) Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

(d) Alternative exposure control methods. For tasks not listed in Table 1, or where the employer does not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1:

(1) Permissible exposure limit (PEL). The employer shall ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of $50 \mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.

(2) Exposure assessment—(i) General. The employer shall assess the exposure of each

employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level in accordance with either the performance option in paragraph (d)(2)(ii) or the scheduled monitoring option in paragraph (d)(2)(iii) of this section.

(ii) Performance option. The employer shall assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to respirable crystalline silica.

(iii) Scheduled monitoring option. (A) The employer shall perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, in each work area. Where several employees perform the same tasks on the same shift and in the same work area, the employer may sample a representative fraction of these employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) who are expected to have the highest exposure to respirable crystalline silica.

(B) If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.

(C) Where the most recent exposure monitoring indicates that employee exposures are at or above the action level but at or below the PEL, the employer shall repeat such monitoring within six months of the most recent monitoring.

(D) Where the most recent exposure monitoring indicates that employee exposures are above the PEL, the employer shall repeat such monitoring within three months of the most recent monitoring.

(E) Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the action level, the employer shall repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the action level, at which time the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring, except as otherwise provided in paragraph (d)(2)(iv) of this section.

(iv) Reassessment of exposures. The employer shall reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level, or when the employer has any reason to believe that new or additional exposures at or above the action level have occurred.

(v) Methods of sample analysis. The employer shall ensure that all samples taken to satisfy the monitoring requirements of paragraph (d)(2) of this section are evaluated by a laboratory that analyzes air samples for respirable crystalline silica in accordance with the procedures in Appendix A to this section.

(vi) Employee notification of assessment results. (A) Within five working days after completing an exposure assessment in accordance with paragraph (d)(2) of this section, the employer shall individually notify each affected employee in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees.

(B) Whenever an exposure assessment indicates that employee exposure is above the PEL, the employer shall describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

(vii) Observation of monitoring. (A) Where air monitoring is performed to comply with the requirements of this section, the employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to respirable crystalline silica.

(B) When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required for any workplace hazard, the employer shall provide the observer with protective clothing and equipment at no cost and shall ensure that the observer uses such clothing and equipment.

(3) Methods of compliance—(i) Engineering and work practice controls. The employer shall use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL, unless the employer can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection that complies with the requirements of paragraph (e) of this section.

(ii) Abrasive blasting. In addition to the requirements of paragraph (d)(3)(i) of this section, the employer shall comply with other OSHA standards, when applicable, such as 29 CFR 1926.57 (Ventilation), where abrasive blasting is conducted using crystalline silica-containing

blasting agents, or where abrasive blasting is conducted on substrates that contain crystalline silica.

(e) Respiratory protection—(1) General. Where respiratory protection is required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph and 29 CFR 1910.134. Respiratory protection is required:

(i) Where specified by Table 1 of paragraph (c) of this section; or

(ii) For tasks not listed in Table 1, or where the employer does not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1:

(A) Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;

(B) Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and

(C) During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

(2) Respiratory protection program. Where respirator use is required by this section, the employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134.

(3) Specified exposure control methods. For the tasks listed in Table 1 in paragraph (c) of this section, if the employer fully and properly implements the engineering controls, work practices, and respiratory protection described in Table 1, the employer shall be considered to be in compliance with paragraph (e)(1) of this section and the requirements for selection of respirators in 29 CFR 1910.134(d)(1)(iii) and (d)(3) with regard to exposure to respirable crystalline silica.

(f) Housekeeping. (1) The employer shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.

(2) The employer shall not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless:

(i) The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or

(ii) No alternative method is feasible.

(g) Written exposure control plan. (1) The employer shall establish and implement a written exposure control plan that contains at least the following elements:

(i) A description of the tasks in the workplace that involve exposure to respirable crystalline silica;

(ii) A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task;

(iii) A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica; and

(iv) A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.

(2) The employer shall review and evaluate the effectiveness of the written exposure control plan at least annually and update it as necessary.

(3) The employer shall make the written exposure control plan readily available for examination and copying, upon request, to each employee covered by this section, their designated representatives, the Assistant Secretary and the Director.

(4) The employer shall designate a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.

(h) Medical surveillance—(1) General. (i) The employer shall make medical surveillance available at no cost to the employee, and at a reasonable time and place, for each employee who will be required under this section to use a respirator for 30 or more days per year.

(ii) The employer shall ensure that all medical examinations and procedures required by this section are performed by a PLHCP as defined in paragraph (b) of this section.

(2) Initial examination. The employer shall make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of this section within the last three years. The examination shall

consist of:

(i) A medical and work history, with emphasis on: past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and smoking status and history;

(ii) A physical examination with special emphasis on the respiratory system;

(iii) A chest X-ray (a single posteroanterior radiographic projection or radiograph of the chest at full inspiration recorded on either film (no less than 14 x 17 inches and no more than 16 x 17 inches) or digital radiography systems), interpreted and classified according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconioses by a NIOSH-certified B Reader;

(iv) A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV₁) and FEV₁/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;

(v) Testing for latent tuberculosis infection; and

(vi) Any other tests deemed appropriate by the PLHCP.

(3) Periodic examinations. The employer shall make available medical examinations that include the procedures described in paragraph (h)(2) of this section (except paragraph (h)(2)(v)) at least every three years, or more frequently if recommended by the PLHCP.

(4) Information provided to the PLHCP. The employer shall ensure that the examining PLHCP has a copy of this standard, and shall provide the PLHCP with the following information:

(i) A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to respirable crystalline silica;

(ii) The employee's former, current, and anticipated levels of occupational exposure to respirable crystalline silica;

(iii) A description of any personal protective equipment used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and

(iv) Information from records of employment-related medical examinations previously provided to the employee and currently within the control of the employer.

(5) PLHCP's written medical report for the employee. The employer shall ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

(i) A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to respirable crystalline silica and any medical conditions that require further evaluation or treatment;

(ii) Any recommended limitations on the employee's use of respirators;

(iii) Any recommended limitations on the employee's exposure to respirable crystalline silica; and

(6) A statement that the employee should be examined by a specialist (pursuant to paragraph (h)(7) of this section) if the chest X-ray provided in accordance with this section is classified as 1/0 or higher by the B Reader, or if referral to a specialist is otherwise deemed appropriate by the PLHCP. PLHCP's written medical opinion for the employer. (i) The employer shall obtain a

written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion shall contain only the following:

(A) The date of the examination;

(B) A statement that the examination has met the requirements of this section; and

(C) Any recommended limitations on the employee's use of respirators.

(ii) If the employee provides written authorization, the written opinion shall also contain either or both of the following:

(A) Any recommended limitations on the employee's exposure to respirable crystalline silica;

(B) A statement that the employee should be examined by a specialist (pursuant to paragraph (h)(7) of this section) if the chest X-ray provided in accordance with this section is classified as 1/0 or higher by the B Reader, or if referral to a specialist is otherwise deemed appropriate by the PLHCP.

(iii) The employer shall ensure that each employee receives a copy of the written medical opinion described in paragraph (h)(6)(i) and (ii) of this section within 30 days of each medical examination performed.

(7) Additional examinations. (i) If the PLHCP's written medical opinion indicates that an employee should be examined by a specialist, the employer shall make available a medical examination by a specialist within 30 days after receiving the PLHCP's written opinion.

(ii) The employer shall ensure that the examining specialist is provided with all of the information that the employer is obligated to provide to the PLHCP in accordance with paragraph (h)(4) of this section. The employer shall ensure that the specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report shall meet the requirements of paragraph (h)(5) (except paragraph (h)(5)(iv)) of this section.

(iii) The employer shall obtain a written opinion from the specialist within 30 days of the medical examination. The written opinion shall meet the requirements of paragraph (h)(6) (except paragraph (h)(6)(i)(B) and (ii)(B)) of this section.

(i) Communication of respirable crystalline silica hazards to employees—(1) Hazard communication. The employer shall include respirable crystalline silica in the program established to comply with the hazard communication standard (HCS) (29 CFR 1910.1200). The employer shall ensure that each employee has access to labels on containers of crystalline silica and safety data sheets, and is trained in accordance with the provisions of HCS and paragraph (i)(2) of this section. The employer shall ensure that at least the following hazards are addressed: Cancer, lung effects, immune system effects, and kidney effects.

(2) Employee information and training. (i) The employer shall ensure that each employee covered by this section can demonstrate knowledge and understanding of at least the following:

(A) The health hazards associated with exposure to respirable crystalline silica;

(B) Specific tasks in the workplace that could result in exposure to respirable crystalline silica;

(C) Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;

(D) The contents of this section; The identity of the competent person designated by the employer in accordance with paragraph (g)(4) of this section; and

(E) The purpose and a description of the medical surveillance program required by paragraph (h) of this section.

(ii) The employer shall make a copy of this section readily available without cost to each employee covered by this section.

(j) Recordkeeping—(1) Air monitoring data. (i) The employer shall make and maintain an accurate record of all exposure measurements taken to assess employee exposure to respirable crystalline silica, as prescribed in paragraph (d)(2) of this section.

(ii) This record shall include at least the following information:

(A) The date of measurement for each sample taken;

(B) The task monitored;

(C) Sampling and analytical methods used;

(D) Number, duration, and results of samples taken;

(E) Identity of the laboratory that performed the analysis;

(F) Type of personal protective equipment, such as respirators, worn by the employees monitored; and

(G) Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

(iii) The employer shall ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020.

(2) Objective data. (i) The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of this section. This record shall include at least the following information:

(A) The crystalline silica-containing material in question;

(B) The source of the objective data;

(C) The testing protocol and results of testing;

(D) A description of the process, task, or activity on which the objective data were based; and

(E) Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

(iii) The employer shall ensure that objective data are maintained and made available in accordance with 29 CFR 1910.1020.

(3) Medical surveillance. (i) The employer shall make and maintain an accurate record for each employee covered by medical surveillance under paragraph (h) of this section.

(ii) The record shall include the following information about the employee:

(A) Name and social security number;

(B) A copy of the PLHCPs' and specialists' written medical opinions; and

(C) A copy of the information provided to the PLHCPs and specialists.

(iii) The employer shall ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020.

(k) Dates. (1) This section shall become effective June 23, 2016.

(2) All obligations of this section, except requirements for methods of sample analysis in paragraph (d)(2)(v), shall commence June 23, 2017.

(3) Requirements for methods of sample analysis in paragraph (d)(2)(v) of this section commence June 23, 2018.

TRAINING ATTENDANCE ROSTER SILICA

Silica Training Includes:

- Health hazards associated with exposure
- Tasks in the workplace that could result in exposure
- Measure to protect workers
- Competent person
- Purpose and description of the medical surveillance program

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print)
FIRST - MI - LAST

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed.

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

STAIRWAY AND FIXED-LADDER INDUSTRIAL SAFETY PROGRAM

REGULATORY STANDARD: 29 CFR - 1910.24 Fixed Industrial Stairs
- 1910.27 Fixed Ladder

INTRODUCTION: Fixed ladder systems and stairways must be evaluated to identify potential deficiencies and associated hazards. Information concerning these hazards must be communicated to employees, and appropriate procedures and protective measures for employees established.

TRAINING:

- Employees will be informed in the recognition of hazards for fixed ladder use.
- Inspectors of fixed ladders will understand the nature of fall hazards, the system requirements, and intended load-carrying capacities of fixed ladders.

ACTIVITIES:

- Implement, communicate, and enforce stairway and fixed-ladder safety policies
- Ensure fixed ladders and stairs are maintained in good, useable condition, free from obstacles, storage and debris
- Ensure any new or existing installations meet the regulatory requirements for strength, durability, rung and cage spacing, etc.
- Provide equipment for lifting or lowering materials and equipment to ensure safe use of fixed ladders
- Provide adequate lighting

FORMS:

- Training Attendance Roster

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

Stairway and Fixed-Ladder Industrial Safety Program

- 1. Purpose.** The company will ensure that all potential hazards regarding stairways and fixed-ladders within our facility are evaluated for potential deficiencies and any associated potential hazards they may present. The company will review and evaluate this safety program:
 - 1.1 On an annual basis or more frequently, as required.
 - 1.2 When changes occur to the governing regulatory statutes that prompt revision of this document.
 - 1.3 When facility operational changes occur that require a revision of this document.
- 2. Scope.** This program applies to any existing or new fixed ladders or stairways at company facilities.
- 3. Responsibilities.**
 - 3.1 Management/Supervisors:
 - 3.1.1 Ensure fixed ladders and stairs are maintained in good, useable condition.
 - 3.1.2 Ensure stairways are maintained free from obstacles, storage and debris.
 - 3.1.3 Ensure any new or existing installations meet the regulatory requirements for strength, durability, rung and cage spacing, etc.
 - 3.1.4 Provide equipment for lifting or lowering materials and equipment to ensure safe use of fixed ladders.
 - 3.2 Employees:
 - 3.2.1 Bring any deficiencies or hazardous conditions to the attention of management or your supervisor.
 - 3.2.2 Assist, as needed or required, in the inspection of fixed ladders and stairways.
 - 3.2.3 Maintain stairways and areas around fixed ladders in a clean and neat condition to help ensure their safe use.
 - 3.3 Safety Officer (as needed or required):
 - 3.3.1 Assist in the development and implementation of this program.
- 4. Procedure.**
 - 4.1 Fixed Industrial Stairs Safety Policy:
 - 4.1.1 All stairways will be kept clean, orderly, and free of known hazards.

- 4.1.2 Cleaning requirements. To facilitate the cleaning process, all stairways will be kept free from protruding nails, splinters, holes, or loose boards or other hindrances that would prevent efficient maintenance.
 - 4.1.2.1 Stairways leading to work stations will be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used drainage will be maintained and false floors, platforms, mats, or other dry standing places will be provided where practicable.
 - 4.1.2.2 Will be kept free of obstacles at all times. Any employee finding an emergency route blocked should immediately report the condition to management or supervisors (or the company Safety Officer) for correction. Exit lights and signs will also be maintained in proper condition at all times and immediately reported if deficient.
 - 4.1.3 Sufficient illumination will be provided in all areas at all times especially where stairways and ladders are in use. Employees discovering lighting deficiencies will report them to management or supervisors (or the company Safety Officer) for correction.
 - 4.1.4 Ladder maintenance. Supervisors will ensure that Ladder under their control are properly maintained and kept in a clean and orderly manner.
- 4.2 Metal Ladder Safety Policy:
- 4.2.1 To insure safety and serviceability the following precautions concerning the care and use of metal Ladder will be observed:
 - 4.2.1.1 Care of metal Ladder. The following safety precautions will be observed in connection with the care of metal Ladder:
 - 4.2.1.1.1 Ladder must be maintained in good usable condition at all times.
 - 4.2.1.1.2 If a ladder is involved in any of the following, immediate inspection is necessary:
 - 4.2.1.1.2.1 If Ladders tip or components are defective, inspect ladder for side rails dents or bends, or excessively dented rungs; check all rung-to-side-rail connections; check hardware connections; check rivets for shear.
 - 4.2.1.1.2.2 If ladder is exposed to oil and grease, components should be cleaned of oil, grease, or slippery materials. This can easily be done with a solvent or steam cleaning.

4.2.2 Ladder having defects are to be marked and blocked off until repaired by either maintenance department or the manufacturer.

4.2.3 When ascending or descending, the climber must face the ladder.

5. Safety Information.

5.1 Fixed Industrial Stairs:

5.1.1 Fixed stairs will be provided for access from one structure level to another where operations necessitate regular travel between levels and for access to operating platforms at any equipment which requires attention routinely during operations. Fixed stairs will also be provided where access to elevations is daily or at each shift for such purposes as gauging, inspection, regular maintenance, etc. Fixed stairs will also be provided where access to elevations is daily or at each shift for such work that may expose employees to acids, caustics, gases, other harmful substances, or for which purposes the carrying of tools or equipment by hand is normally required.

5.1.2 Spiral stairways. Spiral stairways will not be constructed or used except for special limited usage and secondary access situations where it is not practical to provide a conventional stairway.

5.1.3 Stair strength. Fixed stairways will be designed and constructed to carry a load of five times the normal live load anticipated but never of less strength than to carry safely a moving concentrated load of 1,000 pounds.

5.1.4 Stair width. Fixed stairways will have a minimum width of 22 inches.

5.1.5 Angle of stairway rise. Fixed stairs will be installed at angles to the horizontal of between 30 and 50. Any uniform combination of rise/tread dimensions may be used that will result in a stairway at an angle to the horizontal within the permissible range. Table D-1 (29 CFR 1910.24) gives general rise/tread dimensions which will produce a stairway within the permissible range, stating the angle to the horizontal produced by each combination.

Table D-1 (29 CFR 1910.24)

<u>Angle to horizontal</u>	<u>Rise (in inches)</u>	<u>Tread run (in inches)</u>
30 35'	6 ½	11
32 08'	6 ¾	10 ¾
33 41'	7	10 ½
35 16'	7 ¼	10 ¼
36 52'	7 ½	10
38 29'	7 ¾	9 ¾
40 08'	8	9 ½
41 44'	8 1/4	9 1/4
43 22'	8 ½	9
45 00'	8 ¾	8 ¾
46 38'	9	8 ½
48 16'	9 ¼	8 ¼
49 54'	9 1/2	8

- 5.1.6 Stair treads. All treads will be reasonably slip-resistant and the nosings will be of nonslip finish. Welded bar grating treads without nosings are acceptable providing the leading edge can be readily identified by personnel descending the stairway and provided the tread is serrated or is of definite nonslip design. Rise height and tread width will be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.
- 5.1.7 Stairway platforms. Stairway platforms will be no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.
- 5.1.8 Railings and handrails. Standard railings will be provided on the open sides of all exposed stairways and stairway platforms. Handrails will be provided on at least one side of closed stairways preferably on the right side descending. Stair railings and handrails will be installed in accordance with the provisions of 29 CFR 1910.23.
 - 5.1.8.1 A standard railing consists of a top rail, intermediate or mid-rail rail, and posts, and has a vertical height of approximately 42 inches from the standing surface. Mid-rails are located approximately halfway between the top rail and the standing surface. Rails must be smooth and may not project or overhang posts to create a hazard.
- 5.1.9 Vertical clearance. Vertical clearance above any stair tread to an overhead obstruction will be at least 7 feet measured from the leading edge of the tread.
- 5.2 Fixed Ladders:
 - 5.2.1 General
 - 5.2.1.1 The minimum design live load will be a single concentrated load of 200 pounds.
 - 5.2.1.2 The number and position of additional concentrated live-load units of 200 pounds each as determined from anticipated usage of the ladder will be considered in the design.
 - 5.2.1.3 The live loads imposed by persons occupying the ladder will be considered to be concentrated at such points as will cause the maximum stress in the structural member being considered.
 - 5.2.1.4 The weight of the ladder and attached appurtenances together with the live load will be considered in the design of rails and fastenings.
 - 5.2.2 Rungs and Cleats.
 - 5.2.2.1 All rungs will have a minimum diameter of three-fourths inch for metal Ladder and a minimum diameter of 1 1/8 inches for wood ladder.

- 5.2.2.2 The distance between rungs, cleats, and steps will not exceed 12 inches and will be uniform throughout the length of the ladder.
- 5.2.2.3 The minimum clear length of rungs or cleats will be 16 inches.
- 5.2.2.4 Rungs, cleats, and steps will be free of splinters, sharp edges, burrs, or projections which may be a hazard.
- 5.2.2.5 The rungs of an individual-rung ladder will be so designed that the foot cannot slide off the end.

5.2.3 Components and Construction.

- 5.2.3.1 Side rails. Side rails, which might be used as a climbing aid, will be of such cross sections as to afford adequate gripping surface without sharp edges, splinters, or burrs.
- 5.2.3.2 Fastenings. Fastenings will be an integral part of fixed ladder design.
- 5.2.3.3 Splices. All splices and connections will have smooth transition with original members and with no sharp or extensive projections.
- 5.2.3.4 Electrolytic action. Adequate means will be employed to protect dissimilar metals from electrolytic action when such metals are joined.
- 5.2.3.5 Welding. All welding will be in accordance with the "Code for Welding in Building Construction" (AWS D1.0-1966).

5.2.4 Protection from Deterioration.

- 5.2.4.1 Metal Ladder and appurtenances will be painted or otherwise treated to resist corrosion and rusting when location demands. Ladder formed by individual metal rungs imbedded in concrete, which serve as access to pits and to other areas under floors, are frequently located in an atmosphere that causes corrosion and rusting. To increase rung life in such atmosphere, individual metal rungs will have a minimum diameter of 1 inch or will be painted or otherwise treated to resist corrosion and rusting.
- 5.2.4.2 Wood Ladder, when used under conditions where decay may occur, will be treated with a nonirritating preservative and the details will be such as to prevent or minimize the accumulation of water on wood parts.
- 5.2.4.3 When different types of materials are used in the construction of a ladder, the materials used will be so treated as to have no deleterious affect one upon the other.

5.2.5 Clearance.

5.2.5.1 Climbing side. On fixed Ladder, the perpendicular distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder will be the following with minimum clearances for intermediate pitches varying between these two limits in proportion to the slope:

5.2.5.1.1 36 inches for a pitch of 76 degrees

5.2.5.1.2 30 inches for a pitch of 90 degrees

5.2.5.2 Ladder without cages or wells. A clear width of at least 15 inches will be provided each way from the centerline of the ladder in the climbing space except when cages or wells are necessary.

5.2.5.3 Clearance in back of ladder. The distance from the centerline of rungs, cleats, or steps to the nearest permanent object in back of the ladder will be not less than 7 inches except when unavoidable obstructions are encountered; then minimum clearances as shown in 29 CFR 1910.27, figure D-3, will be provided.

5.2.5.4 Clearance in back of grab bar. The distance from the centerline of the grab bar to the nearest permanent object in back of the grab bars will be not less than 4 inches. Grab bars will not protrude on the climbing side beyond the rungs of the ladder which they serve.

5.2.5.5 Step-across distance. The step-across distance from the nearest edge of ladder to the nearest edge of equipment or structure will be not more than 12 inches or less than 2 1/2 inches (29 CFR 1910.27, fig. D-4).

5.2.5.6 Hatch cover. Counterweighted hatch covers will open a minimum of 60 degrees from the horizontal. The distance from the centerline of rungs or cleats to the edge of the hatch opening on the climbing side will be not less than 24 inches for offset wells or 30 inches for straight wells. There will be not protruding potential hazards within 24 inches of the centerline of rungs or cleats. Any such hazards within 30 inches of the centerline of the rungs or cleats will be fitted with deflector plates placed at an angle of 60 degrees from the horizontal as indicated in 29 CFR 1910.27, figure D-5. The relationship of a fixed ladder to an acceptable counterweighted hatch cover is illustrated in 29 CFR 1910.27, figure D-6.

5.2.6 Special Requirements for Cages or Wells.

5.2.6.1 Cages or wells (except on chimney Ladder) will be built, as shown on the applicable drawings, covered in detail in 29 CFR 1910.27, figures D-7, D-8, and D-9, or of equivalent construction.

- 5.2.6.2 Cages or wells conforming to the dimensions shown in 29 CFR 1910.27, figures D-7, D-8, and D-9 will be provided on Ladder of more than 20 feet to a maximum unbroken length of 30 feet.
- 5.2.6.3 Cages will extend down the ladder to a point not less than 7 feet or more than 8 feet above the base of the ladder, with bottom flared not less than 4 inches, or portion of cage opposite ladder will be carried to the base.
- 5.2.6.4 Cages will not extend less than 27 or more than 28 inches from the centerline of the rungs of the ladder. Cage will not be less than 27 inches in width. The inside will be clear of projections. Vertical bars will be located at a maximum spacing of 40 degrees around the circumference of the cage; this will give a maximum spacing of approximately 9 1/2 inches, center to center.
- 5.2.6.5 Ladder wells will have a clear width of at least 15 inches measured each way from the centerline of the ladder. Smooth-walled wells will be a minimum of 27 inches from the centerline of rungs to the well wall on the climbing side of the ladder. Where other obstructions on the climbing side of the ladder exist, there will be a minimum of 30 inches from the centerline of the rungs.
- 5.2.6.6 For fixed ladders that extend more than 24 feet (7.3 m) above a lower level, the employer must ensure:
 - 5.2.6.6.3 Existing fixed ladders. Each fixed ladder installed before November 19, 2018 must be equipped with a personal fall arrest system, ladder safety system, cage, or well;
 - 5.2.6.6.4 New fixed ladders. Each fixed ladder installed on and after November 19, 2018, must be equipped with a personal fall arrest system or a ladder safety system;
 - 5.2.6.6.5 Replacement. When a fixed ladder, cage, or well, or any portion of a section thereof, is replaced, a personal fall arrest system or ladder safety system must be installed in at least that section of the fixed ladder, cage, or well where the replacement is located; and
 - 5.2.6.6.6 Final deadline. On and after November 18, 2036, all fixed ladders must be equipped with a personal fall arrest system or a ladder safety system.

6. Training and Information.

- 6.1 Employees or other designated persons will be trained, as needed or required, in the inspection of fixed ladders and stairways.
- 6.2 Employees, as needed or required, will be trained or informed of the safe use and maintenance of fixed ladders and stairways.

7. Definitions.

- Ø *Cage* - A cage is a guard that may be referred to as a cage or basket guard which is an enclosure that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder.
- Ø *Cleats* - Cleats are ladder cross-pieces of rectangular cross-section placed on edge on which a person may step in ascending or descending.
- Ø *Fastenings* - A fastening is a device to attach a ladder to a structure, building, or equipment.
- Ø *Fixed ladder* - A fixed ladder is a ladder permanently attached to a structure, building, or equipment.
- Ø *Grab bars* - Grab bars are individual handholds placed adjacent to or as an extension above Ladder for the purpose of providing access beyond the limits of the ladder.
- Ø *Handrail* - A single bar or pipe supported on brackets from a wall or partition to provide a continuous handhold for persons using a stair.
- Ø *Individual-rung ladder* - An individual-rung ladder is a fixed ladder each rung of which is individually attached to a structure, building, or equipment.
- Ø *Ladder* - A ladder is an appliance usually consisting of two side rails joined at regular intervals by cross-pieces called steps, rungs, or cleats, on which a person may step in ascending or descending.
- Ø *Ladder safety device* - A ladder safety device is any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and which may incorporate such features as life belts, friction brakes, and sliding attachments.
- Ø *Nose, nosing* - That portion of a tread projecting beyond the face of the riser immediately below.
- Ø *Open riser* - The air space between the treads of stairways without upright members (risers).
- Ø *Pitch* - Pitch is the included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.
- Ø *Platform* - An extended step or landing breaking a continuous run of stairs.
- Ø *Rail ladder* - A rail ladder is a fixed ladder consisting of side rails joined at regular intervals by rungs or cleats and fastened in full length or in sections to a building, structure, or equipment.
- Ø *Railing* - A vertical barrier erected along exposed sides of stairways and platforms to prevent falls of persons. The top member of railing usually serves as a handrail.

- Ø *Rise* - The vertical distance from the top of a tread to the top of the next higher tread.
- Ø *Riser* - The upright member of a step situated at the back of a lower tread and near the leading edge of the next higher tread.
- Ø *Rungs* - Rungs are ladder cross-pieces of circular or oval cross-section on which a person may step in ascending or descending.
- Ø *Side-step ladder* - A side-step ladder is one from which a man getting off at the top must step sideways from the ladder in order to reach the landing.
- Ø *Stairs, stairway* - A series of steps leading from one level or floor to another, or leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment that are used more or less continuously or routinely by employees, or only occasionally by specific individuals. A series of steps and landings having three or more risers constitutes stairs or stairway.
- Ø *Steps* - Steps are the flat cross-pieces of a ladder on which a person may step in ascending or descending.
- Ø *Through ladder* - A through ladder is one from which a man getting off at the top must step through the ladder in order to reach the landing.
- Ø *Tread* - The horizontal member of a step.
- Ø *Tread run* - The horizontal distance from the leading edge of a tread to the leading edge of an adjacent tread.
- Ø *Tread width* - The horizontal distance from front to back of tread including nosing when used.
- Ø *Well* - A well is a permanent complete enclosure around a fixed ladder, which is attached to the walls of the well. Proper clearances for a well will give the person who must climb the ladder the same protection as a cage.

Fixed Ladder Safe Use Requirements are part of the Portable Ladder Safety Training.

- **General Ladder Safety Requirements**
- **Inspection of Equipment**
- **Portable Step Ladder Use**
- **Portable Rung Ladder Use**
- **Fixed Ladder Use**
- **Mobile Stairs Use**

Name of Interpreter, if utilized: _____

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Trenching and Shoring

PROGRAM OVERVIEW

TRENCHING AND SHORING SAFETY PROGRAM

REGULATORY STANDARD: 29 CFR 1926.650 - 653

INTRODUCTION: This program addresses the evaluation of hazards associated with the creation of trenches, the shoring requirements, and minimizing any risks to employees who perform work or enter trenches. It provides information for underground installations, access and egress, vehicle traffic, hazardous atmospheres and adjacent structures. It defines requirements for site inspections, sloping and benching systems, support systems and shield systems and highlights employee training requirements.

TRAINING:

- Entrants must be trained in the hazards of working in a trench or excavation
- Entrants and job area supervisors must be trained in the protective system used
- Only qualified persons may set up or build shoring systems or other protective systems. Systems must be designed by a professional engineer, familiar with the hazards encountered in a trench or excavation. In some cases, the engineer or similar competent person must be on-site during installation or set up.

ACTIVITIES:

- Determine the type of protective system to be used
- Ensure a competent person supervises the installation of the system
- Ensure employees who enter trenches and excavations are trained
- Ensure trenches and excavations are inspected daily and after any weather events that may impact the safety of the excavation
- Ensure soils-testing is performed daily by a competent person.
- Ensure trenches and excavations are protected if left unattended

FORMS:

- Training Attendance Roster
- Decision Flow Charts and Options

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- 6. Training Information & Requirements**
- 7. Definitions**

Trenching and Shoring Safety Program

- 1. Purpose.** This program is designed to address the hazards associated with trenching and shoring operations. The primary hazard to which employees may be exposed during excavation work is a cave-in which occurs when the soil forming the side of the excavation can no longer resist the forces applied to it. The company will review and evaluate this safety program:
 - 1.1 On an annual basis and more frequently as needed.
 - 1.2 When regulatory changes occur that prompt revision of this document.
 - 1.3 When facility operational changes or job site changes occur that require a revision of this document.
 - 1.4 When there is an accident or close-call that relates to this topic.
- 2. Scope.** This program applies to all trenching and shoring operations at company facilities or at company job sites.
- 3. Responsibilities.**
 - 3.1 Management/Supervisors:
 - 3.1.1 Ensure a professional engineer or other certified “competent” person is available and on-site as needed, or required.
 - 3.1.2 Ensure surface encumbrances (bushes, trees, poles, utility lines, etc.) are removed or safeguarded during trenching operations.
 - 3.1.3 Provide adequate access and egress, at the required intervals and locations.
 - 3.1.4 Ensure employees who may be exposed to vehicle traffic have the appropriate equipment and training.
 - 3.1.5 Provide appropriate barricades or warning devices for equipment operated near or in trenches.
 - 3.1.6 Ensure confined space procedures are utilized properly for any trench greater than 4 feet (1.22m) deep.
 - 3.1.7 Provide adequate protection for any water accumulation that may occur.
 - 3.1.8 Provide for the underpinning or stabilizing of structures (large trees, buildings, etc.), as needed or required.
 - 3.1.9 Ensure berms, scaling, or other restraining systems are used to prevent materials, equipment and loose rock or soil from falling into trenches.

- 3.1.10 Provide for the performance of site inspections by the engineer or other competent person.
- 3.1.11 Ensure the professional engineer or other competent person approves the design and slope of trenches and shoring.
- 3.1.12 Provide for the materials and design of support systems, shield system and other required protective measures.
- 3.1.13 Ensure the installation and remove of support systems and shields are performed in accordance with the requirements. The professional engineer or other competent person may be designated to oversee this provision.
- 3.1.14 Ensure employees are adequately trained and knowledgeable about their duties and responsibilities with regard to safe working practices at the job site(s).
- 3.2 Employees:
 - 3.2.1 Attend appropriate training.
 - 3.2.2 Utilize protective equipment, as required.
 - 3.2.3 Maintain safe distances from equipment and materials, as needed or required.
 - 3.2.4 Follow established procedures and safe work practices.
- 3.3 Safety Officer (as needed or required):
 - 3.3.1 Assist in the development and implementation of this program.
- 3.4 Professional Engineer (or Other Certified "Competent" Person):
 - 3.4.1 Remain on-site or on-call as needed or required based on the type and magnitude of the job. At least daily visits and duties are required.
 - 3.4.2 Design structural ramps for access to, egress from or crossovers for equipment and personnel.
 - 3.4.3 At least daily, inspect the excavation site, adjacent areas and protective systems used to ensure their adequacy.
 - 3.4.4 Inspect the excavation site, adjacent areas and protective systems after any rainfall or other occurrence that may produce water or run-off into the trench.
 - 3.4.5 Ensure the trench has adequate protection from cave-in.
 - 3.4.6 Design sloping and benching systems, as needed or required.
 - 3.4.7 Design support systems, shield systems and other protective systems, as needed or required.

- 3.4.8 Inspect materials and equipment used for protective systems, upon request, to determine if the material is adequate for use.

4. Procedure.

4.1 Surface Encumbrances and Underground Installations:

- 4.1.1 All surface encumbrances (trees, poles, utilities, etc.) that could create a hazard will be removed (or supported as necessary) to safeguard employees and the structure of the trench.
- 4.1.2 The estimated location of utility installations such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, will be determined prior to opening an excavation.
- 4.1.3 Contact will be made with all utility and service companies (also to include municipal owned) to advise them prior to the start of all actual excavation, without exception. A listing of these utility firms and contact numbers will be maintained by the job site supervisor or project manager for the site.
- 4.1.4 Appropriate time will be allotted to utility companies to locate and mark their installations prior to the beginning of excavation.
- 4.1.5 Utility lines and installations will be protected to the extent possible during excavation work.

4.2 Access and Egress:

- 4.2.1 Structural ramps used for access or egress of equipment (or to cross over an excavation) will be designed by a competent person qualified in structural design and will be constructed in accordance with the design. Ramps used for employee access will be of sufficient strength and design to accommodate the use. Standard guardrail systems will be used when falls greater than 6 feet may occur.
- 4.2.2 Trenches that are 4 feet (1.22m) or more deep must have a stairway, ladder, ramp, or other safe means of egress located so there is never more than 25 feet (7.62m) of travel distance to reach it. Platforms must be provided every 20 feet on stairs, ladders or other means of egress.

4.3 Vehicle Traffic:

- 4.3.1 Employees exposed to public vehicular traffic will be provided with, and will wear warning vests or other suitable garments marked with or made of reflective or high-visibility material.

4.4 Falling Loads:

- 4.4.1 No employee will be permitted underneath loads handled by lifting or digging equipment.

- 4.4.2 Employees will be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.
- 4.4.3 Operators may only remain in the cabs of vehicles being loaded or unloaded if the cab provides adequate protection during loading and unloading operations.
- 4.5 Warning Systems for Mobile Equipment:
 - 4.5.1 When mobile equipment is operated near the edge of an excavation and the operator does not have a clear and direct view of the edge, a warning system will be utilized such as barricades, hand or mechanical signals, or stop logs. If possible the grade should be away from the excavation.
- 4.6 Hazardous Atmospheres:
 - 4.6.1 Testing and controls.
 - 4.6.2 Confined space entry procedures will be adhered to for any trench greater than 4 feet in depth. The company's Confined Space Entry Safety Program will be utilized.
 - 4.6.3 Atmospheric testing includes oxygen deficiency (less than 19.5 % Oxygen) and the presence of flammable gases. Testing will be performed as often as necessary to ensure the atmosphere remains safe.
 - 4.6.4 Emergency rescue equipment.
 - 4.6.5 Emergency rescue equipment appropriate to the safe evacuation of the trench will be present and available for use at all times. Employees or rescue teams trained to use this equipment will remain outside the trench and on-call at all times.
 - 4.6.6 Harness and lifeline will be used for any person entering deep excavations (i.e., bell bottom pier hose or confined footing excavations). Lifelines will be separate from any material handling lines and must be individually attended at all times when in use.
- 4.7 Protection from Water Accumulation Hazards:
 - 4.7.1 Employees will not work in excavations in which there is accumulated water or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed. The precautions necessary may include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline system.
 - 4.7.2 All excavations will be inspected by the site engineer or "competent person" after any rainfall (or other occurrence that may produce water or water run-off) to determine if any change to the soil resistance capacity has occurred.

- 4.7.3 If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, or dikes, or other suitable means will be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation.
- 4.8 Adjacent Structure Stability (trees, buildings, etc.):
 - 4.8.1 Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning will be provided to ensure their stability.
 - 4.8.2 Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees will not be permitted unless the structure is stabilized, the excavation is into stable rock or unless a registered professional engineer has approved the determination that the structure will be unaffected by the excavation activity so that the work will not pose a hazard to employees.
 - 4.8.3 Sidewalks, pavements and appurtenant structures will not be undermined without a support system to protect employees from their possible collapse.
- 4.9 Loose Rock or Soil Protection:
 - 4.9.1 Adequate protection will be provided to protect employees from loose rock or soil that could pose a hazard. Scaling to remove loose materials, barricades, retaining devices or other equivalent protection must be provided. Materials and equipment must be kept at least 2 feet (.61m) from the edge of any excavation to provide adequate levels of protection.

5. Safety Information.

- 5.1 Site Inspections:
 - 5.1.1 Daily inspections of excavations, the adjacent areas, and protective systems will be made by a professional engineer or other certified “competent” person when employee exposures are present.
 - 5.1.2 Inspections will look for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. These inspections are only required when employee exposure can be reasonably anticipated.
 - 5.1.3 Inspections may be required more frequently throughout the work shift, depending upon work progression, rain or wind storms, or observation of changing conditions at the site.
 - 5.1.4 Where sites or protective systems fail inspection, employees will be prohibited from continuing work until the necessary precautions have been taken to ensure their safety.

5.2 Protection of Employees in Excavations:

- 5.2.1 Each employee in an excavation will be protected from cave-ins by an adequately designed protective system unless the depth is less than 5 feet and the engineer or other certified and competent person indicates there is no potential for cave-in or unless the excavation is made entirely in stable rock. Protective systems must resist all loads that could reasonably be expected to be applied to them without fail.

5.3 Design of Sloping and Benching Systems:

- 5.3.1 Option 1 - Allowable configurations and slopes. Excavations will be sloped at an angle not steeper than one and one-half horizontal to one vertical (34 degrees measured from the horizontal).
- 5.3.2 Option 2 - Determination of slopes and configurations uses 29CFR1926.652 Appendices A and B.
- 5.3.3 Option 3 - Designs using other tabulated data. Designs of sloping or benching systems will be selected from and in accordance with tabulated data, such as approved tables and charts. At least one copy of the tabulated data which identifies the registered professional engineer who approved the data, will be maintained at the job site during construction of the protective system. After that time the data may be stored off the job site, but a copy of the data will be made available to OSHA upon request. The tabulated data will be in written form and will include:
 - 5.3.3.1 Identification of the parameters that affect the selection of a sloping or benching system drawn from such data.
 - 5.3.3.2 Identification of the limits of use of the data, to include the magnitude and configuration of slopes determined to be safe.
 - 5.3.3.3 Explanatory information as may be necessary to aid the user in making a correct selection of a protective system from the data.
- 5.3.4 Option 4 - Design by a registered professional engineer. At least one copy of the design will be maintained at the job site while the slope is being constructed. After that time the design need not be at the job site, but a copy will be made available to OSHA upon request. Designs will be in written form and will include at least the following:
 - 5.3.4.1 The magnitude of the slopes that were determined safe for the particular project.
 - 5.3.4.2 The configurations that were determined to be safe for the particular project.
 - 5.3.4.3 The identity of the registered professional engineer approving the design.

5.4 Design of Support Systems, Shield Systems, and Other Protective Systems:

- 5.4.1 Option 1 - Designs using Appendices A, C and D of 29CFR1926.652. Designs for timber shoring in trenches will be determined in accordance with the conditions and requirements set forth in appendices A and C. Designs for aluminum hydraulic shoring will be in accordance with appendix D and/or manufacturer's tabulated data.
- 5.4.2 Option 2 - Designs using Manufacturer's Tabulated Data. Design of support systems, shield systems, or other protective systems that are drawn from manufacturer's tabulated data will be in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer. Deviations must have written approval from the manufacturer and be maintained at the job site during construction of the system. After that time this data may be stored off the job site, but a copy will be made available to OSHA upon request.
- 5.4.3 Option 3 - Designs using other Tabulated Data. Designs of support systems, shield systems, or other protective systems will be selected from and be in accordance with tabulated data, such as tables and charts. At least one copy of the tabulated data, which identifies the registered professional engineer who approved the data, will be maintained at the job site during construction of the protective system. After that time the data may be stored off the job site, but a copy of the data will be made available to the OSHA upon request. The tabulated data will be in written form and include all of the following:
 - 5.4.3.1 Identification of the parameters that affect the selection of a protective system drawn from such data.
 - 5.4.3.2 Identification of the limits of use of the data.
 - 5.4.3.3 Explanatory information as may be necessary to aid the user in making a correct selection of a protective system from the data.
- 5.4.4 Option 4 - Design by a Registered Professional Engineer. Support systems, shield systems, and other protective systems not utilizing Option 1, Option 2 or Option 3, above, will be approved by a registered professional engineer. Designs will be in written form and will include the following:
 - 5.4.4.1 A plan indicating the sizes, types, and configurations of the materials to be used in the protective system.
 - 5.4.4.2 The identity of the registered professional engineer approving the design.

5.5 Materials and Equipment used for Protective Systems:

- 5.5.1 Materials and equipment will be free from damage or defects that might impair their proper function. When damage is evident, the professional engineer or certified "competent" person will determine its suitability for use.

- 5.5.2 Manufactured materials and equipment will be used and maintained in a manner that is consistent with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.

5.6 Installation and Removal of Support Systems and Shields:

- 5.6.1 Members of support systems and shields will be securely connected together to prevent sliding, falling, kick outs, lateral movement or other predictable failure.
- 5.6.2 Support systems and shields will be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by its components.
- 5.6.3 Individual components will not be subjected to loads exceeding those which they are designed.
- 5.6.4 Before temporary removal of components, additional precautions will be taken to ensure the safety of employees, such as installing other components to carry the loads imposed on the support system.
- 5.6.5 Removal will begin at, and progress from, the bottom of the excavation. Structural members and components will be released slowly so as to note any indication of possible failure of the remaining members or possible cave-in of the sides of the excavation.
- 5.6.6 Backfilling will progress together with the removal of support systems from excavations.
- 5.6.7 Excavation of material to a level no greater than 2 feet (.61 m) below the bottom of the members of a support system will be permitted, but only if the system or shield is designed to resist the forces calculated for the full depth of the trench, and there are no indications while the trench is open of a possible loss of soil from behind or below the bottom of the support system.
- 5.6.8 Installation of a support system will be closely coordinated with the excavation of trenches.
- 5.6.9 Employees will not be allowed in shields when shields are being installed, removed, or moved vertically.

5.7 Sloping and Benching Systems:

- 5.7.1 Employees will not be permitted to work on the faces of sloped or benched excavations at levels above other employees except when employees at the lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.

- 5.7.2 Portable trench boxes or sliding trench boxes used in place of shoring and sloping shall be designed by a professional engineer, constructed, and maintained to provide protection at least equal to the required sheeting and shoring.

6. Training and Information.

- 6.1 Employees at job sites where excavations occur will be provided with the knowledge and skills required to maintain safe trenching and shoring operations. Training must establish employee proficiency and introduce operational methods and procedures, as necessary.
- 6.2 Training includes the recognition of applicable hazards associated with trenching and excavation operations. Employees will be retrained when:
- 6.2.1 There is a change in their job assignments
 - 6.2.2 A change in equipment or processes presents a new hazard
 - 6.2.3 There is a change in these procedures
 - 6.2.4 There is a "close-call" or these procedures fail
 - 6.2.5 A periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of these procedures.
- 6.3 Verification. The company shall verify that employee training has been accomplished and is being kept up to date. The documentation shall contain each employee's name and dates of training.

7. Definitions.

- *Accepted Engineering Practices* - Those requirements which are compatible with standards of practice required by a registered professional engineer.
- *Aluminum Hydraulic Shoring* - A pre-engineered shoring system comprised of aluminum hydraulic cylinders (cross braces) used in conjunction with vertical rails (uprights) or horizontal rails (wales). Such system is designed specifically to support the sidewalls of an excavation and prevent cave-ins.
- *Bell-Bottom Pier Hole* - A type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a bell shape.
- *Benching (Benching System)* - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

- *Cave-In* - The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or other wise injure and immobilize a person.
- *Competent Person* - One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- *Cross Braces* - The horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or wales.
- *Egress* – Any method or way of exit or entrance.
- *Excavation* - Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.
- *Faces or Sides* - The vertical or inclined earth surfaces formed as a result of excavation work.
- *Failure* - The breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.
- *Hazardous Atmosphere* - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.
- *Kickout* - means the accidental release or failure of a cross brace.
- *Professional Engineer* - A person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.
- *Protective System* - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.
- *Ramp* - An inclined walking or working surface that is used to gain access to one point from another, and is constructed from earth or from structural materials such as steel or wood.
- *Sheeting* - The members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system.

- *Shield (Shield System)* - A structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 1926.652. Shields used in trenches are usually referred to as "trench boxes" or "trench shields."
- *Shoring (Shoring System)* - A structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.
- *Sides* - See "Faces."
- *Sloping (Sloping System)* - A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.
- *Stable Rock* - Natural solid mineral material that can be excavated with vertical sides and will remain intact while exposed. Unstable rock is considered to be stable when the rock material on the side or sides of the excavation is secured against caving-in or movement by rock bolts or by another protective system that has been designed by a registered professional engineer.
- *Structural Ramp* - A ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rocks are not considered structural ramps.
- *Support System* - A structure such as underpinning, bracing, or shoring, which provides support to an adjacent structure, underground installation, or the sides of an excavation.
- *Tabulated Data* - Tables and charts approved by a registered professional engineer and used to design and construct a protective system.
- *Trench (Trench Excavation)* - A narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.
- *Trench Box* - See "Shield."
- *Trench Shield* - See "Shield."
- *Uprights* - The vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other. Uprights placed so that individual members are closely spaced, in contact with or interconnected to each other, are often called "sheeting."
- *Wales* - Horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

TRAINING ATTENDANCE ROSTER									
TRENCHING AND SHORING AWARENESS									

Trenching and Shoring Awareness Training Includes:

- *Definitions*
- *Hazards and Injuries*
- *Utilities*
- *Determining soils and soils testing*
- *Protective Measures (Trench boxes, sloping, shielding systems)*
- *Access and Egress*
- *Fall Protection and Confined Space Entry*
- *Public Protection and Surface Protection*
- *Hazardous Atmospheres and Environmental Conditions*
- *Cave-in Causes and Dangers*

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

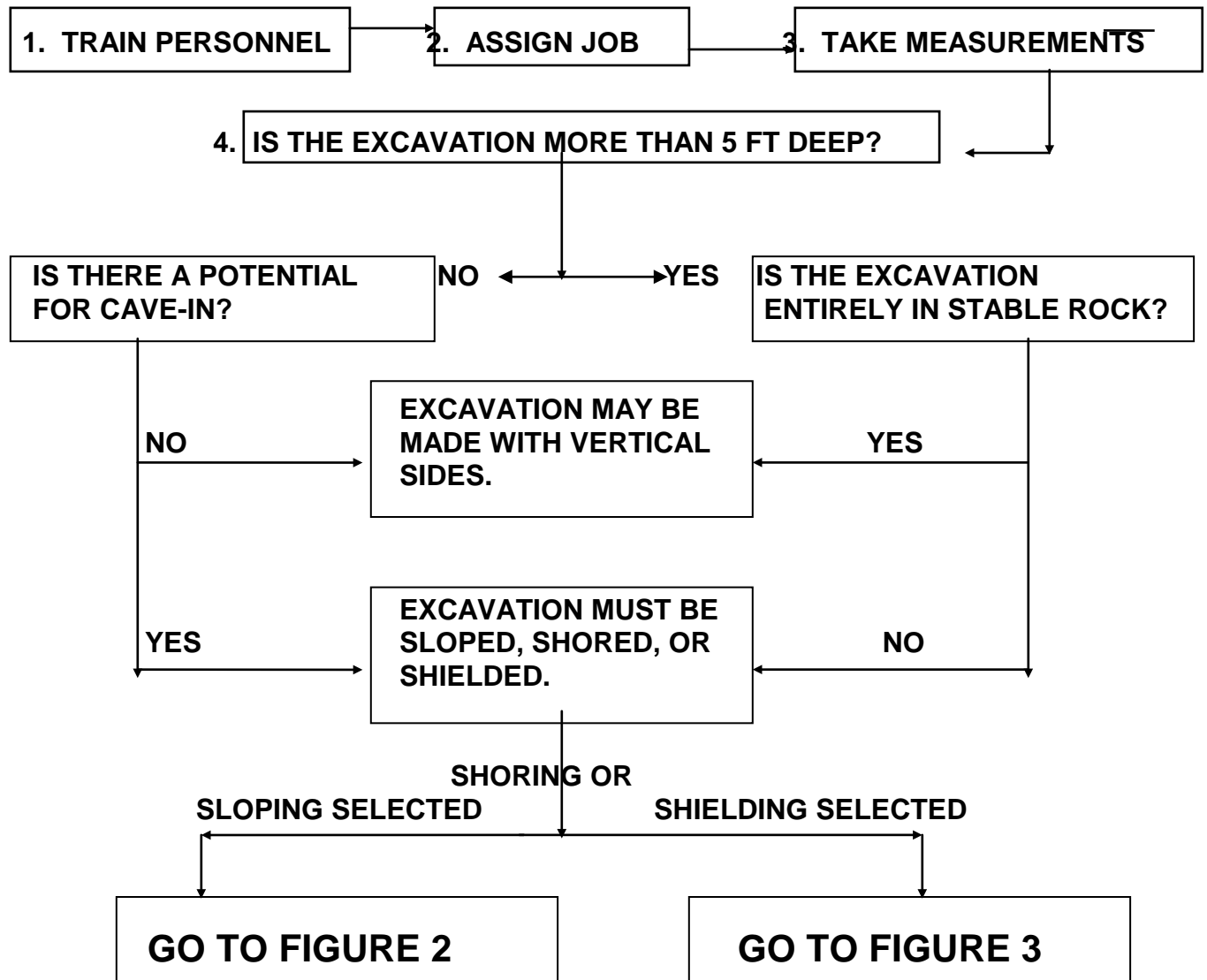
By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

TRENCHING & SHORING - *DECISION FLOW CHART*

FIGURE 1 - PRELIMINARY DECISIONS



TRENCHING & SHORING - *DECISION FLOW CHART*

FIGURE 2 - SHORING AND SHIELDING OPTIONS

**SHORING OR SHIELDING SELECTED AS THE METHOD OF PROTECTION
SOIL CLASSIFICATION IS REQUIRED WHEN SHORING OR SHIELDING IS USED.
THE EXCAVATION MUST COMPLY WITH ONE
OF THE FOLLOWING FOUR OPTIONS**

**EXCAVATION MUST COMPLY WITH ONE OF THE FOLLOWING
FOUR OPTIONS:**

OPTION 1

**1926.652 WHICH REQUIRES APPENDICES A AND B TO BE FOLLOWED
(e.g. timber shoring)**

OPTION 2

**1926.652 WHICH REQUIRES MANUFACTURERS DATA BE FOLLOWED
(e.g. hydraulic shoring, trench jacks, air shores, shields)**

OPTION 3

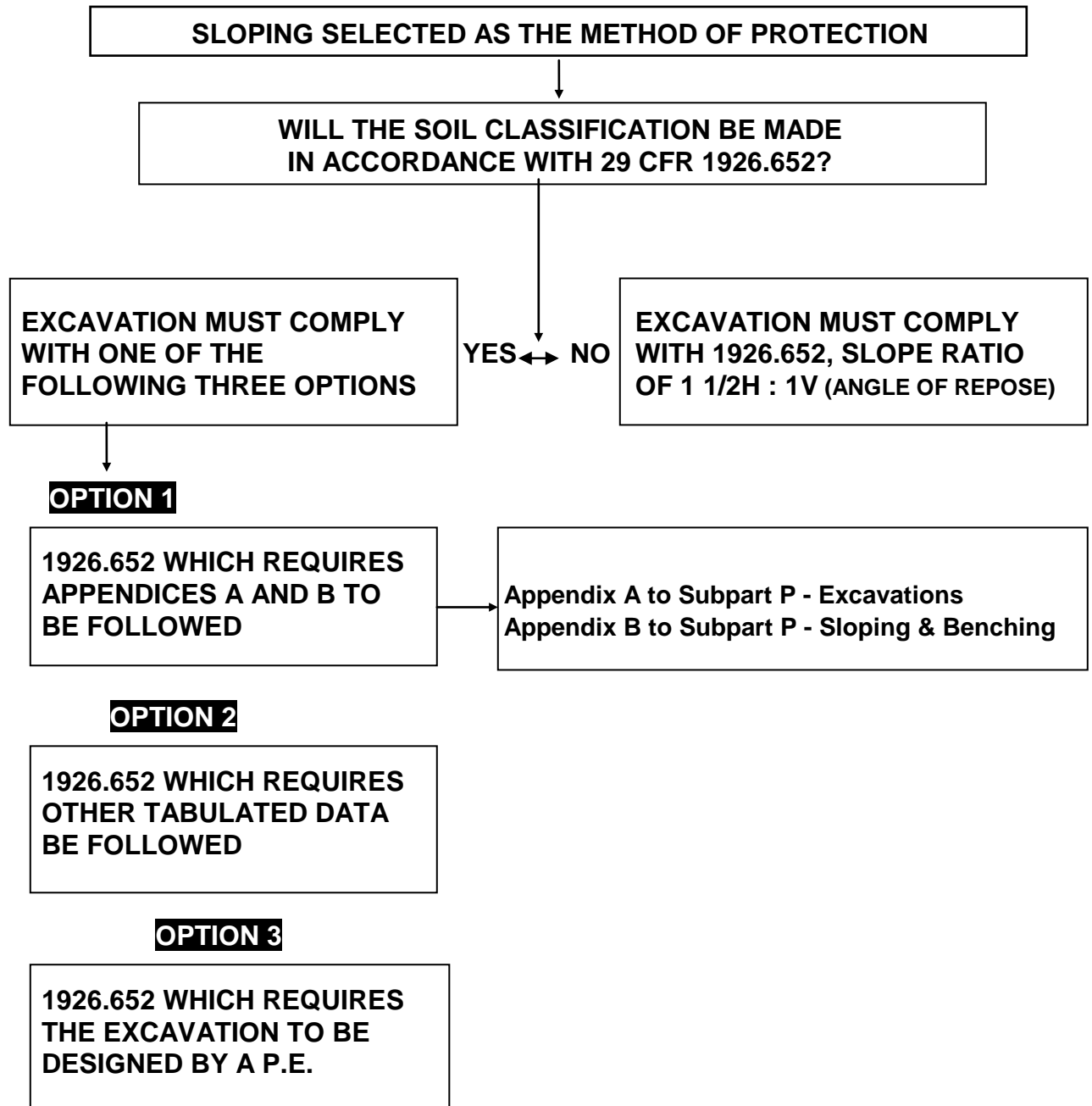
**1926.652 WHICH REQUIRES TABULATED DATA TO BE FOLLOWED
(e.g. any system as per the tabulated data)**

OPTION 4

**1926.652 WHICH REQUIRES THE EXCAVATION TO BE DESIGNED BY
A P.E.**

TRENCHING & SHORING - *DECISION FLOW CHART*

FIGURE 3 - SLOPING OPTIONS



PROGRAM OVERVIEW

WALKING AND WORKING SURFACES SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.21 – 23

INTRODUCTION

General requirements for: aisles, passageways, housekeeping, storerooms, serviceroots, stairs and guard-rails. It also addresses floor-loading protection and protecting open sided floors and platforms. This program targets renovation and construction areas where walking and working surface hazards are more likely to be present.

TRAINING

- Employees, supervisors and staff members should be informed of the proper materials handling and storage procedures to ensure that such materials do not cause hazardous situations to occur
- Employees providing construction, repair and renovation work should be trained in the proper use of coverings, guardrail system and other requirements to ensure the appropriate level of protection and safety

ACTIVITIES

- Ensure aisles and passageways are of the proper width and appropriately maintained
- Provide personal fall systems, covers or guardrails for floor, wall openings
- Ensure hazardous areas (open pits, vats or trenches) have appropriate personal fall systems
- Provide personal fall systems for any open-sided platform, floor or runway
- Ensure floors are not overloaded, and that load limits are indicated
- Ensure stairways have appropriate railings
- Enforce housekeeping rules
- Ensure materials are properly stored and not obstructing aisles, passageways, stairways or other areas where they could cause a hazard
- Encourage employees to report unsafe conditions

FORMS

- Slips, Trips, and Falls Training Attendance Roster
- Walking and Working Surfaces Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training and Information**
- 7. Definitions**

WALKING/WORKING SURFACE INDUSTRIAL SAFETY PROGRAM

1. **Purpose.** This safety program is designed to establish clear company goals and objectives with regard to walking and working surfaces and will be communicated to all required personnel. Walking and working surfaces include stairways, aisles, platforms, runways and areas where floor or wall openings could present a hazard to employees. The company will review and evaluate this safety program:

- 1.1 On an annual basis, or more frequently as needed.

- 1.2 When changes occur to 29 CFR 1910.21 - 23 that prompt revision of this document

- 1.3 When facility operational changes occur that require a revision of this document

2. **Scope.** This program encompasses the total workplace or job site regardless of the number of workers employed or the number of work shifts.

3. Responsibilities

3.1 Management/Supervisors:

- 3.1.1 Ensure aisles and passageways are of the proper width and appropriately maintained.

- 3.1.2 Provide fall protection systems, covers or guardrails for floor, wall openings.

- 3.1.3 Ensure hazardous areas (open pits, vats or trenches) have appropriate fall protection systems.

- 3.1.4 Provide fall protection systems for any open-sided platform, floor or runway.

- 3.1.5 Ensure floors are not overloaded.

- 3.1.6 Ensure stairways have appropriate railings.

- 3.1.7 Enforce housekeeping rules.

- 3.1.8 Ensure materials are properly stored and not obstructing aisles, passageways, stairways or other areas where they could cause a hazard.

- 3.1.9 Encourage employees to report unsafe conditions.

3.2 Employees

- 3.2.1 Report unsafe conditions to your supervisor immediately.

- 3.2.2 Maintain safe storage requirements

- 3.2.3 Maintain housekeeping in work areas.

4. Procedure

4.1 Aisles and Passageways

4.1.1 Where mechanical handling equipment is used sufficient safe clearances will be maintained for aisles, at loading docks, through doorways, and wherever turns or passage must be made. Aisles and passageways must be kept clear and in good repair with no obstruction across or in aisles that could create a hazard.

4.1.2 Permanent aisles and passageways must be appropriately marked.

4.2 Fall Protection Systems, Covers or Guardrails

4.2.1 Fall Protection Systems, covers and/or guardrails must be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc. Work areas will be properly guarded, covered, cordoned off, or marked to prevent injury, including:

4.2.1.1 Stairways unguarded/containing holes.

4.2.1.2 Ladder way floor openings unguarded.

4.2.1.3 Hatchway and chute floor opening unguarded.

4.2.1.4 Skylight floor openings unguarded.

4.2.1.5 Pit and trapdoor floor openings unguarded.

4.2.1.6 Manhole floor openings unguarded.

4.2.1.7 Temporary floor openings unguarded.

4.2.1.8 Floor holes/openings unguarded.

4.2.1.9 Chute wall openings unprotected.

4.2.1.10 Window wall openings unprotected.

4.2.1.11 Temporary wall openings unprotected.

4.2.1.12 Open-sided floor or platforms unguarded.

4.2.1.13 Runways unprotected.

4.2.1.14 Stairways unprotected.

4.3 Floor Loading Protection

- 4.3.1 Whenever loads or single items exceeding 350lbs are to be placed on floor areas or roofing structures, employees will determine the safe load capacity before taking this action.
- 4.3.2 Safe floor loading capacities will be marked on plates of approved design which must be supplied and securely affixed in a conspicuous place in each space to which they relate.
- 4.3.3 Such plates will not be removed or defaced. If lost, removed, or defaced, they will be reported to the Safety Officer and replaced immediately.
- 4.3.4 All employees must note that it is unlawful to place, or cause, or permit to be placed on any floor or roof of a building or other structure a load greater than that for which such floor or roof is approved by the building official.

4.4 Guarding Floor/Wall Openings and Holes

4.4.1 Protection for floor openings

- 4.4.1.1 Stairway floor openings. Stairway floor openings must be guarded by a standard railing constructed in accordance with 29 CFR 1910.23, paragraph (e). The railing must be provided on all exposed sides (except at entrances to stairways). For infrequently used stairways where traffic across the opening prevents the use of a fixed standard railing (as when located in aisle spaces, etc.), the guard must consist of a hinged floor opening cover of standard strength and construction and removable standard railings on all exposed sides (except at entrance to stairway).
- 4.4.1.2 Ladder-way floor openings. Ladder-way floor openings or platforms must be guarded by a standard railing with standard toe-board on all exposed sides (except at entrance to opening) with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.
- 4.4.1.3 Hatchway and chute floor openings. Hatchway and chute floor opening must be guarded by one of the following:
 - Hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached thereto so as to leave only one exposed side. When the opening is not in use the cover must be closed or the exposed side must be guarded at both top and intermediate positions by removable standard railings.

- A removable railing with toe-board on not more than two sides of the opening and fixed standard railings with toe-boards on all other exposed sides. The removable railings must be kept in place when the opening is not in use. Where operating conditions necessitate the feeding of material into any hatchway or chute opening protection must be provided to prevent a person from falling through the opening.
- 4.4.1.4 Skylight floor openings. Skylight floor openings and holes must be guarded by a standard skylight screen or a fixed standard railing on all exposed sides.
- Skylight screens must be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied perpendicularly at any one area on the screen. They must also be of such construction and mounting that under ordinary loads or impacts, they will not deflect downward sufficiently to break the glass below them. The construction must be of grillwork with openings not exceeding 4 inches long or of slat-work with openings not more than 2 inches wide with length unrestricted.
- 1.1.1.2 Pit and trapdoor floor openings. Pit and trapdoor floor openings, infrequently used, must be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap opening must be constantly attended by someone or must be protected on all exposed sides by removable standard railings.
- 1.1.1.3 Manhole floor openings. Manhole floor openings must be guarded by a standard manhole cover which need not be hinged in place. While the cover is not in place, the manhole opening must be constantly attended by someone or must be protected by removable standard railings.
- 1.1.1.4 Temporary floor openings. Temporary floor openings must have standard railings, or must be constantly attended by someone.
- 1.1.1.5 Floor holes. Floor holes into which persons can accidentally walk must be guarded by either:
- A standard railing with standard toe-board on all exposed sides
 - A floor-hole cover of standard strength and construction. While the cover is not in place, the floor hole must be constantly attended by someone or must be protected by a removable standard railing

- Every floor hole into which persons cannot accidentally walk (on account of fixed machinery, equipment, or walls) must be protected by a cover that leaves no openings more than 1 inch wide. The cover must be securely held in place to prevent tools or materials from falling through

1.1.1.2 Floor hole covers. Floor opening covers may be of any material that meets the following strength requirements:

- Trench or conduit covers and their supports, when located in roadways, must be designed to carry a truck rear-axle load of at least 20,000 pounds.
- Manhole covers and their supports, when located in roadways, must comply with local standard highway requirements, if any; otherwise they must be designed to carry a truck rear-axle load of at least 20,000 pounds.
- The construction of floor opening covers may be of any material that meets the strength requirements. Covers projecting not more than 1 inch above the floor level may be used providing all edges are chamfered to an angle with the horizontal of not over 30 degrees. All hinges, handles, bolts, or other parts must set flush with the floor or cover surface.

1.1.1.2 Stairway doors. Where doors or gates open directly on a stairway a platform must be provided and the swing of the door must not reduce the effective width to less than 20 inches.

1.1.2 Protection for wall openings and holes

4.4.2.1 Wall openings. Wall openings from which there is a drop of more than 4 feet must be guarded by one of the following:

- Rail, roller, picket fence, half door, or equivalent barriers. Where there is exposure below to falling materials, a removable toe board or the equivalent must also be provided. When the opening is not in use for handling materials, the guard must be kept in position regardless of a door on the opening. In addition, a grab handle must be provided on each side of the opening with its center approximately 4 feet above floor level and of standard strength and mounting.
- Extension platforms onto which materials can be hoisted for handling will have side rails or equivalent guards of standard specifications.

- Wall opening barriers (rails, rollers, picket fences, and half doors) must be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward) at any point on the top rail or corresponding member.
- Wall opening grab handles must be not less than 12 inches in length and must be so mounted as to give 3 inches clearance from the side framing of the wall opening. The size, material, and anchoring of the grab handle must be such that the completed structure is capable of withstanding a load of at least 200 pounds applied in any direction at any point of the handle.
- Wall opening screens must be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction, of grillwork with openings not exceeding 8 inches long, or of slat-work with openings not more than 4 inches wide with length unrestricted.

4.4.2.2 Chute wall openings. Chute wall openings from which there is a drop of more than 4 feet must be guarded by one or more barriers or as required by the conditions.

4.4.2.3 Window wall openings. Window wall openings at a stairway landing, floor, platform, or balcony from which there is a drop of more than 4 feet and where the bottom of the opening is less than 3 feet above the platform or landing must be guarded by standard slats, standard grill work, or standard railing. Where the window opening is below the landing or platform, a standard toe board must be provided.

4.4.2.4 Temporary wall openings. Temporary wall openings must have adequate guards but these need not be of standard construction.

- Where there is a hazard of materials falling through a wall hole, and the lower edge of the near side of the hole is less than 4 inches above the floor, and the far side of the hole more than 5 feet above the next lower level, the hole must be protected by a standard toe-board, or an enclosing screen either of solid construction.

4.5 Protection of Open-Sided Floors, Platforms, and Runways

- 4.5.1 Open-sided floors or platforms. Open-sided floors or platforms 4 feet or more above adjacent floor or ground level must be guarded by a standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. The railing must be provided with a toe-board beneath the open sides where:
 - 4.5.1.1 Persons can pass
 - 4.5.1.2 There is moving machinery
 - 4.5.1.3 There is equipment with which falling materials could create a hazard.
- 4.5.2 Runways. Runways must be guarded by a standard railing on all open sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toe-board must also be provided on each exposed side. Runways used exclusively for special purposes (such as oiling, shafting, or filling tank cars) may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway of not less than 18 inches wide.
- 4.5.3 Open-sided access ways. Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards must be guarded with a standard railing and toe board.

5. Safety Information

5.1 Stairs, Railings, and Guards

- 5.1.1 Flights of stairs having four or more risers must be equipped with standard stair railings or standard handrails. The width to be measured clear of all obstructions except handrails:
 - 5.1.1.1 On stairways less than 44 inches wide having both sides enclosed, at least one handrail, preferably on the right side descending.
 - 5.1.1.2 On stairways less than 44 inches wide having one side open, at least one stair railing on open side.
 - 5.1.1.3 On stairways less than 44 inches wide having both sides open, one stair railing on each side.
 - 5.1.1.4 On stairways more than 44 inches wide but less than 88 inches wide, one handrail on each enclosed side and one stair railing on each open side.
 - 5.1.1.5 On stairways 88 or more inches wide, one handrail on each enclosed side, one stair railing on each open side, and one intermediate stair railing located approximately midway of the width.

- 5.1.2 Winding stairs must be equipped with a handrail offset to prevent walking on all portions of the treads having width less than 6 inches.
- 5.1.3 Standard railings. A standard railing must consist of top rail, intermediate rail, and posts, and must have a vertical height of 42 inches nominal from upper surface of top rail to floor, platform, runway, or ramp level. The top rail must be smooth-surfaced throughout the length of the railing. The intermediate rail must be approximately halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails must not overhang the terminal posts except where such overhang does not constitute a projection hazard.
- 5.1.4 Stair railings. A stair railing must be of construction similar to a standard railing but the vertical height must be not more than 34 inches or less than 30 inches from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread.
- 5.1.5 Wood railings. Wood railings, the posts must be of at least 2 inch by 4 inch stock spaced not to exceed 6 feet; the top and intermediate rails must be of at least 2 inch by 4 inch stock. If top rail is made of two right-angle pieces of 1 inch by 4 inch stock, posts may be spaced on 8 foot centers, with 2 inch by 4 inch intermediate rail.
- 5.1.6 Pipe railings. Pipe railings, posts and top and intermediate railings must be at least 1 1/2 inches nominal diameter with posts spaced not more than 8 feet on centers.
- 5.1.7 Structural steel railings. Structural steel railings, posts and top and intermediate rails must be of 2 inch by 2 inch by 3/8 inch angles or other metal shapes of equivalent bending strength with posts spaced not more than 8 feet on centers.

5.2 Housekeeping

- 5.2.1 General Company Policy. All offices, work stations, work areas, passageways, storerooms, restrooms, and service rooms must be kept clean, orderly, sanitary, and free of known hazards.
 - 5.2.1.1 The floor of every workroom must be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used drainage must be maintained and false floors, platforms, mats, or other dry standing places will be provided where practicable.
 - 5.2.1.2 To facilitate cleaning every floor, work place, and passageway must be kept free from protruding nails, splinters, holes, or loose boards or other hindrances that would prevent efficient maintenance.
 - 5.2.1.3 Sufficient illumination will be provided in all areas at all times. Employees discovering lighting deficiencies will report them to the Safety Officer for correction.

- 5.2.2 Work areas. All employees are responsible for maintaining their immediate work areas in a clean, orderly manner and for notifying maintenance of conditions beyond their control.
- 5.2.3 Machines and equipment. Supervisors will ensure that machines and equipment under their control are maintained in a clean, orderly manner. Crowding should be avoided where ever possible.
- 5.2.4 Aisles. All employees are responsible to ensure that aisles are kept clean, free of material, finished parts, scrap, or any type of debris.
- 5.2.5 Floors. Maintenance will ensure that all floor spaces are maintained in a clean, orderly manner.
- 5.2.6 Walls and ceilings. Maintenance will ensure that all wall spaces are properly painted and maintained in a clean, orderly manner. Postings will be confined to bulletin boards and other appropriate areas.
- 5.2.7 Storage facilities. Appropriate procedures will be followed based on the type of storage facility.
- 5.2.8 Employee facilities. Lockers will be used to protect personal belongings from theft. Locker areas will be kept in a clean, orderly manner. Belongings found insecure will be turned over to the Safety Officer or area supervisor for disposition.
- 5.2.9 Emergency exit doors. Will be kept free of any obstacles at all times. Any employee finding an emergency door blocked should immediately report the condition to Safety Officer for correction. Exit lights and signs will also be maintained in proper condition at all times and immediately reported if deficient.
- 5.2.10 Spills (trained personnel). Spills will be contained immediately by any employee trained in spill containment and immediately reported to the Safety Officer or area supervisor.
- 5.2.11 Spills (untrained personnel). Spills will be immediately reported to the Safety Officer or area supervisor by any employee discovering the spill not having training in containment measures.

6. Training and Information

- 6.1 Employees, supervisors and staff members should be informed of the proper materials handling and storage procedures to ensure that such materials do not cause hazardous situations to occur.
- 6.2 Employees exposed to fall above 4' in general industry and 6' in construction, providing construction, repair or renovation work should be trained in the proper use of Fall Protection Systems, coverings, or guardrail systems and other requirements to ensure the appropriate level of protection and safety.
- 6.3 Employer must ensure walking-working surfaces are inspected, regularly and as necessary to maintain and correct, repair, or guard against hazardous conditions.

7. Definitions

- Ø *Floor hole* - An opening measuring less than 12 inches but more than 1 inch in its least dimension, in any floor, platform, pavement, or yard, through which materials but not persons may fall; such as a belt hole, pipe opening, or slot opening.
- Ø *Floor opening* - An opening measuring 12 inches or more in its least dimension, in any floor, platform, pavement, or yard through which persons may fall; such as a hatchway, stair or ladder opening, pit, or large manhole. Floor openings occupied by elevators, dumb waiters, conveyors, machinery, or containers are excluded.
- Ø *Handrail* - A single bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp, to furnish persons with a handhold in case of tripping.
- Ø *Platform* - A working space for persons, elevated above the surrounding floor or ground; such as a balcony or platform for the operation of machinery and equipment.
- Ø *Runway* - A passageway for persons elevated above the surrounding floor or ground level, such as a footwalk along shafting or a walkway between buildings.
- Ø *Standard railing* - A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.
- Ø *Standard strength and construction* - Any construction of railings, covers, or other guards that meets the requirements of 29 CFR 1910.23.
- Ø *Stair railing* - A vertical barrier erected along exposed sides of a stairway to prevent falls of persons.
- Ø *Toe-board* - A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent falls of materials.
- Ø *Wall hole* - An opening less than 30 inches but more than 1-inch-high, of unrestricted width, in any wall or partition; such as a ventilation hole or drainage scupper.
- Ø *Wall opening* - An opening at least 30 inches high and 18 inches wide, in any wall or partition, through which persons may fall; such as a yard-arm doorway or chute opening.

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TRAINING ATTENDANCE ROSTER									
Slips, Trips, and Falls									

Slips Trips and Falls Training Includes:

- ***Same Level and Elevated Level Falls***
- ***Poor Housekeeping***
- ***Work Environment and Surrounding Conditions***
- ***Employees Physical Condition***
- ***Behaviors***

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 - ***Behaviors***

- ***Factors Footwear***
- ***Stairways***
- ***Ladders***
- ***Clean all Spills and Wet Areas***
- ***Prevention Techniques***

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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TRAINING ATTENDANCE ROSTER WALKING AND WORKING SURFACES	
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<p><i>Walking and Working Surfaces Training Includes:</i></p> <ul style="list-style-type: none"> · <i>Housekeeping</i> · <i>Aisles and Passageways, Covers and Guardrails</i> · <i>Floor and Wall Openings and Protective Measures</i> · <i>Stairs, Ladders and Scaffolding</i>
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|--|

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

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[illegible]

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

WELDING, CUTTING, AND BRAZING SAFETY PROGRAM

REGULATORY STANDARD - OSHA - 29 CFR 1910.251 - 252

NFPA - Standard 51B, 1962

INTRODUCTION

The welding, cutting, and brazing processes expose workers to a variety of hazards including burns, fire, eye damage, possible lung irritation and damage, electric shock, slips and falls. This safety program is intended to evaluate and identify the specific hazards where hot work is performed, communicating information concerning these hazards, and establishing appropriate procedures and protective measures for our employees.

TRAINING:

- Fire Watchers must attend fire extinguisher use training, or equivalent fire protection methods
- LOTO, compressed gas handling are required, as needed
- Provide training on the hot work permit program, if applicable

ACTIVITIES

- Recognize the responsibility for the safe usage of cutting and welding equipment on company property
- Based on fire potentials of plant facilities, establish areas for cutting and welding, and establish procedures for cutting and welding
- Develop, implement, and communicate Hot Work Permit program, as applicable
- Train cutters or welders and their supervisors in the safe operation of their equipment and the safe use of the process
- Advise all contractors about flammable materials or hazardous conditions, as applicable
- Provide resources (fire watchers, equipment, barriers, etc.) as needed or required
- Determine the combustible materials and hazardous areas present or likely to be present in the work location, and protective methods to be used
- Ensure adequate ventilation

FORMS

- Hot Work Permit, as applicable
- Training Attendance Roster

Table of Contents

- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training Information & Requirements**
- 7. Definitions**

Welding, Cutting, and Brazing Safety Program

1. **Purpose.** This safety program is intended to evaluate and identify the specific hazards where hot work is performed, communicating information concerning these hazards, and establishing appropriate procedures and protective measures for our employees
2. **Scope.** The following operations are **NOT** covered within this standard: Lead pots; Thermogrip tongs; Thermite welding; Burning bars; Electric or furnace-heated soldering irons; Soft soldering and brazing of Copper Water Tube (CWT); Abrasive wheel metal cutting; Tar kettles; Electric cables; and Flameless heat guns. These operations should be covered by specific local procedures where these operations take place.

3. Responsibilities

3.1 Management/Supervisors

- 3.1.1 Recognize the responsibility for the safe usage of cutting and welding equipment on company property.
- 3.1.2 Based on fire potentials of plant facilities, establish areas for cutting and welding, and establish procedures for cutting and welding, in other areas.
- 3.1.3 Designate an individual responsible for authorizing cutting and welding operations in areas not specifically designed for such processes.
- 3.1.4 Train cutters or welders and their supervisors in the safe operation of their equipment and the safe use of the process.
- 3.1.5 Advise all contractors about flammable materials or hazardous conditions of which they may not be aware.
- 3.1.6 Provide resources (fire watchers, equipment, barriers, etc.) as needed or required.

3.2 Employees:

- 3.2.1 Be aware of welding hazards, as needed or required.
- 3.2.2 Follow appropriate safety precautions when welding is performed.

3.3 Safety Officer (as needed or required):

- 3.3.1 Act as the designated person responsible for authorizing cutting and welding operations in areas not specifically designed for such purposes.
- 3.3.2 Assist in the development and implementation of this program.

3.4 Welders

- 3.4.1 Be responsible for the safe handling of the cutting or welding equipment and the safe use of the cutting or welding process.
- 3.4.2 Determine the combustible materials and hazardous areas present or likely to be present in the work location.
- 3.4.3 Protect combustibles from ignition by the following:
 - 3.4.3.1 Have the work moved to a location free from dangerous combustibles.
 - 3.4.3.2 Have the combustibles moved to a safe distance from the work or have the combustibles properly shielded against ignition if it cannot be moved to a location free from dangerous combustibles.
 - 3.4.3.3 Ensure that cutting and welding operations are so scheduled that plant operations that might expose combustibles to ignition are not started during cutting or welding.
 - 3.4.3.4 Secure authorization for the cutting or welding operations from the designated management representative.
 - 3.4.3.5 Determine that the cutter or welder secures his approval that conditions are safe before going ahead.
 - 3.4.3.6 Determine that fire protection and extinguishing equipment are properly located at the site.
 - 3.4.3.7 Ensure the availability of Fire Watches when required.

3.5 Fire Watcher (as needed or required)

- 3.5.1 Be familiar with facilities for sounding an alarm in the event of a fire.
- 3.5.2 Watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm.
- 3.5.3 A fire watch shall be maintained for at least a half hour after completion of welding or cutting.
- 3.5.4 Attend fire extinguisher use training, or training in equivalent fire protection methods.

4. Procedure

4.1 Fire Prevention and Protection

4.1.1 For elaboration of these basic precautions, the special precautions and the delineation of the fire protection and prevention responsibilities of welders and cutters, their supervisors (including outside contractors) and those in management on whose property cutting and welding is to be performed, see, Standard for Fire Prevention in Use of Cutting and Welding Processes, NFPA Standard 51B. The basic precautions for fire prevention in welding or cutting work are:

4.1.1.1 If the object to be welded or cut cannot readily be moved, all movable fire hazards in the vicinity shall be taken to a safe place.

4.1.1.2 If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards, or equivalent precautions taken.

4.1.1.2.1 Wherever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no readily combustible materials on the floor below will be exposed to sparks that may drop through the floor.

4.1.1.2.2 The same precautions shall be observed with regard to cracks or holes in walls, open doorways and open or broken windows.

4.1.1.2.3 If the above requirements cannot be followed then welding and cutting will not be performed.

4.1.1.3 Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use. Such equipment may consist of pails of water, buckets of sand, hoses or portable extinguishers depending upon the nature and quantity of the combustible material exposed.

4.1.2 Fire watch shall be required whenever welding or cutting is performed in locations where other than a minor fire might develop, or any of the following conditions exist:

4.1.2.1 Appreciable combustible material, in building construction or contents, closer than 35 feet (10.7 m) to the point of operation.

4.1.2.2 Appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks.

4.1.2.3 Wall or floor openings within a 35-foot (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.

- 4.1.2.4 Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
- 4.1.3 Fire watchers shall have fire extinguishing equipment readily available and be trained in its use.
- 4.1.4 Before cutting or welding is permitted, the area shall be inspected by the individual responsible for authorizing cutting and welding operations. This individual shall designate precautions to be followed in granting authorization to proceed preferably in the form of a written permit.
- 4.1.5 Where combustible materials such as paper clippings, wood shavings, or textile fibers are on the floor, the floor shall be swept clean for a radius of 35 feet (10.7 m).
 - 4.1.5.1 Combustible floors shall be kept wet, covered with damp sand, or protected by fire-resistant shields. Where floors have been wet down, personnel operating arc welding or cutting equipment shall be protected from possible shock.
- 4.1.6 Cutting or welding shall not be permitted in the following situations:
 - 4.1.6.1 In areas not authorized by management.
 - 4.1.6.2 In sprinkler-protected buildings while such protection is impaired.
 - 4.1.6.3 In the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids, or dusts with air), or explosive atmospheres that may develop inside unclean or improperly prepared tanks or equipment which have previously contained such materials, or that may develop in areas with an accumulation of combustible dusts.
 - 4.1.6.4 In areas near the storage of large quantities of exposed, readily ignitable materials such as bulk sulfur, baled paper, or cotton.
- 4.1.7 Where practicable, all combustibles shall be relocated at least 35 feet (10.7 m) from the work site. Where relocation is impracticable, combustibles shall be protected with flameproof covers or otherwise shielded with metal or asbestos guards or curtains.
- 4.1.8 Ducts and conveyor systems that might carry sparks to distant combustibles shall be suitably protected or shut down.
- 4.1.9 Where cutting or welding is done near walls, partitions, ceiling or roof of combustible construction, fire-resistant shields or guards shall be provided to prevent ignition.
- 4.1.10 If welding is to be done on a metal wall, partition, ceiling or roof, precautions shall be taken to prevent ignition of combustibles on the other side, due to conduction or radiation, preferably by relocating combustibles. Where

combustibles are not relocated, a fire watch on the opposite side from the work shall be provided.

- 4.1.11 Welding shall not be attempted on a metal partition, wall, ceiling or roof having a combustible covering or on walls or partitions of combustible sandwich-type panel construction.
- 4.1.12 Cutting or welding on pipes or other metal in contact with combustible walls, partitions, ceilings or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.

4.2 Fire prevention precautions

- 4.2.1 Cutting or welding shall be permitted only in areas that are or have been made fire safe.
- 4.2.2 When work cannot be moved practically, as in most construction work, the area shall be made safe by removing combustibles or protecting combustibles from ignition sources.

4.3 Welding or Cutting Containers

- 4.3.1 No welding, cutting, or other hot work shall be performed on used drums, barrels, tanks or other containers until they have been cleaned so thoroughly as to make absolutely certain that there are no flammable materials present or any substances such as greases, tars, acids, or other materials which when subjected to heat, might produce flammable or toxic vapors.
 - 4.3.1.1 Any pipe lines or connections to the drum or vessel shall be disconnected or blanked.
- 4.3.2 All hollow spaces, cavities or containers shall be vented to permit the escape of air or gases before preheating, cutting or welding.
 - 4.3.2.1 Purging with inert gas is recommended.

4.4 Confined Spaces

- 4.4.1 For the purposes of this program, a confined space is intended to mean a relatively small or restricted space such as a tank, boiler, pressure vessel, or small compartment of a ship.
- 4.4.2 Ventilation is a prerequisite to work in confined spaces.
- 4.4.3 When welding or cutting is being performed in any confined spaces the gas cylinders and welding machines shall be left on the outside.
- 4.4.4 Before operations are started, heavy portable equipment mounted on wheels shall be securely blocked to prevent accidental movement.

- 4.4.5 Where a welder must enter a confined space through a manhole or other small opening, means shall be provided for quickly removing the welder in case of emergency.
 - 4.4.5.1 When safety belts and lifelines are used for this purpose they shall be so attached to the welder's body that his body cannot be jammed in a small exit opening.
 - 4.4.5.2 An attendant with a preplanned rescue procedure shall be stationed outside to observe the welder at all times and be capable of putting rescue operations into effect.
- 4.4.6 When arc welding is to be suspended for any substantial period of time, such as during lunch or overnight, all electrodes shall be removed from the holders and the holders carefully located so that accidental contact cannot occur and the machine disconnected from the power source.
- 4.4.7 During gas welding or cutting operations, to eliminate the possibility of gas escaping through leaks of improperly closed valves, the torch valves shall be closed and the fuel-gas and oxygen supply to the torch positively shut off at some point outside the confined area whenever the torch is not to be used for a substantial period of time, such as during lunch hour or overnight.
 - 4.4.7.1 Where practicable the torch and hose shall also be removed from the confined space.
- 4.4.8 After welding operations are completed, the welder shall mark the hot metal or provide some other means of warning other workers.

5. Safety Information

5.1 Protection of personnel

5.1.1 General

- 5.1.1.1 A welder or helper working on platforms, scaffolds, or runways shall be protected against falling. This may be accomplished by the use of railings, safety belts, life lines, or some other equally effective safeguards.
- 5.1.1.2 Welders shall place welding cable and other equipment so that it is clear of passageways, ladders, and stairways.

5.1.2 Head Protection

- 5.1.2.1 Helmets or hand shields shall be used during all arc welding or arc cutting operations, excluding submerged arc welding.
- 5.1.2.2 Helmets and hand shields shall be made of a material which is an insulator for heat and electricity.

- 5.1.2.3 Helmets, shields and goggles shall be not readily flammable and shall be capable of withstanding sterilization.
- 5.1.2.4 Helmets and hand shields shall be arranged to protect the face, neck and ears from direct radiant energy from the arc.
- 5.1.2.5 Helmets shall be provided with filter plates and cover plates designed for easy removal.
- 5.1.2.6 All parts shall be constructed of a material which will not readily corrode or discolor the skin.

5.1.3 Eye Protection

- 5.1.3.1 Goggles or other suitable eye protection shall be used during all gas welding or oxygen cutting operations. Helpers or attendants shall be provided with proper eye protection.
- 5.1.3.2 Spectacles without side shields, with suitable filter lenses are permitted for use during gas welding operations on light work, for torch brazing or for inspection.
- 5.1.3.3 All operators and attendants of resistance welding or resistance brazing equipment shall use transparent face shields or goggles, depending on the particular job, to protect their faces or eyes, as required.
- 5.1.3.4 Eye protection in the form of suitable goggles shall be provided where needed for brazing operations.
- 5.1.3.5 Goggles shall be ventilated to prevent fogging of the lenses as much as practicable.
- 5.1.3.6 All glass for lenses shall be tempered, substantially free from striae, air bubbles, waves and other flaws.
- 5.1.3.7 Except when a lens is ground to provide proper optical correction for defective vision, the front and rear surfaces of lenses and windows shall be smooth and parallel.
- 5.1.3.8 Lenses shall bear some permanent distinctive marking by which the source and shade may be readily identified.

- 5.1.3.9 The following is a guide for the selection of the proper shade numbers. These recommendations may be varied to suit the individual's needs.

WELDING OPERATION		SHADE #
Shielded metal-arc welding:	1/16-, 3/32-, 1/8-, 5/32-inch electrodes	10
Gas-shielded arc welding-nonferrous:	1/16-, 3/32-, 1/8-, 5/32-inch electrodes	11
Gas-shielded arc welding-ferrous	1/16-, 3/32-, 1/8-, 5/32-inch electrodes	12
Shielded metal-arc welding:	3/16-, 7/32-, 1/4-inch electrodes	12
	5/16-, 3/8-inch electrodes	14
Atomic hydrogen welding:		10-14
Carbon arc welding:		14
Soldering:		2
Torch brazing:		3 or 4
Light cutting:	up to 1 inch	3 or 4
Medium cutting,	1 inch to 6 inches	4 or 5
Heavy cutting:	6 inches and over	5 or 6
Gas welding (light):	up to 1/8 inch	4 or 5
Gas welding (medium):	1/8 inch to 1/2 inch:	5 or 6
Gas welding (heavy):	1/2 inch and over:	6 or 8

- Note: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter or lens that absorbs the yellow or sodium line in the visible light of the operation.

- 5.1.3.10 All filter lenses and plates shall meet the test for transmission of radiant energy prescribed in ANSI Z87.1 - American National Standard Practice for Occupational and Educational Eye and Face Protection.

- 5.1.3.11 For protection from arc welding rays, where the work permits, the welder should be enclosed in an individual booth painted with a finish of low reflectivity such as zinc oxide (an important factor for absorbing ultraviolet radiations) and lamp black, or shall be enclosed with noncombustible screens similarly painted.

- 5.1.3.11.1 Booths and screens shall permit circulation of air at floor level.

- 5.1.3.11.2 Workers or other persons adjacent to the welding areas shall be protected from the rays by noncombustible or flameproof screens or shields or shall be required to wear appropriate goggles.

5.1.4 Protective Clothing - General Requirements

5.1.4.1 Employees exposed to the hazards created by welding, cutting, or brazing operations shall be protected by personal protective equipment.

5.1.4.1.1 Appropriate protective clothing required for any welding operation will vary with the size, nature and location of the work to be performed.

5.2 Health Protection and Ventilation

5.2.1 General

5.2.1.1 The requirements for health protection and ventilation have been established on the basis of the following three factors in arc and gas welding which govern the amount of contamination to which welders may be exposed:

5.2.1.1.1 Dimensions of space in which welding is to be done (with special regard to height of ceiling).

5.2.1.1.2 Number of welders.

5.2.1.1.3 Possible evolution of hazardous fumes, gases, or dust according to the metals involved.

5.2.1.2 When performing welding in a space entirely screened on all sides, the screens shall be so arranged that no serious restriction of ventilation exists. It is desirable to have the screens so mounted that they are about 2 feet (0.61 m) above the floor unless the work is performed at so low a level that the screen must be extended nearer to the floor to protect nearby workers from the glare of welding.

5.2.1.3 Local exhaust or general ventilating systems shall be provided and arranged to keep the amount of toxic fumes, gases, or dusts below the maximum allowable concentration as specified in 29 CFR 1910.1000 – Air Contaminants.

5.2.1.4 A number of potentially hazardous materials are employed in fluxes, coatings, coverings, and filler metals used in welding and cutting or are released to the atmosphere during welding and cutting.

5.2.1.4.1 The suppliers of welding materials shall determine the hazard, if any, associated with the use of their materials in welding, cutting, etc.

- 5.2.1.4.2 All filler metals and fusible granular materials shall carry the following notice, as a minimum, on tags, boxes, or other containers:
 - 5.2.1.4.2.1 CAUTION
 - 5.2.1.4.2.2 Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. Use adequate ventilation. See ANSI Z49.1 Safety in Welding and Cutting published by the American Welding Society.
- 5.2.1.4.3 Brazing (welding) filler metals containing cadmium in significant amounts shall carry the following notice on tags, boxes, or other containers:
 - 5.2.1.4.3.1 WARNING
CONTAINS CADMIUM - POISONOUS
FUMES MAY BE FORMED ON
HEATING
 - 5.2.1.4.3.2 Do not breathe fumes. Use only with adequate ventilation such as fume collectors, exhaust ventilators, or air-supplied respirators. See ANSI Z49.1
 - 5.2.1.4.3.3 If chest pain, cough, or fever develops after use call physician immediately.
- 5.2.1.4.4 Brazing and gas welding fluxes containing fluorine compounds shall have a cautionary wording to indicate that they contain fluorine compounds. One such cautionary wording recommended by the American Welding Society for brazing and gas welding fluxes reads as follows:
 - 5.2.1.4.4.1 CAUTION
CONTAINS FLUORIDES
 - 5.2.1.4.4.2 This flux when heated gives off fumes that may irritate eyes, nose and throat.
 - 5.2.1.4.4.3 Avoid fumes - use only in well-ventilated spaces.
 - 5.2.1.4.4.4 Avoid contact of flux with eyes or skin.
 - 5.2.1.4.4.5 Do not take internally.

5.2.2 Ventilation for General Welding and Cutting

5.2.2.1 Mechanical ventilation shall be provided when welding or cutting is done on specific metals.

5.2.2.1.1 In a space of less than 10,000 cubic feet (284 m (3)) per welder.

5.2.2.1.2 In a room having a ceiling height of less than 16 feet (5 m).

5.2.2.1.3 In confined spaces or where the welding space contains partitions, balconies, or other structural barriers to the extent that they significantly obstruct cross ventilation.

5.2.2.2 Such ventilation shall be at the minimum rate of 2,000 cubic feet (57 m(3)) per minute per welder, except where local exhaust hoods and booths as defined by 6.3, or airline respirators approved by the U.S. Bureau of Mines for such purposes are provided.

5.2.2.2.1 Natural ventilation is considered sufficient for welding or cutting operations where regulatory restrictions are not present.

5.2.3 Local Exhaust Hoods and Booth

5.2.3.1 Mechanical local exhaust ventilation may be by means of either of the following:

5.2.3.1.1 Freely movable hoods intended to be placed by the welder as near as practicable to the work being welded and provided with a rate of air-flow sufficient to maintain a velocity in the direction of the hood of 100 linear feet (30 m) per minute in the zone of welding when the hood is at its most remote distance from the point of welding. The rates of ventilation required to accomplish this control velocity using a 3-inch (7.6 cm) wide flanged suction opening are shown in the following table:

Welding zone	Minimum air flow *(1) cubic feet/minute	Duct Diameter
4 to 6 inches from arc or torch	150	3
6 to 8 inches from arc or torch	275	3 ½
8 to 10 inches from arc or torch	425	4 ½
10 to 12 inches from arc or torch	600	5 ½

- {Footnote}*(1) When brazing with cadmium bearing materials or when cutting on such materials increased rates of ventilation may be required.
- {Footnote}*(2) Nearest half-inch duct diameter based on 4,000 feet per minute velocity in pipe.

5.2.3.1.2 A fixed enclosure with a top and not less than two sides which surround the welding or cutting operations and with a rate of airflow sufficient to maintain a velocity away from the welder of not less than 100 linear feet (30 m) per minute.

5.2.4 Ventilation in Confined Spaces

5.2.4.1 All welding and cutting operations carried on in confined spaces shall be adequately ventilated to prevent the accumulation of toxic materials or possible oxygen deficiency.

5.2.4.1.1 This applies not only to the welder but also to helpers and other personnel in the immediate vicinity.

5.2.4.1.2 All air replacing that withdrawn shall be clean and respirable.

5.2.4.2 In circumstances for which it is impossible to provide such ventilation, NIOSH approved airline respirators or hose masks must be used.

5.2.4.3 In areas immediately hazardous to life, a full-facepiece, pressure-demand, self-contained breathing apparatus or a combination full-facepiece, pressure-demand supplied-air respirator with an auxiliary, self-contained air supply approved by NIOSH must be used.

5.2.4.4 Where welding operations are carried on in confined spaces and where welders and helpers are provided with hose masks, hose masks with blowers or self-contained breathing equipment approved by MSHA or NIOSH, a worker shall be stationed on the outside to insure the safety of those working within.

5.2.4.5 Oxygen shall never be used for ventilation.

5.2.5 Fluorine Compounds

5.2.5.1 A fluorine compound is one that contains fluorine, as an element in chemical combination, not as a free gas.

5.2.5.2 In confined spaces, welding or cutting involving fluxes, coverings, or other materials which contain fluorine compounds, additional ventilation shall be provided.

5.2.5.3 The need for local exhaust ventilation or airline respirators for welding or cutting in other than confined spaces will depend upon the individual circumstances. However, experience has shown such protection to be desirable for fixed-location production welding and for all production welding on stainless steels.

5.2.5.3.1 Where air samples taken at the welding location indicate that the fluorides liberated are below the maximum allowable concentration, such protection is not necessary.

5.2.6 Zinc

5.2.6.1 In confined spaces welding or cutting involving zinc-bearing base or filler metals or metals coated with zinc-bearing materials, additional ventilation shall be provided.

5.2.6.2 Indoors, welding or cutting involving zinc-bearing base or filler metals coated with zinc-bearing materials shall be done under a hood or in an equivalent exhaust system.

5.2.7 Lead

5.2.7.1 In confined spaces, welding involving lead-base metals (erroneously called lead-burning), additional ventilation shall be provided.

5.2.7.2 Indoors, welding involving lead-base metals shall be done under a hood or in an equivalent exhaust system.

5.2.7.3 In confined spaces or indoors, welding or cutting operations involving metals containing lead, other than as an impurity, or metals coated with lead-bearing materials, including paint, must be done using local exhaust ventilation or airline respirators.

5.2.7.3.1 Such operations, when done outdoors, must be done using a NIOSH approved respirators.

5.2.7.3.2 In all cases, workers in the immediate vicinity of the cutting operation must be protected by local exhaust ventilation or airline respirators.

5.2.8 Beryllium

5.2.8.1 Welding or cutting indoors, outdoors, or in confined spaces involving beryllium-containing base or filler metals shall be done using local exhaust ventilation and airline respirators.

5.2.8.1.1 Local exhaust ventilation and airline respirators are not required when atmospheric tests under the most adverse conditions have established that the workers' exposure is within the acceptable concentrations.

- 5.2.8.1.2 In all cases, workers in the immediate vicinity of the welding or cutting operations shall be protected as necessary by local exhaust ventilation or airline respirators.

5.2.9 Cadmium

- 5.2.9.1 In confined spaces or indoors, welding or cutting operations involving cadmium-bearing or cadmium-coated base metals must be done using local exhaust ventilation or airline respirators.
 - 5.2.9.1.1 Local exhaust ventilation and airline respirators are not required when atmospheric tests under the most adverse conditions show that employee exposure is within the acceptable concentrations.
 - 5.2.9.1.2 Such operations, when done outdoors, must be done using a NIOSH approved respirators, such as fume respirators.
- 5.2.9.2 Welding (brazing) involving cadmium-bearing filler metals shall be done using adequate ventilation.

5.2.10 Mercury

- 5.2.10.1 In confined spaces or indoors, welding or cutting operations involving metals coated with mercury-bearing materials, including paint, must be done using local exhaust ventilation or airline respirators.
 - 5.2.10.1.1 Local exhaust ventilation and airline respirators are not required when atmospheric tests under the most adverse conditions show that employee exposure is within the acceptable concentrations.
 - 5.2.10.1.2 Such operations, when done outdoors, must be done using NIOSH approved respirators.

5.2.11 Cleaning Compounds

- 5.2.11.1 In the use of cleaning materials, because of their possible toxicity or flammability, appropriate precautions such as manufacturer's instructions shall be followed.
- 5.2.11.2 Degreasing and other cleaning operations involving chlorinated hydrocarbons shall be so located that no vapors from these operations will reach or be drawn into the atmosphere surrounding any welding operation.

- 5.2.11.2.1 In addition, trichloroethylene and perchlorethylene should be kept out of atmospheres penetrated by the ultraviolet radiation of gas-shielded welding operations.

5.2.12 Cutting of Stainless Steel(s)

- 5.2.12.1 Oxygen cutting, using either a chemical flux or iron powder or gas-shielded arc cutting of stainless steel, shall be done using mechanical ventilation adequate to remove the fumes generated.

5.2.13 First-aid and Equipment

- 5.2.13.1 First-aid equipment shall be available at all times.
- 5.2.13.2 All injuries shall be reported as soon as possible for medical attention.
- 5.2.13.3 First aid shall be rendered until medical attention can be provided.

5.3 Industrial applications.

5.3.1 Transmission pipeline.

- 5.3.1.1 Where field shop operations are involved for fabrication of fittings, river crossings, road crossings, and pumping and compressor stations the requirements set in this program for fire prevention and protection, protection of personnel, health protection and ventilation, oxygen-fuel gas welding and cutting, and arc welding and cutting shall be observed.
- 5.3.1.2 When arc welding is performed in wet conditions, or under conditions of high humidity, special protection against electric shock shall be supplied.
- 5.3.1.3 In pressure testing of pipelines, the workers and the public shall be protected against injury by the blowing out of closures or other pressure restraining devices.
 - 5.3.1.3.1 Protection shall be provided against expulsion of loose dirt that may have become trapped in the pipe.
- 5.3.1.4 The welded construction of transmission pipelines shall be conducted in accordance with the Standard for Welding Pipe Lines and Related Facilities, API Std. 1104.
- 5.3.1.5 The connection, by welding, of branches to pipelines carrying flammable substances shall be performed in accordance with Welding or Hot Tapping on Equipment Containing Flammables, API Std. PSD No. 2201.

5.3.1.6 The use of X-rays and radioactive isotopes for the inspection of welded pipeline joints shall conform with the American National Standard Safety Standard for Non-Medical X-ray and Sealed Gamma-Ray Sources, ANSI Z54.1.

5.3.2 Mechanical piping systems.

5.3.2.1 The requirements in this program for fire prevention and protection, protection of personnel, health protection and ventilation, oxygen-fuel gas welding and cutting, and arc welding and cutting shall be observed.

5.3.2.2 The use of X-rays and radioactive isotopes for the inspection of welded piping joints shall be in conformance with the American National Standard Safety Standard for Non-Medical X-ray and Sealed Gamma-Ray Sources, ANSI Z54.1.

6. Training and Information

Fire Watchers must attend fire extinguisher use training, or training in equivalent fire protection methods.

7. Definitions

- *Welder and welding operator* - Any operator of electric or gas welding and cutting equipment.
- *Approved* - Listed or approved by a nationally recognized testing laboratory. Refer to 29 CFR 1910.155(C) (3) – Scope, application and definitions applicable to Subpart L – Fire Protection for definitions of listed and approved, and 29 CFR 1910.7 – Definition and requirements for nationally recognized testing laboratory.
- *All other welding terms* - are used in accordance with American Welding Society

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HOT-WORK PERMIT

NOTE: Hot Work will be performed only after a careful and complete review of all safety precautions and site preparation actions have proven it safe to begin work.

Permit Number:

Permit Location:

Permit Validity Period:

Date:

Start Time

Stop Time

Work to be completed:

☐ Hot Work Completed: Hot-Work was performed under this permit during the period:

Date:

Start Time

Stop Time

☐ Not Approved

Estimated Approval: Date/Time:

Reason:

Name:

Signature:

Title:

Date:

Time:

☐ Approved for Hot-Work

AUTHORIZATION

I acknowledge that I have inspected the site and that the required precautions (1, 2, 3, and 4) on the reverse of this page have been completed. Arrangements have been made for item 5. Permission is granted to perform the work.

Name:

Signature:

Title:

Date:

Time:

PERMIT RETENTION INFORMATION

Permanent Retention File:

Location:

Date Filed:

Filed By:

HOT-WORK SAFETY REQUIREMENTS

IF EMERGENCY OCCURS CALL:

CONTACT:

EMERGENCY/FIRE/RESCUE PROCEDURES

Location of written Emergency Actions Plan:

Evacuation/Relocation Information:

Additional Information:

HOT WORK SAFETY CHECKLIST

WORK CANNOT BEGIN UNTIL THE FOLLOWING SAFETY PRECAUTIONS HAVE BEEN COMPLETED

Requirement

Completed

The location of the work to be done will be examined.

- | | | |
|---|------------------------------|-----------------------------|
| • Are Sprinklers, where provided, operational and will remain operable until the work is completed? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Have all flammable dusts, lint, vapors or liquids been cleared from the hot work area? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Have all unpurged tanks or equipment previously containing flammable material been removed? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Will the work be confined to the area specified in this permit? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

The following safeguards will be provided.

- | | | |
|---|------------------------------|-----------------------------|
| • Have all floors and surroundings been swept clean and wet down if required? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Has ample portable fire extinguishing equipment been provided and strategically located? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Have all unpurged tanks or equipment previously containing flammable material been removed? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

If the work involves spark producing equipment the following will be done.

- | | | |
|---|------------------------------|-----------------------------|
| • Have all combustibles been located 30 to 40 feet from the operation? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • -Have all non-moveable combustibles been protected with fireproof curtains, flameproof covers etc.? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Has a firewatch been appointed to watch for dangerous sparks in the area above and below floors? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Has flame- or spark-producing equipment been inspected and in good repair?

☐ Yes ☐ No

Have arrangements been made for area patrol, including above and below floors, during rest periods and for at least one half hour after work completion?

☐ Yes ☐ No

Were there any "no" answers in questions 1-5?

*** IF YES--REPORT TO YOUR SUPERVISOR - DO NOT PERFORM HOT-WORK!**

☐ Yes ☐ No

TRAINING ATTENDANCE ROSTER WELDING, CUTTING AND BRAZING	
--	--

Welding Cutting and Brazing Training Includes:

- **General Fire Protection**
- **Cylinder Handling and Safety**
- **Confined Space Welding**
- **Personal Protective Equipment**
- **Ventilation Requirements**

- Welding Cutting and Brazing Training Includes:***
- ***General Fire Protection***
 - ***Cylinder Handling and Safety***
 - ***Confined Space Welding***
 - ***Personal Protective Equipment***
 - ***Ventilation Requirements***

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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PROGRAM OVERVIEW

WORKING IN EXTREME TEMPERATURES SAFETY PROGRAM

OSHA Act Paragraph 5, A, 1 (General Duty Clause)

INTRODUCTION: Exposure to extreme heat or cold stress in the workplace must be controlled. This safety program is intended to address issues and identify the specific temperature hazards where work is performed, communicating information concerning these hazards, and establishing appropriate procedures and protective measures for employees. Control or protective measures must be implemented at ranges above 90°F or below 62°F, and short duration exposures to temperatures <45°F or >100°F (including wind chill factors).

TRAINING:

When working in extreme temperatures, employees will be provided with hazard information and/or training, upon initial assignment and as needed. This training may be required in some states.

ACTIVITIES:

- Monitor workplace temperatures
- Ensure employees and supervisors are able to recognize early signs and symptoms of cold and heat intolerance
- Provide engineering controls, work practices and protective equipment to reduce exposure levels to the lowest achievable level
- Ensure the availability of water or other appropriate beverages to employees
- Provide appropriate medical care to employees who have symptoms of a temperature-related condition
- Perform periodic inspections to identify any recognized risk factors, situations where actions may be needed to reduce employee exposures, and any deficiencies in the procedures or protective equipment requirements of the area

FORMS:

- Training Attendance Roster

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- 1. Purpose**
- 2. Scope**
- 3. Responsibilities**
- 4. Procedure**
- 5. Safety Information**
- 6. Training Information & Requirements**
- 7. Definitions**

Working in Extreme Temperatures

1. **Purpose.** This program outlines some of the safety requirements and precautions needed to protect employees who work in temperature extremes. Extreme heat or cold presents unique hazards to employee health and safety, including reduced awareness of their surroundings and reduced dexterity and ability for the human body to function normally.
2. **Scope.** Applies to any work area where employees must work for more than an hour in an area where the temperature range is above 90°F or below 62°F, or short-duration (15 minutes or less) exposures to <45°F or >100°F (including wind chill factors).

3. Responsibilities.

3.1 Management and Supervisors:

- 3.1.1 Monitor workplace temperatures
- 3.1.2 Provide engineering controls, work practices and protective equipment to reduce exposure levels to the lowest achievable level
- 3.1.3 Ensure employees and supervisors are able to recognize early signs and symptoms of cold/heat intolerance such as weakness, muscle cramps, shivering, headache, nausea, inability to do complex motor functions, lethargy, heavy sweating, and mild confusion.
- 3.1.4 Employers should have an emergency plan in place that specifies what to do if a worker has signs of cold/heat-related illness, and ensures that medical services are available if needed
- 3.1.5 Ensure the availability of water or other appropriate beverages to employees
- 3.1.6 Employers should take steps that help workers become acclimatized (gradually build up exposure to heat), especially workers who are new to working in the heat or have been away from work for a week or more. Gradually increase workloads and allow more frequent breaks during the first week of work
- 3.1.7 Ensure that employees who have symptoms of a temperature-related condition have access to a health care provider, should they wish to seek medical treatment.

3.2 Employees:

- 3.2.1 Follow proper work practices and procedures to help protect their health and safety.
- 3.2.2 Be aware of the signs and symptoms of cold/heat related illness and injuries (frostbite or other cold related injuries; heat stroke or other heat related injuries) and report such symptoms to your supervisor immediately.

- 3.2.3 Wear appropriate clothing and attire, and use provided protective equipment as needed or required to assist the body in managing the effects of extreme temperatures.
- 3.2.4 Participate in training

4. Procedure.

4.1 Control Measures:

- 4.1.1 Engineering controls will be implemented to reduce exposures to the lowest level achievable. Where controls are insufficient, they will be supplemented by the use of safe work practices.
 - 4.1.1.1 Engineering controls may include temperature regulators, spaces for warm-up or cool-down to acclimate employees to temperature extremes, protective enclosures or specialized tools to reduce the demands of activity on the body.
 - 4.1.1.2 When the temperature of surrounding solid objects are cold enough to cause skin damage the hazard will be reduced by insulating or shielding either the object or the skin whenever possible, or otherwise isolating the cold source from contact.
- 4.1.2 Work practices will be introduced to reduce the effects of cold/heat when engineering controls are not adequate or are not feasible.
 - 4.1.2.1 Work practices may include written procedures, time restrictions for extreme temperature exposures, increased recovery or warm-up time, increasing the number of employees per task, providing adequate water to hydrate employees with exposure, and encouraging physical fitness in employees.
- 4.1.3 Protective equipment and clothing will be provided when engineering controls and work practices are not sufficient to reduce employee exposures to acceptable levels.
 - 4.1.3.1 Protective equipment includes standard insulated clothing for cold or hot conditions (coats, cooling bandanas, gloves, hats, face protection, thermal clothing), specialized temperature regulated clothing (cool down or warm up vests), and shelter from sun or cold environments.
 - 4.1.3.2 Access to shade, heated or cooling environments will be provided for employees suffering from heat illness or cold exposure believing a preventative recovery period is needed. Shade areas should have access to the open air or be provided with ventilation or cooling equipment such as fans, air conditioners or misting equipment. Be sure workers in extreme cold conditions take a frequent short break in warm dry shelters to allow their bodies to warm up.

4.2 Cold/Hot Weather Alert Safety Program:

4.2.1 In the event of an alert from the National Weather Service or local weather forecast services, the following should be considered:

4.2.1.1 Postpone tasks which are not urgent

4.2.1.2 Increase the number of workers in each team in order to reduce each workers heat or cold exposure.

4.2.1.3 Increase rest allowances.

4.2.1.4 Restrict overtime work, as needed.

5. Safety Information.

5.1 Hot Work Areas:

5.1.1 The major conditions that cause heat related stress are high temperatures and humidity, sun exposure, and exposure to heat emitting equipment

5.1.2 Symptoms of heat stress include weakness, heavy sweating, nausea, unsteady gait, irritability, disorientation, changes in skin color or general malaise.

5.1.3 If heat stress is recognized and treated appropriately early, a more serious condition such as heat stroke (vomiting, hot/dry skin, seizures, unconsciousness) likely can be prevented; therefore, it is important to identify and treat as early as possible.

5.1.4 Treatment for heat stress generally includes drinking cool water and rest. Water (including drinking-fountains or individual drinking cups) will be provided. In general employees should be encouraged to drink cool water (50-59°F) at about one-cup (5-7 oz.) every 20 minutes to remain hydrated in extreme heat situations.

5.1.5 Warning signs may be required at entrances to work areas, buildings or enclosures where there is a reasonable likelihood of heat stress and other heat related conditions.

5.2 Cold Work Areas:

5.2.1 The major conditions that cause cold related stress are low temperatures, wind chill, dampness or humidity, and cold water.

5.2.2 Symptoms of cold stress include shivering, fatigue, slurred speech, confused behavior, dilated pupils, and numbness in the extremities.

- 5.2.3 If cold stress is recognized and treated appropriately early, a more serious condition such as hypothermia and frostbite (uncontrollable shivering, numbness, discolored skin in extremities) likely can be prevented; therefore, it is important to identify and treat as early as possible.
- 5.2.4 Inadequate or wet clothing increases the effects of cold on the body.
- 5.2.5 Treatment for cold stress generally includes moving the affected employee to a warm area, removing any wet clothing, drinking warm sweetened liquids and rest.
- 5.2.6 Warning signs may be required at entrances to work areas, buildings or enclosures where there is a reasonable likelihood of cold stress and other cold related conditions.

6. Training and Information.

- 6.1 Upon initial assignment, and as needed thereafter for refresher training, employees will be provided with information and/or training in the hazards associated in working in extreme temperatures. They will be provided with the means to protect themselves from extreme heat or cold working conditions.
- 6.2 Employees should understand the environmental and personal risk factors.
- 6.3 Supervisors should understand all of the employee requirements as well as the procedures to follow to implement the requirements and the procedures to follow for contacting and implementing emergency medical response. These procedures should be in writing and maintained.

7. Definitions.

- *Acclimatization* - means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.
- *Cold Work Area* – An area where the temperature (including wind chill) is lower than 62 degrees Fahrenheit.
- *Hot Work Area* – An area where the temperature exceeds 90 degrees Fahrenheit
- *Environmental risk factors for heat illness* - means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

- *Extreme Temperature* –Extreme temperature takes into account wind chill and other environmental factors that reduce or increase the ambient air temperature. With such factors included, extreme temperatures are either a constant working temperature of <62°F or >90°F, or short-duration (15 minutes or less) exposures to <45°F or >100 degrees Fahrenheit.
- *Heat Illness* - means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.
- *Personal risk factors for heat illness* - means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.
- *Preventative recovery period* - means a period of time to recover from the heat in order to prevent heat illness.
- *Shade* - means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.
- *Wind Chill* – A combination of temperature and wind velocity. Wind chill cools the air further than the ambient temperature of the air. For example, if the temperature is 40°F and the wind velocity is 35 mph, the wind chill provides conditions that equal 11°F.

TRAINING ATTENDANCE ROSTER WORKING IN TEMPERATURE EXTREMES									
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Working In Extreme Cold Training Includes:

- Temperature Ranges
- Factors for Cold Extremes
- Cold Stress Injury/Illness
- Symptom Recognition
- First Aid Treatment

- Temperature Ranges
- Factors for Cold Extremes
- Cold Stress Injury/Illness
- Symptom Recognition
- First Aid Treatment

Working In Extreme Heat Training Includes:

- Temperature Ranges
- Factors for Heat Extremes
- Heat Related Injury/Illness
- Symptom Recognition
- First Aid Treatment
- Control and Prevention Methods

- Temperature Ranges
- Factors for Heat Extremes
- Heat Related Injury/Illness
- Symptom Recognition
- First Aid Treatment
- Control and Prevention Methods

INSTRUCTOR:

DATE:

LOCATION:

NAME (Please Print) FIRST - MI - LAST
--

SIGNATURE

By signing below, I attest that I have attended the safety training for the topic indicated, and will abide by the safety information, procedures, rules, regulations and/or company policy as presented and instructed

[illegible]

Name of Interpreter, if utilized: _____

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CALIFORNIA
WORKING IN EXTREME TEMPERATURES
Additional Requirements

HEAT ILLNESS PREVENTION PLAN – 8 CCR 3395

- All businesses with outdoor places of employment exposures must develop and implement an Heat Illness Prevention Plan.
 - Plan must cover the following:
 - Procedures for providing sufficient water,
 - Procedures for providing access to shade,
 - High-heat procedures,
 - Emergency response procedures,
 - Acclimatization methods and procedures.
- Required form: Heat Illness Prevention Plan

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HEAT ILLNESS PREVENTION PLAN

Company Name:

ACCESS AND LOCATION OF PLAN

The Heat Illness Prevention Plan will be **written** both in English and in the language understood by the majority of employees.

This plan is accessible to employees at the worksite as a hardcopy or electronic device upon request.

RESPONDING TO A HEAT RELATED EMERGENCY

In the event of a heat-related emergency, employees should contact emergency medical services directly. If employee cannot reach emergency medical services directly they must contact the designee by means of _____.

Designee will be familiar with each work site address and will provide clear and precise directions to the site to emergency medical services if they are called to assist an affected employee.

The following designated person or persons (Program Administrator/Safety Coordinator/Supervisor/Foreman/Field Supervisor/Crew Leader) have the authority and responsibility for implementing the provisions of the program at this worksite.

Name / Title / Phone Number:

1. _____
2. _____
3. _____

ACCESS TO WATER

Access to drinkable water will be provided. At least one quart of water per employee, per hour will be available. This will be accomplished by _____. If more drinking water were to be required, additional supplies will be obtained by _____.

Water will be pure, suitably cool, and provided free to workers. The water will be located as close as practicable to where employees are working.

ACCESS TO SHADE

Access to a shaded or cool area will be provided at all times for employees to cool off when overheating is likely. The location will be designated by the job supervisor on a job-to-job basis. The supervisor will advise the employees where the designated area is located. The shade area will not expose employees to unsafe or unhealthy conditions and does not deter or discourage access or use. Shade will be provided by using _____.

Shade will be provided based on temperature as follows:

Above 80° F - When temperatures exceed 80 degrees Fahrenheit, shade will be provided for all workers on break, and for all those who take their meal periods onsite. The shade area will be large enough, so employees can sit in a normal posture fully in the shade without having to be in physical contact with each other. For climates cooler than 80 degrees, shade will still be made available upon request.

Required for Agriculture Job Sites only

When temperatures are 95 degrees or above, employees will take a minimum ten minute preventative cool down rest period every two hours.

95° F and Above (High-Heat Procedures) - When temperatures are 95 or above the employees will be observed for alertness and signs or symptoms of heat illness.

- One or more employees on each worksite will be authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
- Pre-shift meetings will cover high heat procedures, encourage employees to drink plenty of water, and remind employees of their rights to take a cool-down rest when necessary.
- We will ensure effective employee observation/monitoring by implementing one or more of the following:
 1. When 20 or fewer employees, the supervisor or designee will observe employees.
 2. Above 20 employees, employees will be paired up and trained to stay in contact, observe each other throughout the day, and immediately report any signs or symptoms of heat illness.
 3. Employees working alone will communicate with designee by radio or cell phone in locations where there is adequate coverage. The employee will be contacted regularly and as frequently as possible throughout the day.
 4. Or other means of observation will be provided, such as:

Infeasibility – If it is infeasible or unsafe to provide shade as noted above, we will provide, based on any particular circumstances, other equivalent procedures to protect the employees, including but not limited to _____.

PREVENTATIVE COOL-DOWN REST

Employees will be allowed and encouraged to take a “preventative cool-down rest” in the shade when they feel a need to do so to protect themselves from overheating.

Workers who take cool-down rest breaks will be monitored and asked if they are experiencing heat illness symptoms. The employee will be encouraged to remain in the shade and will not be ordered back to work until any signs or symptoms of heat illness have abated, but in no event less than 5 minutes in addition to the time needed to access the shade. If the employee exhibits or complains of any sign or symptom of heat illness, first-aid procedures will be initiated without delay.

Any workers who display or report any signs or symptoms of heat illness, will not be left alone or sent home without being offered on-site first aid or emergency medical services.

TRAINING

Employees and supervisors will be trained before they begin work that can reasonably be anticipated to exposure to heat illness. The training will cover the policies and procedures of this plan, so employees and supervisors can understand and implement this plan. The topics will include the added burden of heat load on the body caused by exertion, clothing and personal protective equipment; and for supervisors, how to monitor weather reports and respond to hot-weather advisories.

Additionally, employees and supervisors will be informed of common signs and symptoms of heat illness and appropriate first aid and/or emergency responses to the different types of heat illness and that heat illness may progress quickly and is life threatening. The training must be presented in a language that employees understand and should be documented.

ACCLIMATIZATION

All workers will be closely observed during a heat wave.
Any worker newly assigned to a high-heat area will be observed by a supervisor or designee during the first 14 days of employment.

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