INTRODUCTION AND ADOPTION

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	000	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	n/a	**Training Frequency:**	n/a

PURPOSE

These Occupational Safety and Health Manual Policies are designed to:

- Adhere to Oregon Occupational Safety and Health (Oregon OSHA) standards and guidelines for employee safety.
- Inform all employees of the safety program, policies, and procedures of the City.
- Provide employees with an understanding of their role in safety during their employment with the City.
- Provide employees with an understanding of management and the City's role in safety during their employment with the City.
- Be interpreted consistent with State and Federal law.

The policies and procedures contained herein shall apply to all City employees. Where the provisions of a collective bargaining agreement with the City differ from these rules, the language in the bargaining agreement shall prevail.

The City reserves the right to change any of these policies and procedures at any time. Updates to policies will be communicated to staff via the normal means of communication from the City to employees.

SAFETY COMMITTEE

The City has established a Safety Committee, which meets monthly. Committee Members may change each year, but are made up of a mixture of City appointed members and employees that volunteer for the assignment. The City's HR department is responsible for ensuring the operation and recordkeeping of the Safety Committee. All employees are encouraged to take an interest in safety and participate in the safety committee. Please speak with Human Resources for a current list of Safety Committee members or to express your interest in joining.

POLICY LIST

Collectively, the Safety Manual (and incorporated policies) supersede and replace any previously related or similar policies. Questions about conflicting policies will be resolved by the City Manager, or designee. The following policies make up the Safety Manual:

Title	Category	Subcategory	Last Updated
Commitment to Safety	600	001	March 1, 2021
Safety Responsibilities	600	002	March 1, 2021
Self-insured Loss Prevention Program	600	003	March 1, 2021
Recordkeeping	600	004	March 1, 2021
Safety and Health Training Program	600	005	March 1, 2021
Accident Investigation Procedures	600	006	March 1, 2021
Safety Committee and Safety Meetings	600	007	March 1, 2021
Emergency Action, Fire Prevention Plan, and First Aid	600	008	March 1, 2021
Bloodborne Pathogen Exposure Control Plan	600	009	March 1, 2021
Confined Space Entry Plan	600	010	March 1, 2021
Hazard Communication	600	011	March 1, 2021
Lockout Tagout	600	012	March 1, 2021
Noise Exposure and Hearing Conservation	600	013	March 1, 2021
Personal Protective Equipment	600	014	March 1, 2021
Respiratory Protection Program	600	015	March 1, 2021
Lead Compliance Plan	600	016	March 1, 2021
Laboratory Safety	600	017	March 1, 2021
Asbestos	600	018	March 1, 2021
Ergonomics Program	600	019	March 1, 2021
Cranes, Derricks, and Hoist Operations	600	020	March 1, 2021

Contractor Safety and Notification Policy	600	021	March 1, 2021
Forklift Safety	600	022	March 1, 2021
Excavation Safety	600	023	March 1, 2021
Fall Protection Compliance	600	024	March 1, 2021
Welding	600	025	March 1, 2021
Electrical Safety	600	026	March 1, 2021
Ladder Safety	600	027	March 1, 2021
Job Hazard	600	028	March 1, 2021

REVIEWED AND AUTHORIZED

Alex Ferguson 03/01/2021

HUMAN RESOURCES **DATE**

ERReynolds 03/01/2021

CITY MANAGER **DATE**

COMMITMENT TO HEALTH AND SAFETY

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	001	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	n/a	**Training Frequency:**	n/a

MANAGEMENT COMMITMENT TO HEALTH AND SAFETY

The safety and health of our employees is very important to City of Florence. No employee will be required to do a job that they consider unsafe. City of Florence will comply with all applicable Oregon OSHA workplace safety and health requirements and maintain occupational safety and health standards that equal or exceed those best practices.

The City has established a safety committee, consisting of management and labor representatives, whose responsibility will be identifying hazards and unsafe work practices, removing obstacles to preventing accidents, and helping evaluate our efforts to achieve an accident and injury-free workplace.

The City will strive to achieve the goal of zero accidents and injuries. In doing so, City of Florence pledges to do the following:

1. Recognize that management and employees share responsibility for a safe and healthful workplace.
2. Support the City of Florence's safety committee by encouraging employee participation; considering all employee suggestions for achieving a safer, healthier workplace and regularly reviewing safety and health program.
3. Train workers in safe work practices at hire and as policies, processes or equipment changes. Supervisors are held accountable by their Department Head or the City Manager.
4. Enforce all City safety rules and ensure that employees follow safe practices. If work rules or practices are not adhered to, the manager or supervisor will follow the employee handbook/collective bargaining agreement when taking any corrective measures. Supervisors evaluate on a case-by-case basis. Any discipline will be documented in the employee's personnel files located in Human Resources.
5. Provide mechanical and physical safeguards wherever they are necessary. Provide employees with necessary protective equipment and train them to use and care for it properly. Documentation of necessary personal protective equipment (PPE Evaluation) is located with the Safety records maintained by Human Resources.
6. Conduct routine safety and health inspections to find and eliminate unsafe working conditions, identify health and safety hazards, and comply with all applicable Oregon OSHA safety and health requirements. The safety committee will conduct quarterly worksite inspections. Employees can also make suggestions to the supervisor or safety committee.

7. Investigate accidents to determine the cause and to prevent similar accidents from occurring in the future. Accident investigations are conducted by the immediate supervisor and reviewed by the safety committee. Any suggestions made are documented in the meeting notes.
8. Evaluate workplace design, layout and operations utilizing an ergonomic approach. The City can provide access to ergonomic evaluations for new employee workstations upon hire and if there are concerns as needed. If the on-site responder is unable to resolve the concern, we will contact our Workers' Compensation Provider's Management Consultant for assistance.
9. Remind employees that they are expected to participate in safety and health program activities including immediately reporting hazards, unsafe work practices and accidents to supervisors or a safety committee representative, wearing required personal protective equipment, and participating in supporting safety committee activities.
10. Conduct an annual evaluation of the City's loss prevention goals and activities based on entity or department specific concerns and current entity needs. The annual evaluation will be conducted by the safety committee and reviewed by the City Manager.
11. Ensure that employees can report hazards and injuries in an environment free from retaliation or harassment. *See Protection against Retaliation Policy.*

The City uses a third party insurance agent for our Workers' Compensation coverage. The City's designated Safety Officer/Risk Manager is the Human Resources Department. They are located at City Hall and can be contacted at 541-590-4012.

SAFETY RESPONSIBILITIES

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	April 2021
Policy Number:	002	**Revised Date:**	April 2021
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	n/a	**Training Frequency:**	n/a

SAFETY RESPONSIBILITIES

Most public employees are covered under OR-OSHA Division 2, the General Industry Standard. This health and safety manual complies with the requirements of the OR-OSHA Division 2 standard. Link to OR-OSHA's Division 2 Standard.

There may be some employees who perform job tasks that are covered by additional safety and health requirements. For those employees, we will refer to the applicable regulations and comply with the additional code requirements in our health and safety program. These employees may include:

1. Employees or contractors who are engaged in construction work including demolition, blasting and use of explosives, and power transmission distribution and maintenance work. These employees will need to comply with the OR-OSHA Division 3, Construction Standard. Link to OR-OSHA Division 3 Construction Standards.
2. Link to OR-OSHA Construction Info and Resources.
3. Employees who conduct ocean and navigable waterway rescues. These employees need to comply with the OSHA Division 5 Maritime Activities Standard (29 CFR 1915, 1917, and 1918) and applicable Coast Guard regulations. Link to OR-OSHA Division 5 Regulations.
4. Employees who are responsible for operation and maintenance of electric power generation, control, transformation, transmission, distribution lines and equipment. These employees are required to comply with the OR-OSHA Electric Power Generation, Transmission and Distribution Standard, Chapter 437, Division 2 Subdivision RR. This includes those employees who conduct line-clearance tree-trimming operations. Division 2, Subdivision RR.
5. Employees who perform electrical installations and utilization equipment installed or used within or on buildings, structures and other premises are required to comply with the OR-OSHA 29 CFR 1910.302 Electric Utilization Systems Standard, Division 2 Subdivision S. Link to OR-OSHA Division 2, Subdivision S Electrical.
6. Employees who perform work in underground mines, sand and gravel pits, including the rock crusher if it is in or near the pit are required to comply with MSHA regulations and are subject to inspection by MSHA compliance inspectors.(Portable rock crushers that are not connected to a sand or gravel pit will be subject to OR-OSHA compliance inspections). Link to MSHA Regulations.

Program Directive Outlining MSHA vs. OR-OSHA Jurisdiction.

MANAGEMENT COMMITMENT

Management and supervisory personnel are accountable for the safety of employees working under their supervision, and will be expected to conduct operations in a safe manner at all times. Management has the

overall responsibility for the establishment, implementation, administration, and governance of the City of Florence's entire safety program. Management staff responsibilities include:

1. Ensuring that safety and health regulations are observed.
2. Developing and implementing the safety program.
3. Assisting in preparation and revision of safety policies and implementation of the safety rules.
4. Monitoring and auditing each department or facility for safety and health hazards.
5. Establishing or approving procedures for hazardous operations.
6. Monitoring and auditing the operation for safety and health hazards.
7. Overseeing the investigation of all accidents, reporting near-misses or hazardous conditions, and assuring that appropriate steps for corrective action are implemented in a timely manner. In the event of an accident, conducting a complete and thorough investigation before leaving work for the day.
8. Reviewing and approving the safety aspects of any facility layout, design, and alteration.
9. Maintaining reasonable contact with any worker who is away from work due a work-related injury or illness, and documenting the contact in a written record. Reasonable contact frequency will be dependent on the type of injury and prognosis and be done a consistent manner with protected leave laws.
10. Completing the safety orientation of new employee and conducting mandatory safety meetings and training.
11. Recommending safety procedures and practices.
12. Maintaining the OR-OSHA injury and illness logs and complying with state and federal injury reporting requirements.
13. Retaining exposure and medical monitoring records.
14. Managing the workers' compensation program.
15. Assisting supervisors with safety performance issues if requested, or in the event of a specific trend of injury types or sources.
16. Administering all other insurance including property, liability, auto, workers' compensation, and employee health insurance.
17. Any supervisors or persons in charge of work are the agents of the employer in the discharge of their authorized duties, and are responsible for:
    a. The safe performance of work under their supervision.
    b. The safe conduct of the crew under their supervision.
    c. The safety of all workers under their supervision.

EMPLOYEE'S RESPONSIBILITIES

Employees' role in safety is critical. Employees are responsible to follow proper safety and health practices. It is important that everyone report unsafe conditions to their supervisor and the Safety Committee so that the condition or facility can be corrected. Safe work practices are for all our employees' benefit.

Employees are responsible for:

1. Carrying out each task using every required and reasonable precaution to protect themselves and co-workers from injury.
2. Being alert to and reporting any unsafe conditions or practices observed to the immediate supervisor.
3. Immediately reporting all injuries to their supervisors.
4. Being familiar with and abiding by the safety policies.

SAFETY COMMITTEE RESPONSIBILITIES

The Safety Committee's responsibility is to advise management on safety related issues in the workplace and to provide leadership in protecting the safety and health of all employees. The Safety Committee plays an essential

role in the overall safety effort and serves as the primary means of communicating and exchanging information on safety issues. Safety Committee responsibilities include:

1. Recommending programs for the safety and health of employees.
2. Monitoring the programs and work procedures designed for employee safety and health.
3. Considering individual employee concerns and suggestions regarding safety and health, communicating with the management team regarding concerns and suggestions, and reporting back to the individual employee in a timely manner.
4. Reviewing employee safety input forms and recommending appropriate corrective action in writing.
5. Promoting programs to improve the safety, health, training, and awareness of all employees.
6. Participating in the investigation of safety hazards as needed.
7. Providing a means for employees to work together on identifying hazards and developing acceptable solutions to safety problems.

Safety Committees meet monthly and will provide reports to the management team(s).

Though the Safety Committee's role is advisory, all reasonable means will be taken by management to address the concerns of the committee. The Safety Committee Charter is defined in detail in 600.007.

SAFETY COMMITTEE CHAIR RESPONSIBILITIES

1. Presenting to the management team(s) safety policies to meet OR-OSHA compliance.
2. Assisting the Safety Committee with the implementation of all safety policies and procedures.
3. Evaluating safety performance issues upon request or if specific injury trends are identified.
4. Working with the Safety Committee to develop or recommend safety-training programs.
5. Developing and or maintaining educational and instructional materials.
6. Developing safety committee meeting agendas and leading the safety committee meetings.

SAFETY COMMUNICATION NETWORK

As reflected in the management commitment statement, maintaining a safe place of employment requires a cooperative effort on the part of each employee. Essential for such cooperation is a communication system capable of conveying safety information. The following outlines our communication network:

1. Written communications (either on paper, via email or the entity's intranet), to be available to the employees in each department, regarding major and/or complex issues.
2. Safety Committee meetings should be held as needed but at least every month unless all employee safety meetings are held. These meetings will have a standard agenda that shall be revised as appropriate and participants will report on various safety/health related issues. The agenda for Safety Committee meetings should include (but are not limited to):
    a. Review of old business from prior safety committee meetings.
    b. Review of applicable regulatory issues.
    c. Status of current safety issues.
    d. Review of accidents that have occurred and corrective actions taken. This includes a discussion of any trends or near-miss reports.
    e. Discussion of any major process and operational changes that may affect safety or environmental pro-grams or result in additional planning.
    f. Each department representative or the supervisor will report on the status of on-going safety training and any assistance needed.
    g. Review of walkthrough reports and corrective actions taken.
3. Getting safety input from individual employees can be accomplished through a variety of avenues including:
    a. Addressing the issue with the immediate supervisor.

b. Reviewing with any level of management, via our open-door policy.
c. Submitting a written safety recommendation.
d. Reviewing with a safety committee representative.

DISCIPLINARY ACTIONS FOR UNSAFE PRACTICES

Employees are expected to act in accordance with all appropriate codes, laws, regulations, and policies, regardless of whether they are set by City of Florence or outside regulatory or legislative bodies. Violation of any safety, health, security or policy, rule or procedure will result in potential discipline or termination of employment.

SELF-INSURED LOSS PREVENTION PROGRAM

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	April 2021
Policy Number:	003	**Revised Date:**	April 2021
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	At hire; annually

SELF-INSURED LOSS PREVENTION PROGRAM

OR-OSHA requires specific Loss Prevention Activities to be performed by group self-insured employers. The City of Florence is considered to be a self-insured employer and must comply with the specific OR-OSHA self-insured employer rules. This includes a written plan and specific activities.

OAR 437-001-1050 & 1060: http://osha.oregon.gov/OSHARules/div1/437-001-1050-1060.pdf

WRITTEN OCCUPATIONAL HEALTH AND SAFETY LOSS PREVENTION PROGRAM

The program's function is to address the loss prevention effort and inform management and employees of the availability and process for requesting loss prevention services.

SELF-INSURED OR-OSHA REQUIRED LOSS PREVENTION ELEMENTS

The following elements are required by OR-OSHA for each self-insured group and self-insured employer. The overall operation of our safety program and recordkeeping will meet these elements.

1. Management commitment to health and safety.
    a. Method of compliance: The statement of commitment is primarily our Safety Manual but commitment is also shown by our responsiveness to the Safety Committee's concerns and recommendations.
    b. Recordkeeping: The Safety Manual and written responses to Safety Committee concerns and recommendations are maintained by the administration.
2. Accountability system for employer and employees.
    a. Method of compliance: Each employee's job performance includes review of safety behavior and activities.
    b. Recordkeeping: Human Resources retain employee performance records and any record of discipline for safety issues.
3. Training practices and follow-up.
    a. Method of compliance: Training is the responsibility of the department supervisor(s). We have developed a schedule for training and have identified the specific training needs.
    b. Recordkeeping: The record of training is maintained by the department supervisor and/or Human Resources.
4. A system for hazard assessment and control.

    a. Method of compliance: The Safety Committee's quarterly inspections and supervisor's routine review of their work activities at the various locations will serve to ensure that we have appropriate auditing. OR-OSHA expects that the quarterly inspection assess all the employer's locations/ operations. In addition, our Workers' Compensation Provider's Risk Management Consultant conducts periodic inspections at our facility.
    b. Recordkeeping: The primary records of the inspection and audit services will be maintained by administration. The Safety Committee will make a record of each quarterly inspection. This will be placed in the Safety Committee Inspection file. Any written inspection report done by a supervisor (i.e. lock out tag out annual inspection) will be kept in the supervisor's/department's safety file.
5. A system for investigating all recordable occupational injuries and illnesses that includes corrective action and written findings.
    a. Method of compliance: Management and/or the supervisors are responsible for completing accident investigations. The Safety Committee also reviews and comments on the accident investigations and they may participate in some of the investigations.
    b. Recordkeeping: The primary accident investigation records maintained by administration.
6. A system for evaluating, obtaining and maintaining personal protective equipment (PPE).
    a. Method of compliance: Each supervisor has an overall responsibility for ensuring the selection and purchase of appropriate PPE, and that the PPE are properly used and maintained. The Safety Committee and others conducting daily or quarterly inspections will review the PPE program's adequacy. 600.014 provides a PPE policy, selection, maintenance, and training information.
    b. Recordkeeping: The primary records for PPE inspection are maintained by the department supervisors.
7. On-site routine industrial hygiene and safety evaluations to detect physical and chemical hazards of the workplace, and the implementation of engineering or administrative controls.
    a. Method of compliance: Basic occupational safety and health inspections are done by the Safety Committee and supervisors. More technical assistance is provided by our Workers' Compensation Provider's Risk Management Consultants, OR-OSHA consultants and private safety and industrial hygiene consultants.
    b. Recordkeeping: The primary records of the inspection and audit services will be maintained by the managers, supervisors and Safety Committee.
8. Evaluation of workplace design, layout and operation, and assistance with job site modifications utilizing an ergonomic approach.
    a. Method of compliance: Basic ergonomic inspections are done by the Safety Committee. More technical assistance is provided by our Workers' Compensation Provider's Risk Management Consultants, OR-OSHA consultants and private consultants.
    b. Recordkeeping: The primary records of the ergonomic survey and findings will be maintained by the supervisor or manager of the group or department receiving the evaluation.
9. Employee involvement in health and safety efforts.
    a. Method of compliance: This is a primary concern for management and the Safety Committee. Routine meetings or staff meetings are the primary focus for employee involvement. Safety is a daily activity and our employees are expected to perform their work as instructed for their own and coworker safety. Additionally, use of employee safety suggestion forms, hazard reporting forms, as well as encouraging employee input and feedback on matters presented to the safety committee are other ways to involve employees in the safety effort. Lastly, ensuring that safety committee members rotate every few years allows other employees the opportunity to participate in the safety committee.
    b. Recordkeeping: The primary records of employee involvement are found in the supervisor's safety inspection records, minutes of staff meetings, in Safety Committee minutes, employee safety suggestion forms, and hazard reporting forms.

10. An annual evaluation of the employer's loss prevention activities based on the location's current needs.
    a. Method of compliance: An annual report will be prepared in January or June of each year for the previous year's activities. The report will be prepared by the management staff, the Safety Committee, department managers and/or supervisors. The reports will provide feedback on the entity's loss prevention activities, policies, and procedures on areas of improvement or change.
    b. Recordkeeping: The annual reports will be maintained by the Administration and available to the Safety Committee and OR-OSHA upon request.

EMPLOYEE TRAINING MATERIALS

Each employee must be trained in the Emergency Action and Fire Protection Plan when hired and every year thereafter. Additional training may also be needed whenever the employee's responsibilities change and whenever the plan is changed.

Emergency Response Training Overview

The location and use of fire extinguishers. This includes the following information on types, stages of fires, and reactions to fires and emergencies:

1. In order to have a fire, three components are needed (see fire triangle): fuel (paper, wood, oil, grease, etc.), oxygen (air) and heat (source of ignition). Take away any one of these and your chances of a fire are eliminated.
2. Review the class of fire extinguishers and method of use.
3. Discussion on the dangers of:
    a. Becoming disoriented in the panic of a fire.
    b. The use of the fire hose as an escape aid.
    c. Going onto a roof, or into a basement to fight a fire.
    d. Exploding chemical containers such as acetylene, oxygen, propane, barrels.

Limit our staff firefighting to incipient fires. Employees will only be trained to use an extinguisher or in some cases the smaller fire hoses to put out an incipient fire. Employees are not trained in structural firefighting.

Every training session will emphasize employee safety and prevention of emergencies and fires.

Employees are trained in the use of fire extinguishers at the time of hire and annually thereafter. Basic training on fire extinguishers should include the following information:

1. Class A Fires: Ordinary combustible fire
2. Class B Fires: Flammable liquid and gas fires
3. Class C Fires: Electrical fires; usually Class A or B fires involving energized electrical wiring and equipment
4. Class D Fires: Combustible metals
5. The location of fire exits and emergency evacuation routes, which should also be noted on building evacuation maps posted in throughout the buildings.
6. Rescue and medical duties.
7. Procedures to follow should a facility evacuation be needed including:
    a. Evacuation routes.
    b. Method for reporting to the Emergency Coordinator after an evacuation
    c. Means of reporting fires and other emergencies

Employees with specific fire duty assignments will receive special training on their responsibilities. Each supervisor will ensure that their employees receive the proper training and will keep a record of the training.

RECORDKEEPING

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	004	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	n/a	**Training Frequency:**	n/a

RECORDKEEPING RULES AND REGULATIONS

http://osha.oregon.gov/OSHARules/div1/437-001-0700.pdf

http://osha.oregon.gov/OSHARules/div1/437-001-0704-0742.pdf

The OR-OSHA recordkeeping rules/regulations require that many different types of records be retained. This safety manual has been written so that the City and/or department initiating the records are required to keep a copy and forward a copy to the department head or HR as the primary "keeper of records".

All work-related fatalities, injuries, and illnesses will be immediately recorded and reported on an accident/incident reporting form. If the employee misses time from work or seeks medical treatment from a physician, a DCBS Form 801 must be completed within five calendar days (or preferably sooner) from the time the fatality, injury, or illness occurred and submitted to the Workers' Compensation Provider utilizing the online 801 claims form. Supporting information (accident/incident reporting form and accident investigation report) will be submitted to Workers' Compensation Provider along with the 801 claims form.

OAR 437-001-0704 requires an employer to report any work-related incident that results in the death (fatality) of any employee or the inpatient hospitalization of three or more employees (catastrophe) to Oregon OSHA within 8 hours of the incident or employer knowledge. This includes heart attacks and motor vehicle accidents. Fatalities and catastrophes must be reported if they occur within 30 days of the incident that lead to the death or multiple hospitalizations of employees.

OAR 437-001-0704 also requires employers to report any work-related incident that results in an in-patient hospitalization, loss of an eye, or amputation or avulsion that includes bone or cartilage loss, to Oregon OSHA within 24 hours of the incident or employer knowledge. These events only need to be reported when they occur within 24 hours of the event that caused the hospitalization, amputation/avulsion, or the eye loss.

Injuries or illnesses are work-related if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing injury or illness. These incidents can result in one or more of the following:

1. Death
2. Days away from work
3. Transfer to another job
4. Medical treatment beyond first aid
5. Loss of consciousness
6. Diagnosis of a significant injury or illness

Recordable injuries and illnesses must be reported on an OSHA 300 Log. To determine which injuries and illnesses must be reported on the OSHA 300 Log, see the instructions and OSHA 300 log at http://osha.oregon.gov/OSHAPubs/3353.pdf.

Hearing loss is recorded on the OSHA 300 and 300A Logs when an annual audiometric test reveals a Standard Threshold Shift (STS) in either or both ears of 10 decibels (dBa) from the previous year's audiometric test.

Needle stick and sharps injuries must be tracked on a Needlestick Log. These injuries that are diagnosed later as an infectious bloodborne disease must be updated on the 300 Log to reflect the new status or classification.

In addition, health care employers as defined in ORS 654.001 to 654.295 must record assaults against employees on the Health Care Assault Log. If the incident results in a serious injury or fatality, it must be immediately reported to OR-OSHA, and recorded on the OSHA 300 Log. A copy of the Health Care Assault Log can be found on the OR-OSHA website at http://osha.oregon.gov/Pages/topics/recordkeeping-and-reporting.aspx as well as the instructions for completing the log.

At the end of the year, management will review the OSHA 300 Log to verify its accuracy, summarize the 300 Log information onto the 300A summary form, and certify the summary. This information will then be posted for three months, from February 1st to April 30th. These records will be kept for five years following the calendar year covered by them.

Employers who have 250 employees or more at any one location, or is the employer has 20 to 250 employees and are listed in Table 8 in the recordkeeping regulations below, they are required to submit their 300 Log, 300A and 801 claims information via electronic submission to Federal OSHA. See information in (24) Electronic Submission of injury and illness records to OSHA http://osha.oregon.gov/OSHARules/div1/437-001-0700.pdf.

WRITTEN PROGRAM REQUIREMENTS

This list includes all Oregon OSHA rules that have requirements for programs (generally applies for employers with 10 or more employees).

*A paragraph mark (¶) in the first column indicates that at least one of the program-related requirements must be in writing.

This list includes all Oregon OSHA rules that have requirements for programs (generally applies for employers with 10 or more employees).

*	Division	Subdivision	Rule #	Rule description
¶	1		437-001-1035	Loss prevention services
¶	1		437-001-1040	Required loss prevention services
¶	1		437-001-1055	Self-insured and group self-insured employer loss prevention programs
	1		437-001-1060	Self-insured and group self-insured employer loss prevention effort
¶	2	E	437-002-0042	Emergency action plan
¶	2	E	437-002-0043	Fire prevention plan
¶	2	F	1910.66	Powered platforms for building maintenance
	2	G	1910.94	Ventilation
¶	2	G	1910.95	Occupational noise exposure
¶	2	H	1910.109	Explosives and blasting agents
¶	2	H	1910.119	Process safety management of highly hazardous chemicals
¶	2	H	1910.120	Hazardous waste operations and emergency response
	2	H	437-002-0118	Oregon rules for reinforced plastics manufacturing
¶	2	I	1910.134	Respiratory protection
¶	2	J	1910.147	The control of hazardous energy (lockout/tagout)
	2	J	437-002-0141	Additional Oregon sanitation requirements
¶	2	J	437-002-0146	Confined spaces
	2	K	437-002-0161	Medical services and first aid
¶	2	L	437-002-0182	Oregon rules for firefighters
	2	L	437-002-0187	Portable fire extinguishers

*	Division	Subdivision	Rule #	Rule description
	2	N	1910.177	Servicing multi-piece and single-piece rim wheels
¶	2	N	1910.178	Powered industrial trucks
¶	2	N	1910.179	Overhead and gantry cranes
	2	N	1910.181	Derricks
¶	2	O	1910.217	Mechanical power presses
¶	2	O	437-002-0256	Stationary compactors, self-contained compactors and balers
¶	2	R	1910.272	Grain handling facilities
	2	R	437-002-0310	Work procedures
¶	2	RR	437-002-2302 1910.304	Hazardous energy control procedures
¶	2	S		Wiring design and protection
¶	2	Z	1910.1001	Asbestos
¶	2	Z	1910.1003	13 carcinogens
¶	2	Z	1910.1004	Alpha-napthlamine
¶	2	Z	1910.1006	Methyl chloromethyl ether
¶	2	Z	1910.1007	3,3'-dichlorobenzidine
¶	2	Z	1910.1008	Bis-chloromethyl ether
¶	2	Z	1910.1009	Beta-naphthylamine
¶	2	Z	1910.1010	Benzidine
¶	2	Z	1910.1011	4-aminodiphenyl
¶	2	Z	1910.1012	Ethyleneimine
¶	2	Z	1910.1013	Beta-Propiolactone
¶	2	Z	1910.1014	2-acetylaminofluorene

*	Division	Subdivision	Rule #	Rule description
¶	2	Z	1910.1015	4-dimethylaminoazobenzene
¶	2	Z	1910.1016	N-nitrosodimethylamine
¶	2	Z	1910.1017	Vinyl chloride
¶	2	Z	1910.1018	Inorganic arsenic
¶	2	Z	1910.1025	Lead
¶	2	Z	1910.1027	Cadmium
¶	2	Z	1910.1028	Benzene
¶	2	Z	1910.1029	Coke oven emissions
¶	2	Z	1910.1043	Cotton dust
¶	2	Z	1910.1044	1,2-dibromo-3-chloropropane
¶	2	Z	1910.1045	Acrylonitrile
¶	2	Z	1910.1047	Ethylene oxide
¶	2	Z	1910.1048	Formaldehyde
¶	2	Z	1910.1050	Methylenedianiline
¶	2	Z	1910.1051	1,3 butadine
¶	2	Z	1910.1052	Methylene chloride
¶	2	Z	1910.1200	Hazard communication
¶	2	Z	437-002-0364	MOCA (4,4'-Methylene BIS (2-Chloro-Aniline)
	2	Z	437-002-0373	Oregon rules for Thiram
¶	2	Z	437-002-1025	Lead respiratory protection program
¶	2	Z	437-002-1027	Cadmium
¶	2	Z	437-002-1028	Benzene
¶	2	Z	437-002-1029	Coke oven emissions respiratory protection program

*	Division	Subdivision	Rule #	Rule description
	2	Z	437-002-1044	1,2-Dibromo-3-Chloropropane respiratory protection program
	2	Z	437-002-1045	Acrylonitrile respiratory protection program
	2	Z	437-002-1047	Ethlylene Oxide respiratory protection program
	2	Z	437-002-1050	Methylenedianiline respiratory protection program
	2	Z	437-002-1051	1,3-Butadiene respiratory protection program
	2	Z		Methylene Chloride respiratory protection program
	3	C	437-002-1052 1926.20	General safety and health provisions
	3	C	1926.24	Fire protection and prevention
	3	D	1926.59	Hazard communication
¶	3	D	1926.60	Methylenedianiline (MDA)
¶	3	D		Lead
	3	D	1926.62 437-003-0062	Lead Respiratory Protection Program
	3	C	437-003-0920	Project plans
	3	D	437-003-3060	Methylenedianiline respiratory protection program
	3	F		Fire protection
¶	3	K	1926.150 437-003-0404	Branch circuits
¶	3	M	437-003-0503	Training requirements
	3	R	1926.761	Training
	3	X	1926.1060	Training requirements
¶	3	Z	1926.1101	Asbestos
¶	3	Z	1926.1126	Chromium (VI)
¶	3	Z	1926.1127	Cadmium
¶	3	Z	1926.1152	Methylene Chloride
	3	Z	437-003-1101	Asbestos respiratory protection program

*	Division	Subdivision	Rule #	Rule description
¶	3	CC		Operator qualification and certification
¶	3	CC	1926.1427 437-003-0081	Crane Operator Safety Training Requirements
	4	C	437-004-0251	Safety committees and safety meetings
	4	G	437-004-0630	Noise exposure
¶	4	I	437-004-1041	Respiratory protection
¶	4	J	437-004-1275	The control of hazardous energy (lockout/tagout)
¶	4	N	437-004-1700	Forklifts and other powered industrial trucks
¶	4	W	170.104	Exemptions, workers
¶	4	W	170.130	Pesticide safety training for workers
¶	4	W	170.204	Exemptions, pesticide handlers
¶	4	W	170.230	Pesticide safety training for handlers
¶	4	W	170.240	Personal protective equipment
	4	Z	437-004-9720	Thiram
¶	4	Z	437-004-9800	Hazard communication
¶	7	B	437-007-0100	Safety and health program
	7	B	437-007-0110	Supervisory responsibilities
¶	7	B	437-007-0145	Annual program evaluation
¶	7	B	437-007-0105	Management commitment
¶	7	N	437-007-1305	General requirements

**A paragraph mark (¶) in the first column indicates that at least one of the program-related requirements must be in writing.*

TABLE OF REQUIRED RECORDS

The following chart shows what records must be maintained under the General Industry Standards. The Construction Standards have additional records that include these listed.

Record/Plan	Overall Plan	Written Type of Record		Retention Time
		Training	Inspection	
1. Injury Records 437-001-700				
a. Form 300	x (complete w/in 7 days)			5 years
b. Form 801	x (complete w/in 7 days)		x	5 years
c. Form 300A	x (post February – April)			5 years
d. Accident Investigation 437-001-0760(3)	x each time loss accident			5 years
*In addition, health care employers as defined in ORS 654.001 to 654.295 must record assaults against employees on the Health Care Assault Log. See OAR 437-001-0706.				
2. Employee Exposure 1910.20(d)		x		30 yrs + emp
3. Bloodborne Pathogens 1910.1030(c)(1)	x	x	x (incident investigation)	30 yrs + emp
4. Medical Plan & Records 1910.20(d) & 1910.151 & 437-02-161(4)	x			30 yrs + emp
5. Emergency Plan 1910.38(a)(2)	x			Not specified
6. Fall Protection 1926.502(k)	x	x	x	Not specified

Record/Plan	Overall Plan	Written Type of Record		Retention Time
		Training	Inspection	
7. Fire Plan 1910.38(b)(2)	x			Not specified
8. Specific Chemical Subs. (minimum requirements)* a. Exposure Record b. Medical Exams c. Resp. Fit Testing (in some cases) Example: Formaldehyde 1910.1048(m)(5)			x x x	30 yrs. 30 yrs + emp most current
9. Asbestos Plan 1910.1001 1926.1101(k)	x	x	x	Current + 30 yrs
10. Hazard Communication 1910.1200(e) a. Written Plan b. MSDS or list c. Employee Training	x	x	x	Need current 30 yrs + emp not specified
11. Lockout/Tagout a. Written Procedures b. Periodic Audit c. Employee Training 1910.147(c)(4)		x	x (annually)	Not specified Not specified Not specified

Record/Plan	Overall Plan	Written Type of Record		Retention Time
		Training	Inspection	
12. Hazardous Materials a. Written Plan b. Employee Training 1910.120(p)(8)(ii)	x	x (annually)		Current plan Current plan
13. Laboratories 1910.1450(e)	x	x	x annual review	30 yrs + emp
14. Noise & Hearing Cons. a. Employee Exposure b. Audiogram c. Calibration Data 1910.95(c)			x x x	2 yrs 5 yrs + emp. Current levels
15. Personal Protective Equipment 1910.132(d)	x	x	x	Not specified
16. Respirators a. Written Program b. Inspection Maintenance c. Emergency Use Resp. 1910.134(b)(1)	x		Monthly	Not specified Not specified
17. Safety Committees 437-001-0765	x	x	x (minutes)	3 yrs

Record/Plan	Overall Plan	Written Type of Record		Retention Time
		Training	Inspection	
18. Crane Inspections a. Daily b. Monthly c. Annually 1910.179 -.182	**		** x x	 Not specified Not specified
19. Fire Protection a. Fire Extinguishers b. Standpipe & Hose c. Fire Detection 1910.157(e), 1910.158(e) 1910.159(c), 1910.164(c)			 x (annual) x (annual) x (periodic)	 1 yr or replaced by a new record Not specified Not specified
20. Mechanical Power Press 1910.217(h)(10) and (11)			x	Not specified
21. Safety Inspections/Audits 437-001-0760			x (quarterly by Safety. Comm.)	3 yrs
22. Confined Space Entry 1910.146(d) & (e)	x	x	x entry permit	1 yr - permit
23. Process Safety 1910.119	x (5 yr. updates)	x	x audits, incident records	Varies (see rules)
24. Welding 1910.252(xiii) & (xiv)			x (periodic)	Not specified

Record/Plan	Overall Plan	Written Type of Record		Retention Time
		Training	Inspection	
25. Lead Plan Gen. Industry 1910.1025(e)(3) and 1926.62 (maintenance or removal of lead painted or containing building materials)	x	x	x	Current + 30 yrs
26. Hexavalent Chrome Plan Gen. Industry 1910.1026	x	x	x	Current + 30 yrs
27. General Instruction Supervision & Training 437-001-0760(1)	x	x		Not specified

** Chemical Substances Specific Standards include: acrylonitrile, asbestos, anhydrous ammonia, arsenic, benzene, carcinogens, ethylene oxide, formaldehyde, lead, inyl chloride, DBCP, cadmium.*

*** Crane Regulation 1910.179-.182 requires daily visual inspections and CIS recommends daily inspections should be recorded*

SAFETY AND HEALTH TRAINING PROGRAM

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	005	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	See below for general guidelines

SAFETY AND HEALTH TRAINING PROGRAM

A major component of this safety program is employee training. Training efforts will be directed at developing each employee's knowledge, skills, and understanding to allow them to work safely. Training will be provided through various means; however, the primary instruction will be given by their direct supervisor.

NEW EMPLOYEE ORIENTATION

All new employees will participate in a "New Employee Orientation Program." Such training is conducted in a two-phase approach:

The new worker will receive general information on City of Florence culture policies and benefits by the HR representative.

Department related rules and information will be given by the supervisor of the department. Training will include a general understanding of all related safety programs and policies.

Facility and job specific training will be given by the employee's immediate supervisor or lead worker before the employee will be allowed to begin actual work, and the training will be documented in the employee or department's training file.

TRAINING REQUIREMENT MATRIX

The safety manual and training matrix listed below identifies the possible training requirements for employees.

1. Some subjects are mandatory in nature, with OR-OSHA requiring their annual review:
    a. Emergency Action, Fire Prevention Plan and First Aid 600.008
    b. Hazard Communication Program 600.011
    c. Hazardous Energy Control - Lockout/Tagout 600.012
    d. Noise Exposure and Hearing Conservation Program 600.013
    e. Personal Protective Equipment 600.014
    f. Respiratory Protection Program 600.015
    g. Asbestos Maintenance Program 600.018
2. Other subject areas are deemed mandatory only for selected operations, or when employees change, such as:
    a. Confined Space Entry

b. Hazardous Energy Control - Lockout/Tagout
c. Bloodborne Pathogen Training
d. Hazardous Materials - Waste Handling
e. Welding Safety
f. Safety Committee Training
g. Fork Lift Operations

The following document is an employee-training checklist used to track training needs and training dates.

Program	Training Frequency			Written Program
	Initial	Annual	Retraining Required	
General Duty to Train	X		If program/hazards change	no
Accident Signs	X		If signs change	no
Crane Operator	X		Construction – 3 yrs General if changes or problems	yes
Electrical	X		Job duties change	no
Emergency Medical Plan	X		If plan changes – update	yes
Emergency/Fire Prevention	X		If plan changes – update	yes
Fall Protection (construction related)	X		If plan/equipment change or inadequacies found	yes
Fire Extinguishing System	X	X		no
First Aid/CPR	X		1-3 years	no
Forklift Operator	X		Every 3 yrs classroom & practical	yes
Lockout	X		If plan changes or problems noted	yes
Mech. Power Press	X		Initial must remain competent	no
Power Platforms	X		Initial must remain competent	no
Pressure Vessels	Competent person required			no
Safety Committee	X		New members annual	yes
Welding	X		Initial must remain competent	no

Program	Training Frequency			Written Program
	Initial	Annual	Retraining Required	
Occupational Health				
Access to Exposure & Medical Records	X	X		no
Asbestos (awareness) Note: Extensive training for actual abatement or renovation)	X	X		yes plan & notification
Bloodborne Pathogens	X	X	When plan changes	yes
Confined Space	X		If plan changes/annual for rescue staff	yes
Chemicals *	X		If over action level	yes for some
Hazard Communication	X		If new chemicals are used	yes
Haz. Mat'ls Response 5 levels 4 to 40 hours	X	X	Annual refresher is 8 hours	Yes
Hexavalent Chromium (employees who have the potential of being exposed above the action level)	X		Posting	yes
Laboratories	X		If plan changes/chemicals	yes
Lead (awareness) (note: extensive training for actual abatement and renovation)	X	X	Posting	yes
Noise	X	X		no
Personal Protective Equipment	X		If there are changes or problems noted	yes
Process Safety	X	X	Training certificate required	yes
Respirators	X	X	Or when changes or problems noted	yes

** Specific chemical substance standards include: acrylonitrile, asbestos, anhydrous ammonia, arsenic, benzene, cadmium, carcinogens, ethylene oxide, formaldehyde, lead, methylene chloride, vinyl chloride, DBCP, Pesticides.*

***NOTE:** This listing did not include a variety of the posting records and does not include all references to competent or qualified employees. Further there are additional occupational health rules such as asbestos which require trained employees but were not listed separately.*

ACCIDENT INVESTIGATION PROCEDURES

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	006	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	Employee Accident/Incident	**Training Frequency:**	n/a

ACCIDENT INVESTIGATION PROCEDURES

OAR 437-001-0760 Investigations of Injuries: http://osha.oregon.gov/OSHARules/div1/437-001-0760.pdf

The foremost goal is to prevent and eliminate workplace accidents/illnesses. However, should they occur, management will thoroughly investigate to determine the cause(s) and appropriate corrective action to be taken to prevent future recurrence.

Focus is not simply on unsafe acts or conditions that may have led to the accident, but also on why the unsafe acts or conditions were present. From this perspective, we are better able to identify any changes that are necessary.

Every employee work-related lost time injury is investigated to determine the means that should be taken to prevent recurrence. We will promptly install any safeguard or take any corrective measure indicated or found advisable.

The Safety Committee will establish procedures for investigating all safety-related incidents including injury, illness, and deaths. Management will delegate who will conduct these accident investigations.

OAR 437-001-0052 Reporting an Occupational Fatality, Catastrophe, or Accident: http://osha.oregon.gov/OSHARules/div1/437-001-0704-0742.pdf

The City is required to notify OR-OSHA within 8 hours of a workplace fatality or catastrophe, and within 24 hours of an injury resulting in overnight or longer hospital admission.

DEFINITIONS

Accident: An unplanned event that results in personal injury or property damage.

Catastrophe: An accident in which two or more employees are fatally injured or five or more employees are admitted to a hospital or equivalent medical facility.

First Aid: Any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such treatment and observation are considered first aid even though provided by a physician or registered professional person.

Lost Workday Case: An injury, which involves days away from work or days of restricted work activity, or both.

Medical Treatment: Includes treatment of injuries administered by physicians, registered professional persons, or lay per-sons (i.e., non-medical personnel). Medical treatment does not include first aid treatment (see above) even though provided by a physician or registered professional personnel.

Near-miss: Any unplanned event which could potentially have resulted in personal injury or property damage but based upon "good fortune" did not.

Occupational Illness: Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.

Recordable Case: All work-related deaths, and illnesses, and those work-related injuries which result in: loss of conscious-ness, restriction of work motion, transfer to another job, or require medical treatment beyond first aid.

GENERAL RESPONSIBILITIES

Management: It is the direct responsibility of department heads or managers to ensure that all reported injuries, illnesses, near-misses, or reports of property damage, are promptly investigated as to cause and that any necessary corrective measures are implemented to reduce the likelihood of recurrence.

Immediate Supervisor: It is the responsibility of the super-visor or group leader to promptly perform the initial accident investigation of all reported injuries, illnesses, near misses, or reports of property damage, and arrive at recommendations to reduce recurrence.

Management Team: The Management Team shall be involved in the investigation of all seriously disabling claims, fatalities, and catastrophes.

Safety Committee: The Safety Committee will review all written accident investigation reports, and associated recommendations, and provide additional insight as to methods which might assist in reducing the incidence of recurrence.

Employee: The employees are responsible for immediately reporting to their supervisor any injury, illness, near-miss, or any accident involving property damage, sustained in the scope of their employment.

ACCIDENT INVESTIGATION PROCEDURE

Personal Injury

If an employee is injured, suffers an occupational illness, or near-miss, the following reporting procedures shall be carried out:

1. The incident and/or condition will be immediately reported to the worker's supervisor who will complete the Employee Accident/Incident Report, regardless of the severity of the injury.
2. All injuries regardless of how insignificant they initially may appear must be immediately reported to the super-visor. An Employee Accident/Incident Report must be completed by the supervisor and employee by the end of the shift.

3. The supervisor must review the Employee Accident/Incident Report submitted by the employee and sign where indicated. The supervisor must assure immediate transmittal of the report to the Administration and the Safety Manager for safety committee review.
4. Any time that the work-related condition should necessitate the services of a medical provider, the employee is required to contact their supervisor and complete a Workers' Compensation Claim Form 801. The 801 must be filed with Administration within five days of the accident (but preferably within 24 hours). A copy of the Employee Accident/Incident Report should accompany the 801 claims form to Administration and also be filed to the City's Workers' Compensation Provider within that five day time period, but preferably within 24 hours.
5. The 801 claims form can be completed online with the Compensation Provider. Completing the 801 claims form online helps speed the processing of the claims form by immediately creating a claim number and assigning a claims examiner to review the information.
6. The Administration or designee is required to report all work place fatalities and catastrophes to OR-OSHA within eight hours of knowledge at OR-OSHA's central office (800-922-2689 or 503-378-3272).
    a. OR-OSHA requires that employers and their representatives not disturb the scene of a fatality or catastrophe other than to conduct the rescue of an injured person until authorized by the OR-OSHA Manager (or designee), or directed by a recognized law enforcement agency to do so.
    b. Further, all employee injuries resulting in overnight hospitalization or multiple employees being hospitalized also require notice to OR-OSHA within 24 hours of knowledge. Such notice will again be accomplished by the Administration's office or (designee).
    c. Note: The purpose of such reporting is to provide OR-OSHA the opportunity to conduct an independent investigation, should they so choose. This form of reporting applies only to injuries requiring immediate hospitalization and not conditions that result in hospitalization weeks or months later.

<u>Vehicular Accidents</u>

In the event that a vehicle is involved in a traffic accident, the driver will immediately call 9-1-1 and notify his/her supervisor. No vehicle will be moved from the scene until law enforcement arrives or photographs are taken, unless a greater hazard would be created by failure to remove the vehicle(s) from the scene. The following procedures apply:

1. All drivers should notify the Local Law Enforcement Agency (9-1-1) of any of the following accidents:
    a. Collision with any object or person involving an entity owned or leased vehicle, or other vehicles being used on official business.
    b. Any event where damage results to a vehicle being operated by an employee while on business, whether being driven or parked.
    c. Any involvement in an accident where damage claims may be made against our organization, even though your vehicle had no contact with other objects or vehicle.
    d. Damage or loss to one of our owned or leased vehicle or contents due to a fire or theft.
2. In all instances where:
    a. The damage is determined to be in excess of $1500 or
    b. Damage to any vehicle over $1,500, and any vehicle is towed from the scene as a result of damages from this accident;
    c. Injury or death resulted from this accident; or
    d. Damages to any one person's property other than a vehicle involved in this accident is over $1,500

    The driver shall complete a "State of Oregon Vehicle Accident Report" (Form 735-32) .
    https://www.oregon.gov/ODOT/DMV/pages/driverid/acci-dentreport.aspx

Investigation

1. Upon notice of an accident, injury, illness, near-miss, or non-work related physical complaint, the supervisor will ensure that the accident investigation procedure is implemented in a timely fashion. (Use the Accident Investigation Form.)
2. The supervisor will complete the accident investigation based on the facts surrounding the incident, including any non-work related issues or off-the-job exposure or events that might have contributed to the incident as well as work related issues.
3. The supervisor will ensure that all the facts are presented in the investigation report, including the statements of any witnesses to the accident/incident. The purpose of the accident investigation is to determine the root cause of the accident (not the surface causes) that led to the accident occurring. This information will be included in the accident investigation report, including any recommendations that the supervisor has to remove the hazard associated with the accident or address any administrative or engineering measures that can be implemented to ensure similar accidents do not happen in the future.
4. After the report is adequately completed, the supervisor's report will be attached to the Employee Accident/Incident Report and submitted to the Safety Committee. A copy of the accident investigation form will be maintained in the supervisor's investigation file.
    a. The supervisor will further ensure that the necessary corrective action is taken through the completion of a work order, purchase order, etc., where appropriate.
    b. Alternatively, the supervisor may, at their discretion, request a follow-up investigation due to shortcomings associated with the original effort, complexity of the issues, recurrent nature of the problem, etc. Such a follow up investigation shall be completed by the supervisor or Safety Committee.
    c. In those instances in which the Safety Committee con-ducts an investigation, the results will be submitted to the supervisor in a written narrative format, inclusive of all factual information gathered and specific recommendations for remedy in a timely fashion.
5. All fatalities, catastrophes, cases of serious disabling injury, multiple injury victims, or any instance in which the circumstances surrounding the event are suggestive of potential entity involvement, the supervisor will provide timely notice to the Safety Committee who will become involved if appropriate, in the investigation process.
6. In any instance where the supervisor deems appropriate, they will encourage the involvement by at least one member of the Safety Committee in the accident investigation process.

Posting Requirements

All required posting will be on the employee bulletin boards at each of the Department offices.

1. Injury and Illness Summary Report on the OSHA 300A are posted from February 1st to April 30th.
2. Any OR-OSHA employee complaint, citation or variance will be posted for at least 60 days or until they become a final order or are corrected.
3. The Oregon Safe Employment Act "It's the Law" poster shall be continuously posted.
4. Workers' Compensation Insurance Notice of Compliance

Notice: This manual is not intended to outline every specific rule requirement that may apply to our operations, but is to establish the basic safety rules and procedures. For a specific rule question, please refer to the various Safety Regulations.

City of Florence

Employee Accident/Incident Report

All overnight hospitalizations must be reported to OR-OSHA within 24 hours. Any fatality or catastrophes involving 3 or more hospitalizations must be reported within 8 hours. Contact OR-OSHA at (800) 922-2689.

PLEASE COMPLETE ALL OF THE FOLLOWING INFORMATION:

Employee Name:_____ Supervisor: _____

Dept:_____ Job Title: _____

To Be Completed By Employee:

(Attach second page if more space is required)

When did the Incident Occur? Date:_____Time:_____ ☐ a.m. ☐p.m.

Accident/Incident Location: _____

When was Incident Reported? Date:_____To Whom: _____

Witnesses Information:

Witness #1 (Name, Phone): _____

Witness #2 (Name, Phone): _____

Describe what happened (use who, what, when, where, why, and how):

_____

_____

_____

If seeking medical attention or unable to return-to-work, complete form 801 (Report of Job or Illness for Workers' Compensation Claim).

Employee's Signature:_____ Date: _____

Turn form in to supervisor for completion

To Be Completed by Employee's Site Supervisor:

What was the Root Cause of this Incident?

☐ Lack of Training ☐ Supervision ☐ Rule Enforcement ☐ Maintenance ☐ Other _____

What was the Surface Cause of this Incident?

Unguarded Machine ☐ Broken Tools ☐ Defective PPE ☐ Horseplay ☐ Fails to Enforce ☐

Other _____

Did worker report incident within 24 hours? ☐ Yes ☐ No

Supervisor Review of Incident and Findings: _____

_____

What could have been done, or should be done, to prevent this accident/incident? _____

_____

_____

Site Supervisor's Signature: _____ Date: _____

Department Head Signature: _____ Date: _____

Send form to Human Resources

Safety Committee Evaluation of Accident/Incident:

Corrective Action Needed/Recommendation: _____

_____

Safety Committee Chair Signature: _____ Date: _____

Administrator Signature of Approval: _____ Date: _____

Comments: _____

_____

Safety Committee Follow-up:

Corrective Action Assigned To (if applicable): _____

Date Completed: _____

Accident Investigation Checklist

When you are informed of an accident, you must investigate. This checklist outlines the basic steps to follow. Remember, Accident Investigation is "fact-finding" not "fault-finding".

☐ **Determine if any employees require medical attention.**

a. Administer first aid, if required, and/or

b. Call 9-1-1 for emergency response

☐ **Assure that hazard or danger is abated. Examples:**

a. For gas leak/fumes, evacuate, call for appropriate service

b. Rope/cordon/cone off dangerous areas (spills, holes, etc.)

c. Fire is put out

☐ **Secure and document the scene.**

a. Take pictures or video

b. Preserve area until investigation is complete, if possible

c. Diagram scene, take measurements as needed

d. Document the location of:

- Victim
- Witnesses
- Machinery
- Energy sources
- Hazardous materials

☐ **Determine who was involved or has relevant information and take statements. Could include:**

a. Injured worker

b. Eye-witnesses

c. Co-workers

d. Management

e. Police/First Responders

☐ **Evaluate Causal factors:**

a. People

b. Equipment

c. Material

d. Environment

☐ **Prepare Report : Identify, at a minimum:**

e. What happened

f. What should have happened

g. What can be done to prevent another accident:

- Change in policies, procedures or practices
- Equipment repair
- New or remedial training
- PPE
- Discipline
- Management involvement

h. Make recommendations.

Reminder: As the Manager, the responsibility for correction of unsafe work practices and conditions lies with YOU.

SAFETY COMMITTEE AND SAFETY MEETINGS

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	007	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Safety Committee Minutes/Agenda Inspection Form Hazard Notification Report Form	**Training Frequency:**	At appointment and biannually

SAFETY COMMITTEE AND SAFETY MEETINGS

http://osha.oregon.gov/OSHARules/div1/437-001-0765.pdf

The purpose of Safety Committees and Safety Meetings is to bring workers and management together in a non-adversarial, cooperative effort to promote safety and health. Safety Committees and safety meetings will assist you in making continuous improvement to your safety and health programs.

It is the City of Florence's policy for the Safety Committee and Safety Meetings to communicate and evaluate safety and health issues to protect the safety and health of all of our employees. Injuries and property loss from accidents are needless, costly, and preventable. Therefore, we must adhere to fundamental safety concepts that will help pre-vent injury and loss due to recognized hazards.

GENERAL RESPONSIBILITIES

Overall Management: The overall management is responsible for preventing accidents and injuries. Our management provides direction and full support of all safety procedures, job training and hazard elimination practices.

Supervisors: Supervisors are directly responsible for job training of their workers. Job training will include proper procedures, work practices and safe methods to carry out jobs. Supervisors must enforce our safety rules and take immediate corrective action to eliminate hazardous conditions.

Safety Committee: The Safety Committee's responsibility is to advise management on safety and health issues, safe work practices, and to provide leadership in protecting the safety and health of all employees. The Safety Committee plays an important role as the prime forum for communication and exchange of information on all safety issues.

1. The committee is charged with the responsibility to define problems and obstacles for loss prevention; identify hazards and suggest corrective actions; help identify employee safety training needs, and to develop accident investigation procedures.
2. The Safety Committee will be kept fully informed on health and safety issues throughout our organization in order to constantly review the effectiveness of the safety and health program.

3. All personnel are expected to cooperate in all aspects regarding safety and health issues. Some of the fundamental safety concepts are:
    a. Accidents must be reported immediately to the supervisor, on the same day they occur.
    b. Required personal protective equipment will be worn by all employees. There are no exceptions.
    c. Machines or equipment without adequate guarding, or in questionable condition, will not be used. Report hazardous equipment to the supervisor.
    d. Hazardous conditions, or other safety concerns, are to be reported to the supervisor immediately.

THE SAFETY COMMITTEE'S GOALS AND DUTIES

The following obligations have been assigned to the Safety Committees in compliance with Oregon Administrative Rule 437-001-0765:

1. Work with management to establish, amend or adopt accident investigation procedures that will identify and correct hazards.
2. Have a system that allows employees an opportunity to report hazards, as well as safety and health related suggestions.
3. Establish procedures for reviewing inspection reports and for making recommendations to management.
4. Evaluate all accident and incident investigations and make recommendations for ways to prevent similar events from occurring.
5. Make Safety Committee meeting minutes available for all employees to review.
6. Evaluate management's accountability system for safety and health, and recommend improvements. Examples include use of incentives, discipline, and evaluating success in controlling safety and health hazards.

SAFETY COMMITTEE RESPONSIBILITY AND AUTHORITY

The Safety Committee does not make policy, but it is responsible for recommendations to Management on employee safety and health issues. The supervisor will consider each recommendation and notify the Safety Committee what action will be taken, why, and when by the next scheduled safety meeting.

The committee, or its members, will not interfere with the work of staff and, they will not disturb the affairs of any department, or challenge supervisor authority.

COMMITTEE MEMBERSHIP

1. The committee will be composed of an equal number of employer-selected members and employee-elected or volunteer members. If both parties agree, the committee may have more employee-elected or volunteer members. Safety Committee members can be volunteers, or elected by their peers, and represent the various departments in our organization.
   Note: If you have more than 20 employees, your committee needs at least 4 members. However, it is generally recommended that there is a member from each functional area or department represented on the safety committee.
2. Employee members must represent major activities of our operations.
3. Management representatives should have authority to make decisions regarding unsafe acts and hazards identified by committee members.

4. Safety Committee participation will be used to provide positive reinforcement to those who take the extra effort to make our facilities a safe environment, thus making committee participation a valued activity.
5. Employees shall be encouraged to submit safety recommendations, concerns, etc. to their Safety Committee representative.

SAFETY COMMITTEE ORGANIZATION AND OPERATIONAL PROCEDURES

A centralized Safety Committee must make certain that the committee membership represents the safety and health concerns of all locations. Per OR-OSHA requirements, fire departments are required to have their own safety committee, but it is recommended that it have a representative that reports to the central safety committee as well.

Basic Operations

1. The Safety Committee will meet monthly on work time.
2. The committee will have a chairperson elected by the committee members, and this person will serve as the chairperson for one to two years.
3. Employee representatives attending Safety Committee meetings required by OAR 437-001-0765 or participating in Safety Committee training or instruction shall be compensated at their regular rate of pay.
4. Employee representatives will serve a continuous term of at least one (1) year.
5. Safety Committee members will receive training in Safety Committee operations, the principles of accident/incident investigations for use in evaluating those events, and hazard identification.
6. Safety Committee Member duties:
    a. Be active in completing assignments given by the chairperson, as well as acting as an area representative in matters pertaining to health and safety.
    b. Observe how the safety and health policies are enforced in the work environment.
    c. Advise supervisors about situations which could lead to injury or illness.
    d. Recommend safeguards and warn of potential hazards.
    e. Be open to education and training.
    f. Conduct quarterly workplace inspections.

Meeting Conduct

The meeting shall be conducted following a prescribed format:

1. The committee shall hold regular meetings at least once a month, except in those months in which the mandatory quarterly safety inspections are made. Quarterly inspections can be substituted for the monthly meeting in the month the inspection is made.
2. Minutes will be kept for each meeting and will be maintained for three years for inspection by OR-OSHA. The records will be kept in the Human Resources' office. The minutes for each meeting should include the following:
    a. A record of who attended the meeting.
    b. Meeting date and time.
    c. All safety and health issues discussed, including tools, equipment, work environment, and work practice hazards.
    d. Recommendations for corrective action and a reasonable date by which management agrees to respond.
    e. Person responsible for follow up on any recommended corrective actions.
    f. All reports, evaluations, and recommendations made by the committee.

g. Copies of the meeting minutes will be given to all committee members, the Supervisor, and additionally made available to all employees through posting on the appropriate bulletin boards.

Conducting Inspections

1. The committee will have established procedures for work place inspections, which will be conducted by a Safety Committee team in order to assist in locating and identifying safety and health hazards.
2. The inspection team shall include management as well as employee representatives.
3. Any safety deficiencies identified will be made known to the supervisor so that corrective action may be taken.
4. Inspections will be completed on a quarterly basis for all primary fixed locations.
5. The committee will additionally implement procedures for the review of all safety inspections and means of making appropriate recommendations to the supervisor or managers as to how to eliminate hazards and unsafe work practices in the workplace.
6. A written record of all such inspections, related recommendations and the Management's response, will be maintained by the committee as a part of its normal recording procedures.

Accident Investigations

1. The Safety Committee shall work with management to establish procedures for the investigation and review of all safety-related incidents including injury, illness and deaths.
2. Accident investigations done by management will be reviewed as part of the monthly safety meetings. The committee will evaluate all injuries/illnesses and "near-miss" accidents reported to the supervisor and/or committee and any related investigations completed.
3. If upon review, the committee feels additional information is required, they may send representatives to the accident site to ensure that the actual root cause of the event has been identified.
4. The committee, upon such review, will make recommendations to the supervisor as appropriate for purpose of pre-venting recurrence of such events.
5. At least annually the committee will review and provide comment as it relates to:
    a. The injury and illness statistical analysis.
    b. Our overall safety program – which includes policies, procedures, and training.
    c. Management's accountability system for safety and health.

Safety Committee Training

1. Members of the Safety Committee will receive required periodic training as relates to the following areas:
    a. The function and duties of the Safety Committee.
    b. Hazard identification in the workplace.
    c. The principles regarding effective accident investigation.
2. A written record of the training needs to be maintained.
3. The Supervisor or Department managers will ensure that the training is provided.

Effective Safety Committee Operation

Only the planning and effective joint leadership of management and staff who are on the Safety Committee can build a program which lasts. The Safety Committee will be constructive, providing guidance and leadership in matters pertaining to the overall health and safety of our organization.

SAFETY COMMITTEE AGENDA

[[DATE]] MEETING @ CITY HALL

Meeting Opened at: **Meeting Closed at:**
Officer Leading Meeting: **Next Meeting:**

ATTENDANCE

PREVIOUS MINUTES

The Officer leading the safety committee meeting read the minutes of the previous meeting, which were adopted as read or changed per the committee amendments.

OLD BUSINESS

-
-
-
-

NEW BUSINESS

	Action Completed

ACCIDENT REPORTS

	Action Completed
Incident Report 1	
Incident Report 2	
Near Misses or Other Concerns?	

_____

Officer Leading Meeting **DATE**

Safety Manual Form

Hazard Notification Report Form

Person Initiating the Report: _____ Date: _____

Equipment/Operation System Involved:

_____

_____

Description of Hazard and/or Accident which might result:

_____

_____

_____

Conditions which might contribute to the Hazard or Accident:

_____

_____

_____

Possible Means to Control Hazard or Accident Potential:

_____

_____

_____

Report Given to: _____ Date: _____

Action Taken: _____

_____

_____

Reviewed by Supervisor / Manager: _____ Date: _____

Reviewed by Reporting Employee: _____ Date: _____

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www.cisoregon.org

SELF INSPECTION CHECKLIST

LOCATION:

Inspection Completed By: Date:

	Yes	No	N/A		Yes	No	N/A
Building Exterior				Fire Extinguishers			
Building address clearly marked	☐	☐	☐	Proper type extinguishers provided	☐	☐	☐
Building accessible in an emergency	☐	☐	☐	Extinguisher are readily accessible	☐	☐	☐
Fire hydrants accessible	☐	☐	☐	Extinguisher inspected in last year	☐	☐	☐
Fire Dept. connection marked/accessible	☐	☐	☐				
Building appears to be in good repair	☐	☐	☐	Electrical			
Building free of vandalism	☐	☐	☐	Electrical system operating properly	☐	☐	☐
Exterior walls in good condition	☐	☐	☐	Electrical panels free of obstructions/locked	☐	☐	☐
Exterior windows in good condition	☐	☐	☐	Wall receptacles and switches have plates	☐	☐	☐
Water pipes properly insulated for cold	☐	☐	☐	Boxes and panels free of combustibles	☐	☐	☐
Chimneys/stacks in good condition	☐	☐	☐	Electrical hoses and panels covered	☐	☐	☐
Walkways maintained	☐	☐	☐	All circuit breakers/fuses clearly marked	☐	☐	☐
Parking lots maintained	☐	☐	☐	Extension cords properly used	☐	☐	☐
Combustibles stored away from bldg.	☐	☐	☐	GFCI's on receptacles near water	☐	☐	☐
Vegetation cut back from the bldg.	☐	☐	☐				
Trash stored away from building	☐	☐	☐	Fire Alarm/Detection Systems			
Exterior lights operating properly	☐	☐	☐	Tested within the last month	☐	☐	☐
Fencing in good condition	☐	☐	☐	System free of trouble/alarm signals	☐	☐	☐
Gates in good condition	☐	☐	☐				
				Automatic Sprinkler Systems			
Fire Doors				System tested within the last 3 months	☐	☐	☐
Fire Doors are in working condition	☐	☐	☐	All sprinkler supply valves open	☐	☐	☐
Fire Doors are kept closed	☐	☐	☐	Sprinkler controls free of obstructions	☐	☐	☐
				18" clearance below sprinkler heads	☐	☐	☐
General Housekeeping				Caps on outside fire dept. connection	☐	☐	☐
Building clean and well maintained	☐	☐	☐				
Storage areas neatly arranged	☐	☐	☐	Building Evacuation Features			
Metal containers for oily/solvent soaked rag	☐	☐	☐	Exit doors clearly marked	☐	☐	☐
Trash emptied daily	☐	☐	☐	Travel routes clearly marked	☐	☐	☐
Stairs/halls clean & free of obstructions	☐	☐	☐	Exit doors in working condition	☐	☐	☐
				Exit door accessible & unlocked	☐	☐	☐
Heating & Air Conditioning				Emergency lights are working	☐	☐	☐
Heat and A/C operating properly	☐	☐	☐	Evacuation diagrams posted in all areas	☐	☐	☐
Mechanical rooms kept locked	☐	☐	☐				
Mechanical rooms free of storage	☐	☐	☐	Special Hazards			
All vents clear of combustibles	☐	☐	☐	Is the building free from the following:			
Use of space heaters limited	☐	☐	☐	Flammable liquids storage	☐	☐	☐
				Compressed gas storage	☐	☐	☐
Smoking				Commercial type cooking	☐	☐	☐
Workplace smoking ban enforced	☐	☐	☐	Large computer facility	☐	☐	☐
				Other hazardous chemicals/operations	☐	☐	☐
Roof Conditions							
Antennas etc are secure	☐	☐	☐				
Gutters are clean and downspouts operate	☐	☐	☐	All "NO" answers which can not be corrected immediately should be forwarded to a supervisor			
No evidence of pooling water	☐	☐	☐				
Clear of debris and vegetation	☐	☐	☐				
No evidence of reduced snow load capacity	☐	☐	☐	Please comment on any "SPECIAL HAZARDS" noted during the inspection			

Please explain all "NO" answers:

EMERGENCY ACTION, FIRE PREVENTION PLAN, AND FIRST AID OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	008	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	At hire and annually

EMERGENCY ACTION, FIRE PREVENTION PLAN, AND FIRST AID

http://osha.oregon.gov/OSHARules/div2/div2L.pdf

http://osha.oregon.gov/OSHARules/div2/div2E.pdf

http://osha.oregon.gov/OSHARules/div3/div3C.pdf

http://osha.oregon.gov/OSHARules/div2/div2K.pdf

We have adopted this Emergency Action and Fire Prevention Plan to assist in preventing an emergency from occurring and if one should occur, to minimize the impact on our staff, our property and equipment and the public using our facilities. This plan is supported by maps that are posted in each of our buildings. Our main responder in all emergencies is the local Fire Department or other local Emergency Responder

DEFINITIONS

Emergency Action Plan: A plan for a workplace describing what procedures the employer and employees must take to ensure employee safety from fire or other emergencies.

Emergency Escape Route: The route that employees are directed to follow in the event they are required to evacuate the workplace or seek a designated refuge area.

Exit Access: A means of egress which leads to an entrance or exit.

Exit: A means of egress that leads employees out of the building.

Fire Inspection: A visual check of fire protection systems and equipment to ensure that they are in place, charged, and ready for use in the event of fire.

Fire Protection System: This includes fire extinguishers and automatic fire sprinkler systems.

Incipient Stage Fire: A fire which is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers without the need for protective clothing or breathing apparatus.

Maintenance: The performance of services on fire protection equipment and systems to assure that they will perform as expected in the event of a fire. Maintenance differs from inspection in that maintenance requires the checking of internal fittings and devices.

RESPONSIBILITIES

Management: Management is responsible to ensure that all employees are trained and informed about this Emergency Action Plan. Employees will be updated when the plan changes. Management will ensure that the proper safeguards and fire protection systems are maintained.

Supervisor: The supervisor plays a critical role in ensuring that all appropriate outside responders are notified. The supervisor will implement the call outs for emergency notification and to outside responders if employees have not already made the 911 call.

Emergency Coordinator: The Emergency Coordinator is appointed by the supervisor. The Emergency Coordinator's responsibilities include:

- Assessing the situation and determining if the Emergency Action Plan should be implemented.
- Directing the evacuation of personnel.
- Making sure that Management has been notified to ensure that appropriate outside emergency services have been notified.
- Directing the shutdown of operations when necessary.
- Accounting for personnel involved in the incident including outside contractors and visitors to our facilities.
- Note: The coordinators are not to enter a situation with uncontrolled emergency. These employees will be trained as to the limitation of their role.

Fire Protection System Maintenance: This individual ensures that all the fire protection systems are maintained and tested as required by OR-OSHA regulations and as outlined by the insurance representatives.

All Employees are to follow this plan for preventing emergencies and conform to the plan's evacuation and emergency notification as outlined in the plan. All employees are encouraged to bring up any questions or suggestion on how to improve the plan with their supervisor.

POTENTIAL EMERGENCIES

The following are the main type of potential emergencies at our facilities:

- Fire
- Chemical Spills or Releases
- Medical Emergency due to an accident or illness
- Bomb Threat
- Workplace Violence
- Terrorism that would be covered by Homeland Security requirements
- Environmental Emergency: Wind storm, Flood, Earthquake, Tsunami, Tornado, Snow Storms

OVERALL POLICY

1. All losses including fire, explosion, windstorm, flood damage, electrical, etc. shall be reported to the supervisors or managers. Report any incident which results in the operation of fire extinguishers even though there may not be an actual loss sustained.

2. Selected employees shall receive fire extinguisher training and the training will be updated once a year (if employees are required to extinguish the fire in the incipient stages).

GENERAL PROCEDURES: FIRE AND OTHER SIGNIFICANT CHEMICAL RELEASES

1. Emergency escapes procedures and emergency escape route assignments. The types of immediate actions are based on nature of the emergency.
    a. For incipient fires, immediately implement fire control action and clear all non-essential personnel and public from the area.
    b. For chemical spills, our responders will initiate a defensive action to contain the spill from migrating. Depending on the nature of the chemical and extent of the spill, the immediate employees may clean-up the spill or call in the Fire Department or HAZMAT contractor.
    c. No employee is to perform hazardous chemical clean-up duties that he/she is not trained in nor has the appropriate personal protective equipment.
    d. Use the nearest exit which will take personnel away from the fire.
    e. For an immediate total site emergency evacuation employees and public are to all leave by using the nearest exit doors and assemble in the areas shown on building evacuation maps that are posted at the main exits on each floor of the buildings.
    f. For a non-immediate controlled evacuation, (e.g. advance notice of a flood condition) employees and public will be given instructions by the supervisor on how to proceed.
    g. For localized evacuations (only one building) the notification message will be given and everyone will move into the pre-planned sites as described next.
    h. Report to the Emergency Coordinator and wait for further instructions during emergency evacuation.
    i. Maps outlining places of refuge will be posted in each building at the exit doors
    j. Maps of the building, including chemical and explosive materials, have been provided to emergency services so that they are aware of the layout of the facility and any hazards inside.
2. Procedures to be followed by employees who remain to perform critical operations before they evacuate.
    a. Supervisors and trained personnel are responsible to ensure that critical operations are shut down before they evacuate (if it can be done without harm to the individual). Those operations could include the following depending on the emergency:
    b. Isolating power to equipment which is on fire or related to the emergency. Employees expected to terminate power in emergency affected areas will be trained in how to shut off electrical power especially during a fire or flood.
    c. If there is a motor fire, the motor should be turned off. Never spray water on live electrical connections or motors. (Electrical shock hazard will occur.)
3. Procedures to account for all employees after emergency evacuation.
    a. The Emergency Coordinator and/or supervisors will account for the employees or public in their work areas. If a person is missing, the information will be communicated to the outside emergency responders. Our employees are not to re-enter any facility that has been evacuated due to an emergency, as we do not have the proper equipment or training.
    b. The Emergency Coordinators will designate someone to direct the fire department to the fire and show them where the water hook-up is located.
    c. No one is to leave the evacuation area site unless instructed by the person in charge.
4. The preferred means of reporting fires and other emergencies is to call 9-1-1.

FIRE PROTECTION PLAN

The following procedures are additional policy issues that relate directly to fire protection and fire response actions.

Fire Extinguishers

1. Access to, or visibility of, the fire extinguisher should not be obstructed. If the visibility is obstructed, a "fire extinguisher" sign should be mounted in plain view so that employees or citizens can see their location.
2. It is recommended that the fire extinguisher location be shown on the evacuation maps.
3. The operating instructions of the fire extinguisher name-plate should be legible and facing outwards.
4. Fire extinguishers should be visually inspected on a monthly basis to ensure they are fully charged and in their designated locations. The locations will be clearly marked.
5. They should be accessible and in operable condition at all times.
6. Ensure that the fire extinguisher is fully charged (indicator pointing to the green).
7. Ensure that the locking pin is intact and the tamper seal is unbroken.
8. All fire extinguishers should be mounted on the wall or secured in a vehicle/equipment.
9. If the service tag shows that the licensed fire extinguisher maintenance contractor has not inspected and serviced the fire extinguisher in the past 12 months, notify your supervisor/manager.

The overall fire protection system is managed by the supervisor, who hires a fire extinguisher contractor to perform the following activities:

1. Full annual maintenance check on each extinguisher that includes:
    a. Inspecting and/or testing external and internal parts, checking the quantity and quality of the contents and assuring operational capability.
    b. A qualified person must do the maintenance check. Persons deemed qualified by the Oregon Office of State Fire Marshal or local fire authorities will do the annual maintenance checks.
    c. Keep a record of the maintenance check until a new check record replaces it. This record will be available to OR-OSHA on request.
    d. Replacement extinguishers will be provided or some other method of coverage will be used for the affected area while extinguishers are out of service for the maintenance check.
    e. The inspection date and the initials of the person performing this inspection will be recorded on a tag attached to the extinguisher.
2. Any extinguisher that is not fully operable will be removed and replaced.
3. Internal examinations of fire extinguishers will be done at intervals not longer than the requirements set in Table 2 of the OR-OSHA Standard 437-002-0187 Portable Fire Extinguishers or when the extinguished shows corrosion or physical damage. Stored pressure dry chemical extinguishers require a 12-year hydrostatic test and subject to maintenance every 6 years. Most other types of fire extinguishers are hydro tested every 5 years.
4. Non-rechargeable extinguishers are good for 12 years from the date of manufacture and then will be taken out of service.
5. Proper maintenance of equipment and systems installed on heat-producing equipment to prevent accidental ignition of combustible materials in accordance with established procedures.

Selection of Portable Fire Extinguishers

Portable extinguishers have been selected on the basis of the classes of anticipated fires as follows:

- Class A Fire: Ordinary combustible materials (paper, wood, cloth, some rubber and plastics).
- Class B Fire: Flammable or combustible liquids and gases, greases and similar materials and some rubber and plastics.

- Class C Fire: Energized electrical equipment where safety of the employee requires use of electrically non-conductive extinguishing media such as carbon dioxide or dry chemical. Note: Multipurpose, dry chemical extinguishers designated ABC are approved for use on Class A, B, and C fires.
- Class D Fire: Combustible metals

Distribution of Portable Fire Extinguishers

The proper distribution of portable fire extinguishers depends on three criteria:

1. How far an employee must travel to the extinguisher.
2. How large an area is to be protected per extinguisher.
3. How the hazard has been classed (A, B, C or D).
4. Our policy on the distribution and sizes of portable fire extinguishers is:
    a. Fire extinguishers will be distributed in sufficient locations so that the actual travel distance employees must walk to reach an extinguisher (i.e., around partitions, through doorways and aisle ways) is generally not greater than 50 feet. Exception: For areas where there is a potential for a fire involving combustible cooking material (class K fires), fire extinguishers will be within 30 feet.
    b. Distribution: extinguishers are located at all major door entrances and exits in each of our facilities.
    c. See posted maps outlining locations.

Fire Exits

All fire exits will be visibly marked with signs and kept accessible at all times.

1. All fire exits will be unlocked from the inside to allow for quick exiting. No deadbolts or locks that cannot be unlocked by turning the handle or pushing on a panic bar can be present on exit doors.
2. All non-exits which could be mistaken for an exit will be marked with a sign stating “Not an Exit” to reduce confusion should an evacuation be needed.

WELDING SAFETY SYSTEM

Maintenance personnel are responsible to conduct welding in a safe manner and ensure that combustibles in the welding area are removed or protected. The staff is required to:

1. Assign a Fire Watch for hazardous areas due to wood dust, combustible materials or debris.
2. Wet area down prior to welding with hoses if the structure or area contains combustible materials.
3. Keep a fire hose or extinguisher in the immediate area.

Outside contractors are expected to follow Fire Watch procedures. The Project Manager in charge of any outside contractor operations will ensure that the contractors are informed and equipped to handle necessary Fire Watch and site preparation.

FIRST AID FOR MEDICAL EMERGENCIES

First-aid trained personnel are not required at every place of employment. Our Emergency Medical Plan must identify either the use of a qualified first-aid person on site, or use of an outside service. If an outside service is considered, the plan must include the identity of the service, and the methods used to access it. Employers must be able to identify the location of the nearest emergency response provider and the expected response time of that system.

If local outside services are not available, or response times are not considered satisfactory, a qualified first-aid person(s) must be available.

1. Emergency Number Posting. The emergency telephone number – 911 shall be posted next to every plant phone. The names of first-aid/CPR trained personnel are to be posted on the lunch room or other bulletin boards or on the first-aid kits.
2. First-Aid Supplies. First-aid supplies will be in proximity to all employees. The supplies will be located in labeled safety supply/first-aid cabinets at the following areas in our facilities (location will also be shown on our evacuation maps).
   The first-aid supplies will be monitored by the department supervisors or Safety Committee. Supplies will be replenished on a regular basis (i.e. monthly, quarterly, etc.) Eye wash solution must be current and any expired solution should be thrown away and replaced. (Please note that when a building is plumbed, a plumbed eye wash is required).
3. General Equipment Available for Bloodborne Pathogens. The supervisor will ensure that employees required to respond or provide CPR and first aid are pro-vided appropriate personal protective equipment. This includes:
   a. Two pairs of disposable latex gloves
   b. Disposable safety goggles
   c. Disposable micro shield with one-way valves for use in giving CPR
4. Sharps containers will be located in the appropriate locations within our facilities. Sharps containers will be properly disposed of immediately when they are full and will be replaced with new containers immediately.
5. Blood spill kits will be provided to clean up large blood or body fluid spills.

BASIC EMPLOYEE EMERGENCY ACTION RESPONSE

Emergency escape procedures and emergency escape route assignments (including but not limited to maps outlining exits, location of fire emergency pull down stations, first aid kits, and fire extinguishers) will be posted in work areas.

1. During emergency evacuations, employees will:
   a. Use the nearest exit that will take you away from the fire, or chemical leak/release.
   b. Move to the refuge area outlined on the evacuation maps for your work area in the event of a fire/chemical or other emergencies.
   c. In a chemical gas emergency, move up wind of the leak.
   d. Report to the Emergency Coordinator and wait for further instructions.
   e. No employee is to leave the grounds until cleared by the Emergency Coordinator.
2. Upon discovering a fire that is not readily controllable with the materials and equipment at hand, the employee must call 911.
3. Upon discovering an incipient (small) fire, the employee should use the fire extinguisher and notify the supervisor. The procedure is:
   a. Use fire extinguisher and alert fellow employees.
   b. Immediately notify the Emergency Coordinators through the call list.
   c. Provide the following information:
      i. Location of emergency—be as specific as possible
      ii. Type and severity of the fire, chemical release, medical emergency or other
      iii. If electrical equipment is threatened
      iv. Actions currently being taken, if any.
4. Upon discovering a chemical spill:

a. Immediately notify the Emergency Coordinators through the call list. If emergency, call 911 (or 9-911 if dialing 9 is required to reach an outside line) for Fire Department and Hazmat Team response.
b. If trained in the Spill Control plan, immediately begin procedures to contain and control the release.
c. If significant release, immediately evacuate the area.

5. Medical Emergency
    a. Immediately notify the designated first aid personnel (supervisors) through the call list.
        i. Call 911 (or 9-911 if dialing 9 is required to reach an outside line) emergency as to the need for emergency medical treatment.
    b. Emergency Coordinators are appointed by the supervisor.
    c. For further information or explanation of duties under the plan or copy of the plan, contact your supervisor.

BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	009	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Exposure Incident Report And Medical Provider Form	**Training Frequency:**	At appointment to related position

BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

29 CFR 1910.1030 OR-OSHA Bloodborne Pathogens Standard OAR 437 Division 2, Subdivision Z
http://osha.oregon.gov/OSHARules/div2/div2Z-1030-blood-borne.pdf

This Bloodborne Pathogen Exposure Control Plan covers all of our staff with potential blood or body fluid exposure. The Plan Coordinator is the supervisor, assigned to see that this plan is followed, reviewed, and updated annually.

The training required by the Bloodborne Pathogen Plan will be arranged or coordinated through your supervisor. The training will occur at the time of initial assignment and annually there-after for all covered staff.

This Bloodborne Pathogen program describes the essential elements needed to protect our employees who might, in the expected course of carrying out their everyday staff responsibilities, come in contact with human blood or body fluids.

It is our policy that all our employees will be trained in our Bloodborne Pathogen Program. There will be an annual refresher-training program.

This Exposure Control Plan includes the following topics:

1. Universal Precautions (Engineering Control Methods)
2. Work Practices: Handwashing techniques
3. Personal Protective Equipment: Selection & Limitations
4. Housekeeping & Methods of Decontamination
5. Infective Waste Handling/Disposal Procedures
6. Hepatitis B Virus Vaccinations: Medical Surveillance
7. Hepatitis C Virus
8. Post Exposure Evaluation & Follow-up
9. Recordkeeping
10. Employee Training

EXPOSURE DETERMINATION

The OR-OSHA Bloodborne Pathogen standard applies to all employees whose routine job duties may result in potential exposure to human blood or other potentially infectious body fluids (OPIMs). OR-OSHA defines occupational expo-sure as meaning reasonably anticipated skin, eye, mucous membrane, or piercing of the skin contact with blood or other potentially infectious materials that may result from the performance of an employee's routine job duties.

These employees include workers in the Maintenance Worker, Utility Worker, Treatment Plant Worker, Police Officer, and Corrections Officer positions . This decision is based on the exposure determination as to which employees may incur occupational exposure to blood or other potentially infectious material. This determination was made without regard to the use of personal protective equipment.

Note: Employees who perform first aid as a "Good Samaritan Act" and not as an assigned responsibility will be provided training, and first aid kits are available in designated areas. These employees, however, will not be part of the pre-exposure Hepatitis B vaccinations. Any workplace exposure incident will be treated as listed in this plan's medical response section.

General "self-help" first aid kits and supplies are found in various locations in our facilities and buildings. These kits provide basic first aid supplies but are not indicated for use by designated first aid provider. Those designated first aid providers will have specially assigned first aid kits, which include basic barrier protection.

DEFINITIONS

Bloodborne Pathogens: Any pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Hepatitis B and C VIRUS (HBV and HCV): Diseases spread through sexual contact, blood transfusions, contaminated needles, and contact with body fluids on non-intact skin and mucous membranes. (Viral infection of the liver.)

Human Immunodeficiency Virus (HIV): The virus that can cause Acquired Immune Deficiency Syndrome (AIDS) and is spread in the same manner as HBV or HCV.

Exposure Incident: A specific eye, mouth, other mucous membrane, non-intact skin, or skin piercing contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Engineering Controls: Controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the Bloodborne pathogens hazard from the workplace.

Needleless systems: A device that does not use needles for:

1. The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established.
2. The administration of medication or fluids
3. Any other procedure involving the potential for occupational exposure to Bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Universal Precautions: A set of protocols that are recommended by the Center for Disease Control and Prevention and now required by OR-OSHA to prevent skin and mucous membrane exposure when potential contact with blood or body fluids are anticipated.

OVERALL RESPONSIBILITIES

The following exposure control plan has been developed in compliance with the OR-OSHA standard. Our plan is designed to minimize or eliminate our employees' exposure to blood-borne pathogens.

1. A copy of this plan is in the Safety Manual and will be on file in the supervisor's office.
2. All new employees will read this plan at the time of their initial safety orientation and may have a copy if they request one.
3. All employees will use "universal precautions" to prevent contact with blood and other potentially infectious body fluids. Where it is difficult to differentiate between body fluid types, all such body fluids shall be considered potentially infectious materials.
4. The supervisor will be responsible to:
    a. Coordinate and provide resources to ensure that employee training is provided and documented.
    b. Maintain a list of affected employees in a confidential and locked file.
    c. Coordinate and provide resources to ensure Hepatitis B vaccinations are offered and records are maintained.
    d. Coordinate with the supervisor exposure incident investigations and appropriate medical treatment and follow-up for hepatitis and HIV seroconversion. Confidential and locked records will be maintained by the Human Resource Department.
    e. The supervisors will ensure that appropriate equipment is provided to employees to protect against con-tact with blood or other infectious body fluids, which includes:
    f. Personal protective equipment required for protecting employees from blood or other infectious body fluids when performing their routine duties.
    g. Placement of first aid kits, including infection control materials in all vehicles.
    h. Appropriate personal protective equipment for use during accident investigation when blood may be present.

METHODS OF COMPLIANCE

Universal Precautions: Any employee providing help to anyone who is injured or has blood or body fluids on them must use Universal Precautions. Universal Precautions are a set of protocols that are recommended by the Center for Disease Control and Prevention and now required by OR-OSHA to prevent skin and mucous membrane exposure when potential contact with blood or body fluids is anticipated.

The protocols are based on three basic premises:

1. Treat all blood or body fluids as potentially infectious.
2. Protective barriers must be used which reduces the risk of exposure.
3. The barriers only supplement existing infection control measures such as hand washing.

Universal Precautions specifically include:

1. Gloves must be worn when touching blood or body fluids or non-intact skin.
2. Gloves must also be worn when handling items or surfaces obviously soiled with blood or body fluids.
3. Bandage any cut, wound or break in the skin with water-tight bandages to prevent contact with blood or body fluids.
4. Wash hands thoroughly with soap and water for at least 10-20 seconds after contact with blood or body fluid or handling contaminated articles. This procedure should be done even after wearing gloves.
5. Employees shall use a CPR faceshield with a one-way flow valve when performing CPR.

The following procedures need to be used when washing hands/body as part of our Universal Precaution measures:

1. Remove gloves after first washing with soap and water. Washing only helps reduce the risk of contracting blood/body fluids when removing the gloves. (Disposable gloves are not being washed for re-use.)
2. Pull glove from skin using outer top part of glove so the other glove does not contact the skin. To pull off the glove with the other ungloved hand place your fingers at the top interior of the glove and pull off the glove.
3. Wash hands after removal of gloves or whenever you had contact with body fluids. If water is not immediately avail-able then alcohol or antiseptic towelettes may be used.
4. Use soap and warm water (hot water removes oil from the skin). The hands and forearms should be washed.
5. Rub your hands vigorously in a circular motion and rinse under running water. This aids in the mechanical removal of bacteria.
6. Wash all surfaces, including the back of hands, wrists, between fingers, under fingernails. Your hands should be washed well for 10 to 20 seconds.
7. Rinse well.
8. Dry hands with paper towel.
9. Turn off the water using a paper towel instead of bare hands. Disinfect water faucet with bleach solution and towel.
10. Full showering should be done as soon as possible if body contamination occurred. Note: Frequent hand washing destroys the natural oils and causes drying and cracking of the skin. Keeping the skin intact helps to prevent the invasion of bacteria and possible secondary infections. Hand lotion should be applied.
11. If you have open cuts or wounds, you should be wearing waterproof bandages.

Engineering and Work Practice Controls will be used to eliminate or minimize employee exposures. Where occupational exposure remains after institution of these controls, personal protective equipment will also be used.

1. The supervisor will identify, evaluate, and select engineering and work practice controls including safer medical devices on an annual basis. This evaluation will involve non-managerial front-line employees who are responsible for direct patient care. An evaluation will be conducted at each facility that involves direct patient care.
2. After a device is evaluated and selected, management will make a decision on implementing that device.
3. If a device is not purchased because of employee or employer concerns, those concerns will be documented by the supervisor. However, if the employer does not purchase a device that had employee support, the employer must also document the employee support as well as the justification for not purchasing that device.
4. If a device is purchased without the consent of the employees who evaluated it, the employer must document the employees' concerns as well as the employers' justification for purchasing that device.
5. All documentation required will be kept as part of this writ-ten Exposure Control Plan.

PERSONAL PROTECTIVE EQUIPMENT

The supervisor or your supervisor will ensure that employees are provided appropriate personal protective equipment. This includes:

1. First aid kits designated for authorized first aid providers will include at least:
    a. Two pairs of disposable latex gloves (more for police, fire, EMT's who are exposed to Bloodborne pathogens on a regular basis)

   b. Disposable safety goggles
   c. Disposable CPR faceshield with one-way flow valves for use in giving CPR
2. Sharps containers will be located in the appropriate locations within our facilities. Sharps containers shall be dis-carded immediately when they are full and will be replaced with new containers immediately.
3. The sharps containers are to be maintained in upright position, closeable, puncture resistant, leak proof on the sides and bottom, and clearly labeled “Biohazard” or red in color.
4. When picking-up sharps (such as hypodermic needles) and broken contaminated glass, employees need to wear latex gloves and use tongs, rather than their fingers. Contaminated needles must not be broken, bent, recapped, or removed.

LIMITATIONS OF PERSONAL PROTECTIVE EQUIPMENT

Gloves: Gloves can be torn or punctured. Gloves should be changed after contact. Disposable gloves should not be washed or disinfected for reuse. They also should not be used when visibly soiled, punctured, or when their ability to function as a barrier is compromised. Hands should be washed as soon as possible after removing gloves. If water is not available, then disposable disinfecting hand washing wipes should be used.

Face/Eye Protection: These items also need to be clean and maintained in good repair. They should be discarded if they do not function as indicated by the manufacturer’s use and maintenance documentation.

Proper PPE is located in the first aid kits that are in each department. PPE needs to be maintained, cleaned and kept in sanitary condition.

HOUSEKEEPING REQUIREMENTS

Hepatitis virus can survive for at least a week in a dried state at room temperature on work surfaces. HIV survival is less: 24 to 48 hours. As a result, it is important to ensure proper cleaning of all materials or surfaces contaminated with blood or body fluids.

Cleaning up blood or body fluids will be done as soon as possible. The chemical products use instructions need to be followed for proper dilution and application methods.

If the commercial disinfectants are not available, fresh bleach solution can be made and is effective. Approximately 13 ounces of bleach per one gallon of water) is effective. The bleach solution must be made fresh each day and kept in a shaded area (as sunlight breaks down the effectiveness of the bleach).

<u>Cleaning and Disposing of PPE</u>

1. Disposable latex or vinyl gloves or clothes should be dis-posed of in the regular trash after use and cleaning unless soaked with blood or OPIM. If the latter, dispose in a bio-hazards container.
2. Goggles (that are not disposable) should be cleaned with soap and water and then wiped down with bleach solution, alcohol or other germicides if contaminated with blood or OPIM.
3. Puncture resistant gloves that become soiled will need to be disposed of, unless they are coated with a plastic material that is cleanable or are of washable leather.
4. Employee will ensure that all garments penetrated by blood or body fluids are removed immediately or as soon as possible.
5. Contaminated laundry will be placed and transported in bags that are labeled or color-coded biohazard symbols. Whenever the laundry is wet and may soak through or leak from the container, it shall be placed and transported in leak proof red biohazard labeled bags.

6. Costs for laundering and cleaning of employee clothing or uniforms contaminated during work performance will be paid by our organization.

BIOHAZARD WASTE HANDLING/DISPOSAL PROCEDURES

1. A biohazard waste which requires special handling and disposal is defined as "any liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other infectious materials and are capable of releasing these materials during handling; will be disposed of immediately in the proper containers."
2. The biohazard containers or bags must be able to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping.
3. Blood and other body fluids can be disposed of down the sanitary sewer in Oregon.
4. Though we do not expect to encounter any syringes (sharps), if they are found the following procedure must be followed. Sharps, including blood contaminated utility knives or broken pop bottles that are found will be disposed of in a closeable, puncture resistant, disposable container that is labeled and color coded as biohazard (red).
5. Procedures for picking-up sharps:
    a. Have sharps container ready.
    b. Use latex gloves or vinyl gloves.
    c. Use mechanical equipment (pliers, shovels, tongs, or dustpans) to pick up contaminated sharps, utility knives or scissors.
    d. Dispose of needle in sharps container.
6. When transporting containers of contaminated sharps and other regulated wastes from the use area, the containers will be closed to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
7. The method of removing "contaminated waste" containers will include:
    a. Refer to definition of Biohazard waste, listed above.
    b. Sealing the sharp containers and any Biohazard bags (red bags) containing infectious waste materials.
    c. The containers or bags will be picked-up when they are full by calling our local waste management company.
    d. The containers will be handled separately from routine waste disposal system.

HEPATITIS B VIRUS (HBV) VACCINATION

1. All employees listed under the Exposure Determination are eligible to obtain the vaccination series at no cost and during normal working hours.
2. First Aid providers, as incidental to the employee's job duties, are not required to be provided HBV pre-vaccinations. Our operations will currently not provide the vaccinations unless there is a workplace exposure incident. If the employee declines to be vaccinated after an incident, a declaration declining will need to be signed.
3. The employees being offered pre-vaccinations series will go through their supervisor within 10 working days of initial assignment. An exception will be made if the employee can provide documentation of having previously received the complete hepatitis B vaccination series, and antibody testing shows that the employees is immune, or the vaccine is not allowed for medical reasons.
4. Employees will incur no cost for the medical evaluations, medical procedures including the hepatitis B vaccination series and post exposure follow-up or laboratory tests. All the procedures will follow the U.S. Public Health Service recommendations and under the supervisor of a licensed physician.

5. Employees who decline the hepatitis B vaccination offered them will sign the required waiver indicating their refusal. At any time, the employee may change his/her mind and the vaccination series will be offered.
6. If a routine booster of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster will be made available to all affected employees.
7. Any employee who has a workplace exposure is covered by the incident and medical surveillance provisions of this plan and if they have not previously taken the HBV vaccination will be urged to be vaccinated immediately.

EXPOSURE INCIDENT EVALUATION AND FOLLOW UP

Any employee who has an exposure incident (they are exposed to blood or body fluids) will immediately notify their supervisor, who will refer the employee to their private physician or to our local health care facility for a complete medical evaluation and follow up.

1. The supervisor will provide the treating physician or health-care facility with:
    a. A copy of the Bloodborne Pathogens rule.
    b. A copy of the Bloodborne Pathogen Exposure Incident/Accident Report.
    c. Any medical records on the exposed employee regarding HBV vaccine status.
2. The health care provider will provide the employee with a written opinion of the evaluation.

POST EXPOSURE INVESTIGATION

As part of the follow-up on an “exposure incident” the Safety Committee will conduct a confidential investigation (keeping all personal health information confidential).

1. It is critical to remember that an exposure incident is an unprotected exposure to blood or other body fluids including a skin exposure involving contact with blood, especially when the exposed skin is chapped, scraped, or afflicted with dermatitis, or a needle/sharp exposure to blood or body fluids during the course of their work.
2. Additionally, exposure to the eyes or mouth are also considered an exposure incident.
3. Small splashes of blood on intact skin are not usually classed as an exposure incident.

The following steps are to be taken as part of the post exposure investigation:

1. Report the incident/accident immediately to your super-visor, who will begin the process of investigating the incident and scheduling a confidential medical evaluation and follow-up activities for the employee.
2. The supervisor and employee will ensure that the circumstances of exposure are recorded and investigated. The enclosed Exposure Incident Form will be used to ensure that relevant information including the routes of exposure, the activity in which the employee was engaged at the time of exposure, and the extent to which appropriate work practices and protective equipment were used and a description of the source exposure will be recorded.
3. Treatment will be sought as soon as practical but at least within 24 hours of the incident.
    a. Treatment involves information, if possible, about the source person and employee’s medical condition and vaccination status.
    b. Once an exposure has occurred, a blood sample will be drawn after consent is obtained from the source individual unless identification is infeasible. The blood will be tested for hepatitis B and antibody to HIV as soon as feasible. The arrangement to obtain consent and testing will be

performed by the Human Resource Department in conjunction with hospital, coroner or treating Physician. (The physician or clinic will provide the consent form.)

c. Results of the source individual's testing will be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity of the infectious status of the source individual. This will be done by the health care professional treating the employee.

d. An exposed employee's blood will be collected as soon as feasible and tested after consent is obtained. If base-line blood is drawn, but the employee does not consent for HIV serologic testing, the sample will be preserved for at least 90 days. If within 90 days of the expo-sure incident, the employee elects to have the sample tested, such testing will be done as soon as feasible. Additional HIV follow-up testing will be offered based on USPHS recommended schedule. Currently that includes a 6 week, 12 week and 6-month HIV test.

RECORDKEEPING

Medical Records will be established and maintained for each employee with occupational exposure.

The Human Resource Department will maintain the current employee medical records during length of employment. We will keep the records after the employment for a minimum of 30 years. The record will be confidential and will contain the following information:

1. Name and social security number.
2. Copy of employee's vaccination status and any medical records that are relative to employee's ability to receive the vaccination.
3. Copy of the results of examinations, medical testing, and follow up procedures as the result of a post-exposure incident medical treatment.
4. Copy of medical professional's written opinion. A copy of the information provided to the medical professional.

Sharps Injury Log

The employer will establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log will 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:

1. The type and brand of device involved in the incident.
2. The department or work area where the exposure incident occurred.
3. An explanation of how the incident occurred.

Training Records

The Human Resource Department and Supervisor will maintain the training records for minimum of 3 years. This includes:

1. Dates of the training sessions.
2. Contents or summary of the training.
3. Names and qualifications of the persons conducting the training.
4. The names and job titles of all persons attending training sessions.

TRAINING AND COMMUNICATION

The following lists the topics required to be covered in the annual Bloodborne Pathogen Program initial and annual training.

1. An accessible copy of the Bloodborne 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 exposure control plan and how the employee can obtain a copy of the written plan.
5. An explanation of the appropriate methods of recognizing tasks and other activities that may involve exposure to blood or other potentially infectious materials.
6. An explanation on the use and limitation 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, including information on its effectiveness, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
10. Information on the appropriate actions to take and per-sons 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 method of reporting the incident and medical follow-up that will be made available.
12. Information on the post-exposure evaluation and follow-up that is required to provide for the firefighter following an exposure incident.
13. An explanation of the signs and labels and /or color coding for biohazardous material.
14. An opportunity for interactive questions and answers with the training instructor.

The training program will be given initially and annually or all staff who may have blood or infectious body fluid contact.

The training is to be documented and a written record kept in the employee's training file for at least 3 years. Each employee is provided access to all the training materials including video tape program and instructor's background information.

Bloodborne Pathogen Exposure Incident/Accident Report

- *Immediate supervisor should complete this form promptly with employee input.*
- *Please print clearly and forward to the Supervisor*

Employee:		Supervisor:
Date of Incident/Accident	Time of Incident/Accident:	Incident/Accident Location and case number (if applicable)
Describe the incident fully (route of exposure, circumstances, describe type of controls in place at time of incident including engineering controls and personal protective equipment worn, identify unsafe conditions and/or actions, relevant police reports).		
Describe employee's injury (part of the body/type of injury):		
Describe first aid/medical treatment (when and by whom):		
When was the accident reported:		To whom?:
If not immediately reported, WHY?		
List Names of Witnesses:		
Is the source individual known? Yes____No____. If so please provide name/address so that consent for blood testing can be obtained.		
Name:		Address:
What corrective action was taken or is planned, to prevent similar accidents from occurring in the future?		
Referral to medical evaluator has been done? Yes_____No _____ Date of referral		If not explain:
Note: The Oregon health division "source consent" form will be sent to the source or his/her medical provider to attempt to obtain permission for source hiv/hbv blood testing. The medical evaluator has been informed as to our policy and the or-osha rules. All medical data is confidential.		
Name of investigator:	Title:	Date:
Additional Comments		

Healthcare Professionals Written Opinion for Post-Exposure Evaluation and Follow-up

DIRECTIONS: This form needs to be filled out by the healthcare professional following an exposure incident and returned to the employer. The employer will maintain a copy of this form PLUS give the exposed employee a copy within 15 days.

The employee has been informed of the results of the evaluation. Yes: ☐ No: ☐	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. Yes: ☐ No: ☐
Healthcare Provider's Signature:	Date:
The blood or body-fluid source individual will be asked to consent to having their blood collected and tested for HBV and HIV. For our clients under 18 years of age, if they are the source individual, their legal guardian will be asked to give consent for testing. The following information must be recorded:	
Name:	
Blood Taken: Yes: ☐ No: ☐ Date taken:	Written/Oral Consent Given For: HBV Testing: Yes: ☐ No: ☐ HIV Testing: Yes: ☐ No: ☐
Results Made Available To The Employee: Yes: ☐ No: ☐	Date Made Available:
Name of Medical Center:	
Name of Treating Physician:	

Employee Declaration Declining Hepatitis B Vaccination

Employee Declaration Declining The Hepatitis B Vaccination 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 B 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 Signature:	Date:
Supervisor:	
Department Manager:	

CONFINED SPACE ENTRY PLAN

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	010	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Confined Space Assessment Worksheet Confined Space Entry Permit Forms Contractor Notification Form	**Training Frequency:**	At appointment to related position

CONFINED SPACE ENTRY PLAN

Only authorized employees shall enter a confined space. The supervisor is responsible to see that the proper preparation and entry protocols are completed prior to entry and maintained during entry. A designated employee (entry supervisor) may be assigned the responsibility for overseeing that confined space entries are made in compliance with our procedures.

Remember if you have questions about any space, please consult with the supervisor or the entry supervisor prior to entering a confined space.

The standards that apply to confined space are listed below:

Permit Required Confined Space (Update 01/2015) Oregon 437- 002-0146

General Environmental Controls 437-002-0146 Subdivision J

PROCEDURES

This written program includes the following requirements of an Oregon OSHA 437-002-0146 compliant Confined Space Entry Program:

1. Survey of workplace to identify identifying and evaluating hazards, as well as determining which spaces are confined and permit required confined spaces.
2. Methods for eliminating and controlling hazards.
3. Educating employees on what a confined space and a permit required confined space are.
4. Informing employees of the locations of the permit required spaces and the hazards associated with them.
5. Development of a written permit confined space program to protect employees who will enter a permit required con-fined space.
6. Providing employees with the written confined space pro-gram and educating them on that program.
7. Training employee on the roles, responsibilities of entrants, attendants, and entry supervisors.
8. Ensuring that unauthorized and untrained employees are not allowed to enter a permit required confined space.

9. Train employees on the process for entering, performing work and exiting a permit required confined space.
10. Ensuring employees know what information is required on the confined space entry permit per the duration requirements in 1910.146, including the start and stop times required by 437.002.146.
11. Developing a catalog of permit spaces that describe why they are a permit space.
12. Ensuring that equipment is maintained and used is in accordance with the manufacturers guidelines and that employees have training on that equipment.
13. Ensure that employees have training so that they know the location, presence and hazards associated with the con-fined spaces and which spaces are permit required.
14. Ensuring there is an agreement with an outside rescue service if employees are not required to provide confined space rescue. If employees are required to provide con-fined space rescue, they will be receive the training requirements, practice and qualification that are required of rescue personnel.
15. Procedures for concluding entry and canceling an entry permit.

Examples of confined spaces that require permits include but are not limited to:

1. Holding Tanks
2. Manholes
3. Primary tanks at Wastewater and Water Treatment Plants
4. Underground Vaults/Pits
5. Crawl Spaces
6. Water Reservoirs (above ground)
7. Digesters
8. Applicator Machines
9. Aeration basins

A list of our specific permit required confined spaces are catalogued and located in the Public Works Office, including the reasons why these confined spaces are permit required and the hazards associated with the entry into these locations.

DEFINITIONS

Confined Space: A confined space is one that meets all of the following requirements:

1. Large enough and configured in such a way that an employee can enter the space and perform work.
2. Space that has limited and/or restricted entry, exit, or both.
3. An area that is not designed for continuous occupancy. Be aware that the presence of a ladder, lighting or ventilation doesn't always mean that the space is designed for continuous occupancy.

Some examples of confined spaces are water tanks, clarifiers, digesters, vessels, silos, storage bins, hoppers, vaults, pipes, tunnels, sewers, manholes, wells, vats, hoppers, and pits.

Permit-required space: A permit-required confined space is a confined space that contains or has a potential to contain atmospheric hazards. It has material that has the potential for engulfing an entrant, has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly con-verging walls or by a floor which slopes downward and tapers to a smaller cross-section. It also contains any other recognized serious safety or health hazard.

Never assume that a permit space is safe to enter. They may contain atmospheres that are hazardous or physical hazards that could cause severe injury or even death.

Atmospheric hazard: These types of hazards typically involve hazards in the air of the space that you are entering. They can cause serious injury or death, illness, or impair an employee's ability to escape the confined space area. Some types of hazardous atmospheric conditions include:

1. Corrosives: these types of environments can be caused from an accumulation of chemicals and other components from biological or chemical reactions over time. These hazards can impact the eyes and skin, causing immediate damage, while others might have no immediate impact on the employees. However, over time these elements could increase the potential for cancer.
2. Oxygen deficiency: atmospheres with an oxygen concentration lower than 19.5% can affect muscle coordination, breathing, and an individual's heart rate. Employees who do not have SCBA's cannot survive in an oxygen-deficient environment.
3. Oxygen enriched: atmospheres with too much oxygen content (above 23.5%) can increase the potential for fire or explosions. Too much oxygen can be caused by an improper use of supplied oxygen for breathing air, or by welding.
4. Displacement of air or oxygen: certain substances, such as inert gases, can displace oxygen in a confined space, making it unusable for employees. These inert gases include methane (on off-gas found in sewer piping and plants), nitrogen, helium, steam, Freon, argon and carbon dioxide. Methane in its gas form can be an asphyxiate, which in high concentrations can displace the oxygen supply you need for breathing, especially in confined spaces. Decreased oxygen can cause suffocation, loss of consciousness, dizziness, weakness, nausea, vomiting and loss of coordination.
5. Flammable or explosive gases, liquids, mists, vapors, fibers or dusts: Certain gases that are flammable can be commonly found in confined spaces. These gases include methane, hydrogen, acetylene, butane, chlorine, and propane.
6. Toxic dusts, fumes, smoke, mists, vapors, gases, or fibers: Certain store materials, work tasks, or manufacturing processes can create these types of atmospheric hazards. These hazards could cause irreversible adverse health effects to employees, interfere with the individual's ability to escape, or pose a threat to the individual's life.

Air-monitoring equipment: Employees should be trained on the use of air monitoring equipment or "gas sniffers" to ensure the area they are entering does not have a hazardous atmosphere. It is very important to calibrate the air-monitoring equipment, use it according to the manufacturer's requirements/instructions, and to test it every day. A "bump" test should be performed daily by exposing the meter to a quantity of gas, and comparing the readings on the meter to the actual quantity of the gas present to ensure it is testing accurately. This will verify that the air-monitoring device is properly working and calibrated for testing the atmosphere prior to entering a confined space.

Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate threat of loss of life; or may result in irreversible or immediate-severe health effects or other conditions which could impair escape from the permit space.

Physical hazards: Physical hazards can include material that could trap or engulf or bury an employees, mechanical/electrical/hydraulic/pneumatic energy, illumination issues, falling objects, corrosive or absorbed chemicals, access issues, noise, radiation, extreme temperatures, slippery surfaces, or inwardly converging surfaces that could trap an employee. Eliminating the physical hazards are the best method by locking out equipment (per 1910.147), separating piping systems from the con-fined space, or blanking/blinding piping systems.

Non-permit space: A confined space that does not contain or (with respect to atmospheric hazards) have the potential to contain any hazard capable of causing death or serious physical harm. Examples include: vented vaults, motor control cabinets, crawl spaces, and dropped ceilings. Although they are "con-fined spaces", these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

Entry: Entry into a confined space occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry permit: A written permit which defines the conditions under which the space may be entered.

Alternate entry procedures: If all physical hazards can be eliminated and all atmospheric hazards can be eliminated or controlled with continuous ventilation, then an area can be entered using these procedures. This method will be discussed later.

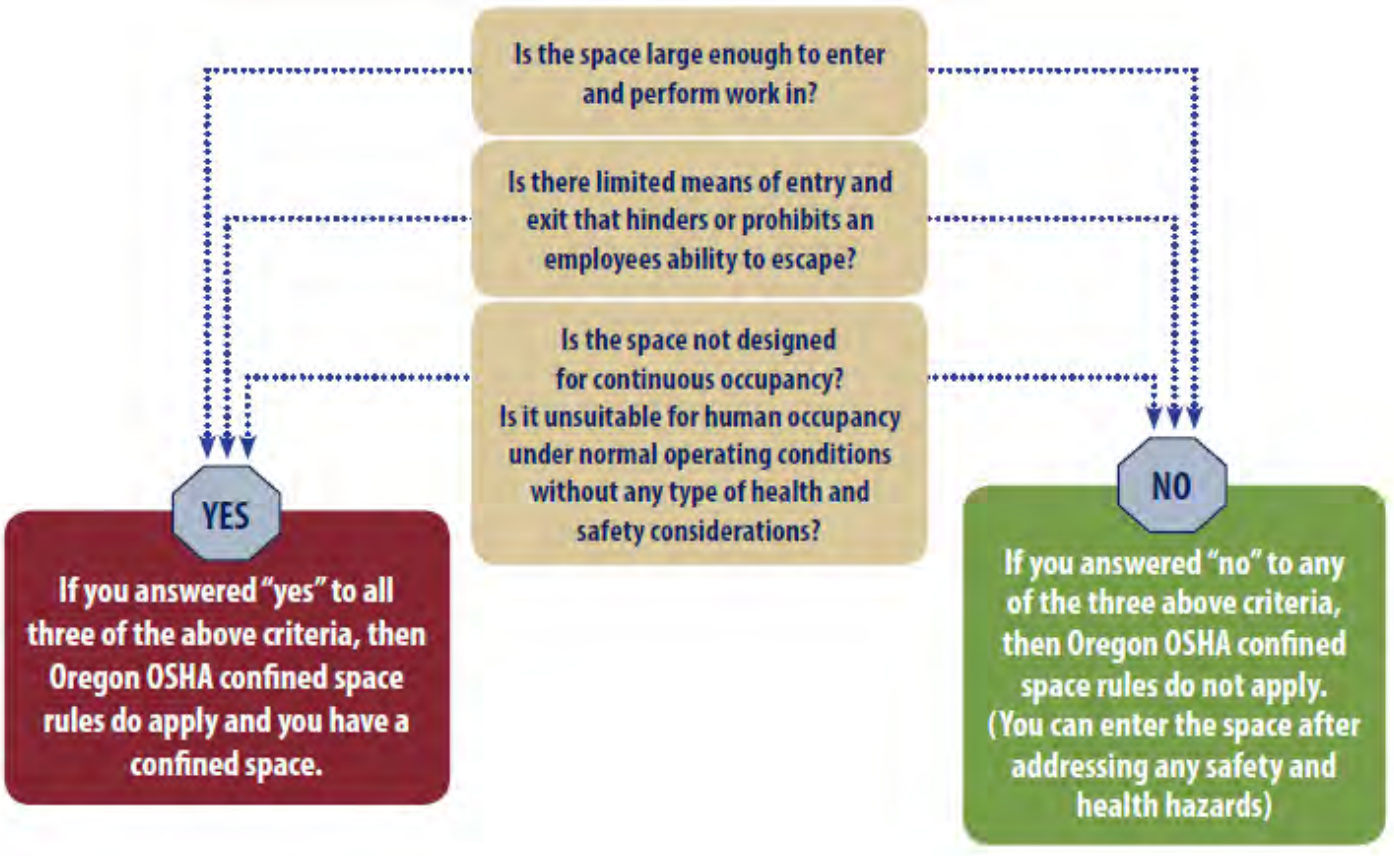
Permit authorizing personnel: The person who is trained and authorized to be responsible for determining if acceptable entry conditions are present at a permit space:

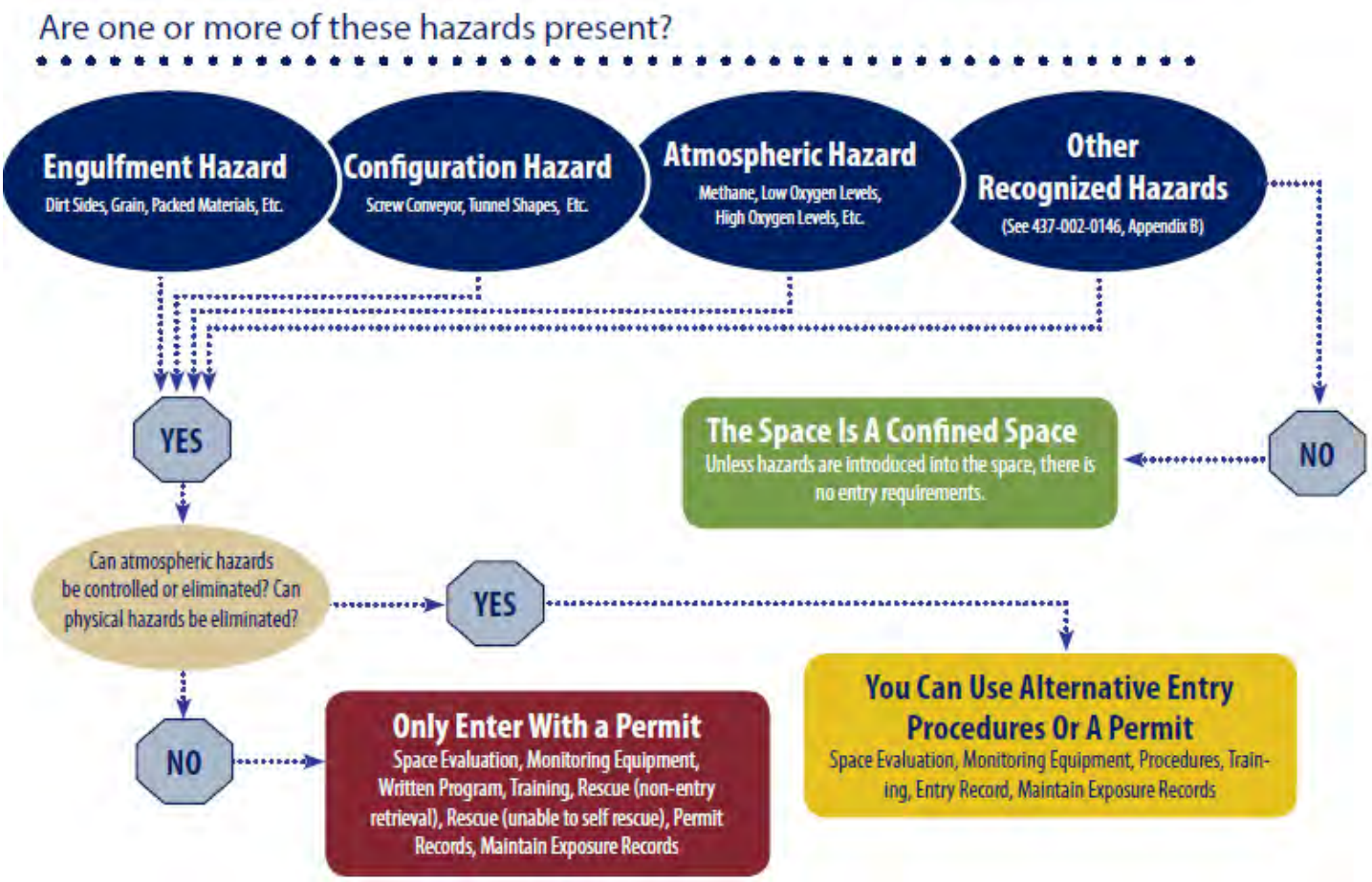
1. Where entry is planned
2. When authorizing entry
3. Overseeing entry operations
4. Terminating entry as required by this program.

Permissible Exposure Limits (PEL): An airborne chemical exposure limit established by OR-OSHA which cannot be exceeded without proper respiratory protection and the implementation of feasible engineering controls.

Enclosed space: A space that has a limited means of entry or egress, that is designed for periodic entry by employees under normal operating conditions, and that is not expected to contain a hazardous atmosphere, but may contain one or more unusual conditions. Enclosed spaces include manholes and vaults that provide employees access to electrical generation, transmission, and distribution equipment.

FLOW CHART EVALUATION





EVALUATING THE CONFINED SPACES AND PERMIT-REQUIRED SPACES

The City of Florence will evaluate all confined spaces to determine whether they are permit-required, as well as what hazards exists and what procedures must be followed for an employee to safely enter the area. The same applies for any mobile employees if there are confined spaces at the sites where they will be working.

Our facilities have been surveyed to identify all confined spaces and all permit required confined spaces. It is the responsibility of the supervisor to ensure that the survey is updated on all permit required confined spaces.

Confined spaces are identified based on the hazards present in the confined space and the limitations on entry/exit. Once you have identified that you have a confined space, the chart below will help determine if it is a permit required confined space.

The City of Florence has identified the following areas to be permit-required confined spaces. A more detailed catalogue of permit-required spaces will be kept in each department and at each work location where these confined spaces are located. Only authorized staff will be allowed to enter these confined space areas.

Area	Location	Reason for Permit Required (hazards, etc.)	Safety Precautions to be Used

Employees will not enter areas that have not been evaluated. The below locations have not been evaluated:

Area	Location

Permit required confined spaces will be identified as such. Signs/labels, or tags will be used to identify the area as a permit required confined space.

Any time conditions within a confined space change, that space will need to be re-evaluated.

Contractor safety around our confined spaces: Contractors will need to evaluate the confined space if one or more of their employees will enter the space, or assumes control over the space. Our entity will notify any contractors about all hazards or potential hazards in the confined spaces, if those spaces have been previously evaluated and what hazards were identified, and what precautions/procedures are required for entering those spaces.

GENERAL RESPONSIBILITIES

Employer: As the employer, we will survey the workplace for permit required confined space. Once they have been identified, we will inform employees of the location of the permit required spaces and the hazards involved with those areas. This will include a catalog of the permit spaces. We will provide any equipment required to enter those areas and ensure that employees will be trained on the use of that equipment. Only trained staff will enter confined spaces.

Rescue Team: We have coordinated an agreement with Siuslaw Valley Fire and Rescue to provide confined space rescue efforts. Their contact information is:

See rescue team contract, which outlines services being provided as well as updated confined space rescue training certification for the rescue company.

**Attn Employer: Firefighters whose first priority is to respond to emergency (911) calls might not be a sufficient source as a rescue team due to their potentially being unavailable. It is better to have a designated rescue provider who is available when needed. Firefighters who are used and not on your designated rescue team and who respond to emergency calls for a confined space rescue must comply with Subdivision 2/L, 437-002-0182, Oregon Rules for Firefighters.

For any confined spaces that have immediately dangerous to life or health (IDLH) hazards that require an immediate response, confined space rescue providers must be available on site for the duration of the entry. All rescuers must be knowledgeable in basic first aid and CPR and at least one rescuer must be certified in first and CPR.

Rescuers must practice non-entry rescues within 12 months before an entry. Practice rescues include:

1. Every type of space in which the rescue team might perform rescues.
2. Removing people (or mannequins/dummies) from the actual permit spaces or a simulated space that has similar configurations and characteristics.

Entry rescues should only be considered when a non-entry rescue would increase the overall risk to the entrant or for some reason is not feasible. The rescue team should have the following items:

1. Information about any hazards that they might encounter in the confined space.
2. Access to the permit spaces that they need to enter.
3. Appropriate personal protective equipment that they might need based on the hazards present in the confined space.

4. Any other equipment that they might need to ensure a safe entry.
5. The same training as the entrants, attendants, and entry supervisors.
6. Must be knowledgeable in first aid and CPR. At least one person must be certified in both.

Supervisors: The supervisors are responsible for ensuring that the proper safety equipment is available and used for the safety of the employees during confined space entry. A designated employee may be assigned the responsibility for directing the permit confined space entry. The supervisors are responsible for maintaining copies of all permits issued for one year. The permits will be reviewed during the annual program evaluation. The supervisor will conduct an annual evaluation.

Entry Supervisor (permit authorizing personnel): OR-OSHA uses the term entry supervisor as designation that someone must be in charge of the planned permit entry. The person does not have to be in management. An employee who has received additional training and has the authority to authorize employee to enter into confined spaces can be designated as an entry supervisor. The entry supervisor's duties include:

1. Evaluation of all confined spaces including those that are non-permit to determine what hazards the entrants might face, as well as the signs/symptoms/consequences from exposure to the hazard.
2. Ensure that all hazards can be or are controlled or eliminated.
3. Verify that all tests have been conducted as specified in the entry permit, and that all procedures and equipment are in place and outlined in the permit prior to signing the permit and allowing access to the space.
4. Inform entrants and the attendants about the hazards and conditions that are found in the confined space, and how they can eliminate or control those hazards.
5. Verify the availability of rescue service providers and that they are readily accessible.
6. Completion of the work permit indicating the safety equipment required and what special precautions to be observed.
7. Determining the number of employees permitted to enter and the duration of the permit.
8. Responsible for the cancellation of the permit.

Attendant: Attendants are responsible for monitoring the entrants' activities from outside of the confined space. The responsibilities of the attendant are as follows:

1. Knowledge of the hazards that the entrant will face, which includes any signs, symptoms, or consequences of being exposed to those hazards.
2. Tracking of the number of entrants working in the confined space.
3. Remaining outside of the confined space until they are relieved by another qualified attendant.
4. Continue to communicate with the entrants in order to monitor their status or alert them if they need to evacuate the space if the following events occur:
    a. There is a hazardous condition inside the space.
    b. The entrant's behavior appears to be affected by the exposure to the hazard.
    c. Conditions outside of the confined space might endanger the entrant.
    d. The attendant is not able to perform the duties required of an attendant.
5. Contact emergency responders/rescue team as soon as the entrants need to escape from the confined space.
6. Follow the established non-entry rescue procedures.
7. Unauthorized people: It is the attendant's responsibility to warn unauthorized people to stay away from the con-fined space. Tell them they must exit the space if they have entered it. Inform the authorized entrant and entry super-visor that unauthorized people have entered the space.

Entrants: Entrants are the individuals who are allowed to enter a permit required confined space. Their responsibilities include:

1. Being trained on the hazards that are present inside the confined space they will be entering.
2. Know the signs, symptoms and consequences of exposure to the hazards.
3. Constant communication with the attendant to ensure that the attendant can monitor their status and warn them should a situation arise that they need to evacuate.
4. Inform the attendants about hazardous conditions or symptoms of exposure.
5. Ensure that they leave the space immediately when one or more of the following occur:
    a. The attendant or entry supervisor give an order to evacuate.
    b. The entrant recognizes any warning signs or symptoms that indicate exposure to the hazard or a dangerous situation.
    c. The entrant detects a dangerous condition or hazard.
    d. The evacuation alarm is activated.

All Employees: All Employees are required to follow the appropriate confined space entry procedures and ensure that the equipment in use is performing properly. Employees authorized to make confined entries are trained in the confined space program and entry procedures.

CONFINED SPACE CLASSIFICATIONS AND SAFETY PROCEDURES

Entry into confined spaces will occur only after the following rules are met:

Training

1. Only staff trained in our entry policies and procedures will perform work in a confined space. Supervisors will ensure that only authorized employees who have received training in the hazards of confined space entry and proper entry procedures are permitted to enter confined spaces.
2. Training must be recorded, including the employees name, the training date, employees' responsibilities and the signature of the trainer.
3. Training is required for new or current employees that will be working in a confined space:
    a. Before an employee is assigned to permit-space responsibilities.
    b. Prior to a change in the employees assigned duties.
    c. If there is a new permit space hazard for which the employee has not been trained
    d. If there are any changes to the written permit-space program.
    e. Any time a review of an entry permit identifies that there are problems with entry into that area.
    f. If there is any deviation from an established procedure or it appears that the employees' knowledge of the procedures are inadequate or lacking.
4. Awareness Training: Any employees who work or may work in an area with a known confined space must receive awareness training regarding where the permit required spaces are located. This is to ensure that employees are aware that permits are required to enter those spaces, that there are specific procedures for entering the spaces, that there is a written permit-space program, how entry is authorized by the alternate entry permit, and that they can identify where those spaces are. This training will be repeated any time there are changes to the written permit-space program or if there are new or previously unidentified permit required confined spaces that are identified.
5. A list must be maintained by the supervisor of all employees trained and certified to participate in the Confined Space Entry Program at each of the following levels:
    a. Level 1 Authorized Entrants
    b. Level 2 Entry Supervisor and Authorized Attendants

c. Level 3 Permit Preparer

Inspection

The safety equipment to be used in a designated confined space must be inspected on a routine basis by a designated employee. The employee will inspect and/or test the equipment to ensure that it is in working condition as outlined by the OR-OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirement(s) and by the manufacturer's specifications. Equipment not functioning will be repaired by authorized manufacturer's representatives.

The equipment includes, but is not limited to:

- Ladders or similar equipment to assist with entry and exit from the space
- Man-hoists
- Safety harness and life lines
- SCBA
- Gas monitors including oxygen monitors
- Power ventilating equipment to maintain acceptable entry conditions
- Communication systems (voice or radio) to ensure communication between the attendant and entrant, as well as to initiate rescue if needed.
- Appropriate lighting to ensure entrant can see work being performed in the space as well as being able to exit the space quickly in an emergency.
- Barriers to protect entrants from hazards outside the space such as pedestrians or vehicles, as well as protecting those individuals from accidently entering the space.
- Appropriate personal protective equipment that is needed.

Entry

1. All Confined Space entries will be performed following the procedures outlined in detail in this chapter.
2. In order to determine if a permit is required, use the "Confined Space Assessment Worksheet."
3. A Confined Space Permit or an Alternate Entry must be issued for confined space entry. A sample Confined Space Entry Permit form can be found below. Permits must be properly filled out in advance and followed.
4. The permit is required to be kept for one year. The Supervisor will maintain a copy of each permit to summarize information on the annual review of this policy.
5. Permits may be granted for the duration of the project requiring confined space entry. The permit is only valid as long as the original physical conditions set out in the permit continue to be met.
6. The permits are to be posted at the worksite.

Air Testing

1. Testing of the air within confined spaces must be performed prior to entry to determine oxygen content, toxic gas potential, and flammable or explosive atmospheres. The initial test will be taken in the space to be entered prior to entry.
2. Entry into a confined space is prohibited until initial testing of the atmosphere has been done from outside the space. Entry without respiratory equipment will only be made after the appropriate tests show that the atmosphere is safe.
3. The tests performed will include those for oxygen content, flammable gases, and carbon monoxide. The entry super-visor, depending on the circumstances, may require additional tests.

Acceptable Atmosphere without Air-Supplied Respirator

If the space meets the following air quality standards then entry may be done without a SCBA or continuous airline with escape bottle.

- Oxygen level between 19.5%: 23.5%.
- Vapors below 10% LEL (Note: many flammable gases are toxic at very low percentages in air thus 10% of the LEL may be a toxic exposure.) The person authorizing entry should carefully judge all readings on the combustible gas sensor.
- Hydrogen sulfide below the PEL of 10 ppm.
- Carbon Monoxide below the PEL of 35 ppm.

Note: If unusual odors are present, entry shall be terminated immediately. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of an accidental spill which could affect your health and safety. The supervisor will be notified to ensure that the reasons for the unusual conditions aren't due to an accidental chemical spill, release, or process.

Ventilation

Ventilation of confined spaces will be used to provide adequate levels of oxygen, to dilute toxic and flammable gases, and to improve general air quality. The ventilation equipment will be explosion proof if it is placed inside the confined space.

Other Chemicals

The Safety Data Sheets (SDS) for all products and cleaning materials used in the confined space must be reviewed before entry unless the products have already been covered with the employees in the routine hazard communication training.

Electrical

Only double insulated electric tools or tools on a ground fault circuit interrupter system are used in confined spaces. All portable lights and tools shall be explosion proof when working in a confined space where there is a potential flammable or explosive atmosphere.

Lockout

Mechanical and electrical equipment installed in the confined space must be disconnected from its power source and locked out. Our lock-out program must be followed. See 600.007.

Emergency

The Entry Supervisor (Permit Authorizing Personnel) will ensure that the proper rescue procedures and equipment necessary to rescue an entrant from a permit space are implemented and provided. This includes:

- Safety harness, life line and tripod hoist or other type of rescue devices as needed for the permit spaces being entered which are a vertical entrance of more than 5 feet.
- Communication with other entry team members by mobile radio, telephone or other effective means is provided.
- First aid and emergency response by notification of the First Aid/CPR trained member.

Traffic Hazards

Employees working in roadways/walkways need to ensure their safety and that of their coworkers by proper control of traffic hazards and access to open manholes. All necessary barriers and traffic control devices must be used.

Entrance Covers

When entrance covers are removed, the opening will be promptly guarded by the outside attendant as well as the following:

- Portable railings
- Temporary covers
- Other temporary barriers

The barriers will protect the opening to prevent other employees from accidentally falling into the opening and preventing foreign objects from entering the space.

Ladders

A ladder, if used for entry, must remain at the site throughout the work period.

Retrieval System

A retrieval system will be used for each full permit entry unless the retrieval system would increase the overall risk of the entry or would not contribute to the rescue of the entrant. For entries using the retrieval system, each entrant to a Permit Required Confined Space will wear a chest or full body harness with a retrieval line. Wristlets may be substituted if the chest of full body harness is not feasible or creates a greater hazard. The other end of the retrieval line must be attached to a mechanical lifting device or a fixed point outside of the confined space. A mechanical lifting device will be used to retrieve personnel from vertical type confined spaces that are more than 5 feet deep.

A retrieval system is not usually considered for use during entries conducted using Alternative Procedure or Reclassification Certificates.

Hot Work

When any hot work involving sources of ignition including welding and burning are done in a confined space, all fire hazards and flammable atmospheres must be controlled. All combustible material must be protected. Hot work permit and instructions are found below. These procedures are in addition to the general Hazardous Atmosphere Permit Entry requirements.

Contractors

When we hire an outside contractor to conduct confined space work, the Project Manager/Supervisor must ensure that the contractor is provided with information about the hazards associated with the confined spaces involved in the contract. See below.

Confined Space Assessment Worksheet

Trained entry supervisors will complete the confined space assessment worksheet. Space characteristics and controls may change. As a result, a space may be initially documented as a permit space and then need to be reclassified. The supervisor must keep documentation on the space change on the assessment form.

The following information must be gathered and recorded. The evaluator must also sign the assessment sheet and make sure that this is available to employees entering the space.

The initial step in assessing a space is to determine if the space is a "confined space" then to assess the space as to whether it is permit-required or non-permit. It is critical that the assessor uses Oregon OSHA's definition for each of these types of spaces in making the determination.

Step 1: Confined Space Determination

1. Space is large enough and so configured that an employee can bodily enter and perform assigned work.
2. Space has limited or restricted means for entry or exit.
3. Space is not designed for continuous employee occupancy.

Step 2: Non-permit Space

1. Space has an extremely low likelihood that an IDLH (immediately dangerous to life and health) or engulfment hazard could be present, and where all other serious hazards have been controlled. The Oregon OSHA standard defines a non-permit space as: A confined space that does not contain (with respect to atmospheric hazards) or have the potential to contain any hazard capable of causing death or serious physical harm.

Step 3: Permit Required Space

1. An atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes: flammable or combustible gases, oxygen deficient or enriched atmospheres, toxic atmospheres, engulfment, and other serious physical hazards.
2. Spaces will have limited or restricted means for entry or exit.
3. These spaces are not designed for continuous employee occupancy.

Step 4: Determining Need for Hot Work Permit

1. Hot Work Permit: Any welding or hot work being done in a confined space requires both a Confined Space Permit and Hot Work Permit even if the confined space is originally defined as Non-permit.

Step 5: Reclassification of Permit Space:

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, then the permit space may be reclassified as a non-permit space.
2. If testing and inspection during a permit entry demonstrates that the hazards within the permit space have been eliminated, then the permit space may be reclassified as a non-permit space.
3. The supervisor must document this determination.
4. If hazards arise within a declassified space, then the employees will exit and a permit-entry will be required with appropriate safeguards.

Confined Space Assessment Worksheet Questionnaire

Where is the Potential Confined Space & Specific Location (Attach a photograph or drawing of the space.)
Reasons for Entry:
How frequently is this space entered:
What are the specific conditions of the space? Other: Entrance? ☐ Bottom ☐ Door ☐ Side ☐ Hatch ☐ Top ☐ Manhole cover
Do Contractors enter space? ☐ Yes ☐ No ***If contractors will be entering the space, it is required that they be made aware of the confined space hazards and processes for eliminating or controlling those hazards be shared with them.*

Checklist Of Additional Safeguards

ATMOSPHERE TESTS	RECORD LEVELS
Oxygen – more than 19.5% less than 23.5%	
Flammable Vapors – below 10% LEL	
Combustible Dusts – below the PELs	
Temperature	
Chemical Level	
Other	

Checklist Of Additional Safeguards

Confined Space:	Hazard:	Safeguard:
ISOLATION METHODS		
Electrical		
Mechanical		
Other		
HAZARDOUS WORK		
Welding/Burning		
Open Flame		
Electrical Work		
Other		
SPECIAL REQUIREMENTS		
Lock-outs		
Line Disconnected		
Vessel/Tank Purge- Flush/Vent		
Ventilation		
Secure area		
Lighting		
Communication		
Fire Extinguishers		
Emergency Egress Procedures		
Other		
PERSONAL PROTECTIVE EQUIPMENT		
Harness & Life Line		
Respirator		
Eye Protection		
Hearing Protection		
Protective Clothing		
Gloves		
Boots		
Hard Hat		

Confined Space Entry Permit Forms

A written permit is necessary because of the special precautions that must be taken to ensure that the confined space work is performed safely. The permit functions as a checklist to ensure proper work preparation and atmospheric testing. The permit establishes expiration time and date which prevents the entry permit from being used for unauthorized entries. The permit also requires the signature of the responsible person in charge and employees who will perform the work.

There are 3 permit forms:

1. **Confined Space Entry Permit:** The permit requires that the entry be evaluated for safety and health hazards and necessary controls.
2. **Hot Work Permit**: The form to be used with the Confined Space Entry Permit which addresses the additional hazards from welding and other hot work.

Confined Space Permit Entry Instructions: The Permit form includes the following information:

1. The identity of the permit space or location of work.
2. The purpose of entry (nature of job being done).
3. The individual authorizing the entry shall sign the permit before the entry begins. Entry is not permitted until all actions and conditions necessary for safe entry have been performed.
4. Special instructions prior or during entry.
5. Space classification. Note if the space is determined not to be a confined space, then a record should be made and noted on the form.
6. A list of the measures for isolation of hazardous energy sources in the permit space which includes lock-out procedures to be performed.
7. Type of hazardous work being performed which takes additional precautions including: painting, sand blasting, electrical work, welding, etc. If hot work is required then the Hot Work Permit will also be required.
8. Special precautions that will be needed include procedures for purging, inserting, ventilating and flushing the space to remove or control the potential hazards.
9. The communication procedures and equipment used by authorized workers and attendants to maintain contact.
10. Rescue procedures, equipment, and other services which would be summoned in case of emergency and means of communication with those services.
11. The personal protective equipment, such as: hard hats, gloves, coveralls, respirators, safety harness, and retrieval lines, provided in order to ensure employee safety.
12. Acceptable environmental conditions with regards to the hazards identified in the permit space by monitoring the air quality.
13. The date of entry and authorized duration.
14. The authorized confined space workers' signatures.
15. Upon completion of the entry covered by the permit, and after all workers have exited the permit space, the individual authorizing the entry shall cancel the permit.

NOTICE

In the event that toxic/flammable gases in a confined space cannot be reduced below acceptable levels as posted on the procedures, no one shall enter except when using proper equipment including an SCBA unit or an air-supplied respirator.

Confined Space Entry Permit

Department:	Location:	Date:
Person in charge of work permit:		
Description of the space being entered:		
Reason for the entry:	Nature of the Work Being Done:	
Hazards Present:		
Special Instructions:		
Communication Methods Being Used:		
Rescue Services to be used and available (including contact information):		

Hazard Checklist

Atmosphere Tests (Record Results in Completed Column)	Check if needed	Results
1. Oxygen: 19.5%: 23.5%		
2. Flammable Vapors: below 10% LFL (Fire/Explosion)		
3. Hydrogen sulfide: below PEL 10 ppm		
4. Carbon Monoxide: below PEL 35 ppm		
5. GAS TEST Equipment		
GAS TEST Equipment Calibration Date: / Name of individual conducting tests:		Date:
6. Other Chemicals		

Confined Space Entry Permit – Page 2

	Check if required	Check when completed
Isolation: Lockout/Tagout Procedures Required		
1. Electrical		
2. Mechanical		
3. Other :		
Hazardous Work		
1. Welding/Burning (NOTE: Complete a Hot Work Permit)		
2. Electrical Work		
3. Painting		
4. Sand Blasting		
5. Other:		
Special Requirements		
1. Lines Disconnected		
2. Vessel/Tank Purge: Flush		
3. Ventilation		
4. Communication		
5. Emergency Rescue Procedures		
6. Other:		
Personal Protective Equipment Needed		
1. Harness & Life Line & Tripod		
2. Respirator		
3. Protective Clothing		
4. Other:		

Measures used for entry (to isolate the space and eliminate/control hazards):		
Guarding/Barriers Used:		
Acceptable Entry Conditions? ☐ Yes ☐ No	Description of problems encountered during entry:	
Date & Time Issued:	**Date& Time Work Completed/Stopped:**	**Date & Time Permit Expires:**
Employee (Entrant):		
Employee (Entrant):		
Permit Authorizing Personnel:		
Signature of Entry Supervisor:		

Confined Space Entry Alternative Entry

Alternate entry can only be used to enter a permit space after one of the following has been satisfied:

1. All physical and atmospheric hazards in the space have been eliminated so that conditions that caused those hazards no longer exist. OR
2. All physical hazards in the space have been eliminated and atmospheric hazards are controlled with continuous ventilation.

Alternate entry procedures address:

1. Identifying the hazards associated with the space.
2. Methods/means used to eliminate those hazards identified.
3. Methods/means used to ensure those hazards have been eliminated.
4. Methods/means used to test the confined space for any atmospheric hazards are present or still might exist.
5. Process to determine if unsafe conditions or hazards occur before or during entry into the space.
6. Criteria for evacuating the space.
7. Training for employees in these procedures.
8. Process to ensure that employees have appropriate PPE and method of communication during entry.
9. Process to ensure that employees follow these procedures.

Alternate entry permits must be kept where the confined space entry is located for the duration of the entry. After the entry, there is no requirement to keep the permit, however our entity process is to keep them for a minimum of one year in order to review the effectiveness of our program.

Confined Space Entry Alternative Entry

**Alternate entry in continuous systems (such as sewer systems)
Alternate entry cannot be used to enter a permit space that is continuous unless you segregate the area to be entered from the rest of the space, demonstrate that engulfment won't occur and the only hazard is atmospheric, or you demonstrate and document that the hazardous conditions do not exist within the entire system during entry.

Location:	
Date/Time Permit Issued:	Date/Time Permit Expires:
Permit Prepared by:	Permit Authorized by:
Permit Posted:	Location of Space:
Entry Person:	
Attendant:	
Purpose of Entry:	

Confined Space Entry Alternative Entry, page 2

ATMOSPHERE TESTS	RECORD LEVELS
1. Oxygen – more than 19.5% less than 23.5%	
2. Flammable Vapors – below 10% LEL	
3. Combustible Dusts – below the PELs	
4. Temperature	
5. Chemical Level	
6. Other	
Hazards associated with confined space:	
Methods for eliminating physical hazards and hazardous conditions:	
Methods use to ensure hazards are eliminated and controlled:	
Continuous Ventilation Utilized? ☐ Yes ☐ No ***If continuous ventilation utilized, pre-entry testing must be utilized to ensure all atmospheric hazards are controlled by the ventilation, as well as continuous monitoring while the employees are in the space.	Space Safe for Entry? ☐ Yes ☐ No
Conditions that might cause the need to evacuate the space:	
Signature Confirming All Conditions Met and Understood:	
Permit Supervisor Signature:	
Title of Permit Supervisor:	Permit Supervisor Name:
Entry Date/Time:	Entry Completion Date/Time:

Return Completed Permit to Supervisor: Post at space of entry for duration of the entry

Hot Work Permit Procedures and Instructions

An additional Hazardous Work Permit is required when employees are welding or using some type of an open flame/hot work in a confined space. The permit is to ensure that the proper planning and precaution are taken because hot work in a confined space is inherently dangerous.

The permit system requires the entry supervisor to complete the Confined Space Entry Permit and the Hot Work permit:

1. The identity of the permit space or location of work.
2. The purpose of entry.
3. Identifying the special fire hazards so that proper precautions can be implemented to control the conditions.
4. The special measures taken to ensure that the tank or pit has been properly purged by specifying the methods for flushing and ventilating the confined space.
5. The measures for isolation of other hazards that may be affected by hot work including: electrical lock-out, and gas or hazardous chemical line blanking.
6. Compressed gas cylinders shall not be allowed in the confined space.
7. Air monitoring to verify that acceptable environmental conditions are being maintained during hot work.
8. Additional personal protective equipment, such as respirators, clothing, special eye protection and welding helmets, provided in order to ensure employee safety
9. The date of entry and authorized duration.
10. The authorized employees' and permit authorizing personnel signatures.

Confined Space Entry—Hot Work Permit

**** This permit is to be used with the confined space permit when any hot work is planned to be done in a confined space.**

Location:	
Date/Time Permit Issued:	Date/Time Permit Expires:
Permit Prepared by:	Permit Authorized by:
Permit Posted:	Location of Space:
Entry Person:	
Attendant: _	
Special Fire Hazards:	
Hazardous Work to be performed (Welding/Burning/Open Flame):	

Checklist

Special Requirements					
Tank or Pit: Flush & Ventilate: ☐ Yes ☐ No			Type of deposit or material in tank: Method of Cleaning:		
Fire Prevention Precautions:					
Ventilation for Welding Fumes: ☐ Yes ☐ No	Types:				
Energy Control/Lockout Tagout	Yes	No	Energy Control/Lockout Tagout	Yes	No
Electrical:			Gas Lines:		
Mechanical:			Other: _____		
Additional Personal Protective Equipment Needed					
Respirator: Type:_____			Hearing Protection:		
Welding Helmet:			Protective Clothing:		
Date & Time Issued:			Date & Time Expired/Cancelled:		
Employee (Entrant):					
Employee (Entrant):					
Employee (Attendant):					
Entry Supervisor:					

Contractor Notification Form

The contractor notification will be done by the Project Manager or Department Manager. If we contract for confined space entry work as the host employer, we are responsible to:

1. Inform the contractor that a permit required space is involved in the work. This includes information about any chemicals in the space per Hazard Communication requirements.
2. Apprise the contractor of the hazards that have been identified and any experience our employees have had with the space.
3. Apprise the contractor of any precautions our employees have taken for entry. The contractor must provide our Supervisor with a copy of the contractor's confined space program.
4. Coordinate entry operations with the contractor if more than one contractor or if our employees will also be entering the space.
5. Debrief the contractor to determine if any problems were encountered requiring changes in procedures.

Contractor Confined Space Notification Checklist

Project Manager:	Date:
Contractor Representative:	
Location of the Space:	
The following information outlines the basic features and safety control issues we are aware of. There may be other hazards or conditions created by the Contractor.	
Checklist Of Safeguards · Hazards & Recommended Safeguards	
Isolation:	**Hazardous Work:**
1. Electrical:	1. Welding/Burning/Open Flame:
2. Mechanical:	2. Electrical Work:
3. Other:	3. Chemicals:
Special Requirements	
1. Lock-outs:	6. Lighting:
2. Lines Disconnected:	7. Communication:
3. Vessel/Tank Purge: Flush & Vent:	8. Fire Extinguishers:
4. Ventilation:	9. Emergency Egress Procedures:
5. Secure Area:	10. Other:

Confined Space Notification and Debriefing Checklist: page 2

Personal Protective Equipment Needed	
1. Harness & LifeLine	4. Hearing Protection
2. Respirator	5. Protective Clothing
3. Eye Protection	
Atmosphere Tests: List type of air testing that would be necessary:	
Copy of the contractor's Energy Control Plan Reviewed? ☐ Yes ☐ No	Copy of the contractor's Confined Space Entry Policy Reviewed? ☐ Yes ☐ No

Contractor's Emergency Response Information Needed

Phone Number and Location of Nearest Telephone:
Name of First Aid Person & Location of Nearest First Aid Kit:
Emergency Rescue Plan:
Post Entry Debriefing Notes:

HAZARD COMMUNICATION PROGRAM AND CHEMICAL HAZARDS

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	011	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	No, but Chemical SDS must be kept	**Training Frequency:**	At hire and annually for related positions

HAZARD COMMUNICATION PROGRAM AND CHEMICAL HAZARDS

(This chapter does not cover the requirements of OAR 437: Division 2 and 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals. Water treatment facilities will need to comply with this standard if they are using 1500 pounds or more of chlorine.)

The Hazard Communication Program is an integral part of our employee safety and health awareness program. We have adopted chemical hazard control programs to ensure our compliance with various state and federal hazardous material regulations and the safety of our employees. For more information, please refer to Oregon OSHA's and Federal OSHA standards pertaining to Hazard communication and pipe labeling listed below.

Oregon OSHA's Hazard Communication Rule Division 2/Z, 1910.1200

Oregon OSHA Rules for Pipe Labeling

The purpose of this program is to provide information about chemical hazards and the control of hazards via our comprehensive Hazard Communication Program, which includes container labeling, Safety Data Sheets (SDS) and employee training. The goal of the program is to eliminate the possibility of illnesses and injuries caused by exposure to chemicals.

This written program is available at:

Facility Location	Contact Person
Public Works – supervisor's office	Field Supervisor
Water Treatment Plant – admin office	Superintendent
Wastewater Treatment Plant – admin office	Superintendent
Florence Events Center – admin office	Director/Manager
City Hall – outside HR office	Human Resources
Justice Center – breakroom	Admin Assistant

The program is available for review by any employee, outside contractors, or the Oregon OSHA compliance staff during an inspection.

DEFINITIONS

Hazardous Chemical: Any chemical which is a physical hazard or a health hazard (potential injury or disease agent). HCS defines a hazardous chemical as any chemical that is classified as a physical hazard, a health hazard, a simple ashyxiant, combustible dust, pyrophoric gas, or a hazard not otherwise classified.

Hazard warning (label): Any words, pictures, symbols, or combination appearing on a label or other appropriate form of warning to convey the hazards of the chemical in the container.

Health Hazards (chemicals): Chemicals are health hazards when they are classified as posing one of the following hazardous effects: acute toxicity (any route of exposure), aspiration toxicity, carcinogenicity, germ cell mutagenicity, reproductive toxicity, respiratory or skin sensitizations, serious eye damage or eye irritation, skin corrosion or irritation, or specific toxic organ toxicity (singe or repeated exposure). Can range from acute to chronic.

Physical Hazards (chemicals): Chemicals are physical hazards when they are classified as posing one of these hazardous effects: corrosion to metals, explosive, flammable (includes aerosols, gases, liquids, and solids), pressurized gases, organic peroxides, oxidizers (includes gases, liquids, and solids), pyrophoric (includes liquids and solids), self-heating substances, self-reactive substances, and substances that emit flammable gases in contact with water.

Safety Data Sheet (SDS): Formerly known as a material safety data sheet (MSDS). Written or printed material concerning a hazardous chemical which is prepared in accordance with Oregon OSHA rule Division 2/z, 1910.1200. Identify hazardous properties of chemicals that may pose a health or physical hazard. Provide appropriate information on appropriate personal protective equipment and first aid treatment is exposed to the chemical.

GENERAL RESPONSIBILITIES

Management: It is the management's overall responsibility to see that hazardous materials are handled safely and that employees are trained in the physical and health hazards associated with the chemicals.

Supervisor and/or Department Manager: The supervisor and the Department managers will work together to ensure employee training, appropriate container labeling, availability of the SDS, maintenance of the chemical inventory, and information is provided to outside contractors. The supervisor will see that the initial Hazard Communication orientation for all new employees, volunteers, and temporary employees is given.

Supervisor: Each supervisor is responsible for maintaining SDSs for their work areas. The supervisor will ensure that all their employees are trained on specific chemical hazards and necessary precautions. They are also responsible to see that secondary containers are labeled.

Staff who order chemical products: Staff who orders chemical products are to ensure that original containers have legible labels and that SDS have been received when that product is delivered.

All Employees: All Employees are responsible to read the labels and SDS for products they use. They are also required to attend hazard communication training and properly handle chemicals per the labels, SDS and training. Employees generating secondary containers are responsible to label the containers or see that they are using properly labeled containers.

CONTAINER LABELING

Primary Container Labeling: (Chemical container as received by manufacturer)

In 2012, Oregon OSHA revised the Hazard Communication Standard (HCS) to be consistent with the United Nation' Globally Harmonized System (GHS). This required a standardized approach to label elements and calling MSDS sheets by the term safety data sheets (SDS). As of June 1, 2015, all chemical manufacturers, importers, distributors, and employers were required to use the GHS labeling, which includes the following items:

- Pictograms
- Signal words
- Hazard and precautionary statements
- Product identifier
- Supplier identification information including name, address and telephone number

No container of hazardous chemicals will be released for use until the label information is verified by department staff who ordered the product and an SDS is onsite. SDS sheets will be readily available for employees during each work shift when they are in their work areas.

All employees are to be aware that the chemical label must be maintained on the chemical container and will notify their supervisor or environmental services/safety representatives if any unlabeled container(s) are discovered in their work area.

Secondary Container Labeling: (Containers that hold transferred hazardous materials from the original to a secondary use container are required to be labeled)

The employee in charge of the transfer of the chemical into the secondary container from its primary container must ensure that a hazard warning label is placed on the container. Portable containers which only one employee uses and is transferring chemical to be completely used during his or her shift (immediate use) are not required to be labeled. But if more than one employee uses the containers or material is stored over to the next shift, it must be labeled.

The hazard warnings must be legible, in English and prominently displayed. This includes labeling the product name and hazard warning. If a label becomes torn or not legible, the employee using the product must relabel it. Permanent marking pens should be used to label the secondary containers.

Each secondary container must be marked with either of the following items:

- All information specified for the labels on shipped containers.
- The product identifier/words, pictures, symbols, or a combination that provide at least the general information about the hazards of the chemicals.

DEPARTMENT OF TRANSPORTATION PLACARDS REQUIREMENTS

Vehicles that are transporting hazardous materials are required to have Oregon Department of Transportation placards. The exceptions for public sector entities include persons responsible for determining whether or not placarding is required on a vehicle should have a good understanding of the Department of Transportation placarding regulations.

SAFETY DATA SHEERS (SDS)

As of June 1, 2015, the Hazard Communication Standard requires that all safety data sheets be in a uniform format and includes the following:

1. Identification including the product identifier; manufacturer or distributor name, address, phone number, and emergency phone number; recommended use; and restrictions on use.
2. Hazard identification which includes all of the chemical hazards and required label elements.
3. Composition / information on ingredients, including any information on chemical ingredients or trade secret claims.
4. Firefighting measures (including the most suitable fire extinguisher to use, equipment and chemical hazards from fire).
5. Accidental release measures (i.e. emergency procedures, proper protective equipment, and proper methods of cleanup/containment).
6. Handling and storage lists precautions for safe handling and storage, including chemical incompatibilities.
7. Exposure controls/personal protection lists OSHA's permissible exposure limits (PELs), American Council of Governmental Industrial Hygienists' threshold limit values (TLVs), appropriate engineering controls, and personal protective equipment (PPE).
8. Physical and chemical properties list the chemicals characteristics.
9. Stability and reactivity lists chemical stability and possibility of hazardous reactions.
10. Ecological information*
11. Disposal considerations*
12. Transport information*
13. Regulatory information*

*OSHA does not enforce sections marked with the asterisk because this information is regulated by other agencies

Chemical manufacturers and importers are required by these rules to develop a SDS for each hazardous chemical product. The SDS contains detailed information about the health and physical hazards associated with the product. It is the responsibility of the individual ordering or purchasing the chemical to ensure that they receive an SDS with the shipment of new chemicals or provide the SDS where there has been a change. To ensure that we receive the SDS, the following notification should be added to all chemical purchase orders:

Safety Data Sheets will be sent to the Public Works Director (or assignee) for each new chemical product purchased and an updated SDS will be sent when the manufacturers or importer changes the SDS. If SDS is not given to receiving then receiving will notify the individual who ordered the chemical and the product will not be released for use until the SDS is available. When SDSs are received by the various departments they are to be forwarded to the administrative assistant (or other designee) for copying, distribution and inclusion in the SDS binders and on the inventory list.

SDSs are available to all our employees for review during each work shift. If SDSs are not available or new chemicals in use do not have SDSs, immediately contact your supervisor.

A list of Hazardous Chemicals must be kept as part of the SDS index and include a table of contents. The lists (index) will be updated as new chemicals are purchased. The Supervisor is responsible to maintain the current inventory list of chemicals. Lists of chemicals and SDS can be stored electronically on the City's intranet.

There must be a way that staff can access these electronically stored chemical lists and SDS at any time, otherwise hard copies should be maintained and stored in a visible and easy to find location. If SDS are kept electronically or accessed on the Internet, a backup copy or system must be in place in case the primary system becomes inoperable (i.e. power loss, network outage, computer crash, etc.). That way the information can still be accessed by the employees.

EMPLOYEE TRAINING AND INFORMATION

A key component of this program is training employees about the hazardous chemicals which they may come in contact. Our training program is done in two parts.

The initial orientation is done by the Department Supervisor. The training will include the location and availability of our written hazard communication program, as well as how to read labels and review an SDS to obtain appropriate hazard information.

The employee's supervisor will review the specific chemicals, hazards and precautions needed in the employee's work area. The training program will cover the following elements:

1. The details of the hazard communication program, including:
    a. The location of the hazard communication program and SDS sheets.
    b. An explanation of the labels on shipped containers you receive.
    c. Labeling system used on in-house containers and piping systems.
    d. Information presented on SDS sheets, including the order of the information.
    e. How to obtain and use the SDS information.
2. Review of the chemicals present in the workplace.
3. Any operation in their work area where chemical hazards are used.
4. Physical and health effects of the hazardous chemicals.
5. Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area.
6. How to lessen or prevent exposure to these hazardous chemicals through usage of engineering control/work practices and personal protective equipment.
7. Steps we have taken to lessen or prevent exposure to hazardous chemicals.
8. Emergency procedures to if our employees are exposed to these hazardous chemicals.
9. Extent necessary to protect them in the event of a spill or leak of a hazardous chemical.

It is critically important that all employees understand the training. If you have any additional questions please contact your supervisor. Each employee will fill-out a training verification form which asks the employee if the employee understood the training.

When new chemicals are introduced, supervisors will review the above items as they relate to the work area. Some employees may also require additional training depending upon their job tasks. Employees who are involved with process safety chemicals, e.g. 1500 pounds of chlorine, and employees who are involved with hazardous waste operations and emergency response will need to have 4 to 8 hours of hazardous material training. Please refer to the Federal OSHA 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals and 1910.120 Hazardous Waste Operations and Emergency Response for the additional training requirements.

HAZARDOUS NON-ROUTINE TASKS

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will review information about hazards to which they may be exposed during such an activity. This will be the responsibility of each supervisor.

The training information will include but not limited to:

1. Specific chemical hazards.
2. Protective equipment and safety measures which must be utilized should accidental exposure occur.
3. Measures that have been taken to lessen the hazards including ventilation, respirators, presence of another employees and emergency procedures.
4. The SDS for employees to review.

HAZARDOUS SUBSTANCES IN PIPES

Oregon OSHA Rules for Pipe Labeling

All hazardous materials carried in piping systems are required to be labeled under Division 2/Z, OAR 437- 002-0378 Oregon Rules for Pipe Labeling.

Pipes and piping systems that contain hazardous substances (any health or physical hazardous agent) or transport sub-stances in hazardous state will be labeled. The pipes must be colored coded or have lettered labels. The label will give the name of the contents in full or abbreviated form. The labels may be posted in the area of the pipe/piping systems. The labeling will be applied, at a minimum, at the beginning and end of continuous pipe runs. A complete hazard label is not required on pipes. If the pipe is above or below the normal line of vision, the label must be applied above or below the horizontal center line of the pipe so that employees can it.

Pipes Insulated with Asbestos-Containing Material

Pipes that are insulated or contain asbestos materials/products must be labeled with such language as “Danger, contains asbestos fibers. May cause cancer. Causes damage to lungs. Do no breathe dust. Avoid creating dust.”

Warning labels must be applied every 75 feet on continuous pipe runs. As mentioned above, if the pipe is above or below the line of sight, the label must be applied above or below the horizontal center line of the pipe so that the employees can see them.

INFORMING CONTRACTORS

Our organization occasionally uses outside contractors for some projects, as a result, we must inform the contractor of any chemical hazards his/her employees may be exposed to. The following methods will be used to inform outside contractors of the potential chemical hazards in their work areas:

To ensure that outside contractors work safely in our plant, it is the responsibility of the supervisor to ensure that we provide the required chemical information:

1. Hazardous chemicals to which they may be exposed to while on the job site.
2. Precautions the employees may take to lessen the possibility of exposure.
3. Location of SDS for chemicals they may potentially be exposed to.

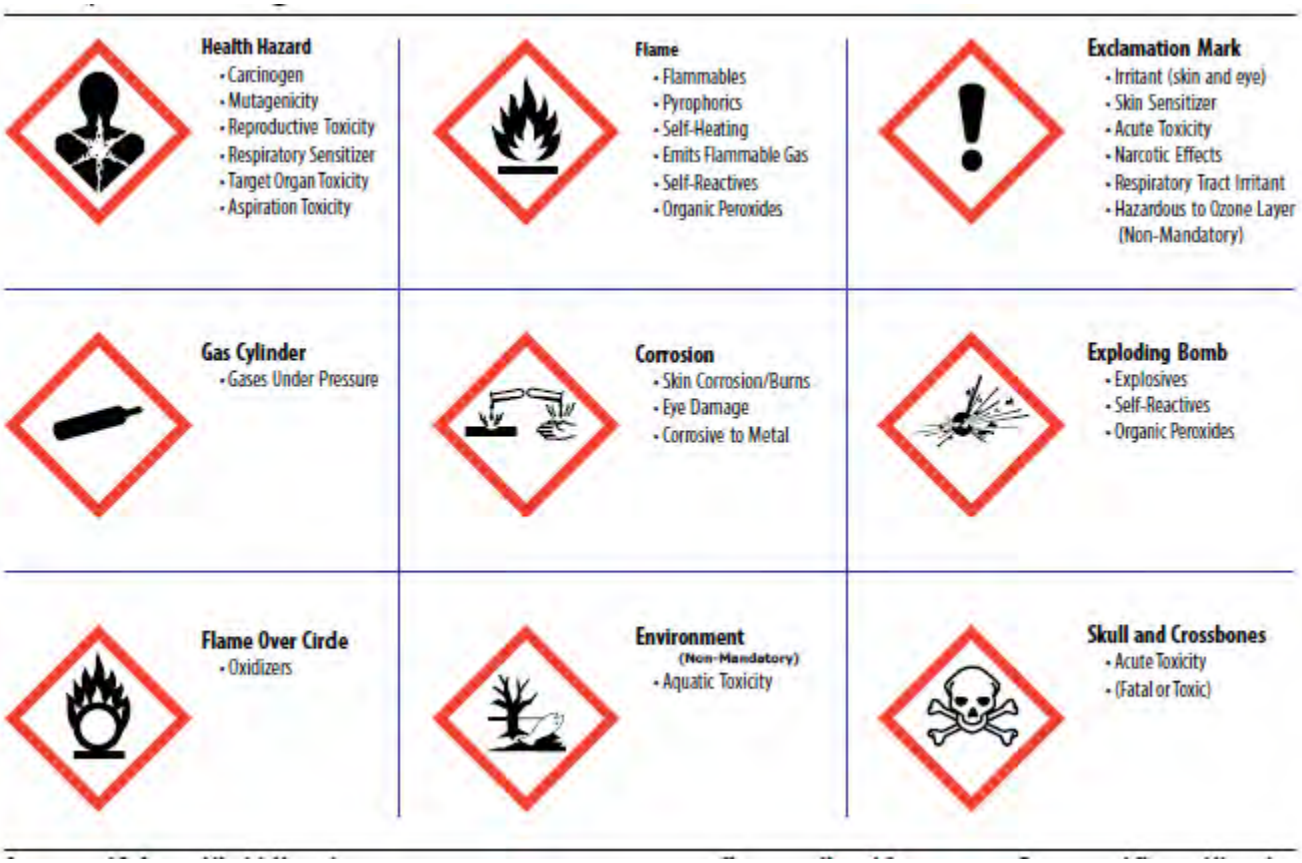
If additional information is needed, the safety manager should be contacted for assistance.

CHEMICAL HAZARDS REQUIRING ADDITIONAL COMPLIANCE ISSUES

There are potential chemical exposures that have additional OR-OSHA requirements that our employees may be exposed to. (Examples: Hexavalent chromium, lead, asbestos, silica, vinyl chloride, cadmium, benzene etc.) If there are job tasks that have potential exposures to these chemicals, the following will be conducted.

1. Exposure monitoring that is representative of employee exposures.
2. Recordkeeping: maintain all exposure monitoring records.
3. If exposures exceed the OR-OSHA exposure limits, we will implement all required protective measures in compliance with the applicable OR-OSHA standard. This may include:
    a. Written Compliance Plan
    b. Personal Protective Equipment
    c. Engineering Controls
    d. Medical Monitoring
    e. Employee Training

EXAMPLES OF PICTOGRAMS



Explanation of Pictograms

Health Hazard

- **Carcinogens:** A chemical substance or mixture that can cause cancer.
- **Respiratory Sensitizer:** A chemical that if inhaled may lead to an allergic-type reaction of the lungs (respiratory system) if inhaled again.
- **Reproductive Toxicity:** Harmful effects to sexual function and fertility in adult males and females, or on development of the offspring.
- **Target Organ Toxicity (Single exposure):** The significant health effects that can impair the function of a specific target organ (for example, the eyes or the kidneys) caused by a single exposure to a chemical. Toxic effects may be reversible or irreversible, immediate or delayed.
- **Target Organ Toxicity (Repeated exposure):** The significant health effects that can impair function of a specific target organ (for example, the eyes or the kidneys) caused by repeated exposure to a substance or mixture. Toxic effects may be reversible or irreversible, immediate or delayed.
- **Mutagenicity:** Chemical exposure causing permanent changes in the amount or structure of the genetic material in a cell.
- **Aspiration Toxicity:** The harmful effect of a liquid or solid chemical when it enters the oral or nasal cavity directly by being breathed in or indirectly entering the respiratory system as a result of vomiting.

Exclamation Mark

- **Irritant (Skin or Eyes):** Reversible damage to the skin or eyes following exposure to a chemical substance.
- **Dermal Sensitizer:** An allergic-type reaction of skin tissue after repeated exposure to a chemical substance.
- **Acute Toxicity (Harmful):** Harmful, health effects that occur soon after a single oral or dermal exposure to a chemical substance; or multiple doses given within 24 hours; or an inhalation exposure of four hours.
- **Narcotic Effects:** Depression of the central nervous system, exhibited as sleepiness, reduced alertness, loss of reflexes, lack of coordination, and dizziness caused by chemical exposure. Can also be shown as severe headache or nausea and can lead to irritability, fatigue, and worsen memory, perception, and reaction time.
- **Respiratory Tract Irritants:** Chemical exposure effects, characterized by localized redness, swelling, and fluid build-up that weakens respiratory function with symptoms such as cough, pain, choking, and difficulty breathing.

Gas Cylinder

- **Gas Under Pressure:** Gases in a container at a pressure of 29 psi (gauge) or more, are liquefied, or are liquefied and refrigerated.

Flame

- **Flammable Gases:** A gas that forms a flammable mixture with air at ambient temperature and pressure.
- **Flammable Aerosols:** A chemical in a non-refillable container with a gas compressed, liquefied, or dissolved under pressure and fitted with a release device allowing the contents to be ejected as particles in suspension in a gas, or in another form; and meeting flammability test criteria.
- **Self Reactives:** Thermally unstable liquid or solid chemicals likely to undergo decomposition: even without interaction with air. These chemicals that are likely to undergo a stronger exothermic decomposition are classified under explosives.
- **Pyrophoric Liquids:** A liquid chemical that, even in small quantities, is likely to ignite within five minutes after coming into contact with air.
- **Pyrophoric Solids:** A solid chemical that even in small quantities is likely to ignite within five minutes after coming into contact with air.
- **Self-Heating:** A solid or liquid chemical (other than a pyrophoric liquid or solid) that, without energy supply, is likely to react with air and generate heat. Differs from a pyrophoric liquid or solid because it will ignite only when in large amounts and after long periods of time (hours or days).
- **Emits Flammable Gas:** Solid or liquid chemicals that, when in contact with water, emit flammable gases or that, by interaction with water, are likely to ignite spontaneously or to give off flammable gases in dangerous quantities.
- **Organic Peroxides:** A carbon-containing compound having two oxygen atoms joined together (-O-O-) called a "peroxy" group. Organic peroxides can be severe fire and explosion hazards.

Corrosion

- **Corrosive (destructive) to skin or eyes:** Irreversible damage to the skin or eyes, including visible, localized death (necrosis) of skin tissue, burns, or serious eye damage following exposure to a chemical substance.
- **Corrosives:** A chemical that will by chemical action materially damage or destroy metals.

Exploding Bomb

- **Self Reactives:** Thermally unstable liquid or solid chemicals likely to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes chemicals classified under this section as explosives, organic peroxides, oxidizing liquids, or oxidizing solids.
- **Organic Peroxides:** Any organic (carbon-containing) compound having two oxygen atoms joined together (-O-O-) called a "peroxy" group, where one or both of the hydrogen atoms have been replaced by organic radicals (with an unpaired electron). Organic peroxides are thermally unstable chemicals, which may undergo exothermic self-accelerating decomposition. In addition, they are likely to have one or more of the following properties:
  - Likely to explode
  - Burn intensely
  - Be sensitive to impact or friction
  - React dangerously with other substances

Flame Over Circle

- **Oxidizers**

Skull and Crossbones

- **Explosives:** A solid or liquid chemical that is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic chemicals are included even when they do not evolve gases.
- **Oxidizer:** A substance that readily yields oxygen to cause or intensify the combustion of organic material. Includes gases, liquids, and solids.
- **Acute Toxicity (Severe or Fatal):** Severe, harmful health effects (that may include death) occurring soon after a single oral, dermal, or inhalation exposure to a chemical substance, or multiple exposures within a 24-hour period.

CONTROL OF HAZARDOUS ENERGY – LOCKOUT TAGOUT

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	012	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Lockout Tagout Periodic Audit Form	**Training Frequency:**	At hire and annually for related positions

CONTROL OF HAZARDOUS ENERGY – LOCKOUT TAGOUT

Subdivision 2/J, 1910.147

There are two forms of energy, kinetic and potential energy. Potential is stored energy that can be drawn upon to work (or motion waiting to happen based on the object's position). Examples are items that are elevated, suspended, compressed, or coiled. This type of energy can be converted to kinetic energy to do work. Kinetic energy is energy resulting from moving objects (such as released loads, uncoiled springs, and moving machinery). When these objects are released, their potential energy is converted into Kinetic energy.

There are various types of energy, from chemical, electrical, gravitational, hydraulic, mechanical, pneumatic, radioactive, and thermal.

Energy becomes a hazard when it builds to a dangerous level, or the energy is released in an amount that would injure an employee. Simply turning off the power does not make the equipment safe, so it is important to know what steps to take to control the energy so that injury does not occur.

This Lockout/Tagout Program was established to provide the maximum protection to our employees whenever they must isolate machines or equipment from energy sources. Additionally, the program discusses prevention of unexpected energization, start-up or release of stored energy that could cause injury to staff. The primary method of hazardous energy control will be accomplished by utilization of this lockout/tagout program.

To control hazardous energy, staff must prevent it from being transferred from its source to the equipment that it powers. Controlling hazardous energy can be accomplished by doing the following things:

1. Identifying the energy source and the energy-isolating devices
2. De-energizing the equipment
3. Securing the energy-isolating devices in a safe position
4. Dissipating or restraining any potential energy that cannot be isolated
5. Verifying the equipment isolation

Employees involved in the maintenance, repair, and servicing of equipment that requires the bypassing of guards are required to follow this policy. Those involved will be instructed in the safety significance of the lockout procedures to follow.

Each operator and maintenance person will know all the energy sources within the equipment, machinery or process. All sources of energy are covered under the procedures of this program, including electrical, mechanical, hydraulic, pneumatic, chemical and thermal energy.

Repair and service on cord and plug electrical equipment is required to have the electrical cord pulled from the energy source prior to repair. If the plug remains under the exclusive control of the employee performing the servicing and there are no other sources of energy (mechanical, pneumatic, hydraulic, or stored energy), no additional lockout/tagout procedures are required.

GENERAL RESPONSIBILITIES

Direct Supervisor: The Direct Supervisor is responsible to see that the overall policy is developed and works with the Safety Committee and employees to ensure implementation. They are also responsible to see that there are periodic audits and that the policy is reviewed on an annual basis.

Authorized Employees: Only workers and supervisors who have received special training to recognize and understand the particular hazards involved, as well as the type and magnitude of energy to be controlled, are authorized to implement the Lockout/Tagout procedures.

It is the trained and authorized employee's responsibility to follow this program. Employees are to use their own lock and key (or individual lock at the lock-out center). No other person will be allowed access to your key or your lock. No one is allowed to remove your lock except the authorized person applying the lockout/tagout.

Affected Employees: An affected employee is one whose job requires him/her to operate or use equipment on which servicing and maintenance is being performed under lockout/tagout, or whose job requires him/her to work in the immediate area in which such servicing and maintenance is being performed.

An affected employee's responsibility is to ensure that they do not attempt to operate any equipment being locked-out/tagged-out and follow all safety procedures in shut down and restarting equipment.

All Other Employees: Any other employees who may see lockout or tagout on equipment are to honor the locks and tags, and make no attempt to start or remove the devices.

Training: A key component of this program is employee train-ing. It is the supervisor's responsibility to see that all employees involved in this program are trained. The authorized employees are to receive additional specialized training as outlined in this program. The training must be documented by the Supervisor.

DEFINITIONS

Affected Employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed. The affected employee's safety may be affected by the de-energization of the equipment. An example would be in a maintenance shop when the air compressor will be shut down for maintenance and repair and the garage repair personnel have a vehicle on the hydraulic hoist. The lack of air pressure could cause the hoist to lower without notice. In this case, the garage staff would be affected employees.

Authorized Employee: A person who locks or implements a tagout system procedure on machines or equipment to perform the servicing or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment which must be locked or a tagout system implemented.

"Capable of Being Locked Out": An energy isolating device will be considered to be capable of being locked out either if it is designed with a hasp or other attachment or through which a lock can be affixed, or if it has a locking mechanism built into it. Other energy isolating devices will also be considered capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

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; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, and other control circuit type devices.

Energy Source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout Device: A device that utilizes a positive means such as a lock (either key or combination type) to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

Out-of-Service Device: This is a tag that is placed on equipment controls or at the main disconnect to notify other personnel that the equipment or process is taken out of service. It notes that the equipment is not functioning properly, or that equipment damage may occur, or that personnel do not want the equipment on-line for process reasons. It is never to be used as an energy control tagout.

EQUIPMENT IDENTIFICATION

Each piece of equipment or type of equipment with more than one source of energy has been identified, along with the lockout issues. The equipment included in this program is located in our facilities at:

Location	Name of Equipment	Basic Hazard	Shut Down Procedures	Start-up Procedures

BASIC LOCKOUT/TAGOUT PROCEDURES

All equipment energy sources capable of being locked out during servicing, repair, or maintenance will be locked-out to prevent accidental or inadvertent operations which could cause injury.

Energy sources can include: electrical, pneumatic, hydraulic, stored energy (gravity, springs), thermal, fluid flow (pressure), all geothermal piping, and gasoline/diesel driven machines (chemical, energy, flammable/explosive energy).

Equipment energy sources not capable of being locked out will be isolated and then tagged-out to inform all others of the safety procedures in use, as well as a warning that no operation of the equipment is permitted. Example of some equipment not capable of being locked out includes 110 circuit breakers and older power panel installations.

Tags will be used at these energy isolating devices. We will design systems capable of being locked-out if major replacement, repair, renovation or modifications are made on the electrical systems or equipment.

Typical conditions requiring lockout or tagout devices include:

1. Anytime repairs, servicing and/or changes are being done on machines / equipment and the safeguards are by-passed, or work on electrical circuits in which the employee could come into contact with hazardous energy (mechanical, pneumatic, hydraulic, or stored energy).
2. Whenever moving parts of machinery or equipment are being cleaned or oiled and accidental contact with movable parts is possible.
3. When it becomes necessary to remove a plug or to a clear a blockage.
4. Mechanisms or pumps which expose the employee to potential release of hazardous energy.
5. When working on lines which contain hazardous sub-stances or high-pressure lines. Such systems should be clearly marked. Valves in the system should be capable of being locked out. In the case of high-pressure lines, there should be a means of safely relieving pressure in blocked sections.
6. To lockout power to equipment to prevent use by unauthorized persons and/or to prevent use in off hours.

No employee will attempt to operate any switch, valve, or other energy isolating device bearing a lockout or tagout device.

Lock(s) will be installed to secure switch levers in order to prevent activation of electrical circuits or equipment on which work is being done. If it is not capable of being locked, apply a tagout which is securely fastened to the disconnect lever or at the immediate area to warn of the ongoing procedure.

Other basic controls that may be needed due to the type of energy present include:

1. Hydraulic Energy: Close valve and bleed off line or block the device.
2. Air Pressure: Close valve and bleed off pressure from line prior to working on the device. Note: Some valves open when they lose pressure, which can cause hydraulic or other liquid flows that could be hazardous to employees. These valves must be isolated and controlled.
3. Springs: Attach a hold down device or leave in open position where no stored energy is present.
4. Fluid Flow: Water Pressure: Ensure proper gate devices are used that hold the back pressure, or drain lines so no fluid pressures are present.
5. Heavy Equipment and Vehicles: during servicing, the mechanic will follow a normal shut down of the equipment. The equipment are gasoline or diesel engine powered. The heavy equipment will have a tagout device placed on the steering wheel, which indicates that the mechanic could be injured if the equipment was started.

Depending on the type of work being performed, there may be various other sources of energy, such as hydraulic and gravity, that could dissipate during servicing. Additional control needs would include, but are not limited to:

- Dump Trucks (or any type of hopper or hood that could fall): the dump bed or device will have the safety bars in place prior to any work around or under a lifted bed for support in case of potential loss of hydraulic pressure.
- Backhoes or other hydraulic operated boom devices: If the shovel or boom is raised, then the safety bar or blocking devices will be in place if the employee is working under the device. If the shovel or boom devices are on the ground in an energy neutral position, additional controls would not be necessary.
- Mowers: The mower arm, which is hydraulically con-trolled, needs to be set on the ground prior to any work or safety bars or other secure blocking devices used if the head is worked on in an upright position.

Additional Shutdown and Lockout Procedures are needed for specialized equipment and vehicles during maintenance. The procedures are also outlined below.

LOCKOUT/TAGOUT HARDWARE (EQUIPMENT)

1. Locks, tags and hasps will be used as energy isolating devices. Valves with handle and lock attachment holes will be locked out. If the locks become damaged in any way, immediately seek a replacement lock.
2. Valves not capable of being lockedout will have tags placed on them with a slip lock plastic attachment device capable of withstanding 50 pounds of pressure.
3. The hardware is required to meet the following criteria:
    a. Durable to withstand weather and all types of exposures.
    b. Standardized by color, shape, size, or format.
    c. Locks substantial so they cannot be removed without excessive force.
    d. Singularly identifiable to one individual.
    e. Device used only for controlling energy and not used for other purposes.
    f. Tags substantial to prevent inadvertent or accidental removal.
    g. Tag attachment devices need to be non-reusable, attached by hand, self-locking, minimum unlocking strength of no less than 50 pounds.
    h. Lockout/tagout devices will indicate identity of employee applying device.
    i. Tag must have a written warning on it, i.e., Do Not Start, Do not Operate, Danger, Equipment Locked Out.
4. Locks, tags, hasps, chains, and other restraining devices will be kept by each authorized employee. Extra locks and equipment will be kept at the supervisor's office. The super-visor will review the location of the lockout equipment and how to obtain additional lockout equipment as necessary.
5. Out of Service Tag: Employees may need to use an out of service tag when a piece of equipment is not functioning properly and it needs to be removed from service for the protection of the equipment.

    The out-of-service tag is not to be used for lockout/tagout hazardous energy control.

    Remember once work begins on the equipment that places the employee in danger of hazardous energy release, the authorized employee(s) must place their personal lock and tag on the energy isolating device.
6. The list of equipment, location, and lockout procedures are located in the previous table.

SEQUENCE FOR A LOCKOUT OR TAGOUT PROCEDURE

The lockout/tagout procedure must be conducted in the following manner. No deviations will be tolerated.

1. The authorized employee will notify the affected employees that the lockout/tagout system is going to be utilized.
2. If a particular piece of equipment is operating, it must be shut down by the normal stopping procedure such as depressing the stop button or opening the switch. Some equipment have detailed procedures that need to be followed by trained employees.
3. The authorized person will lock out and tag out the energy isolating device of the equipment or machines with their individual assigned lock or by using individually keyed locks. These devices are assigned to each maintenance employee as part of his/her tools. The locks in the lockout center are individually keyed and can be used by other authorized employees or for additional hardware if multiple disconnects must be locked out during maintenance.
4. The authorized employee must operate the switch, valve or other energy isolating device to make sure the equipment is isolated from its energy source. Stored energy, such as the energy found in springs, rotating fly wheels, hydraulic system, or compressed air / gas lines must be dissipated or restrained by either repositioning, blocking or bleeding down.
5. After ensuring that no personnel are exposed, the authorized person can complete another check to make sure that all of the energy sources have been disconnected. The type of verification testing will depend on the type of equipment or electrical installation. Equipment may be tested by trying to operate it by turning on the controls.

   CAUTION: Return operating controls to neutral or off position after test.
6. Most of the electrical disconnects operating various pieces of equipment can be locked out; however, if other equipment energy requiring control cannot be locked out then a tagout device will be used. The tagout device must be attached on or as close as possible to the energy isolating device. The tag must clearly indicate that the operation or start-up of the energy isolating device from the safe or off position is prohibited.

EQUIPMENT TESTING UNDER LOCKOUT/TAGOUT

At times, some of our equipment must be tested or positioned while doing maintenance or repair. The following procedure must be followed under those conditions:

1. Clear the machine or equipment of all tools and materials that are non-essential items.
2. Make sure that all of the employees are clear of the machine or equipment and notify them that the machine will be energized.
3. The authorized employee will remove the lock.
4. Energize and proceed with the testing or positioning.
5. De-energize all systems and complete the shutdown procedures before continuing any maintenance or service.

RESTORING EQUIPMENT TO NORMAL OPERATIONAL STATUS

When the authorized employee has completed their work, then the lockout device and tag can be removed. The following procedure will be followed during that process:

1. The authorized person will inspect the work area to make sure that all of their tools have been removed from the machine and ensure 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.
3. Notify all of the affected employees that the equipment is to be restarted.
4. Remove Lockout and Tagout device.

Note: The authorized employee is the only person who can remove the lockout or tagout device. The only exception to this is under the following conditions.

REMOVAL BY SOMEONE OTHER THAN THE PERSON THAT APPLIED THE LOCK

Removal of a safety lockout or tagout device by any other person than the authorized employee who applied it may only be done under the direction of the supervisor, or in his or her absence, by a lead worker or department manager, under the following procedure.

1. The supervisor will verify that the authorized employee who applied the device is not at the facility by checking with the immediate supervisor and/or co-workers.
2. The supervisor will call the authorized employee at home if possible to inform him/her that his/her lockout and/or tagout device needs to be removed. If the employee cannot return to remove the lock, then the supervisor will inform the person that the lock is being removed. The supervisor or lead person may then use a master key or second key that is kept in a locked, inaccessible location known only to the supervisor or lead person, and remove the lockout device.
3. The supervisor must follow all the correct protocols for removal of a lockout or tagout device as outlined above and safely place the equipment back in service and then notify affected employees.
4. If all reasonable efforts have been made to contact the authorized employee, but the person was not reachable, the supervisor will ensure that the authorized employee upon return to work will know that his/her lock was removed and that routine operation of the equipment is now occurring.

PROCEDURE INVOLVING MORE THAN ONE PERSON

If more than one employee is required to lockout or tagout equipment, each will place his/her own personal lockout device or tagout device on the energy isolating device(s). When an energy isolation device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) is to be used.

SHIFT OR PERSONNEL CHANGES

During shift or personnel changes, the hazardous energy control responsibility will be transferred in a manner that maintains uninterrupted protection for the employees involved.

1. All employees in the immediate affected work area will be informed of the transfer of lockout/tagout devices between the off-going and incoming employees.
2. Incoming shift employees must verify that the equipment has been de-energized and proper procedures have been followed.
3. The incoming authorized employee will apply his/her own lockout/tagout device to the energy control source prior to the removal of the lockout/tagout device by the off-going employee.
4. The incoming authorized employee will ensure that no personnel are exposed, and as a check that all energy sources are disconnected, operate the push button or other normal operating controls to make certain the equipment will not operate. Return operating control(s) to the “off” position after the test.

CONTRACTORS

When hiring outside contractors to come into our facility to work on machines and equipment, their activities may create hazards which normally are not present to regular employees.

A copy of our procedures will be given to that contractor and a mutually agreed upon procedure established concerning the lockout/tagout devices that will be used to protect our employees and the contractor’s workers.

This coordination will help to ensure that all employees know what kind of work is to be performed, where and when it is to be performed, and how they are being protected.

The Contract Project Manager will identify the energy isolating devices for the contractor. The contractor's employees will be responsible to lockout all devices capable of locking or place an energy control tag on or as near the device as possible.

PERIODIC INSPECTION

Periodic inspections are intended to assure that the energy control procedures continue to be implemented properly, and that the employees involved are familiar with their responsibilities. OR-OSHA requires that an inspection type audit of lockout procedure must be done at least annually.

1. The supervisor will conduct periodic inspections of the Lockout/Tagout Program procedures at least annually to ensure that this procedure and the requirements of OR-OSHA rules are being followed.
2. The periodic inspection will be performed by an authorized employee not involved in the energy control procedure being inspected. The inspector must determine three issues:
    a. Whether the steps in the energy control procedure are being followed.
    b. Whether the employees involved know their responsibilities under the procedure.
    c. Whether the procedure is adequate to provide necessary protection and what changes, if any, are needed.
3. The inspector will observe and talk with the employees in order to make these determinations. These inspections are intended to provide immediate feedback and action to correct any inadequacies observed.
4. Written records will be made of these inspections and the findings of these inspections will be kept by the Department Supervisor. See below for the Audit Inspection Form.

EMPLOYEE TRAINING

1. Retraining will 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 energy control procedures. The retraining will re-establish employee proficiency and intro-duce new or revised control methods and procedures as necessary.
2. Annual training review of this program by all affected and authorized employees is recommended.

DOCUMENTATION OF TRAINING

1. The supervisor will document that employee training has been accomplished and is being kept up-to-date. The certification will be an individual certificate of training for each employee receiving the training.
2. The certificate includes each employee's name, job title, signature line for the employee and training date, signature line for the supervisor or qualified person conducting the training, their job position and date.
3. This documentation will be filed in the employee's training file.

Lockout Tagout Periodic Audit Form

Periodic Lock-Out Inspection

This form is to be completed by the Supervisor or Safety Committee at least annually.

Inspector:	Date of Inspection:
Inspection Location: Machine or Equipment:	
Authorized employee (name):	
Adequate Notification given: ☐ Yes ☐ No	
Locks/Tags: Describe the type used and adequacy:	
Isolation of Hazardous Energy Sources:	
Testing of Equipment after lock out	
Locks Removed: ☐ Yes ☐ No	Re-start Notification: ☐ Yes ☐ No
Comments:	

NOISE EXPOSURE AND HEARING CONSERVATION

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	013	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Noise Compliance Checklist	**Training Frequency:**	At hire and annual for related positions

NOISE EXPOSURE AND HEARING CONSERVATION

Division 2 (29 CFR 1910), Subdivision G

We have adopted this Noise Exposure and Hearing Conservation program to protect our employees from hearing loss and ensure compliance with the Oregon OSHA Noise regulations. The regulations require that each employer implement a hearing conservation program if employee's noise exposure levels exceed 85 decibels (dBA) for a time weighted average of 8 hours.

We have completed noise testing of our workplace and have identified the following positions that are affected and that must comply with the hearing conservation program.

- Law Enforcement
- Public Works (working around pumps, law maintenance equipment, chainsaws, etc)
- Maintenance staff

Current noise level survey reports are contained in this chapter of the Safety Manual and are used to ensure that noise exposed employees are part of the hearing conservation program.

There are two different instruments that can measure the sound levels in the work environment. They are listed below:

Noise Dosimeter: A device worn by a worker that measures the sound levels over a period of time to determine the noise exposure. It is a form of personal monitoring as it measures sound levels near individual workers.

Sound Level Meter: An instrument that uses a microphone, amplifier, and output meter to measure instantaneous sound pressure levels. Sound level meters are usually used to do area monitoring, which is exposure-monitoring that measures sound levels at various locations in the workplace, usually at a single point of time.

GENERAL RESPONSIBILITIES

Management: It is the responsibility of management to see that noise controls are implemented and maintained, and that all employees at noise exposures in excess of 85 dBA time-weighted average are part of an

effective hearing conservation program. This includes auditing the on-going program and training employees in the hazards of noise and required controls.

Supervisor: It is the responsibility of the supervisor to assure that representative noise surveys are conducted. The supervisor also maintains records of employee training and audits the overall program. In addition, they are responsible for the following tasks:

- Overseeing the program and ensuring that employees are following the Oregon OSHA standards and that employees' hearing is being protected.
- Assuring that employee medical records and all past employee records per the Oregon OSHA standard are maintained by the Administration or HR.
- Assuring that their employees wear hearing protection, have annual hearing tests, and are part of the annual hearing conservation training.

All Employees Covered by a Hearing Conservation Program: All employees that have been identified to be covered under our hearing conservation program are responsible for wearing appropriate hearing protection, taking an active part in the annual training and getting annual hearing tests.

All Other Noise Exposed Employees: All other employees not covered under our hearing conservation program that are exposed to noise are responsible for wearing their hearing protection in noisy work locations or when using noisy equipment.

PROCEDURES

Noise level surveys are required to be done on work operations that have potentially high noise levels (85 dBA and above). The noise measurements will be included in the Safety Manual. Additional noise surveys are required when additional equipment is purchased or processes are implemented which could result in higher noise levels. Additionally, periodic noise level surveys must be completed to re-verify the test results.

Assistance with noise monitoring can be obtained through our Workers' Compensation Provider, Oregon OSHA Industrial Hygiene Consultants, or though outside consultants. Noise level surveys will be kept on file in each employees file. Each employee exposed to noise at or above the 85 dBA average is to be informed of the results.

HEARING PROTECTION

Hearing protection is required to be worn during the operation of equipment or processes that exceed 85 dBA noise levels as a time weighted average exposure. The hearing protection (ear barrier plugs, muffs, and foam plugs) is available in each department where it's use it required. The use and availability of the hearing protection will be pointed out to each new employee during their initial safety orientation. Employees required to wear hearing protection will be informed by their supervisor.

Employees will be trained on how to properly fit the hearing protectors by their supervisor or with assistance from outside safety/health consultants. If anyone has problems with the devices, please contact your supervisor.

Employees will be provided with at least two styles of protection (plugs or muffs) to try on in order to determine which device would be best for them. All the devices provided will be evaluated to determine if they provide adequate noise attenuation for the noise exposure levels.

Each employee will be responsible for the maintenance of his/her assigned hearing protective devices. Disposable plugs will be discarded at end of shift or when they become excessively soiled.

Inserts or barriers will be checked prior to each use for any defects. If barriers are used, the head band needs to be checked to ensure that it is tight and the insert is not torn, disfigured or does not properly seal. New devices will be obtained and used. Follow manufacturer's recommendations on maintenance.

AUDIOMETRIC (HEARING) TESTING

New employees assigned to a noise area (where the time weighted exposure to noise is above 85 dBA) will be given a baseline hearing test and then will be tested annually thereafter. The tests require that the employee not be in an occupational noise area for 14 hours prior to the test or wear hearing protection during this time. This test will be the reference for further tests to determine if hearing levels change.

The hearing test will be given by contract certified audiometric technicians. Hearing tests showing a significant hearing loss are reviewed by a certified audiologist or equivalent. Baseline or initial tests may be given to new employees at the time of hire even if they are not working in a noise area.

Significant threshold shift (STS) criterion hearing loss is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 hertz (Hz) in either ear. The employee may be re-tested within 30 days and consider the results of the re-test to determine if a permanent shift has occurred.

Employees will be informed if their tests show significant changes in their hearing levels based on Oregon OSHA standards by written letter and follow-up by the employee's supervisor once notified of that change by our contract audiologists.

In all cases of hearing loss, the employee will be re-instructed on how to properly wear hearing protection. The supervisor will follow-up on all hearing tests that show a reduction in the employees hearing from the baseline. (See Appendix 1, page 12.6)

Contract audiologists will determine if additional tests are needed and the status of the employee's hearing.

EMPLOYEE TRAINING

New employees will receive Hearing Conservation Training at initial assignment to a noise area that falls within the hearing conservation program guidelines. The training will be repeated annually for these employees. The specific training materials are provided in this manual and are to be a guideline for super-visors and/or safety committee representatives to use.

A copy of the training materials will be available to our employees by contacting his/her supervisor or safety committee member. A copy of the Oregon OSHA Noise & Hearing Conservation Rules will be posted on the safety bulletin board at each of our locations where employees are potentially exposed to hazardous noise levels.

NOISE ENGINEERING CONTROLS

The supervisor is responsible to determine if there are feasible engineering controls that could reduce noise levels to below 90 dBA as a time-weighted 8 hour average.

In some cases, there may be records of noise control studies done on pieces of equipment or processes. These records should be kept to show compliance with Oregon OSHA's noise engineering control standard. The records should be maintained for the duration the equipment or process is in use.

RECORDKEEPING

Records must be maintained for the various elements of the program. Noise exposure measurement records must be kept for 2 years and maintain records of the audiometric testing results for the duration of the affected employee's employment. The audiometric testing records must include the employee's name and job classification, date of test, the examiner's name, the date of the last acoustic or exhaustive calibration, the measurements of the background sound pressure levels in the audiometric testing room, and the employee's most recent exposure measurement.

Maintain exposure measurements for at least two years and keep the training records for each employee for the duration of employment and then forward all records to HR.

Hearing loss is recorded on the OSHA 300 Log when an annual audiogram reveals a Standard Threshold Shift (STS) in either or both ears and the hearing level in the same ear is 25 decibels (dBA) above audiometric zero. Employee must be informed in writing within 21 days of the determination of permanent hearing shift. Then the test results will either be accepted or a retest will be employee within 30 days.

Human Resources is assigned responsibility for maintaining the OSHA 300 and 300A Injury and Illness Log.

SOUND LEVEL MEASUREMENTS

The following pieces of equipment were measured and found to produce high levels of noise:

EQUIPMENT	SOUND LEVEL	ALLOWABLE TIME OF EXPOSURE	DATE MEASUREMENTS WERE TAKEN

Noise Compliance Checklist

The following checklist can be used by management and safety committee members when conducting an overall audit on noise and hearing conservation programs. A second checklist titled "Checklist for Determining Validity of Audiometric Tests" will also be used when evaluating the audiogram tests for compliance with Oregon OSHA. This checklist is based on the Oregon OSHA standards.

Compliance is explained on the back of the checklist. Recommendations for corrections should also be made.

A. Noise Exposure Monitoring Compliance	Yes	No
1. Current noise exposure levels are available for all work positions that may be over 85 dBA as an 8 hour time-weighted average.		
2. The noise readings were conducted with a calibrated instrument.		
3. Noise measurement are retained and will be available to employees and Oregon OSHA compliance inspectors.		
4. The noise readings are noted on the employee's audiogram record.		
5. Employees are notified of the noise exposure level results.		
6. Employee representatives were allowed to observe noise exposure monitoring procedures.		
B. Noise Control Measures & Hearing Protection Compliance	**Yes**	**No**
1. All feasible noise controls have been implemented for employees whose noise exposures exceed 90 dBA.		
2. Records of noise control measures are maintained and will be available for an Oregon OSHA compliance inspector.		
3. All employees whose noise exposure exceeds 90 dBA or 85 dBA TWA with hearing loss are wearing hearing protection.		
4. Employees were trained and fitted in hearing protectors.		
5. Employees were offered a variety of suitable protections to choose from.		
6. Hearing protection attenuation was calculated and provides adequate protection for the employee's noise exposure (at least to less than 85 dBA TWA).		
7. Employees are wearing protection per manufacturer's requirements.		
C. Hearing Conservation Program Compliance	**Yes**	**No**
1. All employees whose exposure exceeds 85 dBA TWA are part of the Hearing Conservation Program. (Includes hearing tests, noise protection, and annual employee training).		
2. Only audiometric technicians or audiologists, or physicians meeting state certification requirements are conducting the hearing tests.		
3. Baseline audiograms are obtained within 180 days of assignment to noise areas over 85 dBA.		
4. The Baseline audiogram is taken with the employee away from workplace noise for 14 hours.		
5. The employees are receiving annual audiograms which are compared to the baseline audiogram.		
6. The audiograms are taken with audiometers that are properly calibrated:		
• Functional before use test		
• Annual calibration		
• Exhaustive calibration every 2 years		
7. All significant threshold shift audiograms are evaluated by an audiologist, otolaryngologist, or a qualified physician.		
8. Recommendations of professional reviewer were implemented.		

9. Proper follow-up is done for all employees showing a significant threshold shift.		
• Employee is notified of the change within 21 calendar days		
• Employee is retrained and refitted in hearing protection		
• Employee is referred for medical attention as necessary		
• The STS is recorded on the OSHA 300 Injury/Illness log		
D. Employee Training Program **Compliance**	**Yes**	**No**
1. All employees with noise exposures equal to or greater than TWA of 85 dBA have received initial and annual noise training.		
2. Training covers the following topics		
• Effects of noise on hearing		
• Hearing protector use, maintenance, advantages/disadvantages		
• Purpose of hearing testing		
D. Access to Information **Compliance**	**Yes**	**No**
1. The noise standard is posted and copies are available to employees or their representatives.		
2. Training and educational materials are available to an Oregon OSHA Compliance inspector.		
F. Recordkeeping **Compliance**	**Yes**	**No**
1. Noise exposure monitoring records are maintained and available.		
2. Audiometric test record must have the following:		
• Audiogram		
• Name & job classification of the employee		
• Date of audiogram		
• Examiner's name and certification number		
• Date of last acoustic or exhaustive calibration		
• Employee's most recent noise exposure assessment		
3. Sound readings as octave band levels in test room are available.		

PERSONAL PROTECTIVE EQUIPMENT

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	014	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Personal Protective Equipment Hazard Assessment	**Training Frequency:**	At hire and annually for related positions

PERSONAL PROTECTIVE EQUIPMENT

Division 2, Subdivision I

We have adopted this Personal Protective Equipment (PPE) policy and procedures to ensure that when hazards cannot be fully controlled with engineering or process controls, that employees use appropriate personal protection. This chapter is also to assist in ensuring compliance with Oregon OSHA standards.

Our policy includes that appropriate training on the use and maintenance of PPE be provided by or arranged for by the supervisor. Employees are required to wear proper personal protective equipment. The PPE provided will be used as out-lined by specific job procedures and maintained in a sanitary and reliable condition. If employees provide their own protective equipment, it is still our responsibility to assure its adequacy, including proper maintenance and sanitation of the equipment.

The selection of PPE will be made by our management staff and will be designed to match the hazard and allow for employees to safely conduct their job tasks. The PPE is designed to protect the worker from injury or harm. However, it is not designed to prevent the occurrence of an incident which might cause harm or injury, AND as a result, it is our policy to ensure that working conditions are safe and PPE is used as a back-up for additional protection.

DEFINITIONS

Personal Protective Equipment: Equipment worn by the employee to prevent injury or occupational illness wherever hazards from processes or equipment cannot be contained or eliminated at their source.

Mandatory Respirator Use (based on Oregon OSHA standards): Respirators are required to be provided and worn when it is necessary to protect the health of an employee due to overexposure to air contaminates.

National Institute of Occupational Safety and Health (NIOSH) Approved Respirators: NIOSH has established specific respirator approval standards that manufacturers must meet. Employers must select only NIOSH approved respirators based on the type of contaminant hazard.

This chapter reviews basic requirements for personal protective equipment including:

- Head protection 437-002-0134(9)
- Hearing and ear protection 29 CFR1910.95

- Eye and face protection 437-002-0134(8)
- Hand protection 437-002-0134 (12)
- Foot protection 437-002-0134(10)
- Fall protection 437-002-0134(5)
- Torso Protection 437-002-0134(6)(7) 437-002-0144(2)
- Leg Protection 437-002-0134(11)
- Respiratory Protection 437-002-0382 29 CFR 1910.134

Written certificates outlining work operations/jobs that require specific PPE are provided in Appendix 1, at the end of the PPE section. The certificate also provides basic description of the types of PPE that must be selected.

Respiratory Protection is covered separately in Chapter 14.

GENERAL RESPONSIBILITIES

Management: It is the responsibility of entity management to ensure that PPE evaluations have been completed for jobs/tasks that would potentially require or have hazards that require PPE. Additionally, management must assure that proper PPE is made available in types and sizes as to fit employees.

Supervisor: It is the responsibility of the supervisor to see that employees are trained in the use of personal protective equipment and are instructed on what is required for their work duties. Supervisors are responsible to complete and/or update the PPE written certificates in Appendix 1, page 13.6. Direct supervisors will be responsible to assure all PPE is worn when the PPE Assessment indicates that PPE is necessary.

All Employees: Employees must follow all safety procedures as outlined in this chapter by Oregon OSHA rules and manufacturer's recommendations in regards to personal protective equipment. Employees are required to inspect their equipment daily/prior to use and ensure that the equipment is functional. Any problems with the equipment will be reported to the supervisor.

Safety Committee: The Safety Committee will include review of personal protective equipment in their quarterly inspection activities.

PROCEDURES

Head Protection: OAR 437-002-0134(9)

Hard hats are to be used to protect the head from flying objects, impact, and electrical shock. Hard hats used at our work operations will meet ANSI standards for the job task.

Hard hats shall be used in the following jobs:

- While working around construction or maintenance field projects or equipment.
- While working outside and around heavy equipment.
- Working inside a confined space below ground.
- In addition, hard hats will be used by all employees when overhead hazards are present. This includes when working under floor openings or walkways, in areas with low ceilings, or in areas with protruding objects.

Hearing Protection: (See Chapter 12 for overall instruction about hearing conservation and protection)

Earmuffs and earplugs are used to protect against hazardous noise levels when noise exposure levels cannot be adequately controlled by various engineering controls. If earmuffs are worn, the temple bars of glasses will

interfere with the seal of the ear piece. As a result, ear plugs should be worn by those required to wear safety glasses or glasses with corrective lenses.

Hearing protective devices are located at:

- Field staff bullpen at Public Works

Eye & Face Protection: OAR 437-002-0134(8)

Eye and face protection is to be worn where there is a reasonable probability of injury to the eyes and face from flying objects, glare, harmful liquids, or injurious light, such as arc welding flash.

Eye protection needs to meet the following criteria:

- Provide adequate protection against the particular hazards for which they are designed.
- Provide reasonable comfort and not unduly interfere with the movements of the wearer.
- Be durable.
- Be capable of being cleaned easily.
- Be stored in clean containers or packaging and kept in good repair.
- The specific type of eye and face protection needed depends on the type of hazard.
- Particle hazards from grinding/chipping require safety glasses with side shields.
- Face protection is worn when liquid splashes or significant particle matter could impact the face and cause injury.
- Liquid splash hazards require chemical splash goggles or safety glasses with a face shield.
- Gas welding requires welding goggles.
- Safety glasses must be worn when an eye hazard exists.

Hand Protection: OAR 437-002-0134(12)(13)

Hand protection is worn to protect the hands from sharp wood/thorns, poison oak, and mechanical injury due to friction, heat, shearing/cutting actions, and for protection against chemicals.

Chemical protective gloves are selected based on the type of rubber/plastic material which affords proper protection against specific chemicals used. The selection will be made by the supervisor.

Chemical protective gloves will be worn when there is skin con-tact with the following chemicals:

- Solvents
- Corrosives
- Chemical spill clean-up
- Mechanical protective gloves will be worn when employees are exposed to wood slivers, friction, sharp metal edges, hot or cold materials, and moving heavy objects. Gloves will be available by job task or in the use areas.

Foot Protection: OAR 437-002-0134(10)

Special foot protection is necessary when there is a potential for foot injury, or slipping, or when the feet become wet due to the work environment. Your supervisor will work with employees who may have job assignments special footwear. The shoe policy will be periodically reviewed by the Safety Committee to ensure that appropriate footwear is used, preventing foot injuries.

The following footwear is expected to be worn:

- Leather work boot when working on or around equipment. Safety steel toes when there is a hazard from dropping heavy objects.

- Rubber boots when exposed to wet conditions

Fall Protection: http://www.oshatrain.org/courses/pdf/2824.pdf OAR 437-002-0134(5) & 29 CFR 1926.502(d) 437-003-0502

When it is not feasible to use physical barriers to protect employees from falls, personal protective equipment (PPE) will be used.

PPE will be chosen based on the following:

- Intended use of PPE (stopping fall as opposed to retrieval from a confined space: see Chapter 5 Confined Spaces).
- Fall arresting forces on the body
- Distance of potential fall.
- Impact on the body from the PPE during a sudden stop.

Type II chest harnesses will be worn for rescue purposes only and in no case are used to stop a vertical fall.

When a worker(s) enters a confined space, a helper wearing the same PPE will be stationed at the entrance to the confined space and will monitor those inside for the duration of the project (see Chapter 4).

Personal retrieval systems for rescue from below-ground level tanks or confined spaces.

- Authorized personnel will ensure the use of a lifeline attached to a manual or power operated winch with a steel cable retracting lifeline. Alternatively, a block and tackle or ratchet winch can provide the lifting mechanism with limited human effort after the victim has been hooked up, provided a lock or overspeed mechanism is incorporated. An anchorage point, such as that provided by a seven or ten-foot tripod, should be available before work is commenced.
- Full body harnesses, yokes, and wristlets will be used when retrieval is through narrow openings.
- Strength Requirements

All components of the fall protection will meet the strength requirements of American National Standard A10.14-1991.

Note: These strength requirements are based on one worker use. If multiple workers are tied off to a single lifeline, the strength requirement must be increased by the number of workers affected (i.e., two workers, one lifeline, minimum breaking strength must be 10,800 pounds at the center of line; three workers, one lifeline, minimum breaking strength must be 16,200 pounds, and so forth).

- When tied off while working on suspended scaffolding, each worker must use a separate line which is not connected to the scaffold.
- Hardware for body belts/harnesses and lanyards must be drop-forged, corrosion resistant with smooth edges, a minimum of 5,000 pound breaking strength without cracks or breaks.
- Knots will not be used in components of a fall protection system since a knot will reduce the strength by at least 50%.
- Lanyards will be kept as short as possible and in no case will they exceed six feet to minimize the possibility for any length of a free fall.
- Wire rope or rope-covered wire lanyards will not be used where impact loads are anticipated or where there is an electrical hazard.
- Belts and lanyards that have been subjected to impact loading must be removed from service and destroyed, or returned to the manufacturer for recertification.
- Rope lanyards will not be stored in work pouches where they may be subject to deterioration.
- Where there is exposure to abrasion, spun nylon rather than filament nylon will be used.

- Only safety belts/harnesses with locking snaps will be used to prevent “rollout” or disengagement. All hardware will be compatible with the locking snap.
- Only shock-absorbing lanyards will be used to reduce the fall arresting impact on the wearer.
- Tongue-type buckles shall be used in lieu of friction buckles since friction buckles may lose the ability to stop detachment if contaminated with grease or oil.

INSPECTION AND RECORDKEEPING

The user will inspect the fall protection prior to each use.

- A trained and competent person will inspect all components of the protection device at least once every six months. The dates of this biannual inspection will be recorded on a permanent tag attached to the harness.
- Every five years, the fall protection system will be returned to the manufacturer for recertification.
- Any defective body belt/harness or lifeline will be destroyed or returned to the manufacturer before use.
- Any unit subjected to impact loading will be immediately removed from service and destroyed or sent to the manufacturer for recertification.

ROAD WORKSITE PROTECTION

All employees working around traffic will wear brightly colored vests or clothing with reflective striping to ensure that they are visible to traffic. This primarily includes road department, law enforcement and fire department staff. There may be other positions that may be required to wear this type of clothing as well. Any staff working around traffic and/or who will be involved in flagging or traffic control activities will be required to complete a flagging / traffic control school prior to being assigned to their duties. It is very important that appropriate notification distance is maintained prior to the work zone in order to protect the employees working in the area. These notification distances will be discussed in the flagging/traffic control school.

PPE ASSESSMENT CRITERIA

Eye & Face Protection

OAR 437-002-0134 (8)

Impact

Flying fragments, objects, chips, particles or dirt from work operations (i.e. chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding.

Type Of Protection: Safety glasses with side shield protection, splash goggles, sand blasting helmet. For severe exposure add the use of faceshield.

Heat

Hot sparks, splash from molten material, high temperature exposure (i.e. furnace operations, pouring, casting, hot dipping, and welding.

Type Of Protection: Faceshields, goggles, or safety glasses with side protection. For severe exposure add the use of faceshield.

Chemicals

Splash or irritating mists (i.e. acid and chemical handling: transferring, degreasing)

Type Of Protection: Chemical splash goggles. For severe exposure add the use of faceshield.

Dust

Nuisance dust: irritation of the eyes (i.e. woodworking, buffing, general dusty conditions that can cause eye irritation.)

Type Of Protection: Goggles, safety glasses with side shields, sand blasting helmets.

Light and/or Radiation (optical damage)

Examples: UV or IR light (see Table 2-I 1 Filter Lenses for Protection Against Radiant Energy in OAR 437, Division 2, Subdivision I)

Welding: Arc

Type Of Protection: Welding helmets or welding shields: typical minimum protective shades 7-11

Welding: Plasma Arc Welding

Type Of Protection: Welding helmets or welding shields: typical minimum protective shades 6-11

Welding: Gas:

Type Of Protection: Welding goggles or welding shields: typical minimum protective shades 4-6

Cutting, torch brazing, torch soldering

Type Of Protection: Welding glasses or welding shields typical minimum protective shades 2-5

Glare

Type Of Protection: Glasses with shaded or special-purpose lenses

Head Protection

OAR 437-002-0134 (9)

Head protection must comply with any of the following consensus standards:

- ANSI Z89.1-2009, American National Standard for Industrial Head Protection, which is incorporated by reference in 1910.6;
- ANSI Z89.1-2003, American National Standard for Industrial Head Protection, which is incorporated by reference in 1910.6; or
- ANSI Z89.1-1997, American National Standard for Industrial Head Protection, which is incorporated by reference in 1910.6.

Impact and penetration hazards caused by falling objects/Electrical shock and burn hazard

Type Of Protection: Head protection that meets ANSI Z89.1 requirements:

- Impact Type I
- Impact Type II
- Electrical Class G (general)
- Electrical Class E (electrical)
- Electrical Class C (conductive)

Foot Protection

OAR 437-002-0134 (10)

Protective footwear must comply with any of the following consensus standards:

ASTM F-2412-2005, Standard Test Methods for Foot Protection, and ASTM F-2413-2005, Standard Specification for Performance Requirements for Protective Footwear, which are incorporated by reference in 1910.6;

ANSI Z41-1999, American National Standard for Personal Protection: Protective Footwear, which is incorporated by reference in 1910.6; or

ANSI Z41-1991, American National Standard for Personal Protection: Protective Footwear, which is incorporated by reference in §1910.6

- Impact and Compression: Safety shoes or boots with impact protection are required for carrying or handling materials such as packages, parts or heavy tools, which could be dropped and for other activities where objects might fall onto the feet.
- Puncture protection: is needed where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal, etc. could be stepped on by employees, causing a foot injury.
- Electrical: If there are electrical hazards from live wires, then boots rated for protection against electrical hazards are needed.

Electrical Protection

OAR 437-002-0134 (1910.137)

This is special protection for working on or near exposed energized conductors or systems. Only qualified electrical workers are permitted. The type of equipment includes: non-conductive head protection, insulated tools or handling equipment, fuse handling equipment insulated for circuit voltage, non-conductive ropes and hand lines, protective shields/barriers or insulating blankets, matting, covers, line hose, gloves, and sleeves made of rubber. The specific criteria and approvals are provided in the rules that must be followed.

Hand Protection

OAR 437-002-134 (12)

Gloves may be needed for the prevention of cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following skin exposure. Selection of the glove material and style depend on type of contact, duration of exposure, and type of material. Glove selection charts that are published by glove manufacturers and technical bulletins will be used. The selection of appropriate hand protection will be based on evaluating characteristics of the hand protection based on the task to be performed, the type of conditions that are present, the duration of the use of the protection, and any potential hazards that have been identified. Gloves will not be worn by employees who are exposed to equipment or tools with rotating or moving parts in which the gloves could be caught up in.

Personal Protective Equipment Hazard Assessment

Use this sample form to identify hazards and to certify (document in writing) that you completed the assessment. Keep it on file in your workplace.

Survey your workplace as often as necessary to identify safety and health hazards that require personal protective equipment.

General information	
Department:	Location:
Jobs included in the assessment:	
Person performing assessment:	Assessment date:

Hazard assessment certification	
I certify that I performed this hazard assessment on the date indicated. Signed: :	
Printed name	Date:

PPE Required?		
From the attached assessment worksheets	**Yes**	**No**
• Fall protection		
• Torso protection		
• Eye and face protection		
• Head protection		
• Foot protection		
• Leg protection		
• Hand protection		
• Hearing protection		
• Respiratory protection		

Fall Protection

All employees must be protected from fall hazards when working on unguarded surfaces more than 4 feet above a lower level or at any height above dangerous equipment.

Fall protection systems must be provided, installed, and used according to the criteria in OAR 437 , Division 2, Sections D, F, and I and construction is OA R437, Division 2, Section M.

Department:	Location:
Jobs included in the assessment:	
Potential hazards: ☐ Unguarded surfaces more than 10 feet above a lower level or any height above dangerous equipment	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ Personal fall arrest system ☐ Personal fall restraint system ☐ None required

Torso protection

Clothing must be worn which is appropriate to the work performed and conditions encountered.

Appropriate high temperature protective clothing must be worn by workers who are exposed to molten metals or other substances that can cause burns.

Loose sleeves, ties, lapels, cuffs, or other loose clothing must not be worn near moving machinery.

Clothing saturated or impregnated with flammable liquids, corrosive or toxic substances, irritants, or oxidizing agents must be removed immediately and not worn again until properly cleaned.

Rings, wristwatches, earrings, bracelets, and other jewelry which might contact power driven machinery or electric circuitry, must not be worn.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ Extreme temperatures ☐ Hot splashes from molten metal and other hot liquids ☐ Impacts from tools, machinery, and materials ☐ Hazardous chemicals ☐ Ionizing radiation	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ Chemical resistant coveralls ☐ Cut-resistant sleeves, wristlets ☐ Flame-resistant jacket/ pants ☐ High visibility garment ☐ Insulated jacket, hood ☐ Lab coat or apron/ sleeves ☐ Long sleeves/ apron/ coat ☐ Static control coats/coveralls ☐ None required

Eye and face protection

Employees must use appropriate eye or face protection when exposed to flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

Eye protection must have side protection when there is a hazard from flying objects. Detachable side protectors meeting are acceptable.

Employees who wear prescription lenses must wear eye protection that fits over the lenses without disturbing the proper position of the prescription lenses, or ANSI-approved prescription lenses with side shields.

Employees who are exposed to potentially injurious light radiation must use filter lenses that have a shade number appropriate for the work being performed.

Employees whose work exposes them to laser beams must wear laser safety goggles that protect for the wavelength of the laser.

Department:	Location:
Jobs included in the assessment:	
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Potential hazards ☐ Dust, dirt, metal, or wood chips from chipping, grinding, sawing, hammering, and from power tools ☐ Chemical splashes from corrosive substances, hot liquids, and solvents ☐ Objects such as tree limbs, chains, tools, and ropes that swing into the eyes or face ☐ Radiant energy from welding and harmful rays from lasers or other radiant light	**PPE required** ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Glasses/goggles w/face shield ☐ Glasses/goggles w/face shield ☐ Impact goggles ☐ Leather welding hood ☐ Safety glasses w/side shields ☐ Safety goggles w/face shield ☐ Welding goggles ☐ Welding helmet/shield w/ safety glasses and side shields ☐ None required

Head protection

Employees must wear hardhats when they work where there is a potential for head injuries from falling or flying objects.

Employees must use hard hats designed to reduce electrical shock hazards when they're working near exposed electrical conductors that could contact their heads.

Employees who are exposed to power-driven machinery or to sources of ignition must wear caps or other head covering that completely covers their hair.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ Overhead objects that could fall ☐ Exposed pipes or beams (less than 6.5 feet overhead) ☐ Energized electrical equipment	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ Head protection that meets ANSI Z89.1 requirements: ☐ Impact Type I ☐ Impact Type II ☐ Electrical Class G (general) ☐ Electrical Class E (electrical) ☐ Electrical Class C (conductive) ☐ None required

Foot protection

Employees must wear protective footwear when they work where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or electrical hazards.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ Heavy objects such as barrels or tools that might roll onto or fall on a worker's feet ☐ Sharp objects such as nails or spikes that could pierce the soles or uppers of ordinary shoes ☐ Molten metal ☐ Hot, wet, or slippery surfaces ☐ Energized electrical equipment	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☐ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Rubber boots/closed top shoes ☐ Insulated boots or shoes ☐ None required

Leg protection

Workers exposed to hot substances or dangerous chemical spills must wear leggings or high boots made of leather, rubber, or other suitable material.

Workers who use chain saws must wear chaps or leg protectors that cover the leg from the upper thigh to mid-calf. Leg protectors must be made from material that resists cuts from the chain saw.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ Hot substances ☐ Dangerous chemicals ☐ Cuts from chain saws	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ Leggings or boots: penetration resistant ☐ Leggings or boots: chemical resistant ☐ Leggings or boots: molten metal resistant ☐ Chaps or leg protectors: resists cuts from chain saws ☐ None required

Hand protection

Employees must use appropriate hand protection when their hands are exposed to harmful substances; severe cuts or lacerations; abrasions; punctures; chemical burns; thermal burns; and extreme temperatures.

Employers must base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task, conditions present, duration of use, and the hazards identified.

Employees must not wear gloves when their hands could be caught in moving parts.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ .Harmful or hazardous temperatures ☐ .Chemicals that can be absorbed into the skin or cause burns ☐ .Energized electrical equipment ☐ .Mechanical equipment that can cause bruises, abrasions, cuts, punctures, fractures, or amputations	**Likelihood of injury without PPE** ☐ .High ☐ .Medium ☐ .Low
Severity of a potential injury without PPE ☐ .Minor first aid required ☐ .Serious, not life threatening ☐ .IDLH: life threatening	**PPE required** ☐ .Leather/cut resistant gloves ☐ .General-purpose work gloves ☐ .Chemical resistant gloves ☐ .Insulated gloves ☐ .Heat/flame resistant gloves ☐ .Latex or nitrile gloves ☐ .Electrician's insulated rubber gloves; ☐ .Cotton, leather, or anti-vibration gloves ☐ .None required

Hearing protection

Hearing protectors (plugs or muffs) must be worn by workers exposed to an 8-hour time-weighted average of 85 decibels or greater.

Department:	Location:
Jobs included in the assessment:	
Potential hazards Noise levels that exceed those shown in the table below are hazardous: **Hours of exposure — Sound level (dBA)** 8.0 .....90 6.0 .....92 4.0 .....95 3.0 .....97 2.0 .....100 1.5 .....102 1.0 .....105 0.5 .....110 0.25 ..... .115	**Likelihood of injury without PPE** ☐ High ☐ Medium ☐ Low
Severity of a potential injury without PPE ☐ Minor first aid required ☐ Serious, not life threatening ☐ IDLH: life threatening	**PPE required** ☐ .Earplugs ☐ .Ear muffs ☐ .None required

Respiratory protection

Appropriate respirators are required when workers are exposed above permissible exposure limits (PEL) for specific air contaminates.

Department:	Location:
Jobs included in the assessment:	
Potential hazards ☐ .Nuisance dust/mist ☐ .Welding fumes ☐ .Asbestos ☐ .Pesticides ☐ .Isocyanates ☐ .Paint spray ☐ .Organic vapors ☐ .Acid gases ☐ .Oxygen deficient/ toxic or IDLH atmosphere	**Likelihood of injury without PPE** ☐ .High ☐ .Medium ☐ .Low
Severity of a potential injury without PPE ☐ .Minor first aid required ☐ .Serious, not life threatening ☐ .IDLH: life threatening	**PPE required** **Air-purifying respirators** ☐ .Filtering face piece (dust mask) ☐ .Particulate-removing respirator ☐ .Gas-and-vapor-removing respirator ☐ .Combination aerosol filter/gas or vapor-removing respirator ☐ .Powered air-purifying respirator **Atmosphere-supplying respirators** ☐ .Supplied-air respirator ☐ .Self-contained breathing apparatus (SCBA) ☐ .Combination self-contained breathing apparatus and air-line respirator ☐ .Combination air-purifying and atmosphere-supplying respirators ☐ .None required

RESPIRATORY PROTECTION PROGRAM

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	015	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Emergency Use Monthly Inspection Record Respiratory Protection Program Evaluation Oregon OSHA Respirator Medical Evaluation Questionnaire Medical Clearance Request for Respirator User Respirator Assignment and Fit Record Respirator Program Periodic Checklist	**Training Frequency:**	At hire and annually for related positions

RESPIRATORY PROTECTION PROGRAM

OAR 437, Division 2, Subdivision I (1910.134)

This written program establishes policies and procedures for the effective use of respirators to protect our employees from airborne contaminate exposures. These procedures are mandatory.

DEFINITIONS

Air purifying: Air purifying respirators use chemical or mechanical filter cartridges to clean the contaminated air before it is breathed in by the wearer.

Atmosphere supplying: Atmosphere supplying respirators provide the wearer with uncontaminated breathing air and include supplied air respirators (SARs) and self-contained breathing apparatus (SCBA).

Assigned protection factor (APF): The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program.

Canister or cartridge: A container worn on the respirator which contains a filter, sorbent or catalyst or a combination which removes specific contaminants from the air drawn through it.

End of Service Life Indicator (ESLI): System that warns the user of the respirator that the end of adequate respiratory protection is approaching (i.e. sorbent is approaching saturation and is no longer effective).

Facepiece: The main part of the respirator which fits tightly on the face and includes the headband, exhalation and inhalation valves and connection place for the canister or cartridges.

Filtering Facepiece: Dust mask typically where the entire facepiece is composed of a filtering medium.

Demand Respirator: Atmosphere supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

High efficiency particulate air filter (HEPA): A type of filter that removes from the breathing air, 99.97% or more particles 0.3 micrometers in diameter or larger.

Maximum use concentration (MUC): The maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance.

Note: The MUC can be determined mathematically by multi-plying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

NIOSH: The National Institute of Occupational Safety and Health is a Federal Agency who conducts research and tests certain types of safety equipment, including respirators.

GENERAL RESPONSIBILITIES

Supervisor: It is the direct responsibility of the supervisor to ensure the respiratory protection program is implemented and that all employees are trained on the use of respiratory protection. In addition, the supervisor is also responsible for the following things:

1. Ensuring that appropriate respirators are chosen for use in the workplace.
2. Ensuring that medical evaluations are conducted to identify if employees are medically able to wear respirators in the workplace.
3. Conducting fit testing for tight fitting respirators.
4. Ensuring employees are trained on the use of respiratory protection.
5. Conducting employee training on the use respiratory hazards that employees are potentially exposed to, what respirators would be used based on the hazard, the proper use of respirators (including how to put them on and take them off, their limitations, how to maintain them, and when to replace them.)
6. Maintaining written records on the monthly inspection of emergency use respirators.
7. Maintaining the respiratory protection written program and annual evaluations of the program.

Employees: Employees must follow all safety procedures as outlined in this program, Oregon-OSHA rules, and manufacturer's recommendations in regards to respiratory protection. Employees are required to inspect their equipment prior to use each day to ensure that the equipment is functional. Any problems found with the equipment needs to be reported to your supervisor. Employees who are required to use tight fitting respirators are responsible for completing a medical questionnaire and examination to ensure they are capable of using a respirator. Additionally, the employee will be fit tested prior to the use of the respirator, whenever a different respirator facepiece is used, and at least annually. Fit testing will also need to be repeated should the employee's physical condition change that could alter or affect the respirator fit. This would include changes in weight or facial hair, facial scarring, dental changes, etc.

SELECTION OF RESPIRATORS

Types of respirators: The following table outlines the respirator selection process. Particle filters will meet N, R, P95%, 99%, or 99.7% for dust only. If oil mists are present such as saw lubricants, cutting fluids or glycerin-based liquids then only R or P filter may be used.

Work Condition	Assigned Employees	Contaminant	Type of Respirator
Non-Mandatory Respirator Selection (see information in Appendix D in Oregon OSHA Respiratory Protection Act Standard Regulations under 1910.134)			

Only the National Institute of Occupational Safety and Health (NIOSH) approved respirators have been selected for usage. These respirators have been chosen based on the type of hazard, needed level of protection and maximum use concentrations. Different sizes and styles of respirators are available.

The specific selection will be based on the fit testing protocols to determine the best style for each employee to ensure proper fit and comfort.

PROTECTION FACTORS

We will use the assigned protection factors listed in Table 1 of the Oregon OSHA Respiratory Protection Standard to select a respirator that meets or exceeds the required level of employee protection. When using a combination respirator (e.g., airline respirators with an air-purifying filter), employers must ensure that the assigned protection factor is appropriate to the mode of operation in which the respirator is being used.

Dust masks are considered to be filtering face pieces and are the same as a half-face piece respirator which are approved for 10 times the limits.

The use life of each respirator or cartridges will vary depending on the job duties and actual time in use. Each respirator will have some limitations, thus the manufacturer's instructions and recommendations must be reviewed. Air purifying respirators (disposable dust mask, half or full facepiece cartridge respirators) cannot be used in confined spaces where the environment may have less than 19.5%oxygen.

LIFESPAN OF A RESPIRATOR

The use life of each respirator or cartridges will vary depending on the job duties and actual time in use. Each respirator will have some limitations; thus the manufacturer's instructions and recommendations must be referred to. Air purifying respirators (disposable mask, half face piece cartridge respirators) cannot be used in confined spaces where the environment may have less than 19.5% oxygen or in hazardous chemical operations when the exposure levels are unknown.

SELF-CONTAINED BREATHING APPARATUS (SCBAs)

In the following operations, respirators are for use during an immediately dangerous situation to life and health (IDLH). SCBAs are for use during the following operations:

- Firefighters in firefighting situations and exercises

- Public Works Sewer and Water Treatment Changeout of Chlorine Gas Tanks
- Entering confined spaces where oxygen levels are low or toxic gas levels are high for rescue purposes

When entering IDLH environments, SCBA air tanks must be at least 90% full prior to entry. SCBA air tanks should be refilled according to the maximum time use as specified on the tank, or when the low air alarm sounds.

CHEMICAL CANISTER/CARTRIDGE RESPIRATORS

These respirators are vapor and gas-removing, using a cartridge attached to the face piece containing chemicals to trap or react with specific vapors or gases, which remove it from the air breathed.

The specific use time will be provided to each chemical cartridge user based on a concentration mathematical model calculation of estimated use time and chemical concentrations. This information will be specific to a job or operation. Your super-visor will provide specific information but a general policy on use time of respirators is to replace the respirator or cartridge when:

- Concentration mathematical model provides recommended end of service time.
- An odor or taste is detected.
- It becomes hard to breathe through.
- The cartridge or respirator is damaged.

HEPA Cartridge: The HEPA cartridges should be changed whenever the operator notes any additional breathing resistance.

Non-mandatory Dust Mask: Dust masks should be changed whenever the operator notes any additional breathing resistance.

There are a number of limitations in the use of chemical cartridge respirators, which are important to understand.

1. They do not supply oxygen and thus cannot be worn in oxygen-deficient atmospheres.
2. The respirators are designed for protection against specific gases or vapors. Thus users must take care that the proper cartridge is selected.
3. Cartridges can only be used for protection against contaminants with good warning properties (smell, taste, and irritation).
4. The cartridges are not approved for high concentrations of the contaminant.
5. Respirators must be protected from the atmosphere while in storage because they tend to pick up water vapor from the air which reduces the service life.

RESPIRATORS FOR PARTICULATE EXPOSURES

Filter Notation

The service life of filters in all three of the approval categories of filter efficiency degradation (N, R, and P-series) is limited by of hygiene, damage, and breathing resistance.

All filters should be replaced whenever they are damaged, soiled, or causing noticeably increased breathing resistance (e.g. causing discomfort to the wearer).

R (for Resistant to oil) and P (for oil Proof) series filters can be used for protection against oil or non-oil aerosols. N (for Not resistant to oil) series filter should be used only for non-oil aerosols.

Filter Efficiencies

Each of the filter series (N, R and P) have three filter efficiencies that can be selected. These are based on how efficient the filter is with particles down to 0.3 microns. They can be 95%, 99%, and 99.97% (labeled 100% and

commonly called HEPA filters). For general wood dust and dust exposures 95% is effective. For paint spray mists, the 99% filter chemical cartridge are effective. For highly toxic dusts such as asbestos, lead, and silica, the 99.97% (HEPA) filters are to be used. Dust masks also are available in each of these filter types and efficiencies.

Approval Notation

Each respirator container for particle exposure protection now has a TC (testing & certification) number. The label will read TC-84A-00X. The 84A notes that this is a particulate filter that does not have any approval for use in atmospheres containing less than 19.5% oxygen. Additional limitations are provided on the label that the user needs to understand.

Filter Replacement Time

If the environment has high dust exposure (loading 200 mg) through the day's use, then all the filters need to be replaced after 8 hours or less usage.

If the R-series are used with oil exposures, they need to be replaced after 8 hours of service time. P-series is limited only by the hygiene, damage, and breathing resistance if the exposures are not high.

Summary Of Major Limitations

1. Mechanical filters do not provided oxygen, so they must not be used in oxygen-deficient atmospheres.
2. They provide no protection against gases or vapors.
3. There is a pressure drop through the filter medium; there-fore, there is some breathing resistance.

USE AND AVAILABILITY OF RESPIRATORS

1. Employees that are required to wear respirators will wear an approved respirator selected for the task exposure hazard. The respirator needs to be properly fitted at all times while in use.
2. Employees required to wear a respirator will be provided a respirator issued by the supervisor with proper replacement parts, cartridges and filters, and cleaning materials as appropriate. The supervisor is responsible to see that employees are provided respirators that are required by this policy.
3. The disposable respirators (dust masks) are available from the parts room or from the supervisor. These are to be used for low level dust exposures and are non-mandatory (voluntary). Employees need approval to use these respirators to ensure that they have received proper training and understand the maintenance and use of the dust mask, as well as the limitations.

MEDICAL EVALUATIONS FOR RESPIRATOR USE

Purpose of Medical Evaluations

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. Therefore, medical evaluations are required for all employees who wear a respirator. These medical evaluations determine the employee's ability to use a respirator before they are fit tested or used on the job.

Oregon OSHA applies this standard if the air contaminate level or conditions could result in overexposures to the permissible exposure limit or if the worker voluntarily wears the respirator. The voluntary use of dust mask does not require a medical evaluation, but it does require that basic information about the respirator be provided. See Appendix 6, page 14.29, for the Voluntary User Information.

The follow-up medical examination will include any medical tests, consultations, or diagnostic procedures that the physician deems necessary to make a final determination, which will be provided at no cost to the employee.

Medical Certification

Medical certification of an employee is required for respirator use. The purpose of a medical evaluation is twofold:

1. To determine if an individual is medically fit to wear a respirator.
2. To determine if an individual needs work restrictions, given the job that the individual is required to do.

Note: Job descriptions or job analysis evaluations need to be available to the physician or licensed healthcare professional (LHCP) doing the evaluation.

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. Employees will have the opportunity to discuss the questionnaire and examination results with the physician or LHCP.

A sample respirator medical evaluation questionnaire can be found in Appendix C of the Oregon OSHA Respiratory Standard (1910.134). See http://osha.oregon.gov/OSHARules/div2/div2I.pdf.

Additional Medical Evaluations

Additional medical evaluations will be provided under the following conditions:

1. An employee reports medical signs or symptoms that are related to their ability to use a respirator.
2. A physician, manager, or HR representative will inform the supervisor that an employee needs to be re-evaluated.
3. Information from the respiratory protection program, including observations made during fit testing and pro-gram evaluation that indicates a need for employee re-evaluation.
4. A change occurs in workplace conditions that may result in a substantial increase in the physiological burden placed on an employee.

Retention of Medical Records

Preservation of medical records is required to be followed per Oregon OSHA's rule covering employees' access to medical records OAR 437, Division 2, Subdivision Z (1910.1020), which requires that the records be retained at least for the duration of employment plus 30 years. Employee exposure records must be retained for at least 30 years. The medical records can be kept by the evaluating physician and the medical clearance form is kept in a confidential medical file, if the employee signs the medical release form.

If an employee works for one year or less, the rules allow an employer to give the employee his/her records and not retain them. If they are not given to the employee, then the 30-year retention time is in effect per the OR-OSHA requirements.

TRAINING OF EMPLOYEES

Each mandatory respirator wearer will receive initial training prior to being assigned work that requires use of a respirator, and will receive annual training thereafter.

Each non-mandatory respirator wearer will receive information about the respirator in terms of protection limits, how to wear and when to dispose of the mask or change cartridges. The non-mandatory respiratory users will also be pro-vided the basic information on respirators found in Appendix D of the Oregon OSHA respiratory protection standard.

Training for Mandatory Respirator Users

The mandatory respiratory protection training includes the following training topics:

1. Contents of the written program and where it is located.
2. Respiratory hazards to which the employees are potentially exposed to.
3. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
4. How to put on and take off the respirator.
5. Respirator use and limitations.
6. Cleaning, maintenance, and storage.
7. How to recognize medical signs and symptoms that limit effective use of a respirator.
8. How to inspect a respirator.
9. Field fit tests (positive and negative pressure tests).

The supervisor will keep the training records. Each user must understand and apply the contents of this respirator program to the daily use, care and storage of the equipment. Written training materials are available from the supervisor.

FITTING OF RESPIRATORS

Respirator fit is extremely important. Respirator fit testing is used to test how well the tight fitting respirator facepiece seals against the face. If there is not a good face-to-facepiece seal, the contaminants may pass around the facepiece and be breathed into the lungs.

It is important to realize that not everyone can wear a respirator. OR-OSHA specifically states that you should not wear a respirator if:

- You wear glasses that break the skin to mask seal (inserts are available).
- You have facial hair passing between the sealing surface of the respirator and the face.
- You are unable to get an adequate fit on a respirator.
- Your physician finds you medically unable to wear the respirator.

Respirator fit testing may be done using two basic methods: qualitative or quantitative. Most employers use qualitative methods since quantitative procedures may be expensive and require complicated equipment. Currently only certain rules require quantitative fit testing. These include lead and asbestos regulations once levels reach a certain exposure level.

Positive and Negative Pressure Tests

Each time a respirator is put on, and prior to the qualitative fit testing procedures, the wearer should conduct a positive and a negative pressure test to ensure that the respirator is seated correctly against the face.

The negative pressure test is performed on any respirator with a tight-fitting facepiece. For cartridge respirators, the test consists of covering the air inlet lightly and inhaling lightly, then holding the breath for a few seconds. The common leak areas are around the nose and chin.

The positive pressure test is performed on respirators with tight-fitting facepieces and both inhalation and exhalation valves. It is done by blocking the exhalation valve and exhaling lightly. Again, air leakage can be felt if a leak is evident.

If such leaks are found, the respirator should be adjusted and retested. If a fit cannot be achieved, then a different size or style facepiece needs to be fitted.

Fitting of SCBA Respirators

Fit testing of air supplying respirators will be done using the same qualitative fit test protocols as used for the air purifying respirators. SCBA facepieces used for fit testing will have cartridge sampling adapters so the facepiece can be worn and tested in the negative pressure mode.

Qualitative Fit Test Methods

Qualitative Fit Testing are done with test agents. This test protocol will be used for all types of respirators.

1. Banana Oil (isoamyl acetate) Test:

Air purifying respirators must be equipped with organic vapor or pesticide cartridges for this test. The test chemical smells like ripe bananas. The test consists of administering the chemical and having the respirator wearer determine whether or not they can smell the odor of bananas.

The banana oil test has certain disadvantages. Some individuals cannot smell the banana oil, so you need to test the individual after you have performed the fit test to ensure that they can indeed detect the odor. Also, if an individual smells higher concentrations of the banana oil, they can develop an odor fatigue and upon immediate retesting, may not be able to detect the material.

2. Irritant Smoke Test:

Smoke tubes (stannic oxychloride smoke tubes) used to test ventilation systems can also be used as an effective chemical to test a respirator wearer's fit. This test can be used for half or full-face air purifying respirators. The respirators must be equipped with high efficiency (HEPA) cartridge filters before starting the test.

Since the chemical used to produce the smoke is irritating to the eyes and mucous membranes, additional care has to be taken in conducting this type of fit test. Smoke tubes are available from safety equipment supply stores.

Prior To Fit-Testing, An Employee Must Pass The Medical Evaluation. Employees not capable of wearing a negative pressure respirator will not be assigned job tasks requiring respirator use.

Proper fitting of respirators is essential if employees are to receive the necessary protection from the airborne contaminate hazards. Air which passes around the facepiece of the respirator, rather than through it, is not being filtered. To ensure that a good face seal can be achieved, the respirator needs to be carefully fitted.

3. The following protocol will be followed to fit the initial wearer and then to be used each time the respirator is used:

The respirator straps must be worn in the correct place. Adjust the headband until they are tight yet comfortable.

To adjust the facepiece properly, simply position the chin firmly in the chin cup and manually shift the facepiece until the most comfortable position is located. Make the final adjustments on the headbands and do not break the nose seal.

A positive and negative pressure test needs to be performed every time a respirator is worn.

The negative pressure test is performed on a half or full-face piece respirator designed for filters or chemical cartridges. The test consists of covering the air inlet lightly and inhaling slightly. If a leak exists, the air can be felt as it enters. The common leak areas are around the nose and chin.

The positive pressure test is performed by blocking the exhalation valve and exhaling lightly. Again, air leakage can be felt if a leak is evident. If such leaks are found, the respirator is to be adjusted and retested.

If a fit cannot be achieved, then a different size or style facepiece needs to be fitted.

MAINTENANCE OF RESPIRATORS

Respirators are to be cleaned after each day's use with alcohol preps and placed dry in a clean container or plastic bag for storage. More thorough cleaning is needed for dirty respirators or those shared which involves performing the following procedure:

1. Remove the cartridges or filters from the facepiece. The filters and cartridges must not be washed. All cartridges will be replaced during the weekly cleaning for respirators used infrequently through the week. Respirators used in environments with high concentrations of air contaminants may need to have the cartridge changed daily or more frequently.
2. Immerse the respirator face piece in a warm water solution of commercial disinfectant liquid. The respirator should be scrubbed gently with a cloth or soft brush. Make sure that all foreign material is removed from all the surfaces of the rubber exhalation valve, plastic exhalation valve seats and face seal.

   Note: The inhalation, exhalation valves, and valve cover will be replaced during the quarterly cleaning.
3. After washing and disinfecting the respirator, rinse in clean warm water and allow the respirator to air dry before storing.
4. After the respirator is dry, store it in a clean container. Respirators should not be stored where chemicals are used or stored. Respirators should not be hung from nails on the walls or in chemical storage areas. The respirators must be stored in a normal position (which means that they should not be stretched or stored under objects which could cause the face-piece to become warped).
5. Any respirator malfunction will be reported to your super-visor, who will evaluate the problem and ensure that proper replacement parts or a new respirator is supplied to the employee.

RESPIRATOR INSPECTION

Each person assigned a respirator will be responsible to maintain the equipment and routinely inspect the respirator before and after use for worn or dirty parts. Worn Parts Will Be Replaced Immediately.

The inspection will include:

Air-purifying Respirators:

Check facepiece for:

- Dirt
  - Cracks
  - Tears
  - Holes
  - Distortion
- Check head straps for:
  - Breaks
  - Tears
  - Loss of elasticity
  - Broken buckles or attachments

SCBA's and Airline Systems:

SCBA's and airline systems used routinely are to be checked after each use. Those used for emergency or infrequently need to be checked monthly. The checks are to assure that the equipment is kept clean and in proper working condition. The respirator inspection will include an evaluation of:

- Tightness of the connections.
- Condition of the facepiece.
- Condition of the headbands.
- Condition of the cartridges or tank pressure.
- Condition of the valves.
- Pliability and cleanliness of the facepiece material.

RESPIRATOR PROGRAM EVALUATION

It is important that both the respirator wearer and our man-agers evaluate respirator use and program effectiveness. It is critical that the appropriate respirator be worn correctly.

If an employee notices any of the following, they are to immediately leave the area and replace the respirator if:

1. Breathing becomes difficult.
2. Dizziness or other distress occurs (see your supervisor immediately).
3. You sense irritation, smell or taste contaminants.
4. The respirator becomes damaged.

The overall program will be evaluated by the supervisor. This will involve:

1. Conducting 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.
2. Regularly consulting employees required to use respirators to assess the employee's views on program effectiveness and to identify any problems.
3. Program evaluation forms are located in Appendix 2, page 14.17.
4. Factors to be assessed include, but are not limited to:
    a. Respirator fit.
    b. Appropriate respirator selection for the hazards.
    c. Proper respirator use.
    d. Proper respirator maintenance and inspections.

The supervisor will evaluate the program as needed to determine the overall effectiveness of the program and needed updates. If deficiencies are found, then additional employee training will be given and more frequent evaluations will be made. An evaluation checklist is found below.

RESPIRATORY PROTECTION PROGRAM ACTION PLAN SUMMARY AND FORMS

This chart describes the respiratory program's responsibilities and identifies appropriate forms to be used as part of the respiratory protection program and evaluation.

Action	Responsibility	Form
1. Employee is assigned mandatory respirator use job functions and wears full or ½ face piece respirator.	Supervisor	Oregon OSHA medical questionnaire for medical evaluation.
2. The questionnaire is forwarded to the contract medical evaluator by the employee.	Employee sends questionnaire and based on evaluation, schedules a medical exam for the employee.	Sends appointment memo to employee regarding scheduled medical evaluation (in house memo or email).
3. Medical evaluation and medical clearance.	Supervisor receives medical clearance and schedules fitting and fit testing with employee.	Fit-Test Record (may be done by supplier or outside consultant).
4. Employee completes Respirator Training.	Supervisor provides or schedules training.	Respirator Training Record.
5. Respirator program evaluation.	Supervisor periodically evaluates respirator conditions, use, and employee's understanding of program.	Respirator program periodic checklist.
6. Tracking employee for annual retraining and fit testing. Follows up on medical evaluation retest requirements per LHCP.	Manager	Maintains a data log to ensure that employees are re-fit and trained annually. Proper follow-up on medical evaluations.

VOLUNTARY RESPIRATORY USER INFORMATION

This information is from the Oregon OSHA standard 1910.134 Appendix D that is to be provided either orally or in writing to employees who request and are permitted the use of voluntary use dust masks. If employee exposure has not been evaluated, the Manager will arrange for evaluation of the exposure to ensure that the respirator use is voluntary. If the exposures exceed the exposure limits, then the employee must be part of the full respiratory protection program.

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 exposed to dusty conditions. 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 Oregon OSHA standards.

To ensure that you understand the basic use you need to understand the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
2. The dust masks or other filtering facepiece respirators have been chosen from respirators certified for use to protect against the contaminants in our facility. 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. This certification is done by the National Institute for Safety and Occupational Health (NIOSH).
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. Dust masks are disposable and should be proper disposed of after a day's use.

Emergency Use Monthly Inspection Record

Type of Emergency:	Location:
Employee(s) Involved:	Duration:
Date of Inspection:	Inspector:
Type of Respirator Worn:	
Cleanliness Of The Equipment:	
Condition Of The Equipment	
Facepiece:	Harness assembly:
Inhalation valve:	Hose Assembly:
Exhalation valve:	Gaskets:
Headbands:	Regulator Condition:
Cartridge holder or Tank Pressure:	Other defects:

Respiratory Protection Program Evaluation

A. Program Administration					
☐ Yes	☐ No	Is there a written policy which assigns program responsibility, accountability, and authority?			
☐ Yes	☐ No	Is overall program responsibility given to one person who is knowledgeable and can coordinate all aspects of the program?			
☐ Yes	☐ No	Can feasible engineering controls or work practices eliminate the need for respirators?			
☐ Yes	☐ No	Are there written procedures/statements covering the various aspects of the respirator program, including:			
☐ Yes	☐ No	designation of authority and responsibility	☐ Yes	☐ No	fitting
☐ Yes	☐ No	respirator selection	☐ Yes	☐ No	training
☐ Yes	☐ No	purchase of approved equipment	☐ Yes	☐ No	maintenance, storage, and repair
☐ Yes	☐ No	medical aspects of respirator usage	☐ Yes	☐ No	inspection
☐ Yes	☐ No	issuance of equipment	☐ Yes	☐ No	use under special conditions
☐ Yes	☐ No	when and where respirators are required			
B. Program Operation					
1. Respiratory protective equipment selection:					
☐ Yes	☐ No	Have work area conditions and worker exposures been properly evaluated?			
☐ Yes	☐ No	Are respirators selected on the basis of hazards to which the workers are exposed?			
☐ Yes	☐ No	Are selections made by persons knowledgeable of proper selection procedures?			
☐ Yes	☐ No	Are only NIOSH approved respirators purchased and used?			
☐ Yes	☐ No	Do the respirators provide adequate protection for the specific hazard in the concentration found?			
☐ Yes	☐ No	Has a medical evaluation of the prospective user been made to determine physical and psychological fitness to wear the selected respirator?			
☐ Yes	☐ No	Where practical, have respirators been issued to single users?			
2. Respiratory protective equipment fitting:					
☐ Yes	☐ No	Are the users given the opportunity to try on several respirators to determine the one with the best fit?			
☐ Yes	☐ No	Is the fit test done before the wearer begins using the respirator in the work area, both on initial assignment and on a daily basis (positive and negative pressure tests)?			
☐ Yes	☐ No	Are users who wear glasses properly fitted?			
☐ Yes	☐ No	Is the facepiece-to-face seal tested using one of the methods described earlier?			
☐ Yes	☐ No	Are workers prohibited from entering contaminated work areas when they have facial hair or other characteristics which prohibit the use of tight-fitting facepieces?			
3. Respirator use in the work area:					
☐ Yes	☐ No	Are respirators being worn correctly?			
☐ Yes	☐ No	Are workers keeping respirators on all the time while in the work area?			

4. Maintenance of respiratory protective equipment:		
☐ Yes	☐ No	Are respirators cleaned and sanitized after each use (when different people use the same device) or as frequently as necessary (for devices issued to individual users)?
☐ Yes	☐ No	Are respirators stored in a way that will protect them from dust, sunlight, heat, and chemicals?
☐ Yes	☐ No	Is storage in lockers, tool boxes, or work areas permitted only if the respirator is in a carton, carrying case, or closed container?
☐ Yes	☐ No	Are respirators inspected before and after each use, and after cleanup?
☐ Yes	☐ No	Are individuals instructed on inspection methods?
☐ Yes	☐ No	Are cartridges and filters changed on a regular basis?
☐ Yes	☐ No	Are respirators designated as "Emergency Use" inspected at least monthly (in addition to after each use). Is a record kept of monthly "Emergency Use" inspections?
☐ Yes	☐ No	Are replacement parts the same brand as the respirator?
☐ Yes	☐ No	Are repairs made by manufacturers or manufacturer-trained individuals?
5. Special use conditions (if applicable):		
☐ Yes	☐ No	Is there a procedure for respirator use in atmospheres immediately dangerous to life and health?
☐ Yes	☐ No	Is there a procedure for confined space entry?
6. Training:		
☐ Yes	☐ No	Are users trained in proper respirator use, cleaning, and inspection?
☐ Yes	☐ No	Are employees trained in the health effects of each respiratory hazard present in their work environments?
☐ Yes	☐ No	Are users evaluated, using competency-based evaluation, before and after training?
Overall Comments:		

Oregon OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

This questionnaire is found as Appendix C TO 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: **If you are unable to read or need this information in another language (or read to you by an interpreter), please let your supervisor know.

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 Manager 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: ☐ 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: ☐ 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? ☐ Yes ☐ No 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:			

Part A. Section 2. continued

3. Have you ever had any of the following pulmonary or lung problems?

- ☐ Yes ☐ No 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:

4. Do you currently have any of the following symptoms of pulmonary or lung illness?

- ☐ Yes ☐ No 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:

5. Have you ever had any of the following cardiovascular or heart problems?

- ☐ Yes ☐ No 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:

Part A. Section 2. continued

6. Have you ever had any of the following cardiovascular or heart symptoms?

- ☐ Yes ☐ No 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

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)

8. Have you ever used a respirator?

☐ Yes ☐ No

(If no, skip a-e and move on to question 9.) If yes, have you ever had any of the following problems?

- ☐ Yes ☐ No 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:

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-face piece 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?

- ☐ Yes ☐ No a. Wear contact lenses
- ☐ Yes ☐ No b. Wear glasses
- ☐ Yes ☐ No c. Color blind
- ☐ Yes ☐ No d. Any other eye or vision problem:

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?

- ☐ Yes ☐ No a. Difficulty hearing
- ☐ Yes ☐ No b. Wear a hearing aid
- ☐ Yes ☐ No c. Any other hearing difficulties or ear problems

14. Have you ever had a back injury: ☐ Yes ☐ No

Part A. Section 2. continued

15. Do you currently have any of the following musculoskeletal problems?

☐ Yes	☐ No	a. Weakness in either 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:

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?

☐ Yes	☐ No	Asbestos:
☐ Yes	☐ No	Silica (e.g., in sandblasting)
☐ Yes	☐ No	Tungsten/cobalt (e.g., grinding or welding this material
☐ Yes	☐ No	Beryllium
☐ Yes	☐ No	Aluminum
☐ Yes	☐ No	Coal (for example, mining)
☐ Yes	☐ No	Iron
☐ Yes	☐ No	Tin
☐ Yes	☐ No	Dusty environments
☐ Yes	☐ No	Any other hazardous exposures: 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):

Part B. continued

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)?

☐ Yes ☐ No a. HEPA Filters
☐ Yes ☐ No b. Canisters (for example, gas masks)
☐ Yes ☐ No c. Cartridges:

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?

☐ Yes ☐ No 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

12. During the period you are using the respirator(s), is your work effort:

☐ Yes ☐ No a. Light (less than 200 kcal per hour)
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.

☐ Yes ☐ No b. Moderate (200 to 350 kcal per hour)
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 moderate load (about 35 lbs.) at trunk level; walking on a level surface about2 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.

☐ Yes ☐ No c. Heavy (above 350 kcal per hour)
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.).

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° F): ☐ Yes ☐ No

15. Will you be working under humid conditions: ☐ Yes ☐ No

Part B. continued

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):

a. Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift _____

b. Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

c. Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

d. 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, and security):

Medical Clearance Request For Respirator User

Employee (Print)		Soc. Sec. Number	Date Of Birth
Facility/Dept	Manager		Phone

Check Respirator(s) To Be Used:

- ☐ Disposable Face Mask
- ☐ Air-Purifying Half Face
- ☐ Air-Purifying Full Face
- ☐ Atmosphere Supply Respirator
- ☐ Self-Contained Breathing Apparatus

Nature of Air Contaminant:

Level of Work Effort Associated with Respirator Usage

☐ Light ☐ Moderate ☐ Heavy

Length of Time of Anticipated Effort in Hours:

Special Work Considerations (i.e. high places, temperature, hazardous material, hazardous process, protective clothing, etc.

Agency Representative

Physician's Evaluation

☐ No restrictions on respirator use ☐ Some specific use restrictions ☐ No respirator use permitted

Explanation:

Examining Physician	Date

Respirator Assignment & Fit Record

Employee Name:		
Department/Operation for which respirator is used:		
Chemical Exposure:		
How often and what duration of time is respirator use needed?		
Date respirator issued:	Type & Size of respirator issued:	Respirator cartridges supplied:
Fit Testing:		
Date	Positive/Negative Fit Test	Qualitative Fit Test

Employee Instructioned On The Following: ☐ Donning and Doffing Methods ☐ Cleaning ☐ Maintenance	I understand that if any of the issues below become a problem and require my exit from the area, I will seek assistance from my supervisor: ☐ Breathing becomes difficult ☐ Dizziness or other distress ☐ Sense irritation, smell or taste contaminants ☐ Respirator becomes damaged

I understand that a respirator must fit properly to be effective. I have had my respirator tested for face-to-facepiece seal. I have worn a respirator informally to familiarize myself with it, and have then worn it in a testing atmosphere.

I have received instruction and observed practice in wearing a respirator. I know how to adjust it and determine if it is fitting properly. I am aware that I am in violation of safety rules if I wear the respirator with a beard, sideburns, or skullcap. I also understand that proper seal cannot be accomplished over the temples of eyeglasses.

I understand that I am responsible for the daily maintenance, as well as the proper cleaning and storage of the respirator supplied to me.

Employee Signature	Date
Program Supervisor's Signature	Date

Respirator Program Periodic Checklist

The following checklist is to aid the Supervisor/Manager in conducting periodic evaluations of the respiratory protection program effectiveness.

Auditor:				Date:
Program Administration				
Y	N	Is the written policy current and does it outline program responsibility, accountability, and authority?		
Y	N	Is overall program responsibility given to one person who is knowledgeable and can coordinate all aspects of the program? If yes, who? _____		
Y	N	Can feasible engineering controls or work practices eliminate the need for respirators?		
Y	N	Are there written procedures/statements covering the various aspects of the respirator program, including:		
		Y	N	designation of authority and responsibility
		Y	N	respirator selection
		Y	N	purchase of approved equipment
		Y	N	medical aspects of respirator usage
		Y	N	issuance of equipment
		Y	N	fit testing
		Y	N	training
		Y	N	maintenance, storage, and repair
		Y	N	inspection
		Y	N	use under special conditions
		Y	N	when and where respirators are required
Program Operation Respiratory protective equipment selection:				
Y	N	Have work area conditions and worker exposures been properly evaluated?		
Y	N	Are respirators selected on the basis of hazards to which the workers are exposed?		
Y	N	Are selections made by persons knowledgeable of proper selection procedures?		
Y	N	Are only NIOSH approved respirators purchased and used?		
Y	N	Do the respirators provide adequate protection for the specific hazard in the concentration found?		
Y	N	Has a medical evaluation of the prospective user been made to determine physical and psychological fitness to wear the selected respirator?		
Y	N	Where practical, have respirators been issued to single users?		

Respiratory protective equipment fitting:		
Y	N	Are the users given the opportunity to try on several respirators to determine the one with the best fit?
Y	N	Is fit testing completed before the wearer begins using the respirator in the work area, both on initial assignment, and on a daily basis (positive and negative pressure tests)?
Y	N	Are users who wear glassed properly fitted?
Y	N	Is the facepiece-to-face seal tested using one of the methods described earlier?
Y	N	Are workers prohibited from entering contaminated work areas when they have facial hair or other characteristics which prohibit the use of tight-fitting face pieces?
Respirator use in the work area:		
Y	N	Are respirators being worn correctly?
Y	N	Are workers keeping respirators on at all times while in the work area?
Maintenance of respiratory protective equipment:		
Y	N	Are respirators cleaned and sanitized after each use (when different people use the same device) or as frequently as necessary (for devices issued to individual users)?
Y	N	Are respirators stored to protect them from dust, sunlight, heat, and chemicals?
Y	N	Is storage in lockers, tool boxes, or work areas permitted only if the respirator is in a carton, carrying case, or closed container?
Y	N	Are respirators inspected before and after each use, and after cleanup?
Y	N	Are individuals instructed in inspection methods?
Y	N	Are cartridges and filters changed on a regular basis?
Y	N	Are respirators designated as "Emergency Use" inspected at least monthly (in addition to after each use), and is a record kept of such inspections?
Y	N	Are replacement parts of the same brand as the respirator?
Y	N	Are repairs made by manufacturers or manufacturer-trained persons?
Special use conditions (if applicable):		
Y	N	Is there a procedure for respirator use in atmospheres immediately dangerous to life and health?
Y	N	Is there a procedure for confined space entry?
Training:		
Y	N	Are users trained in proper respirator use, cleaning, and inspection?
Y	N	Are employees trained in the health effects of the respiratory hazard present?
Y	N	Are users evaluated, using competency-based evaluation, before and after training?
Overall Comments And Action Items For Program Improvement:		
Signature:		Date

Respiratory Fit Testing

Employee Name:	Date:
Job Location & Title:	
Respiratory Protection Needed:	
Type of Respirator/Brand/Size:	
Passed Negative /Positive Pressure Fit:	
Qualitative Test Method:	

Test Procedure:

1. Normal Breathing: 1 minute no talking
2. Deep Breathing: 1 minute breath slowly & deeply
3. Turning Head Side to Side: Slowly turns head to extreme left, inhales and exhales, then slowly turns head to extreme right, inhales and exhales.
4. Moving Head Up & Down: Slowly turns head up & down for 1 minute while inhaling in the up position.
5. Talking: Talk slowly and loud enough for tester to hear. Read text or count to 100.
6. Bending Over: Bend over at waist as if to touch the toes. Once. Jogging in place may be substituted if bending is not done.
7. Normal Breathing: 1 minute to finish test.

Employee Passes Test:
Additional Comments:
Name of Tester:

LEAD COMPLIANCE PLAN

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	016	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Lead Compliance Plan	**Training Frequency:**	At hire and annually for related positions

LEAD COMPLIANCE PROGRAM

OAR 437, Division 2, Subdivision Z (1910.1025)

There are various job operations that may result in lead exposures to the Maintenance crews. These job tasks will require complying with the OR-OSHA Lead Regulations. Any questions about this program should be directed to the supervisor.

RESPONSIBILITIES

To ensure compliance activities are carried out and that proper recordkeeping is done, the following outlines the overall responsibilities of the staff with regard to lead exposure.

Management: It is the direct responsibility of the facility's management to ensure that the lead compliance program elements are implemented and that employees follow all painting, renovation site and firing range procedures. They are also responsible to ensure that a lead exposure assessment is completed and specific program elements are carried out, including:

- Conducting air exposure monitoring during surface preparation or range qualifications where lead bullets are used.
- Ensuring appropriate personal protective equipment is pro-vided and used.
- Proper engineering or work practices are implemented and maintained.
- Conducting inspection audits to ensure lead compliance plans are implemented and followed.
- Assisting in the development of lead compliance plans and the updating/revision of the plans.
- Ensuring that biological monitoring and medical examinations are done for employees involved in job tasks with exposures at or above the lead action level standard.

Maintenance, Public Works or Facility Supervisor: It is the direct responsibility of the supervisor to review the lead compliance plan with the staff, conduct training about the hazards of lead, as well as the safe work practices to be used in lowering potential lead exposures. The supervisor is also responsible for providing safe equipment, instructing staff how to use the equipment and periodically auditing the work sites to ensure safe procedures are followed. The supervisor will also identify all potential lead-based paints.

Law Enforcement:

- Rangemasters or Supervisors: Range masters or Supervisors are responsible for determining exposure or potential exposure to lead from range munitions and related activities.

- If it is determined that there is potential or actual exposure to lead at or above the lead action level, management will be responsible for development of and compliance with the department lead compliance program.
- Indoor firing ranges should have sufficient mechanical ventilation systems to reduce the exposure to lead and the air should be circulated in such a way through appropriate high efficiency filtration systems with a reliable backup filter to ensure that employees are not exposed to lead contaminated air supplies.

EXPOSURE ASSESSMENT

1. Initial Air Monitoring: The supervisor will identify the specific job tasks with potential lead exposure. These operations will be scheduled for exposure monitoring. Until exposure levels are determined, respirators will be worn.
2. Re-monitoring of the work operations may be done based on the results of initial monitoring and on regularly updated information.
3. Monitoring: The supervisor or range master will inform the employees about the exposure monitoring.
4. Notification of Results: The supervisor or range master will provide employees with a copy of the sample results or post the result summary for five days in the work area.

If lead exposures exceeding the Permissible Exposure Limit (PEL) of 50 µg/m3 are found, then the employees will be notified of protective actions that will be required and what those actions will be. The written compliance plan for each project/activity will be revised or developed if lead overexposures are found. The plan will be available from the Management.

MEDICAL SURVEILLANCE PROGRAM

1. All employees who may be exposed at or above the action level (30µg/m3) for any day will be included in the bio-logical monitoring. This is a blood test for lead and zinc protoporphyrin levels. Any employee exposed at or above the action level (30µg/m3) for 30 days in any consecutive 12 months will be included in the medical surveillance program.
2. Management will identify the medical facility/provider that employees will use for any needed blood testing. The entity will also maintain a list of all employees on medical surveillance and copies of the medical notification reports.
3. Lung Function Testing will be scheduled for all employees on mandatory negative pressure respirators. This procedure will follow Chapter 14 Respiratory Protection Program Procedures. The supervisor will maintain records of employees included in this program and physician notification.
4. The complete medical records will be maintained by the medical facility/provider.

RESPIRATOR FIT TESTING AND TRAINING

Respirators will be worn during work activities where lead-containing materials are used until exposure monitoring identifies the airborne levels are below Oregon OSHA threshold levels.

The supervisor will provide employee fit testing for employees included in this program.

This program will meet Chapter 14 Respiratory Protection Program Standards.

Physician responses to the individual respirator questionnaires will be kept in the employee's confidential medical records file located in Human Resources.

EMPLOYEE TRAINING

All employees who work on lead containing materials will receive annual lead training. A roster of employees trained will be maintained. The Supervisor or a training consultant will provide employee training.

COMPLIANCE PLAN DEVELOPMENT, IMPLEMENTATION, AND AUDIT

The supervisor will develop a lead compliance plan for each job when exposure is expected to exceed the Permissible Exposure Limit.

The plans will be maintained by the supervisor. The plans are available for employee review.

The supervisor will conduct inspection audits to ensure that the plans are implemented and followed by the employees.

RECORDKEEPING

The supervisor will maintain copies of the compliance plan, employee training records, names of those employees in medical surveillance program, and the current lead monitoring results.

All lead records must be kept for at least 40 years.

SIGNAGE

Employers are responsible for posting warning signs in work areas where the lead PEL is exceeded. Below is sample verbiage that should be posted on the signs. The signs are required to be illuminated and readily visible.

DANGER:

LEAD MAY DAMAGE FERTILITY

OR THE UNBORN CHILD

CAUSES DAMAGE TO THE

CENTRAL NERVOUS SYSTEM

DO NOT EAT, DRINK OR SMOKE IN THIS AREA

CLOTHING/BODY EXPOSURE TO LEAD

It is important that any clothing that might possibly be contaminated with lead be removed after the work shift and contained in a bag or container. The clothing should be washed in accordance with applicable local, state or federal regulations to prevent exposure to families (especially children) or lead contaminated water being released into the water supply or water table. Below is some sample language for labels on bags or containers that might be contaminated by lead:

DANGER:

CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD. MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM. DO NOT EAT, DRINK OR SMOKE WHEN HANDLING. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

It is also important that law enforcement participating in range qualification exams not eat or drink or smoke while at the firing range. It is important to wash hands and not participate in these activities until officers are away from the range. It is also advisable that officers change into other clothing after lengthy range qualification exams to reduce the potential of lead exposure.

Protective clothing may be provided to staff.

Wash hands thoroughly prior to eating, drinking, or smoking.

LIST OF TEST RESULTS: BUILDING LEAD BASED PAINTS

Building	Location	Amount of Lead in Paint

Model Lead Compliance Program Plan

Plan Developed By:	Date:
Location/Operation Covered:	
Lead Person And Number Of Employees Impacted:	
Employee Responsibilities/Duties:	
1. List each activity in which lead is emitted: a) b) c)	
2. Type of equipment and/or materials in use:	
3. Describe controls in place & specific means being used to control lead exposures including work practices, Personal Protective Equipment, and the specific schedule for the implementation of all controls:	
Control Measures (List):	

Schedule For Implementation (Lead Compliance Plan Model)
1. Describe the operating procedures and maintenance practices:
2. Report of the technology considered in lowering the exposure levels to be below the PEL:
3. Record air monitoring plan and the data collected (use Lead Monitoring Report Forms for collection of specific sample data): Attach the monitoring data including summaries.
4. Describe any administrative controls in use:
5. Method of job site inspections: a) List names of persons conducting inspections:

Inspection Times And Procedures Include: Review of the site safety compliance plan, activities of potentially exposed employees, personnel protective equipment, adequacy of controls, knowledge level of the employees involved.

Note: Written programs will be established prior to commencement of a job, and revised/updated at least every 6 months to reflect current status of the program.

LABORATORY SAFETY AND CHEMICAL HYGIENE

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	017	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Lab Inspection Checklist Lab Emergency Action Plan	**Training Frequency:**	At hire and bi-annually for related positions

LABORATORY SAFETY AND CHEMICAL HYGIENE POLICY AND PROCEDURES

OAR 437, Division 2, Subdivision Z (1910.1450)

The purpose of the laboratory safety and chemical hygiene policy and procedures is to prevent injury to water and waste water laboratory workers who use chemicals, and to protect others who may be exposed to hazards from the laboratory environment. Some of the most common items used in these lab environments include:

- Chlorine (as sodium hypochlorite and chlorine gas)
- Sulfur Dioxide
- Lime
- Polymer
- Methane
- Methanol
- Ferric Chloride
- Alum
- Ammonia
- Acids (sulfuric, hydrochloric, nitric)
- Bases (ammonium hydroxide, sodium hydroxide, potassium hydroxide, alkaline iodine-sodium azide solution)

Some of the top lab concerns are:

- Lack of fume hoods
- Improper use of fume hoods
- Using concentrated acids needlessly (such as 50 percent hydrochloric acid to rinse glassware for phosphorus testing when 10 percent is more than adequate and in most cases, 1 percent is sufficient)
- Use of mercury thermometers in the lab, especially in TSS ovens.
- Old ovens and furnaces lined with crumbly flaking asbestos lining.
- Failure to wear safety glasses (which results in chemicals, acids, reagents and samples)
- Soaking pipettes and phosphorus glassware in acid baths in an unvented room
- Using hydrochloric acid (HCl) and bleach to clean BOD bottles (which when combined created chlorine gas)

- Rinsing glassware with HCl in sinks that are not vented
- Preparing dilute acids in the lab from concentrated sulfuric acid and HCl
- Not having SDS onsite and not understanding the hazards of handling the chemicals
- Storing acid and bases in the same cabinet (violent reactions can occur if these come in contact with each other)
- Storing reagents (acids, bases, etc.) above eye level (which increases chance of dangerous spills into the eyes
- Mouth pipetting (which increases exposure to infectious bacterial materials or chemicals)
- Coming into contact with biological organisms through samples and waste

The Chemical Hygiene Officer (CHO) or laboratory supervisor has overall safety responsibility for maintaining a safe laboratory working environment. The laboratory supervisor has been designated as the CHO, and will ensure:

1. That proper safety procedures are in place to protect his/her laboratory staff.
2. Workers know safety rules and procedures and follow them.
3. Adequate emergency equipment in proper working order is available.
4. Training in the use of emergency equipment and safety procedures have been provided.
5. Ensuring that SDS sheets are received with any chemicals that are ordered or used in the lab.
6. Information on special or unusual hazards and non-routine work has been distributed to the laboratory workers.
7. Routine safety inspections are conducted.
8. An appropriate safety orientation has been given to individuals when they are first assigned to the laboratory.
9. Ensuring that appropriate and operational safety showers and eyewash stations are available for staff.
10. Ensuring that staff are up-to-date on their immunizations
11. Ensure that a commercial emergency spill clean-up kit is available for staff, which can be used to neutralize acids in the event of an accidental spill.
12. A copy of this plan has been made available to all lab employees.
13. Prior approval of the Laboratory CHO must be obtained before working with any new chemicals or new procedures. Planning for work with such materials will provide for disposal, spill prevention, and control.
14. An annual review and update of the CHP is required.

LABORATORY PERSONNEL GENERAL SAFETY RULES

1. Know the safety rules and procedures that apply to the work being done (contained in this document). Determine the potential hazards (i.e. physical, chemical, biological) and appropriate precautions before beginning any new operation (see SDS).
2. Know the location of and how to use the emergency equipment in your area, as well as how to obtain additional help in an emergency, and be familiar with emergency procedures.
3. Know the types of protective equipment available and use the proper type for each job.
4. Be alert to unsafe conditions and actions, and call attention to them so that corrections can be made as soon as possible. Someone else's accident can also be dangerous.
5. Do not consume food or beverages or smoke in areas where chemicals are being stored.
6. Avoid hazards to the environment by following accepted waste disposal procedures. Chemical reactions may require traps or scrubbing devices to prevent the escape of toxic substances.
7. Be certain all chemicals are correctly and clearly labeled. Post warning signs when unusual hazards, such as radiation, chlorine gas, infrared, laser operations, flammable materials, biological hazards, or other special problems exist.

8. Remain out of the area of fire or personal injury unless it is your responsibility to respond to the emergency. Curious bystanders interfere with rescue and emergency personnel and endanger themselves.
9. Avoid distracting or startling any other worker. Practical jokes or horseplay will not be tolerated at any time.
10. Use equipment only for its designated purposes.
11. Position and clamp reaction apparatus thoughtfully to permit manipulation without the need to move the apparatus until the entire reaction is completed. Combine reagents in appropriate order.
12. Think, act, and encourage safety until it becomes a habit!

LABORATORY HEALTH AND HYGIENE

1. Wear appropriate eye and face protection at all times.
2. Use protective apparel, including face shields, gloves and other special clothing or footwear as needed. Always wear a lab coat or apron in the lab to protect your skin and clothes.
3. Protective gloves should be worn when handling hot equipment or very cold objects, or when handling liquids or solids which are skin irritants. Protective gloves can also protect staff from constant handwashing that causes cracked skin, which in turn creates suitable environments for chemicals and biohazards to enter the body.
4. Confine long hair and loose clothing when in the laboratory.
5. Do not use mouth suction to pipet chemicals or to start a siphon; a pipet bulb or an aspirator should be used to pro-vide a vacuum.
6. Avoid exposure to gases, vapors, and aerosols. Use appropriate safety equipment whenever such exposure is likely. Most often this can be done by using the fume hood.
7. Wash well before leaving laboratory area, eating, drinking, or smoking. Avoid the use of solvents for washing the skin (they remove natural protective oils from the skin and can cause irritation and inflammation. In some cases, washing with solvent might facilitate absorption of a toxic chemical).
8. Never eat or smoke in the lab. Never use lab glassware for serving food or drinks.
9. Do not keep your lunch in the refrigerator that is used for sample and chemical storage. Refrigerators with samples should have a biohazard sign on it.
10. Change from working clothes into street clothes before leaving work to prevent carrying chemicals or unsanitary materials into your home.

LABORATORY HOUSEKEEPING

1. Work areas will be kept clean and free from obstructions. Clean-up should follow the completion of any operation or at the end of each day.
2. Waste should be deposited in appropriate receptacles.
3. Spilled chemicals should be cleaned up immediately and disposed of properly.
4. Unlabeled containers and chemical waste should be dis-posed of promptly. Other materials or chemicals no longer needed should not accumulate in the laboratory.
5. Store flammable liquids, acids, bases and oxidizing agents separate from each other.
6. Ensure that the chemical storage room is properly ventilated and well lit.
7. Store volatile liquids which may escape as a gas away from heat sources, sunlight and electrical switches.
8. Cylinders of gas in storage must be capped and secured with a chain to prevent rolling or tipping. They should also be placed away from any possible source of heat or open flame, such as in an appropriate

chlorine room that has adequate fan ventilation system as required, with explosion proof wiring and lights, and appropriate alarms systems to identify leaks.

9. Transfer or transport cylinders of compressed gases on appropriate trussed hand trucks. Never move a cylinder without the valve protection hood in place and never roll a cylinder by its valve.
10. Any time you are moving chemicals, make sure to use appropriate protective gloves, safety shoes and rubber aprons in case of an accidental spill.
11. Floors should be cleaned regularly; accumulated dust, chromatography absorbents, and other assorted chemicals pose respiratory hazards.
12. Access to exits, emergency equipment, emergency showers/eyewash stations, and controls should never be blocked.
13. Equipment and chemicals should be stored properly; clutter should be minimized.
14. Do not store chemicals above eye level.

SHIELD USE

1. For any operation having the potential for explosion.
2. Whenever a reaction is attempted for the first time.
3. Whenever a familiar reaction is carried out on a larger than usual scale.
4. Whenever operations are carried out under non-ambient conditions.

Note: Shields must be placed so that all personnel in the area are protected from the hazard.

PROPER HANDLING OF GLASSWARE

1. Careful handling and storage procedures should be used to avoid damaging glassware. Damaged items should be discarded or repaired.
2. Hand protection should be worn when inserting glass tubing into rubber stoppers or corks or when placing rubber tubing on glass hose connections. Tubing should be held close together to limit movement of glass should a fracture occur. Note: If possible, use plastic or metal connectors.
3. Vacuum-jacketed glass apparatus should be handled with extreme care to prevent implosions. Dewar flasks should be taped or shielded. Only glassware designed for vacuum work should be used.
4. Hand protection will always be worn when picking up broken glass.

WORKING WITH FLAMMABLE HAZARDS

1. Do not use an open flame to heat a flammable liquid or to carry out a distillation under reduced pressure.
2. Use an open flame only when necessary and extinguish it when it is no longer needed.
3. Before lighting a flame, remove all flammable substances from the immediate area. Check all containers of flammable materials in the area to ensure that they are tightly closed.
4. Notify other occupants of the laboratory in advance of lighting a flame.
5. Store flammable materials properly (using a flammable storage cabinet when quantities necessitate their use).
6. When volatile flammable materials may be present, use only non-sparking electrical equipment.

WORKING WITH COLD TRAPS AND CRYOGENIC HAZARDS

1. Always use gloves and a face shield when preparing or using cold baths (severe burns if allowed to contact the skin).

2. Never use liquid nitrogen or liquid air to cool flammable mixtures in the presence of air because oxygen can con-dense from the air, causing an explosion.
3. Always wear dry gloves when handling dry ice. Never lower head into dry ice chest as carbon dioxide is heavier than air and suffocation can result.

WORKING ALONE AND UNATTENDED OPERATIONS

1. Generally avoid working in laboratories alone unless arrangements have been made with co-workers to call in/check in periodically.
2. Never perform experiments or procedures with unknown hazardous materials.
3. For laboratory operations that are carried out overnight, a plan shall be developed to address utility service failure (i.e., electricity, water, inert gas, etc.).
4. Leave lights on and plan a periodic inspection of the operation with plant personnel.

Note: The CHO has the responsibility to determine whether the work requires special safety precautions.

GENERAL VENTILATION

1. All hazardous/toxic chemicals identified by OR-OSHA, Subdivision Z, will be used so that quantities of their vapors or dusts do not produce adverse toxic effects from entering the general laboratory atmosphere. Whenever feasible, a hood should be used when working with Subdivision Z chemicals. The established PEL (Permissible Exposure Limit) should not be exceeded.
2. Ventilation hoods should be checked annually to ensure that the airflow is appropriate (approximately 100 to 150 feet per minute) with the hood completely open. Strips of cloth can be hung on the door to continuously indicate that air is flowing.
3. Operations such as running reactions, heating or evaporating solvent, and transfer of chemicals from one container to another should be performed in the safest manner possible.
4. Chemical Procurement, Distribution, and Storage
5. Prior to ordering any new chemical/substance, the SDS should be reviewed for the following:
    a. Potential hazards.
    b. Safe handling procedures and methods.
    c. Waste disposal procedures.
    d. Proper personal protective equipment.
    Note: This information can be obtained from the label, manufacturer's insert, or the SDS.
6. When turning a requisition into the CHO, the requestor will inform the CHO of any hazards associated with the chemical or substance (i.e., attach SDS to requisition).
7. All chemical/substances will be received in a central location to aid in monitoring the chemical that may eventually enter the waste disposal stream. All chemicals identified under OR-OSHA Subdivision Z will be inventoried and quantities (gal., lbs., etc.) of chemical/substance recorded.
8. No container of a chemical or substance will be accepted unless an SDS accompanies the received order.
    a. Safety Data Sheet (SDS) or satisfactory container labels must be written in English and will contain:
        i. Chemical Identity
        ii. Manufacturer's Information
        iii. Hazardous Ingredients/Identity Information
        iv. Physical/Chemical Characteristics
        v. Fire and Explosion Hazard Data
        vi. Reactivity Data

vii. Health and Hazard Data
viii. Precautions of Safe Handling and Use
ix. Control Measures
x. Primary Routs of Entry (Inhalation, Absorption, etc.)
xi. Emergency and First Aid Procedures

9. If chemicals have been stored beyond their appropriate shelf life or have deteriorated, they will be properly dis-posed of immediately.
10. Refer to the previous Hazard Communication policy for additional information on chemical use and appropriate labeling protocol.

PROCEDURES FOR STORING CHEMICALS

1. Annual audits will be conducted for inspecting:
    a. Chemicals stored beyond their appropriate shelf life or have deteriorated.
    b. Containers that have defaced or questionable labels.
    c. Containers that are leaking or have corroded caps.
    d. Containers that have developed any other problems and should be disposed of in a safe manner.
    Note: A first-in, first-out system of stock keeping/chemical use should be instituted.
2. General Considerations:
    a. Every chemical in the laboratory should have a specific use, definite storage place, and should be returned to that location after each use.
    b. Storage of chemicals on bench tops and hoods is forbidden.
    c. Laboratory refrigerators shall be properly labeled as to their appropriate use (such as for the storage of chemicals only); food must not be placed in them. All containers placed in the refrigerator should be properly labeled (identification of contents and owner, date of acquisition or preparation, and nature of any potential hazard).
    d. Flammable liquids should not be stored in a laboratory refrigerator unless the unit is an approved, explosion-proof, or laboratory-safe type.
    e. Chemicals stored in the laboratory should be inventoried periodically, and at the same time, containers that have illegible labels and chemicals that appear to have deteriorated should be disposed of.
    f. An inventory sheet of chemicals should be kept in front of the SDS binder and updated annually with the audit. The list should be in an easy to find order (such as alphabetical), and the SDS will be kept in that order for easy location.
3. Flammable Liquids:
    a. Quantities of flammable liquids greater than one liter should be stored in approved containers (portable approved safety cans are one of the safest methods of storing flammable liquids).
    b. Flammable liquids received in large containers should be repackaged into safety cans for distribution to laboratories; such cans must be properly labeled to identify their contents.
    c. Large quantities of flammables should be stored in an appropriate flammables cabinet.
    d. Other considerations in the storage of flammable liquids in the laboratory include ensuring that aisles and exits are not blocked in the event of fire; that accidental contact with strong oxidizing agents such as chromic acid, permanganates, chlorates, per chlorates, and peroxides is not possible; and that sources of ignition are excluded.
    Note: See Federal OSHA 29 CFR 1910.106, NFPA No. 30-45 for further information and requirements.
4. Toxic Substances:
    a. Chemicals known to be highly toxic, including those classified as carcinogens, should be stored in ventilated storage areas in unbreakable chemically resistant secondary containers.

b. Only minimum working quantities of toxic materials should be present in the work area. Storage vessels containing such substances should carry a label such as the following:
CAUTION: HIGH CHRONIC TOXICITY OR CANCER SUSPECT
c. Storage areas for substances that have high acute or chronic toxicity should exhibit a sign warning of the hazard, have limited access, and adequately ventilated.
d. A current inventory of toxic materials should be maintained.
e. Adequate ventilation must be maintained for hazardous materials that have a high vapor pressure (mercury and mercaptans).

5. Compressed Gases:
   a. Cylinders of compressed gases should be securely strapped or chained to a wall or bench top to prevent their being knocked over accidentally.
   b. When they are not in use, it is good practice to keep them capped.
   c. Care must be taken to keep compressed gases away from sources of heat or ignition.

INSPECTIONS

Should be conducted quarterly at the beginning of each calendar year. Will be documented in the lab safety manual. Deficiencies will be corrected immediately and noted on the inspection sheet or Safety Committee minutes.

MAINTENANCE

All eye washes and safety showers will be checked and flushed weekly for adequate water flow and to insure cleanliness of the water. OAR 437-002-0161(5)

Fire extinguishers will be inspected monthly with date and initials on the back of the tag and serviced annually to insure they are full and operating properly. Ensure that the appropriate fire extinguishers are being used (see next page).

Fume hoods and other equipment should be inspected at least monthly to assure proper operation.

FIRST AID AND EMERGENCIES

OAR 437-002-0161

Anticipated Emergencies:

1. Thermal and chemical burns.
2. Cuts and puncture wounds from glass or metal, including possible chemical contamination.
3. Skin irritation by chemicals.
4. Poisoning by ingestion, inhalation, or skin absorption.
5. Asphyxiation
6. Injuries to the eyes from splashed chemical.

Accident Reporting:

1. Follow lab Emergency Medical Plan. See below.
2. Notify supervisor or CHO and fill out appropriate forms immediately.

Fires and Explosions:

1. Alert all laboratory personnel and call 9-1-1 for assistance.
2. If authorized and trained in the use of portable fire extinguishers, try to extinguish fire immediately by:
   a. Using correct fire extinguisher.
      i. Class A Fire: ordinary combustible solids such as wood, paper, textiles, and similar materials.

ii. Class B Fire: diesel fuel, motor oil, paint, grease, volatile flammable solvents.
iii. Class C Fire: all fires in electrical equipment and in areas here live electricity is present.
iv. Class D Fire: fires involving sodium, zinc, magnesium, and other elements.
v. An all-purpose A-B-C chemical type extinguisher can be used to handle more laboratory fire situation.
vi. Using an inverted beaker or glass to suffocate the fire.

3. Ensure the laboratory is equipped with a fire blanket that can be used to smother clothing fires.
4. Avoid entrapment in a fire; always fight a fire from a position accessible to nearest exit.
5. If the fire cannot be controlled by available staff and equipment, the following action should be taken:
    a. Call 9-1-1 or pull fire alarm.
    b. Assist injured personnel.
    c. Confine the emergency (close hood sashes, door between laboratories, fire doors) to prevent further spread of the fire.
    d. Evacuate the building to avoid further danger to personnel.
6. In case of explosion, immediately:
    a. Call 9-1-1 or pull fire alarm.
    b. Turn off burners and other heating devices, if possible.
    c. Stop reactions in progress.
    d. Assist in treating victims.
    e. Vacate the area until it has been decontaminated.

First Aid:

1. Each laboratory person should be trained in emergency first aid, pulmonary and cardiac resuscitation and AED's if one is located on the premises.
2. Refresher training should occur as required by your employer's Emergency Medical Plan or every other year.
3. Training records should be documented and retained for a minimum of five years.
4. All trained personnel should carry a valid first aid card.

MEDICAL CONSULTATION AND MEDICAL EXAMINATIONS

1. All employers who work with hazardous chemicals will be given an opportunity to receive medical attention, including any follow-up examinations required, under the following conditions:
    a. Development of signs or symptoms associated with a hazardous chemical to which they may have been exposed.
    b. When exposure monitoring reveals an exposure to an Oregon OSHA regulated substance routinely above the action level or PEL.
    c. Whenever an event takes place such as a spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure.
2. All medical examinations or consultations will be by (or under the supervision of) a licensed physician and will be provided without cost or loss of pay at a reasonable time and place.
3. The employer will provide to the physician:
    a. The identity of the hazardous substance and/or the SDS.
    b. Description of the conditions causing the exposure, including quantitative exposure data if available.
    c. Any medical condition which may be revealed which might place the employee at increased risk because of exposure to a hazardous substance in the workplace.
    d. A statement that the employee has been informed of the results of the medical examination or consultation and any medical condition that may require further examination or treatment.

e. The written opinion will not reveal specific findings of diagnosis unrelated to occupational exposure.

RECORDS

1. Accident records must be written and retained.
2. In work with chemicals of moderate, chronic or high acute toxicity, records will indicate amounts of these materials on hand, amounts used, and the names of the workers involved.
3. Medical records or copies thereof shall be retained in accord with state and federal regulations (30 years).
4. Signs and Labels
5. Emergency telephone numbers to call in the event of fire, accident, flood, or hazardous chemical spill will be posted in the laboratory.
6. Labels on containers of chemicals must contain information on the hazards associated with the use of the chemical. Waste containers are labeled for the type of waste that can be safely deposited.
7. Emergency evacuation maps and signs will be posted to show the locations of safety showers, eyewash stations, exits, and fire extinguishers. Extinguishers are labeled to show the type of fire for which they are intended.
8. Laboratory areas that have special or unusual hazards will be posted with warning signs at the entrance. Standard signs and symbols have been established for many special situations such as radioactive hazards, biological hazards, fire hazards, and laser operations.

SPILLS AND ACCIDENTS

1. A written emergency plan is prepared for the unexpected event such as fire or explosion. The plan includes procedures for evacuation, shutdown, return, start-up, and drills.
2. A spill control policy is developed which will include consideration of:
    a. Prevention: Storage, operating procedures, monitoring, inspection, and personnel training.
    b. Containment: Engineering controls on storage facilities and equipment.
    c. Clean-up: Countermeasures and training of personnel to help reduce impact of a chemical spill.
    d. Reporting: Provisions for internal and external reporting (e.g., to state and federal agencies).
3. All accidents or near accidents will be analyzed and the results of such analyses and recommendation for the prevention of similar occurrences will be distributed to all who might benefit.

INFORMATION AND TRAINING PROGRAM

The laboratory safety training program was developed to assure that all individuals at risk are adequately informed about the work in the laboratory, its risks, and what to do if an accident occurs. Educational activities will be provided for all persons who may be exposed to potential hazards relating to laboratory operations. New employees assigned to the laboratory will be educated about safety procedures and the procedures used in the event of accident.

1. **Emergency and Personal Protection Training**: Instruction on the proper use of protective apparel and safety equipment, emergency procedures, and first aid will be available to everyone who might need it. Full-time staff will be trained in the proper use of emergency equipment and procedures. Receiving room, storeroom, and stock-room personnel will be knowledgeable about or trained in the handling of hazardous substances. Such training will include the physical handling of containers of chemicals so that they are not dropped, bumped, or subject to crushing by being piled upon one another. Information will be pro-vided about environmental and hazard initiating exposures that must be avoided. Some of the more common items which receiving room, storeroom, and stockroom personnel will be familiar with include the following:
    a. The use of proper material-handling equipment, protective apparel, and safety equipment.

b. Emergency procedures, including proper clean-up of spills and the disposal of broken containers.
c. The meanings of the various DOT (Department of Transportation) labels on shipping packages and containers.
d. The proper methods of material-handling and storage, especially the incompatibility of some common substances; the dangers associated with alphabetical storage; and the sensitivity of some substances to heat, moisture, and other storage hazards.
e. The special requirements of heat-sensitive materials, including those shipped refrigerated or packed in dry ice.
f. The problems associated with compressed gases, including unique situation such as the construction of an acetylene cylinder.
g. The hazards associated with flammable liquids (especially the danger of their vapors catching fire some distance from the container), explosives and of toxic gases and vapors and oxygen displacement.
h. Substances that react with water, giving rise to hazardous conditions (e.g., alkali metals, burning magnesium, metal hydrides, acid chlorides, phosphates, and carbides).
i. The federal and state regulations governing controlled substances such as radioactive materials, drugs, ethyl alcohol, explosives, needles and syringes.
j. Chemicals that have offensive smells.
k. Packages that exhibit evidence that the inside container has broken and leaked its contents.

2. **Frequency of Training**: Training and education will be regular, continuing activities. The employer will determine the frequency of refresher information and training.
3. **Literature and Consulting Advice**: Literature and consulting advice on laboratory safety and on the physical and biological hazards of chemicals will be readily available to those responsible for laboratory operations and those actually involved. Laboratory workers will be encouraged to read about the potential hazards of the work going on in their laboratory and to know about the availability of various resources that describe safe operating conditions. This literature will be available in a form that is readily accessible both to those responsible for laboratory operations and to laboratory workers themselves.

WASTE DISPOSAL

Chemicals will be dispensed of so that people, other living organisms, and the environment generally are subjected to minimal harm by the substances used or produced in the laboratory. Both the laboratory workers and the supporting personnel will know and use acceptable disposal methods for various chemicals.

1. **Content**: The waste disposal program specifies how waste is to be collected, segregated, stored, and transported, and includes consideration of what materials can be incinerated. Transport form the institution will be in accordance with DOT regulations.
2. **Discarding Chemical Stocks**: Unlabeled containers of chemicals and solutions will undergo prompt disposal. If partially used, they must not be opened.
3. **Frequency of Disposal**: Waste will be removed from laboratories to a central waste storage area at least once per week and from the central waste storage area at regular intervals.
4. **Method of Disposal**: Incineration in an environmentally acceptable manner is the most practical disposal method for combustible laboratory waste.
    a. Disposal by recycling or chemical decontamination will be used when possible.
    b. Indiscriminate disposal by pouring waste chemicals down the drain or adding them to mixed refuse for landfill burial is unacceptable.
    c. Hoods will not be used as a means of disposal for volatile chemicals.

LIST OF AIR CONTAMINANTS

OAR 437, Division 2, Subdivision Z. Air Contaminants

This is a short list abstracted from Subdivision Z that contains the substances that are possibly found in a laboratory that tests water or wastewater. If you have any of these stored or used on site, obtain more information from OR-OSHA:

Acetic Acid
Acetone
Ammonia
Arsenic
Arsine
Barium compounds
Benzene
Bromine
Butane
Butyl alcohols
Cadmium compounds
Calcium carbonate
Calcium hydroxide
Calcium oxide
Calcium sulfate
Carbon dioxide
Chlorine
Chromic acid and chromates
Chromium II and III compounds
Cyanides
Ethanol
Fluorides
Formaldehyde
Hydrogen chloride
Hydrogen peroxide
Hydrogen Sulfide
Iodine
Isobutyl alcohol
Ketone
Lead inorganic compounds
Manganese compounds
Mercury vapor or compounds
Methyl alcohol
Methylene chloride
Nickel compounds
Nitric acid
Nitrous oxide
Oxalic acid
Phenol
Phosphoric acid
Potassium hydroxide
Pyridine
Selenium compounds
Silver compounds
Sodium azide
Sodium hydroxide
Starch
Strychnine (Brucine Sulfate)
Sulfuric acid
Sulfur dioxide
Trichloroethylene
Toluene
Xylenes
Zinc compounds

Lab Inspection Checklist

Location:	Inspection Date:

General:

- ☐ Emergency phone numbers are posted.
- ☐ Warning signs are posted.
- ☐ Exits are lighted and clear of obstruction.
- ☐ Work area is free of debris and in good condition.
- ☐ **Inventory of all chemicals is maintained and updated annually for review.**
- ☐ Food is stored and consumed away from the work area.
- ☐ Hand washing facilities are provided inside the lab.
- ☐ Material Safety Data Sheets are readily available.
- ☐ Labels on chemical containers are legible and firmly secured.
- ☐ Labels identify the degree of hazard.
- ☐ Extension cords are not used in place of permanent wiring.
- ☐ UL listed/FM approved electrical equipment is provided.
- ☐ Electrical cords and equipment are protected against chemicals and temperature.
- ☐ Fume hoods are not used for storage.
- ☐ Personal Protective Equipment is provided and in use.
- ☐ A written Chemical Hygiene Plan is in the lab and available for inspection.
- ☐ Emergency numbers and evacuation procedures are posted in conspicuous locations in the lab.

Storage and Handling:

- ☐ Gas cylinders are properly secured.
- ☐ No leaking containers are present.
- ☐ All chemical containers are properly labeled.
- ☐ Chemicals are stored according to compatibility.
- ☐ Peroxide forming reagents are dated when opened.
- ☐ Peroxide forming reagents are disposed of or tested after expiration date.
- ☐ Flammable and corrosive storage areas are labeled.

Flammables are kept away from sources of heat, ignition, flames, etc.

Corrosive materials are stored low to the ground.

- ☐ A flammable storage cabinet is provided for flammable liquids when required.
- ☐ Carcinogen storage areas are labeled.
- ☐ Chemicals in the open are kept to a minimum.
- ☐ Flammable/Combustible liquids do not exceed NFPA storage limits.

Chemical Waste:

- ☐ Hazardous waste containers are labeled and have closed lids.

Laboratory Emergency Action Plan

Building:	Rm:	Phone Number:

The following people are designated and trained to assist Emergency Responders with information about this lab, including providing a hazardous material inventory, during an emergency

Name	Title	24 Hour Contact Phone
	Lab Director	

When the fire alarm sounds, lab workers must EXIT the building, but first:

1. Turn off all flames and other ignition sources 2. Close all hazardous material containers 3. Close sash on all fume hoods	4. Turn off all electrical equipment 5. Other:

The following emergency equipment is located in this room:

☐ Emergency Eyewash ☐ Fire Extinguisher ☐ Spill Kit/Control Equipment ☐ Emergency Shower	☐ Phone ☐ Fire Blanket ☐ Other:

The following emergency equipment is not located in this room, but can be found at:

Equipment	Location

ASBESTOS MAINTENANCE PROGRAM

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	018	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	At hire and annually for related positions

ASBESTOS MAINTENANCE PROGRAM

OAR 437, Division 2, Subdivision Z (1910.1001)

The purpose of this program is to ensure compliance with Oregon OSHA's Asbestos Standard. We have asbestos containing building materials which require that a basic asbestos program be maintained. The elements of a program include:

1. Inventory of asbestos-containing materials in our facilities.
2. Procedures for periodic examination of asbestos-containing materials to detect deterioration and need for repair or proper removal.
3. Written procedures for handling asbestos materials during maintenance and renovation activities.
4. Procedures for proper asbestos waste disposal.
5. Procedures for dealing with asbestos-related emergencies.
6. General asbestos awareness training will be provided to all maintenance staff who may come into contact with asbestos or be project managers ensuring that the outside asbestos abatement contractors follow our, Oregon OSHA, and DEQ procedures.

Note: This program does not meet DEQ asbestos worker training certification requirements nor is it intended to meet all possible Oregon OSHA Asbestos Requirements.

PROCEDURES FOR CONDUCTING ASBESTOS BUILDING INVENTORIES

1. Exposed building materials that are likely to contain asbestos will be tested by an outside source. The Supervisor will see that appropriate testing is done. The testing results will be retained by the management for 30 years. Sprayed on ceiling material containing asbestos and pipe insulation will be labeled.
2. Additional sampling will be done prior to removal, demolition, or renovation on all potential asbestos containing materials.
3. While many of our building materials have been tested, not all material may have been. Thus it is our policy to test any of the following suspect building materials prior to removal.
    a. Pipe Insulation Materials.
    b. Floor Tiles and Mastic (tiles, mastic for molding, mastic for tiles or carpeting).
    c. Sprayed on Asbestos containing ceiling materials.

    d. Asbestos Containing Pipe.
4. Asbestos material inventory results are maintained by facility maintenance and are available for review. The inventories are done individually for each building.
5. Any removal and testing of asbestos containing materials will be done by outside contractors and testing labs who are certified asbestos removal contractors. In order to eliminate employee exposure to asbestos dust and materials, we have chosen to have outside contractors deal with these materials. They will practice appropriate containment procedures, including sealing off the area and separating the work from HVAC/ventilation systems.

INSPECTION PROCEDURES

- Outside asbestos abatement and inspection contractors who have asbestos certified staff have taken samples and either repaired or properly removed asbestos containing materials.
- The maintenance staff is expected to note the condition of asbestos insulation and ceiling materials as part of their routine building maintenance. If upon visual inspection material is cracking, fraying, broken, or damaged they will report this to the Facility Manager.
- Custodial staff is to immediately report broken insulated pipes and any broken or friable materials labeled as asbestos to their supervisor immediately.
- If necessary, an asbestos abatement/inspection con-tractor's certified supervisor will determine the scale of the work. The work will be done by outside asbestos contractor(s). The asbestos supervisor will discuss interim measures necessary to protect all personnel that may be exposed to the material with management.

REINSPECTION

Reinspection of all visible asbestos materials will be done by certified asbestos contractors based on frequency noted in the previous inspection report.

NOTICE TO ALL BUILDING OCCUPANTS

Any damage to pipe insulation or other building surfaces and materials is to be reported to Management for review, in relationship to potential asbestos content. All asbestos insulation is labeled. Occupants in buildings with sprayed on asbestos containing ceiling material will be notified by the Management or the Building Manager. The building inventories will be available to all occupants by contacting Management.

HANDLING ASBESTOS MATERIALS DURING MAINTENANCE AND RENOVATION ACTIVITIES

Asbestos containing materials improperly handled can cause employee exposures to asbestos fibers and lead to building and surface contamination. It is our policy that asbestos containing materials will only be handled or removed by certified asbestos contractors with proper equipment, training, and controls.

Asbestos Cement Pipe Work: Jobs that entail removal of less than three square feet or three linear feet of asbestos-containing material (where the removal of asbestos is not the primary objective and methods of removal are in compliance). The work does not have to be performed by certified asbestos abatement workers. Employees who work on asbestos cement pipe must strictly follow the Department of Environmental Quality Standards on cutting or tapping the pipe. Power tools cannot be used to cut A-C pipe.

CONTROL MEASURES

1. We will hire contractors who use approved asbestos abatement methods. Projects may include either small scale or large-scale removal. Examples of Class II to IV projects include:
    a. Pipe repair.
    b. Valve replacement.
    c. Installing electrical conduits.

d. Installing or removing drywall, roofing and other general building maintenance.
e. Renovation which is small scale.
f. Removal of asbestos containing insulation on pipes using a glove bag.
g. Removal of small quantities of asbestos containing insulation on beams or above ceilings.

2. Safe Methods for Removal
    a. The methods of removal need to involve one or a combination of the following practices and engineering controls which are capable of reducing employee exposure to below the action level of 0.1 fiber/cubic centimeter.
        i. Wet method (asbestos containing pipes)
        ii. Glove bag for small isolated repairs
3. Maintenance staff will not use the following procedures when working with or around asbestos containing materials:
    a. Drill holes in asbestos material.
    b. Sand asbestos containing floor tiles.
    c. Dust surfaces that may contain asbestos with dry brushes or booms.
    d. Use regular vacuum cleaners to collect asbestos dust or debris.
    e. Remove material without proper respiratory protection and the proper type of clothing.
    f. Damage asbestos containing materials when moving or conducting general maintenance.
    g. Install curtains, drapes, or other dividers into asbestos containing materials.

CERTIFIED AND TRAINED ASBESTOS PERSONNEL

Staff or contractors selected to remove or repair asbestos containing materials will be in compliance with the Oregon OSHA rules and Department of Environmental Quality (DEQ) Standards.

ASBESTOS WASTE DISPOSAL

Our staff will follow the OR-OSHA, DEQ, and the available asbestos land fill requirements. Building materials containing asbestos can be legally disposed of using a disposal company to remove the waste bags and transport them to approved Oregon landfills. All asbestos abatement contractors will follow our rules as well as Oregon OSHA and DEQ's.

POTENTIAL ASBESTOS EMERGENCIES

Type of Emergencies:

- Damage to asbestos containing building materials due to willful activities of the occupants or the public; or maintenance activities resulting in unplanned contact with asbestos materials.

Emergency Procedures:

- Staff discovering an emergency will notify their super-visor, who will notify the entity's manager.
- Seal off area or contain the problem. Proper danger/warning signs and area security will be implemented.
- All clean-up, repair or removal will be done by an asbestos abatement contractor who is licensed and can be used on an emergency basis.
- All Oregon OSHA and DEQ regulations will be followed and only asbestos certified workers with approved equipment will be allowed to contain and clean-up the emergency.

GENERAL ASBESTOS AWARENESS TRAINING

What is asbestos?

Asbestos is a generic term applied to naturally occurring fibrous hydrated mineral silicates. These minerals are regarded as hydrated because they are formed by their affinity for water.

Asbestos has been used widely in building materials and in products that needed to be fireproof. The EPA estimated in 1985 there were 31,000 schools and 733,000 commercial buildings that had asbestos products in them. Asbestos was used because the mineral is:

- Fire Resistant.
- May be woven or used to provide strength and consistency to a product.
- Resistant to chemicals.

In the United States two primary forms of asbestos were widely used:

1. Amosite
   - Resistant to heat and chemicals, and found extensively in pipe insulation, friction materials, roofing and flooring materials.
   - Characteristically a rigid, brittle fiber which cannot be woven.
   - Now banned in the U.S. due to the higher cancer health risk associated with amosite.
2. Chrysotile
   - A long, wavy, hair-like fiber that is easily woven. Chrysotile is used in asbestos clothing products and extensively in many forms of insulation.
   - The shorter mill-end material is now being substituted for amosite applications.

Primary Health Effects

The primary effects from exposure to asbestos are to the respiratory system. Asbestos exposure is also linked to effects on the gastrointestinal system.

Particle Size

Asbestos is made up of fibers which are bundles of smaller and smaller fibers called fibrils. When asbestos material is disturbed countless numbers of very small fibrils, microns in size (millionths of a meter), are released into the air. Fibers 75 microns in size will get trapped in the nose and, Fibers 1-5 microns in size are trapped in the bronchioles and lungs.

The actual particle size of the asbestos that is released is important because:

- Once a small particle becomes airborne it can remain suspended almost indefinitely, even in a very small environment.
- Particles of this size are carried into the deepest part of the lungs, past the protective mechanisms in the nose, sinuses, and larynx.
- The asbestos fibers are crystalline minerals and are very persistent, which means that the fibers do not degrade in biological tissue. Once breathed deep into the lungs, the fibers may remain there indefinitely.
- The mechanism of damage to tissue appears to be associated with the mechanical irritation caused by the sharp ends of the fibers.

Diseases Associated with Asbestos Exposure

Asbestosis of the lung: A fibrotic degeneration of the lung usually associated with chronic exposure to asbestos. The disease restricts the ability of the lungs to expand and causes scarring of the lung tissue. This causes progressive shortness of breath, respiratory failure, and cardiac decompensation, which is the heart's inability to

maintain circulation because of reduced oxygen levels. The disease is progressive even in the absence of continued exposure to asbestos.

Lung Cancer: Cancers of the lung are seen at higher incidence rates in individuals who have been exposed to asbestos. The incidence rate is 90 times greater for workers who smoked tobacco and were exposed to asbestos than workers only exposed to asbestos.

Mesothelioma of the lung pleura: A rare form of cancer which is almost entirely related to asbestos exposure. The disease is not curable and individuals with mesothelioma rarely live more than one year after diagnosis. Mesothelioma is not associated with smoking and may occur following exposure to low levels of asbestos and a level of dust exposure defined as a "safe" level for lung cancer risks.

Gastrointestinal Cancers: Asbestos workers exhibit higher rates of cancers of the stomach, intestines, bowel, and rectum.

Pleural Plaques: Plaques are seen on the X-Rays of asbestos workers. These are dense strands of collagen (connective tissue proteins) showing as opaque patches on the X-Rays. These plaques can be seen with no disease and do not reflect severity of disease tissue but indicate asbestos exposure.

Asbestos: There are those who contend that there is no safe limit for exposure to asbestos. The current epidemiological studies, however, do suggest a typical dose-response relationship for most of the asbestos related diseases. Thus, the higher the exposure, the higher the incidence of disease is seen. Studies have also indicated a higher incidence of disease associated with amosite-type asbestos.

Relationship of Smoking and Asbestos Exposure

The 1985 Surgeon General's report on "The Health Consequences of Smoking: Cancer and the Chronic Lung Disease in the Workplace", reports on the research findings about the risk of developing lung cancer and lung diseases among asbestos exposed workers and asbestos exposed workers who smoke. The following conclusions were drawn by the report:

> Asbestos exposure can increase the risk of developing lung cancer in both cigarette smokers and nonsmokers. The risk in cigarette-smoking asbestos workers is greater than the sum of the risks of the independent exposures.
>
> - The risk of developing lung cancer in asbestos workers increases with increasing number of cigarettes smoked per day and increasing cumulative asbestos exposure.
> - The risk of developing lung cancer declines in asbestos workers who stop smoking; however, the risk of developing lung cancer appears to remain significantly elevated even 25 years after cessation of exposure.
> - Cigarette smoking and asbestos exposure appear to have an independent and additive effect on lung function decline. Nonsmoking asbestos workers have decreased total lung capacities (restrictive disease). Cigarette-smoking asbestos workers develop both restrictive lung disease and chronic obstructive lung disease.
> - Asbestos exposure is the predominant cause of interstitial fibrosis (asbestosis) in populations with substantial asbestos exposure.
> - The promotion of smoking cessation should be an intrinsic part of efforts to control asbestos-related death and disability. For workers for whom asbestos exposure has ceased, the single most important intervention that would alter their future disease risk is the cessation of cigarette smoking.

Latency of Disease to Exposure

Asbestos related diseases typically develop 30-40 years subsequent to the beginning of the exposure. Workers who have been heavily exposed have shown symptoms within 5-10 years, but this is not typical.

Personal Protective Equipment

Only asbestos abatement contractors who meet the PPE and respiratory protection rules shall be used. Contact the Supervisor for more details on the program requirements.

MEDICAL SURVEILLANCE

There is no need for our employees to be part of an asbestos medical surveillance program but there is a requirement that the contractor's ensure that their employees are part of a comprehensive medical program.

RECORDKEEPING

Exposure Measurements (records need to include):

- Date of measurements.
- The operation tested.
- Sampling and analytical method used.
- Number, duration, and results of the samples.
- Type of protective devices worn.
- Name, social security number, and exposure of the employees whose exposures are represented.
- The records need to be maintained for 30 years.
- Where the records are stored.

Medical Surveillance: The employer must ensure that the employees' medical records are maintained. The record needs to include:

- Name and social security number.
- Copy of the medical exams results.
- Physician's written opinion.
- Any employee medical complaints which relate to asbestos exposure.
- Copy of information supplied to the physician.
- The records need to be maintained for the duration of employment plus 30 years.
- Where and how the records will be securely stored.

Training Records: The training records need to be retained for one year beyond the last date of employment by that employee. Records are to be made available to Oregon OSHA, affected employee, former employee, and designated representatives.

ERGONOMICS PROGRAM

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	019	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Yes 218-221	**Training Frequency:**	Specific to trained staff

ERGONOMICS PROGRAM

Oregon OSHA's Ergonomic Information Page

Self-Insured and Group Self-Insured Loss Prevention Programs

This chapter has been implemented with the goal of strengthening our commitment to occupational injury prevention. The goal of ergonomics is to eliminate or reduce worker exposure to hazards or work conditions which lead to musculoskeletal disorders.

Musculoskeletal disorders are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.

DEFINITIONS

Ergonomics: The science that addresses human performance and well-being in relation to job, tools, equipment, and environment. Two additional terms that are commonly used in conjunction with ergonomics:

1. Biomechanics: The study of movement of body segments (fingers, hands, arms, back) to describe the abilities and limitations of the human body.
2. Anthropometry: The analysis of dimensions and proportions of the human body in relation to workstation design, equipment, furniture and tools.

Ergonomic Assessment: Method used for identifying ergonomic issues in an employee's workstations or work activities.

Musculoskeletal Disorders (MSDs): Injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs. They do not include injuries resulting from slips, trips, falls, or similar accidents. Examples of MSDs include carpal tunnel syndrome, tendonitis, and low back pain.

RESPONSIBILITIES

Management: It is the direct responsibility of management to ensure that evaluations of workplace design, layout, operation, and assistance with job site modifications utilizing an ergonomic approach are conducted. The primary records of the ergonomic surveys and findings will be maintained by the supervisor or manager of the group or department receiving the evaluation.

Employees: It is the responsibility of the employee to report any discomfort to their supervisor that they feel is being caused or aggravated by their workstation. Employees are also responsible for participating in the job

hazard analysis or ergonomic assessments of their workstation to assist with eliminating or reducing hazards and issues that are causing or contributing to their discomfort.

Ergonomic Responder Training: Staff training in ergonomic assessment are identified as Ergonomic Responders. They are trained to identify basic risk factors and provide recommendations to supervisors on how to improve employee work states and environments.

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Workstation Ergonomic Evaluation
For Employee and Ergo Responder

Employee Name:	**Dept.:**	**Position:**	
Employer:	**Location:**	**Employer Contact Person:**	
Ergo Responder Evaluator:	**Phone:**	**Evaluation Date**	
		Employee:	**Ergo Responder:**
Purpose for Evaluation	◯ **New Hire** ◯ **Workstation Change (New Equip or Duties)** ◯ **Employee Request**		

Concerns/Discomfort Experienced	**Percentage of Time by Job Task**			
	Keyboard Used:	0%	Mouse Used:	0%
	Time Writing:	0%	Reading from Copy:	0%
	Using Telephone:	0%	Input Documents:	0%
	10-Key Used	0%	Filing:	0%
	Stapling/Removing:	0%		
	Vision Correction:	0%		

Employee Name: Date:

Chair

Evaluation Points	Possible Solutions	Actions Taken/Date	
		Employee	Ergo Responder
Are shoulders relaxed and elbows approximately angled from 90° to 110° (not stretched forward or bent upward?) ◯ Yes ◯ No	Install an articulating (height & depth adjustable) keyboard/mouse tray or adjust chair height (if keyboard is on desktop) to achieve appropriate angles.		
Is curve of the lower back supported in chair? ◯ Yes ◯ No	Adjust or add lumbar support to chair to fit the lower curve of the back.		
Do feet rest firmly on floor or footrest? ◯ Yes ◯ No	Provide a footrest.		
Are hips and knees at comfortable angles when seated back in chair? ◯ Yes ◯ No	Adjust chair height, back tension, or tilt to achieve comfort in hips and knees. Sit back in chair to provide full support. Minimize sitting on chair's edge.		
Is there a fist distance of space between front of chair and back of knees when seated back fully? ◯ Yes ◯ No	If able, adjust seat pan depth. If seat pan is too deep, add a lumbar cushion to the back. If seat pan is too shallow, get a chair with a deeper seat.		
Does user perch toward front of chair? ◯ Yes ◯ No	Provide a footrest. Raising feet will force users back into the chair backrest.		
Is the seat pan adequately cushioned? ◯ Yes ◯ No	Add additional seat cushion or purchase new chair.		
Do thighs come in close contact with underside of desk or keyboard tray? ◯ Yes ◯ No	Remove obstructions that contact thighs, raise desk, or lower chair if able.		

Keyboard and Input Devices

Evaluation Points	Possible Solutions	Actions Taken/Date	
		Employee	Ergo Responder
Is user aligned in front of keyboard? ◯ Yes ◯ No	Align keyboard directly in front of user.		
Is mouse/input device at same level and close to keyboard? ◯ Yes ◯ No	Align mouse/input device on same level and as close as possible to minimize arm extension.		
Are wrists straight while keyboarding or using a mouse (not angled or drooping)? ◯ Yes ◯ No	Flatten keyboard tray angle. If helpful to guide wrists to a flat posture, use a gel-filled wrist/mouse support. Use good technique – float over the keys and use wrist support only during keying breaks. Do not deviate wrists side to side.		
Does mouse/input device fit user's hand? ◯ Yes ◯ No	Try out different sized/shaped devices.		
Is right hand tired from overuse? ◯ Yes ◯ No	Train left hand to use input devices.		
Are hard, sharp, or cold edges contacting arms, wrists, or elbows? ◯ Yes ◯ No	Cushion surfaces. Use wrist/mouse supports to prevent contact with body parts.		

Employee Name: Date:

Monitor

Evaluation Points	Possible Solutions	Actions Taken/Date	
		Employee	Ergo Responder
Is monitor an arm's distance away from user? ○ Yes ○ No	Position monitor 20 to 30 inches away from user.		
Is top of monitor screen at or slightly below eye level? ○ Yes ○ No	Position top of monitor no higher than eye level. *Bifocal wearers may need to lower monitor to desktop.*		
Is user aligned in front of monitor? ○ Yes ○ No	Align monitor directly in front of user.		
Are ears positioned over shoulders when looking at monitor (not bent up or down?) ○ Yes ○ No	Position top of monitor no higher than eye level. *Bifocal wearers may need to lower monitor to desktop.*		
Is screen free from any glare? ○ Yes ○ No	Position monitor parallel to windows, decrease overhead lighting, use window shades, tilt screen to a flat position, or use an anti-glare filter to reduce glare.		

General/Accessories

Evaluation Points	Possible Solutions	Actions Taken/Date	
		Employee	Ergo Responder
Is there adequate leg clearance under desk to stretch legs while seated? ○ Yes ○ No	Remove clutter from under desk.		
Are input documents positioned to minimize head movement? ○ Yes ○ No	Use a document holder that is aligned under monitor or is next to and near the same level as monitor.		
Are frequently used work tools within easy reach of user? ○ Yes ○ No	Move frequently used items (phone, calculator, etc.) within easy reach to avoid over-reaching strains.		
Are tasks and postures shifted throughout the workday? ○ Yes ○ No	Alternate tasks and postures as a part of daily work plans. Give hands periodic rest breaks when keyboarding or using the mouse.		
Are head and neck aligned when using the phone? ○ Yes ○ No	Hold receiver upright when using the phone, use speakerphone, or telephone headset. *Determine the need for a telephone headset by user's average call frequency, duration, or whether multiple tasks are being performed while using the phone.*		

Final Recommendations

CRANES, DERRICKS, AND HOIST OPERATIONS

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	020	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes (operators)
Associated Form:	Crane Operator Inspection Checklist	**Training Frequency:**	Initial training

CRANES, DERRICKS, AND HOIST OPERATIONS

OAR 437, Division 2, Subdivision N

The Crane, Derrick, and Hoist safety policy and procedures are designed to protect employees from potential hazards that can be created by the usage of these items. It is important to note that this policy does not replace the need for the employees to fully understand the manufacturer's operating instructions.

DEFINITIONS

Authorized Employee (Designated personnel)**:** Employees who have been designated by management to operate a crane in their work area. They will be trained and supervised in proper operation and trouble shooting.

Crane: A machine for lifting and lowering a load and moving it horizontally, with the hoisting mechanism an integral part of the machine. Cranes, whether fixed or mobile, are driven manually or by power.

Derrick: An apparatus consisting of a mast or equivalent, held at the head by guys or braces (with or without a boom), for use with a hoisting mechanism and operating ropes.

Hoist Motion: The motion of a crane that raises and lowers a load.

Preventive Maintenance: The regularly required maintenance checks (required by Oregon OSHA rules) and recommended manufacturer's preventive maintenance.

Overhead crane: A crane with a movable bridge carrying a movable or fixed hoisting mechanism and traveling on an overhead fixed runway structure.

GENERAL RESPONSIBILITIES

Only authorized employees are permitted to use any crane devices. If cranes of 5 tons or greater are used in construction activities, only licensed employees who have proof of certification by an identification card are permitted to operate the crane(s). All employees are required to follow the safeguards in this chapter.

Manager: It is the responsibility of the department manager to ensure that all employees who are permitted to operate a crane are trained and authorized for the equipment they are using. The manager is also responsible to

ensure that the required safety audits and preventive maintenance are completed in an appropriate and timely manner.

Authorized Operator: The operator will immediately report to the supervisor any unsafe conditions of equipment, and will not use it until it is repaired.

Licensed Construction Crane Operator: The licensed construction crane operator must meet OAR 437-002-0228(2)[Oregon General Requirements for Cranes (Division 2: General Occupational Safety and Health Rules)] or 437-03-0081 [Crane Operator Safety Training Requirements (Division 3: Construction)] requirements.

Supervisor: The supervisor and must include crane safety as part of their safety audit functions.

INSPECTIONS

A crane in an unsafe working condition will not be used under any circumstances. All cranes and hoists will be thoroughly inspected annually by a competent person. Review of the crane's manual should occur during this time. Annual maintenance inspections should be documented as well as monthly inspections, including results, by the supervisor. Issues should be addressed as soon as possible and prior to the next use of the crane. Cranes that are used around corrosives, water, etc., may need to be inspected more frequently.

The inspections include but are not limited to the following requirements (as required by Oregon OSHA rules):

1. A competent person to inspect all the crane equipment frequently prior to use and -during use to make sure it is in safe operating condition.
2. The frequency of inspections varies from daily to monthly depending on the type of crane and use conditions.
3. The operator will immediately report to the supervisor any unsafe conditions of equipment, and will not use the crane again until it is repaired.
4. No unauthorized person will repair any electrical or mechanical lifting equipment.
5. The following inspection schedule will be implemented by the supervisor or a designated “Competent Person(s)” who will upon examination determine if deficiencies constitute a safety hazard:

Daily Inspection (no written records required):

1. All functional operating mechanisms which may interfere with the proper operation and for signs of excessive wear.
2. Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems.
3. Visual inspection of the hooks for deformation or cracks.
4. Visual inspection of hoist, load attachment chains, and slings for excessive wear, twist, distorted links interfering with proper function or stretch beyond manufacturer’s recommendations.

Monthly Inspections:

1. Electrical apparatus, for signs of pitting or any deterioration of controller contactors, limit switches and pushbutton stations.
2. Gasoline, diesel, electric, or other powerplants for improper performance or noncompliance with applicable safety requirements.
3. Load, wind, and other indicators over their full range, for any significant inaccuracies.
4. Operating controls clearly identified.
5. Fire extinguisher charged and unused.
6. Rated capacity visibly marked on the crane.
7. Boomstops on cranes with booms that could fall backwards.
8. Load chart clearly visible to the operator.

9. Electrically operated cranes effectively grounded.
10. Deformed, cracked, or corroded members.
11. Loose bolts or rivets.
12. Cracked or worn sheaves and drums.
13. Worn, cracked or distorted pins, bearings, shafts, gears, rollers, locking and clamping devices.
14. Excessive wear on brake system parts, linings, pawls, and ratchets.
15. Excessive wear of chain drive sprockets and excessive chain stretch.
16. Visual inspection of the hooks for deformation or cracks.
17. Visual inspection of hoist and load attachment chains, and slings.
18. Detailed findings on an inspection report.
19. Any defects found need to be immediately corrected.
20. A record of all monthly inspections, dates, and results will be kept in the supervisor's office or in the equipment maintenance log.

Annual Inspection

1. A thorough annual inspection of all cranes will be done by a competent person.
2. A record of the annual inspections, dates and results will be kept by the supervisor.

PROCEDURES

1. Cranes, derricks, and hoists will be operated by authorized personnel only in accordance with the manufacturer's specifications and limitations. Any trainee learning to use lifting equipment must be under the direct supervision of an authorized operator. Note: 5 ton cranes used in construction activities have additional requirements not covered in this section. (See Division 3 Construction.)
2. Operation of Cranes and Derricks require proper employee training which meet the requirements of 437-002-0228(2) Crane Operator Training Requirements.
3. The employer will establish written procedures for the safe operation of all cranes.
4. The employer will see that employees who operate cranes or derricks are properly trained, have sufficient practical experience, and follow the operating procedures for the safe operation of the crane or derrick.
5. The level of the training and experience determined by the employer as meeting section (2) above will be recorded in writing.
6. The manufacturer's rated load capacity will be conspicuously posted on all cranes and hoists.
7. The limit switch will never be used as an operating control.
8. If the power goes off while an electric crane is being operated, make sure to turn off all switches or operating buttons.
9. Before hoisting work begins, consideration must be given to the fact that stress is greatly increased if the leg of a hoisting chain, cable, or rope is rigged at an angle of less than 90 degrees. Avoid angles of less than 45 degrees. Angles less than 30 degrees will not be permitted.
10. The loads lifted should not exceed the maximum capacity of the crane or hoist and its lifting attachments. Side pull is prohibited. The load must be directly in line with the mast or boom.
11. No person will ride a load or hook.
12. Two or more separately rigged loads will not be hoisted at one time.
13. The person operating the crane is responsible for the load. Receiving signals or instructions will come from one authorized employee only.
14. The operator will have a clear view of work and equipment at all times.
15. The load will be attached to the crane by slings or by other approved devices.
16. Deformed or defective hooks, rings, or other lifting equipment links will not be used.
17. Hooks will be taken out of service when any of the following conditions exist:
    a. The hook has more than 10° twist from the plane of the unbent hook.
    b. The hook has more than 15% in excess of normal throat opening.

c. The hook has any cracks.

18. Wire rope cables that appear to be cut, frayed, kinked, or rusted will not be used.
19. Wire rope will receive emphasis during daily, monthly and annual inspections. Wire rope will be taken out of service when any one of the following conditions exist:
    a. In running ropes, 6 randomly distributed broken wires in 1 lay or 3 wires broken in 1 strand in 1 lay.
    b. Wear of $\frac{1}{3}$ the original diameter of outside individual wires. Kinking, crushing, bird-caging, or other damage resulting in distortion of the ropes structure.
    c. Evidence of any heat damage from any cause.
    d. Reduction from nominal diameter of more than $\frac{1}{64}$" from diameters up to and including $\frac{5}{16}$"; $\frac{1}{32}$" for diameters ⅜" to and including ½"; $\frac{3}{64}$" for diameters $\frac{9}{16}$" and including ¾"; $\frac{1}{16}$" for diameters ⅞" to 1⅛" inclusive; $\frac{3}{32}$" for diameters 1¼" to 1½" inclusive.
20. Standing ropes will be taken out of service if any of the following conditions exist:
    a. More than 2 broken wires in 1 lay in sections beyond end connections or more than one broken wire at an end connection.
    b. Any rigging rope has 1 or more broken wires near an attached fitting.
    c. Corroded, damaged or improperly applied end connections.
21. Knots will not be used to shorten nylon or wire rope slings.
22. Chain links of a hoist will not be secured by a nut and bolt, nails, pins or other means not recommended by the manufacturer.
23. Chain slings lifting equipment should not be subjected to sudden shock by twisting, snapping or jerking into place.
24. The working line of the hoist will not be wrapped around the load.
25. Rope clips will be installed and used according to the safety codes found in 437-002-0228(9)(f)(h): see table below. When used for eye splices, the U-bolt will be applied so that the "U" section is in contact with the dead end of the rope. Use this table to determine the number and spacing of U-bolt wire clips.

Number and Spacing of U-Bolt Wire Clips			
	Number of Clips		
Improved Plow Steel Rope Diameter Inches	Drop Forged	Other Material	Minimum Spacing (inches)
1/2	3	4	3
5/8	3	4	3 3/4
3/4	4	5	4 1/2
7/8	4	5	5 1/4
1	5	6	6
1 1/8	6	6	6 3/4
1 1/4	6	7	7 1/2
1 3/8	7	7	8 1/4
1 1/2	7	8	9

26. Before a load is lifted, it will be inspected for loose parts or objects.
27. The safety latch on the hook of a hoist will be secured in every instance when lifting or moving a load.
28. The operator will see that the load is secure and properly balanced before it is lifted more than a few inches off the ground, floor, or support.
29. The operator will test the brake each time a load is lifted by raising the load a few inches and applying the brake.
30. Care will be taken to see that the equipment with which the load is lifted is not kinked or caught against obstructions while moving the load upward and that the load does not hit any obstructions.
31. Lifting equipment must not drag under a load.
32. The operator must refrain from getting between the load and a solid surface, to avoid being pinned or caught by a falling or moving load.

33. Do not grab the cable as it is being pulled through the sheave wheels.
34. Employees must stand clear of all suspended loads.
35. A loaded crane should never be left over machinery.
36. Suspended loads will not be left unattended.
37. When lowering a load, the operator will proceed carefully, making sure that they have it under safe control at all times.
38. Lifting hooks and fastenings will not be removed until material is at rest in a stable position or safely secured by other fastenings.
39. Before moving a crane on which an empty sling is hanging, the operator must secure the bottom ends of the sling to the block, hook, or sling ring.
40. When moving a crane make sure the hook and/or the load will clear all obstacles.

Crane Operator Inspection Checklist (Fixed Facilities Crane)

Crane:_____ Date:_____

Operator:_____ Daily Inspection_____ Monthly Inspection_____

Complete a visual inspection of conditions listed below. Mark each item with a N (No) if there is no defect or Y (Yes) if a defect is identified.
Communicate to your supervisor if any conditions are found and note the details (use back of form if need more space).

	Condition	Yes	No	If yes, details of identified condition
1	Bearings: Loose, worn			
2	Brakes: shoe wear			
3	Bridge: alignment out of true (indicated by screeching or squealing of wheels)			
4	Bumpers on bridge: loose, missing, improper placement			
5	Collector shoes or bars: worn, pitted loose, broken			
6	Couplings: loose, worn			
7	Drum: rough edges on cable grooves			
8	End stops on trolley: loose, missing improper placement			
9	Gears: lack of lubrication or foreign material in the gear teeth			
10	Guards: bent, broken, lost			
11	Hosting cable: broken wires, kinked or twisted			
12	Hook Block: chipped sheave wheels			
13	Hooks: straightening (note when permanent set of hook is greater than 15% in excess of normal throat opening, the hook will be replaced.)			
14	Lights (if installed) are functional			
15	Limit switch: functioning improperly			
16	Lubrication: overflowing on rails, dirty cups			
17	Mechanical parts (rivets, covers, etc.) loose			
18	Overload relay: frequent tripping of power			
19	Rails (trolley or runway): broken, chipped, cracked			
20	Wheels: worn (indicated by bumpy riding)			
21	Electric control buttons are functioning improperly and/or not clearly marked as to direction of travel			
22	Functional operating mechanism: excessive wear of functional operating mechanisms			
23	Functional operating mechanism: deterioration of parts			
24	Functional operating mechanism: non-compliant hooks			
25	Functional operating mechanism: Hoist and load attachment chain: wires and slings for signs of wear or deterioration			

NOTE: The information on the Crane Inspection Source, Accident Prevention Manual for Industrial Operations, 8th Edition, National Safety Council, 1986.

Use Reverse For Additional Comments

CONTRACTOR SAFETY AND HEALTH HAZARD NOTIFICATION

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	021	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	n/a
Associated Form:	Contractor Safety Form Packet	**Training Frequency:**	n/a

CONTRACTOR SAFETY AND HEALTH HAZARD CONTROL NOTIFICATION POLICY

Oregon OSHA regulations require notification of outside contractors regarding safety programs for Hazard Communication, Asbestos, Hazardous Waste, Hazardous Energy Control and Confined Space. In addition to these basic requirements all outside contractors performing work in our buildings or facility will be notified of the basic Emergency Action Plan and safety rules.

Contractors who are hired to perform maintenance work involving the need to control hazardous energy or enter confined spaces will be informed of the programs and the associated hazards of which the plant services staff is aware. The notification is not designed to take over the contractor's safety responsibilities to his or her employees, but rather to provide appropriate notification under the Oregon OSHA rules.

Contractor notification is indicated below and includes: notification checklists for the overall safety rules, control of hazardous energy, and confined space entry, asbestos, and hazardous waste. Managers that are responsible for the outside contract will ensure that this material is provided to the contractor and that a signed statement is completed by the contractor. Safety and occupational health questions should be directed to the department/project manager.

RESPONSIBILITIES

Department or Project Managers: The Department or Project Manager generally has the overall responsibility for construction and electrical contractors. It is the Department or Project Manager's responsibility to review the Safety Manual and obtain signed statements from the contractor representatives.

If there is any joint work done between the contractor and our employees, it is the manager's responsibility to see that proper Energy Control Procedures are carried out. The Department or Project Manager is responsible for keeping a contractor's file and if the same contractors are used for an on-going period of time, the notification will be updated on an annual basis.

a. The contractor file should note the following:
    i. Ensures that they receive our safety policies and any updates.
    ii. Specific safety questions are responded to.

iii. Audits the Contractor Notification system.
iv. Assists in ensuring that contractors follow our polices and do not endanger our employees.

The contractor notification process flow:

a. The Department or Project Manager is to determine scope of contractor work and prepare an adequate contract or purchase order for the services.
b. Select the contractor and provide the scope of work and the applicable chapters of the Safety Manual.
c. The Department or Project Manager reviews the applicable chapters of the Safety Manual. This will ensure that the contractor and employees acknowledge the information and sign the acknowledgment letter.
d. Copy of the acknowledgment letter is provided to contractor and a copy is retained in the contractor's file.
e. The Department or Project Manager is responsible for conducting periodic follow-up with the contractor representative to ensure the safety of our employees and that the contractor is operating in a safe manner.

SPECIFIC PROGRAM REVIEW

Each applicable Oregon OSHA program must be reviewed with the contractor prior to performing work.

Informing Contractors of Hazard Communication Program

When outside contractors perform work in our facilities, the Department or Project Manager will ensure that the contractors management representative is informed of any hazardous chemicals and needed controls.

The following methods will be used to inform outside contractors of the potential chemical hazards in their work areas:

1. Hazardous chemicals to which they may be exposed while on the job site.
2. Precautions the employees may take to lessen the possibility of exposure.
3. Location of Safety Data Sheets (SDS) for chemicals to which they are potentially exposed.
4. Temporary Service employees will be trained in the same manner as permanent employees.
5. If additional information is needed, the Department or Project Manager should be contacted for assistance.
6. The contractor will be provided with the applicable chapters of the Safety Manual. The acknowledgment form is to be signed by the Contractor's representative. A copy of the signed checklist is to be kept by the Department or Project Manager and kept as part of the contract file.
7. If the contractor is bringing in hazardous materials, then the Department or Project Manager will ensure that the contractor has all the pertinent SDS at the job site.

Asbestos Material Notification

When outside contractors perform building renovations or remodeling where asbestos building materials may be present, the department or project manager will ensure that the contractors management representative is informed of the presence of asbestos building materials. This will include ensuring that an assessment is done to determine if an asbestos abatement project must be done first.

The following methods will be used to inform outside contractors of the presence of asbestos containing building materials:

1. The Department or Project Manager will ensure that the contract manager is informed of the planned work.
2. The Department or Project Manager will review the plans with the contractor to determine the scope of the work and assessing the potential for contact with asbestos containing materials.

3. If asbestos materials will be disturbed or need to be removed, the Department or Project Manager will arrange for a licensed asbestos abatement contractor to perform the work prior to the other contracting operation.
4. The Department or Project Manager will audit the asbestos abatement project work to ensure that the project is done safely and per Oregon OSHA rules.
5. The asbestos abatement contractor will also be provided with the applicable chapters of the Safety Manual and notification of pertinent hazard informational checklists which will be signed by the Contractor's representative. A copy of the signed checklist is to be kept by the Department or Project Manager as part of the contract file.

Hazardous Waste Notification

When outside contractors perform work involving the removal and disposal of hazardous waste, the Department or Project Manager is responsible for crew and process safety. The procedures used are to meet DEQ/EPA requirements.

The following methods will be used to inform outside contractors of the potential chemical hazards in their work areas:

1. Department or Project Manager will only contract with licensed Hazardous Waste haulers and dispose of materials only in permitted methods.
2. Department or Project Manager will ensure that the hazardous waste contractor's employees are trained in the required DEQ and Oregon OSHA programs and are informed as to the materials that are being collected, hauled and disposed of.
3. Department or Project Manager will ensure that all the proper DEQ/EPA and DOT paperwork is prepared and available for all the parties involved as required.
4. The contractor will be provided with the applicable chapters of the Safety Manual and notification of pertinent hazard information checklists that need to be signed by the Contractor's representative. A copy of the signed checklist is to be kept by the Department or Project Manager and kept as part of the contract file.

Informing Outside Contractors of the Hazardous Energy Control Program

When outside contractors are hired to work on machines and equipment, their activities may require that hazardous energy be controlled. As a result, a copy of our procedures will be given to that contractor and a mutually agreed upon procedure established concerning the lockout/tagout devices that will be used to protect employees and the contractor's workers. This coordination will help to ensure that all of our employees know what kind of work is to be performed, where and when it is to be performed, as well as how they are being protected.

1. The Department or Project Manager will identify the energy isolating devices for the contractor, as necessary. The contractor's employees will be responsible to lockout all devices capable of locking or place an energy control tag on or as near the device as possible.
2. A copy of the contractor notification letter and hazard information will be provided to the contractor and a signed copy returned to our Department or Project Manager and kept as part of the contract file.

Informing Outside Contractors of the Confined Space Plan and Space Hazards

If a contractor is hired to perform confined space entry work, the Department or Project Manager will see that the contractor's management representative is notified of our Confined Space Policy and the known hazards associated with the space. This notification is to ensure that the company complies with rule 1910.146 (c) (8) of the Confined Space regulations and OR-OSHA Confined Space regulations, OAR 437-002-0146. If we contract for confined space entry work as the host employer, the Department or Project Manager is responsible to:

1. Inform the contractor that a permit required space is involved in the work. This includes information about any chemicals in the space per Hazard Communication requirements.
2. Apprise the contractor of the hazards our organization has identified and any experience employees have had with the space.
3. Apprise the contractor of any precautions our employees have taken for entry in or near spaces where the work will be performed.
4. Coordinate entry operations with the contractor if more than one contractor or if our employees will also be working in or near the same permit spaces.
5. Debrief the contractor to determine precautions and procedures that were followed and any hazards that were present or that developed during entry operations.
6. A copy of the contractor notification letter and hazard information will be provided to the contractor and a signed copy will be returned to our Department or Project Manager and kept as part of the contract file.

Hot Work: Welding Permission System

When outside contractors are hired and their work involves welding, it is the Department or Project Manager's responsibility to see that the contractor uses a hot work permit process to ensure that all fire hazards are controlled. The hot work permit is required to be done by the contractor and made available to our Department or Project Manager. The permit will not be required if the welding is done in a welding shop area.

The Department or Project Manager will provide the contractor with the basic form required by our organization. If the contractor has his/her own hot work permit system, it can be used as long as it is complete and available.

Safety For Contractors

The following document is provided as a sample for outside contractors**.** Pertinent information is to be reviewed by the Department or Project Manager (or designee) and signed statement(s) from the contractor representative are to be obtained. Send or provide a copy of the signed statement to the Department or Project Manager and retain a copy in the contractor's file.

For contractors who are used regularly, an annual updated copy and review must be completed and documented.

Contractor Safety Notification: Safety Rules For Contractors Working

All contractors and their employees are required to review the Safety Manual**.** The contractor representative is to sign the acknowledgment letter that they and their employees have reviewed the appropriate materials. The information that must be reviewed includes:

Basic Safety Rules	Yes	No
Hazardous Material Deliveries	Yes	No
Confined Space Entry	Yes	No
Tools & Personal Protection	Yes	No
Equipment Lockout (Control of Hazardous Energy)	Yes	No
Emergency Action & Fire Prevention	Yes	No
Chemical Hazard Communication	Yes	No
Asbestos Material Removal Program	Yes	No
Hazardous Waste Storage and Disposal Program	Yes	No

Contractor Acknowledge Sign-off Letters:

General Acknowledgment Letter	Yes	No
Confined Space Checklist	Yes	No
Equipment Lockout Checklist	Yes	No
Asbestos Removal Program Checklist	Yes	No
Hazardous Waste Program Checklist	Yes	No
Lead Materials Removal	Yes	No

***Note**: This document does not list all potential or existing hazards or rule compliance issues, but is intended to provide overall safety control issues that contractors and their employees are required to follow. This guide does not anticipate all problems nor identify all possible solutions. Each contractor remains responsible for the safety and health of their employees and must be vigilant in identifying and correcting hazards and reporting any problems or accidents/near misses to the Department or Project Manager.*

Contractor General Safety Notification Sign-Off

It is our goal to provide a safe and healthful work environment for employees and ensure proper hazard notification to our contractors. As a result, each contractor has been provided the applicable chapters of the Safety Manual. The general safety issues have been reviewed with you as the contractor's representative by the Department or Project Manager. This includes a discussion of general safety rules,
a review of the emergency action plan and evacuation plan, lockout/tagout, hazard communication, presence of asbestos or lead containing materials, and confined space entry, as applicable to the project.

The Safety Manual materials must be read and understood by your employees before they begin work at our facility. Additional information will be provided by the Department or Project Managers as needed. Please have all of your employees that will be working at our facility read the appropriate material.

Name of Contractor:		Date:
Signature of the Contractor's Representative:		
Additional hazard notification issues are attached as appropriate for:		
1	Emergency Action Plan	
2	Confined Space Information	
3	Specific Lockout/Tagout Procedures	
4	Hazardous Waste Information	
5	Presence of Asbestos Materials	
6	Presence of Lead Building Materials	
7	Presence of Hazardous Chemicals	

Contractor Notification Form

The contractor notification will be done by the Project Manager or Department Manager. If we contract for confined space entry work as the host employer, we are responsible to:

1. Inform the contractor that a permit required space is involved in the work. This includes information about any chemicals in the space per Hazard Communication requirements.
2. Apprise the contractor of the hazards that have been identified and any experience our employees have had with the space.
3. Apprise the contractor of any precautions our employees have taken for entry. The contractor must provide our Supervisor with a copy of the contractor's confined space program.
4. Coordinate entry operations with the contractor if more than one contractor or if our employees will also be entering the space.
5. Debrief the contractor to determine if any problems were encountered requiring changes in procedures.

Contractor Confined Space Notification Checklist

Project Manager:	Date:
Contractor Representative:	
Location of the Space:	

The following information outlines the basic features and safety control issues we are aware of. There may be other hazards or conditions created by the Contractor.

Checklist of Safeguards · Hazards and Recommended Safeguards	
Isolation:	
1. Electrical	
2. Mechanical	
3. Other	
Hazardous Work:	
1. Welding/Burning/Open Flame	
2. Electrical Work	
3. Chemicals	
Special Requirements	
1. Lock-outs	
2. Lines Disconnected	
3. Vessel/Tank Purge: Flush & Vent	
4. Ventilation	
5. Secure Area	
6. Lighting	
7. Communication	
8. Fire Extinguishers	
9. Emergency Egress Procedures	
10. Other	
Personal Protective Equipment Needed	
1. Harness & Life Line	
2. Respirator	
3. Eye Protection	
4. Hearing Protection	
5. Protective Clothing	
Atmosphere Tests:	
List type of air testing that would be necessary:	
Copy of the contractor's Energy Control Plan Reviewed? ☐ Yes ☐ No	
Copy of the contractor's Confined Space Entry Policy Reviewed? ☐ Yes ☐ No	

Contractor's Emergency Response Information Needed:

Phone Number of Nearest Telephone:	Location of Nearest Telephone:
Name of First Aid Person	Location of Nearest First Aid Kit:
Emergency Rescue Plan:	
Post Entry Debriefing Notes:	

Contractor Energy Control Notification Checklist

Department or Project Manager:	Date:
Contractor Representative:	Date:
Scope of work requiring energy control:	
Copy of the contractor's energy control plan reviewed? ☐ Yes ☐ No	

Asbestos Abatement Contractor Checklist and Sign-Off Form

The locations of asbestos containing materials has been reviewed with the Contractor's Department or Project Manager and specific scope of the work is enclosed. All asbestos removal will meet DEQ and Oregon OSHA requirements. We may audit the work operations and can require changes to the procedures if the operations do not meet the DEQ or Oregon OSHA requirements.

Oregon OSHA: OAR Division 3 (Construction), Subdivision Z (1926.1101)

DEQ : requires special handling of non-friable asbestos-containing materials. Asbestos Disposal Requirements DEQ: Chapter 340 Division 25 (13)

Contractor Name	Date

Name and Signature of Employee(s) and DEQ Certification Training Number and Date

Employee Name	Employee Signature	DEQ Certification Training Number	Date

Hazardous Materials: Solid Waste Storage and Disposal Contractor Notification Checklist

The locations and types of hazardous materials that will be collected, transported and disposed of have been reviewed. All appropriate generator documents have been provided and hazardous waste determinations have been done. All Oregon OSHA, DEQ/EPA and DOT applicable rules will be followed by the contractor and employees. The Department or Project Manager may audit the contractor's procedures and can require changes if the contractor is not complying with appropriate hazardous materials-waste regulations.

Please provide a list of contractor names that will be on the job and their DEQ, OR-OSHA and DOT Hazardous Materials Training Level.

Name of Contractor	Date	DEQ/OSHA/DOT Hazardous Materials Training Level

Lead Abatement Contractor Notification Checklist

The locations of lead containing materials have been reviewed by the Department or Project Manager and are listed below. The contractor understands that they must follow OR-OSHA Lead Standard requirements in Construction Standard on Lead Abatement OAR 437, Division 3 (Construction), Subdivision D (1926.61). This may include provisions for regulated areas. Disposal of lead containing materials will meet Oregon DEQ requirements as applicable.

Please provide a list of contractor names that will be on the job and their DEQ, Oregon OSHA and DOT Hazardous Materials Training Level.

Name of Contractor	Date	Lead Abatement Training Level

FORKLIFT SAFETY

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	July 2021
Policy Number:	022	**Revised Date:**	July 2021
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Forklift Training Checklist Operator Inspection Checklist Forklift Training Certification	**Training Frequency:**	At hire and every three years for related positions

FORKLIFT SAFETY

OAR 437, Division 2, Subdivision N (1910.178 & 437-002-0227)

This Forklift/Industrial Vehicle Safety Policy is designed to help ensure that our employees are protected from unsafe conditions and operations that potentially can occur in the use of industrial vehicles. In addition, this program is to ensure compliance with Oregon OSHA regulations dealing with the use of industrial vehicles.

Only trained and authorized employees are permitted to drive or operate industrial vehicles. All operators are required to follow the procedures in this chapter and manufacturer recommendations on vehicle usage and safety. All industrial vehicles are to be maintained in safe operating conditions.

GENERAL RESPONSIBILITIES

Management: Managers and supervisors are responsible to see that only trained employees are authorized to operate industrial vehicles. Management is required to see that adequate maintenance services are provided and used to ensure safe vehicle operating conditions.

Supervisor: The supervisor is responsible to maintain training records and/or copies of licenses or certifications which demonstrate employee training. Supervisors will provide employee training and audit operations for compliance with this chapter and Oregon OSHA regulations.

Authorized Operators: Employees who are authorized to operate industrial vehicles must follow all safety procedures as outlined in this chapter, by Oregon OSHA rules and manufacturer's recommendations. Employees are required to complete daily operating safety checks and ensure all unsafe equipment is taken out of service and repaired prior to use. All vehicle operators will immediately report any accidents to their supervisor.

SAFETY PROCEDURES

Authorized Operators

Authorized Operators will be trained and approved by their supervisor to operate various types of industrial vehicles. The training will consist of:

1. Instruction in proper inspection and safe operating procedures as outlined in this program.

2. A hands-on demonstration by an authorized driver, supervisor or competent outside trainer.
3. A written examination on the inspection and safe operating procedures.
4. This training will occur upon initial assignment, every three years for recertification, or whenever the supervisor sees a need for reorientation.

Only authorized personnel will operate forklift trucks.

Inspections and Fueling

1. Before the start of each shift, at least daily, a visual inspection must be made to assess the forklift's working condition to ensure safe operations. Inspections should occur after each shift if forklifts are used around-the-clock.

   Inspection items include:

   a. Condition of the tires

   b. If pneumatic tires, check inflation pressure

   c. Warning and safety devices

   d. Lights

   e. Battery

   f. Controls

   g. Lift and tilt systems

   h. Load-engaging means

   i. Chains and cables

   j. Limit switches

   k. Brakes

   l. Steering mechanism

   m. Fuel system(s)

   n. Additional items, attachments, or special equipment as specified by the user and/or manufacturer

2. If at any time the forklift is found to need repair, defective, or in any way unsafe, it will be taken out of service until it has been restored to safe operating condition. Immediately report any defects to your supervisor and/or maintenance for correction. The vehicle will be out of service until proper repairs can be made.
3. The operator will not operate an unsafe forklift or other industrial vehicles at any time.
4. Operators will not make any repairs or adjustments on any vehicle unless they are trained and authorized personnel.
5. For electric powered vehicles, battery charging will be done only in a well-ventilated area. No smoking or open flame are permitted in battery charging areas.
6. Only authorized personnel will do fueling. Fuel tanks will not be filled when the engine is running. It is important to avoid spillage of fuel. If spillage occurs, ensure fuel is carefully washed away or is evaporated and fuel cap tank replaced before restarting the engine.
7. Do not operate truck if there is a leak in the fuel system until the leak has been fixed.

Determining Load Capacity

1. Operators will not exceed the safe load capacity of a vehicle at any time. Double-tiered loads will not be handled unless the vehicle is designed to accommodate the load.
2. The load capacity is shown on the "Forklift Nameplate".
3. Only stable or safely arranged loads will be handled. Caution will be exercised when handling off-center loads which cannot be centered.
4. The load center is determined by the center of gravity and is defined as the horizontal distance from the load's edge (or the fork's or other attachment's vertical face) to the line of action through the load's center of gravity. The line of action is an imaginary vertical line through an object's center of gravity.
5. The center of gravity is the point on an object at which all the object's weight is concentrated. For symmetrical loads, the center of gravity is the middle of the load. A lift truck's center of gravity moves because it has moving parts. The center of gravity moves forward and back as the upright is tilted forward and back. The center of gravity moves up and down as the upright moves up and down. Factors in determining the center of gravity include:

    a. Size of the load

    b. Weight of the load

    c. Shape of the load

    d. Position of the load

    e. Lift height

    f. Amount of tilt

    g. Tire pressure

    h. Dynamic forces created when the truck is moving (acceleration, braking, turning, and operating on uneven surfaces or incline)

6. Operators will not counterweight a forklift to increase lifting capacity. Instead the load will be broken down or a forklift with a higher rating will be used.

General Operating Safety Rules

1. The operator must be in control of the forklift steering at all times.
2. No person will ride as a passenger on a forklift or forks or on the load being carried.
3. A forklift will not be used to elevate a platform or pallet with persons on it, except work platforms specifically designed for this purpose. Work platforms must have standard guardrails, and must be securely fastened to the forks. In addition:

    a. The hydraulic system will be so designed that the lift mechanism will not drop faster than 135 feet per minute in the event of a failure in any part of the system.

    b. An operator will stay in attendance at the forklift while workers are on the platform.

    c. The operator will be in the normal operating position while raising or lowering the platform.

    d. The vehicle will not travel from point to point with the work platform elevated at a height greater than 4 feet while workers are on the platform. When necessary at heights greater than 4 feet, inching may be permitted provided it is done at a very slow speed.

    e. The area between workers on the platform and the mast will be guarded to prevent contact with chains or other shear points.

4. Operators will not put their fingers, arms, or legs between the uprights of the mast, or beyond the contour of the forklift.
5. Operators will look in the direction of travel.
6. Operators must avoid making jerky starts, quick turns, or sudden stops. Travel slowly when turning. Lift trucks can tip over even at very slow speeds. The combination of speed and sharpness of a turn can cause a tip over.
7. A lift truck is less stable when the forks are elevated, with or without a load. In fact, the lift truck will actually tip over more easily when empty than when loaded with the load lowered.
8. If the lift truck tips over:

    a. Do not jump off!

    b. Hold firmly to the steering wheel; brace your feet and lean forward and away from the point of impact.

9. The operator will not use reverse as a brake.

Traveling

1. Forklifts will be driven on the right side of the aisle way/roadway.
2. Operators will cross railroad tracks diagonally whenever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
3. All vehicles will be operated at a safe speed with due regard for traffic and conditions. Maximum allowed speeds:

    a. Inside buildings: 5 mph

    b. Outside buildings and not in work areas: 7 mph

    c. On roads outside: 10 mph

4. Operators will slow down on wet and slippery surfaces.
5. Operators will slow down at cross walks and locations where vision is obstructed.
6. Operators entering a building or nearing a blind corner will make their approach at a reduced speed, sound horn, and proceed carefully. (Exception: blind corners equipped with mirrors providing a full view in all directions.)
7. Operators will give pedestrians the right-of-way always. The right of way will be yielded to ambulances, fire trucks, or other vehicles in emergency situations.
8. Operators will not drive toward any person who is in front of a fixed object or wall.
9. Operators will not overtake and pass another forklift traveling in the same direction at intersections, blind spots, or hazardous locations.
10. No person will stand or walk under elevated forks or any load.
11. Grades will be ascended or descended slowly.

    a. When ascending or descending grades in excess of 10 percent, loaded trucks will be driven with the load upgrade.

    b. On all grades, the load and load engaging means will be tilted back if applicable, and raised only as far as necessary to clear the road surface.

12. When a forklift is not carrying a load, the operator will travel with the forks low.
13. The load will be carried as low as possible (consistent with safe operations, 2 to 6 inches above the surface).
14. Forks will be placed under the load as far as possible.
15. Generally, do not lift a load with one fork.

16. No load will be moved unless it is safe and secure. To maintain balance, the load should be centered and the forks properly spaced near the outside edges. Before traveling, the load will be tilted back until it rests securely. A load backrest will be used to prevent spilling of the load.
17. Position each fork the same distance from the center of the carriage. Set forks as far apart as possible for maximum support of the load. Center the weight of the load between the forks. Otherwise, the load may fall off the forks when you turn a corner or hit a bump.
18. The operator's view should not be obstructed by the load. In the event of a high and/or wide load, the forklift will be driven backward in low gear.
19. Operators need to watch overhead clearance. All vehicles operated in areas where overhead hazards exist will be equipped with an approved overhead guard.
20. Bridge plates will be properly in place and secured. Wheels of trucks and railroad cars will be blocked to prevent movement during loading.
21. Forklift drivers will come to a complete stop before reversing direction of travel.
22. Unstable loads will be restacked or banded. Use extra care when handling long lengths of pipe, or other materials.
23. Avoid sharp or fast end-swing. Lift trucks are designed to work in relatively small space. Because of this, they can turn sharper than some other vehicles. When the truck is steered by the rear wheels, the rear of the truck moves to the side during a turn. This movement is called "tail swing". An operator must be aware of the tail swing and always check to make sure the tail swing area is clear before turning. Failure to observe the tail swing area when making a turn can cause injury or kill someone.
24. Hazardous materials will not be moved unless they are in approved containers.
25. Compressed gas cylinders will be moved only in special pallets designed for this purpose.
26. When unloading trucks or trailers, the brakes on the vehicle will be set (locked) and the wheels chocked.
27. The flooring of trucks, trailers, and railroad cars will be checked for breaks and weakness. Powered industrial trucks will not be driven onto flooring that is found to be of inadequate strength.
28. Operators will never attempt to turn sideways on an incline. Do not run on an incline to reduce the possibility of a tip over; a lift truck must not be driven across an incline.
29. All vehicles will be equipped with audible warning signals, and where practical, will have spark arrestors.
30. All vehicles operated at night in dark buildings or in poorly lit areas will be equipped with head and tail lights.
31. Vehicle flywheels, gears, sprockets, chains, shear points and other exposed parts constituting a hazard to the operator or other employees will be guarded.
32. Vehicles powered by internal combustion engines will not operate in buildings unless the buildings are adequately ventilated.
33. Vehicles must be safely parked when not in use. The controls will be neutralized, power shut off, brakes set, and the forks left in a down position flat on the surface not obstructing walkways or aisles. These procedures must be used whenever the operator leaves the forklift unattended (i.e. when the driver is 25 feet or more away or the vehicle is out of the operator's view).
34. A forklift will not be left on an incline unless it is safely parked and the wheels chocked or blocked.
35. Forklifts will not be parked or left unattended in aisles, by exits or doors.
36. Stunt driving and horseplay will not be permitted.
37. Elevators will be approached slowly and then entered squarely after the elevator car is properly leveled. Once on the elevator, the controls will be neutralized, power shut off, and the brakes set.
38. Running over loose objects on the roadway surface will be avoided.
39. While negotiating turns, speed will be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel will be turned at a moderate, even rate.

LPG TANK FILLING PROCEDURE

1. Industrial trucks (including lift trucks) equipped with permanently mounted fuel containers will be charged outdoors.
2. The dispensing of LP gas into the fuel container of a vehicle will be performed by a competent attendant who will remain at the LP gas dispenser during the entire transfer operation.
3. Engines on vehicles will be turned off while fueling if the fueling operation involves venting to the atmosphere.
4. There will be no smoking on the driveway of the (fueling area), in the dispensing areas or transport truck unloading areas.
5. Signs prohibiting smoking will be posted within sight of the person refueling. Letters on such signs will be not less than 4 inches high. The motors of all vehicles being fueled will be shut off during the fueling operations.

Basic rules for Industrial Truck Use of Liquefied Petroleum Gas (LPG)

1. When filling forklift tanks, the employee must wear eye, face and hand protection.
2. No more than two LPG containers will be used on an industrial truck for motor fuel purposes.
3. Industrial trucks will not be parked and left unattended in areas of possible excessive heat or sources of ignition.
4. All sources of ignition should be eliminated to the extent possible. Conspicuous signs must be posted in the storage area forbidding smoking.
5. Filling of fuel containers for industrial trucks or motor vehicles from industrial bulk storage containers will be performed not less than 10 feet from the nearest important masonry-walled building or not less than 25 feet from the nearest important building or other construction and, in any event, not less than 25 feet from any building opening.

Container valves and container accessories

1. Valves, fittings, and accessories connected directly to the container (including primary shutoff valves), will have rated working pressure of at least 250 p.s.i.g. and will be of material and design suitable for LP Gas service. Cast iron will not be used.
2. Shutoff valves will be located as close to the container as practicable.

CHANGING VEHICLE TIRE PROCEDURES

1. All vehicle tire changes must meet the Federal OSHA standard 29 CFR 1910.177 “Servicing Multi-piece and Single Piece Rim Wheels”.
2. Additional tire changing procedures apply to all heavy equipment which include:
    a. The tire will be deflated to 7 pounds pressure or less (both tires, if they are dual wheels) before any other procedure is started to remove the tire and wheel from a piece of heavy equipment.
    b. An air hose extension will be provided so that this hose can be attached to the valve to inflate the tire and extend out from the tire so the person inflating a tire can be off to one side of the tire and not directly over or in front of the tire and wheel as it is inflated.

EXCAVATION SAFETY

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	022	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Depends
Associated Form:	n/a	**Training Frequency:**	n/a

DEFINITIONS

Excavation: An excavation is any human-made cut, cavity, trench or depression in an earth surface, formed by earth removal. All excavations five feet or more in depth are required to have a protective system in place to protect employees from injury unless:

a. The excavation is made entirely in stable rock; or

b. The excavation is less than five feet in depth and a competent person has examined the ground and determined there is no indication of a potential cave-in.

Acceptable Protective Systems: Systems are based on factors such as soil type, water content, excavation depth and width, the nature of the work and nearby activities. These systems include:

a. **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 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.

b. **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

c. **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.

d. **Shielding (Shielding System)**: a structure that designed 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(c)(3) or (c)(4). Shields used in trenches are usually referred to as “trench boxes” or “trench shields.”

Competent Person: Someone 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. This person must have specific training in, and be knowledgeable about, soils analysis, the use of protective systems and the requirements of the occupational safety and health rules.

a. At every excavation where employee exposure can be reasonably anticipated, Oregon OSHA requires that we (or our contractor) assign a competent person to conduct a daily inspection of the excavation.

b. That inspection should include the adjacent areas and protective systems utilized (i.e., shoring, shielding, benching or sloping) for evidence of situations that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.

c. An inspection must be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections must also be made after every rainstorm or other hazard-increasing occurrence.

MINIMUM REQUIREMENTS FOR EXCAVATIONS

1. The estimated location of underground utility installations must be completed before any digging or excavation is started.
2. Excavations deeper than 5 feet requires cave-in protection (shielding, benching or shoring).
3. A Competent Person is required at all excavations.
    i. The competent person is trained, authorized and responsible to ensure that the excavation or trench remains stable, the personnel working in the excavation can quickly exit, that the atmosphere is safe, that spoils are placed so they can't shift, that personnel work safely near heavy equipment, and that the work area remains safe until the excavation is back-filled.
    ii. Conduct frequent and regular inspections of the jobsite, materials and equipment for unsafe or unhealthy conditions or practices.
4. Sloping and benching techniques must be evaluated by the competent person.
5. Trenches or pits 4 feet deep or greater must be tested for atmospheric hazards before entering if there is potential for these hazards to be present and continuously monitored if there is a chance they could develop.
6. Any excavation deeper than 20 feet must have cave-in protection designed by a qualified engineer.
7. A safe means of egress will be located in trench excavations that are 4 feet or more in depth.

GENERAL HAZARDS OF EXCAVATIONS

The Competent Person must evaluate all the following conditions and specify methods of control:

1. Unstable soils, cave in, sloughing, shifting soils, water in the excavation
2. Underground and overhead utilities
3. Vehicle traffic
4. Nearby structures, sidewalks, roadways that could collapse from vibration, water flow or soils changes
5. Heavy equipment operations
6. Atmospheric hazards: low oxygen, flammable gas, toxics, vehicle and equipment exhaust
7. Falls and other physical hazards
8. Spoils piles
9. Flying debris (kicked off from heavy equipment, dump trucks)

SAFETY RULES FOR EXCAVATION OPERATIONS

1. Hi-visibility outerwear is required when working around heavy equipment.
2. Means of egress (ladders) must be available to every worker in the space within 25 feet of their work locations. (Place ladders every 25 feet along the length of the excavation).
3. Ladders must be secured and extend 3 feet above the top of the trench.

4. Spoils piles must be set back at least 3 feet from the edge of the trench or excavation. Optimal distance for heavy spoils or equipment is as far back from the edge as the trench is deep.
5. Workers should be aware of these hazards and alert the Competent Person if changes develop; exiting the space until hazards can be properly controlled.
6. The Competent Person is responsible for atmospheric testing. See Confined Space Atmospheric Testing Procedure.
7. No work is permitted in a trench or excavation with accumulated or flowing water.
8. Workers must stay back at least 3 feet from the swing zone of heavy equipment.
9. Working below a suspended load is prohibited.
10. Hard hats are required when working near heavy equipment.
11. Using an excavator bucket to lift or lower personnel is prohibited.
12. Be aware of vehicle and equipment exhaust accumulating in trenches and confined spaces. Use continuous monitoring as necessary.
13. When working in or near an excavation, keep alert to changes in conditions including shifting soils, changes in soil appearance or odor, water flowing in, vehicle exhaust, vibration and other conditions that could cause cave-in, atmospheric hazards or other problems to develop. Exit immediately and reassess if conditions change while working in an excavation.
14. The water is being removed and kept at a safe level; or a safety harness/lifeline is available and used.
15. Ensure control of loose rock or soil, one of the following methods have been implemented:
    i. Scaling of the face of the excavation has been done to remove any hazardous loose material;
    ii. Protective barriers are installed to contain the loose material; or any other effective means is in place and there is no danger from loose materials.

EXCAVATION EQUIPMENT

Equipment operators must be specifically trained and authorized before operating excavation equipment. Operators must conduct pre-use and work site inspections. Operators are responsible for ensuring safety in the work area.

HYDRO-EXCAVATION (VAC) TRUCKS

Vac Trucks have additional hazards of high volume suction hoses, pressure wands, high-pressure air and water, tanks that are confined spaces, hydraulic tip-beds, hoppers and doors. Operators must be trained and authorized on the equipment.

1. Any person working near or operating a Vac Truck must have additional training to recognize and control hazards.
2. Special blocking procedures must be followed when elevating beds, hoppers, tanks or doors to ensure that the equipment (bed or door) does not fall.
3. Tanks and Hoppers on Vac Truck are Confined Spaces. Do Not Enter.
4. Stay clear of the vacuum end of the stinger. Tremendous suction power can cause serious injury.
5. Do not point the pressure nozzle towards any person.
6. Positively stop and lockout vacuum pressure, air and water pressure before servicing or un-jamming equipment.
7. Required PPE includes hardhat, eye protection, hearing protection, steel toe boots, gloves.

SPEED SHORE

1. Speed Shore shielding must be installed and removed from the ground level only. See Speed Shore Manual for requirements on installation, inspection and removal.
2. Speed shore must be installed under the direction of a Competent Person, and must be inspected daily and periodically throughout the work shift.
3. Always install shoring from the top down and remove from the bottom up.
4. Shielding must extend above the ground level and be within 24 inches of the bottom of the trench.
5. Trench protectors must extend 4 feet past side shielding.
6. Structures outside of the trench must be braced or protected from cave-in (i.e. poles, buildings, sidewalks).

WATER IN EXCAVATIONS

Do not enter a trench or excavation that has accumulated or flowing water.

1. Identify source of water (surface runoff or line break).
2. Shut off the source upstream (as close as possible to line break).
3. Pump water out of excavation without entering (Competent Person must monitor this).
4. Divert or capture pumped water and surface water.
5. Brace adjacent structures as needed based on conditions.
6. Inspect and protect for a cave-in before entry.
7. Competent person ensures appropriate shielding or shoring before employees enter.

TRENCH EMERGENCIES AND RESCUE

1. If an emergency occurs in an excavation, contact 9-1-1 immediately.
2. Trench rescue can be extremely hazardous because of conditions ranging from unsafe atmosphere to cave-in. Co-workers often become victims of secondary collapse during rescue attempts. Call 9-1-1 right away for emergency help.
3. When calling 9-1-1, be specific about the exact nature of the emergency to mobilize the correct technical rescue resources as quickly as possible

FALL PROTECTION

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	024	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Fall Protection Workplan Fall Training Records	**Training Frequency:**	n/a

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OAR 437, Division 2, Subdivision I (1910.140) General Industry Regs

OAR 437, Division 2, Subdivision D (Walking-Working Surfaces) General Industry Regs

OAR 437, Division 4, Subdivision M Construction Industry Regs

City of Florence has responsibility for employee job site safety, and our management and employees must be accountable for meeting these responsibilities. Our staff will work with the Safety Committee in ensuring that the work can be done in a safe manner and that appropriate fall protection is either available or provided.

There are various rules that apply to fall protection. To reduce confusion the City will comply with the most restrictive system which is found in the Construction Code under Fall Protection. Basic maintenance work, as well as construction related work, requires fall protection systems at 6 feet. General industry related work that requires fall protection at 4 feet but does not require a written plan. Some trigger heights in general industry differ from four feet such as working above or adjacent to dangerous equipment and requires action to protect employees from falls onto that equipment, regardless of height, and many types of scaffolds have trigger heights above four feet. (See chart outlining these varying height requirements on Oregon OSHA's Fall Protection Fact Sheet at http://osha.oregon.gov/OSHAPubs/factsheets/fs58.pdf.)

This policy applies to all fall protection needs. Changes to the following procedures may only be done by the job site competent person (usually the Supervisor or Lead Person) if different regulations apply.

Fall protection needs will be evaluated by the Competent Person, which may be the Foreman or Lead Person. When fall protection is needed based on the construction site needs or general maintenance or repair work task, it is the supervisor's responsibility to implement the system and train all our employees in the system.

Exception from the use of conventional fall protection equipment is only available when our employees are engaged in leading edge work, or residential construction work and it can be demonstrated that it is not feasible or it creates a greater hazard to use conventional fall protection equipment.

- A Fall Protection Plan worksheet has been developed and is attached to this compliance plan. The Fall Protection Plan includes the following elements:
    - Prepared by our competent person and is specific for the site where the leading-edge work is being done.
    - A copy of the Fall Protection Plan is to be kept at the job site.
    - Our competent or qualified person will approve any changes to the Plan.

- The Plan will be implemented, and employees are to follow the plan.
- The Plan must document why conventional fall protection cannot be used.
- The Plan will outline the measures taken to reduce or eliminate the fall hazard for workers.
- The Plan identifies each location where conventional equipment is not feasible to use. These locations are classified as controlled access zones.
- If there is an employee fall, the qualified person is to investigate the circumstances of the fall, determine if the Fall Protection Plan needs to be changed and will implement those changes.

DEFINITIONS

The following terms are used in this section on fall protection equipment:

Anchorage: A secure point of attachment for lifelines, lanyards or deceleration devices.

Arresting Force: The force generated by arresting the test weight that is transmitted through the fall arresting system components to the anchorage or load cell.

Body Belt (Safety Belt): A strap that both secures around the waist and attaches to a lanyard, lifeline or deceleration device. After January 1, 1998 these are no longer acceptable as part of a personal fall arrest system.

Body Harness: Straps that are secured about an employee in a manner that distributes the arresting forces over at least the thighs, shoulders and pelvis, with provisions for attaching a lanyard, lifeline or deceleration device.

Buckle: Any device for holding the body belt, chest harness and body harness closed around the employee's body.

Chest Harness: Straps secured only around the chest with shoulder straps to assure proper chest strap positioning.

Classification According to Use: Safety belts, harnesses and lanyards are classified according to their intended use as:

Type I: A personal fall arrest/restraint system that is used to arrest a wearer's fall from a work level. It consists of an anchorage(s), hardware, body belt or body harness, a lanyard or deceleration device and may include a lifeline, or a device that subsequently allows the employee to be lowered to the ground or lower work level.

Type II: A personal fall restraint system that is used to keep a wearer at the work level or limit any free fall to a maximum of two feet from the work level. This system consists of a body belt, a chest or body harness and anchor, as applicable.

Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate such hazards.

Construction Activities: Work for construction, alteration or repair, including painting and decorating.

Drop Line: A vertical line from a fixed anchorage, independent of the work surface, to which the lanyard is affixed.

Fixed Anchorage: A secure point of attachment, not part of the work surface, for drop lines, lifelines or lanyards. The fixed anchorage must be capable of supporting a minimum dead-weight of 5,000 pounds per person.

Hardware: Buckles, Drings, snaphooks and associated hard-ware used to attach the components of the system together.

Lanyard: A flexible line used to secure a body belt or body harness to a lifeline or directly to a point of anchorage.

Lifeline: A horizontal line between two fixed anchorage, independent of the work surface to which the lanyard is secured either by tying off or by means of a suitable sliding connection. The lifeline must be capable of supporting a minimum dead-weight of 5,000 pounds per person applied at the center of the lifeline.

Positioning Belt: Simple or compound straps that may be secured about the body to hold the wearer in the work position.

Positioning Device System: A body belt or body harness system rigged to support employees on elevated vertical sur-faces, such as a wall or windowsill, allowing them to work with both hands free.

Qualified Person: One who by possession of a recognized degree, certificate or professional standing, or by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work or the project.

Quick Release Buckle: A multiple component buckle that can be released with one positive action and whose releasing mechanism is positively locked in normal use.

Retracting Line: An automatic tensioning system that pays out and retracts line at a certain speed and locks or brakes when the speed is exceeded.

Rope Grab: A device that attaches to a lifeline as an anchoring point to provide a means for arresting a fall.

Snap Hook: A self-closing device with a keeper, latch or other similar arrangement that will remain closed until manually opened. This includes self-closing, single action, double action, double locking snap hooks. After January 1, 1998 only locking snaphooks are allowed.

Strength Factor: The ratio of the minimum strength of a personal fall arrest/restraint system to the arresting force generated by a 300-pound person free-falling the length of the lanyard.

Suspension Belts: A design of simple or compound straps that may be secured about the wearer's body as an independent work support. These are commonly referred to as saddle belts, boatswain's chairs or tree trimmers' belts.

Tie Off: When a user wearing personal fall protection equipment connects directly or indirectly to an anchorage. The term also means the condition of an employee being connected to an anchorage.

Total Fall Distance: The maximum vertical distance between a wearer's body belt or body harness attachment points before and after the fall is arrested, including lanyard extension and/or deceleration distance.

Model Fall Protection Plan

The following plan was developed to ensure that Fall Protection is properly addressed, and when conventional protection is not feasible, a written plan is developed which meets Oregon OSHA requirement.

The Fall Protection Plan must be completed, signed and posted at each jobsite where standard guard-railing and other conventional fall protection is not in use.

Fall Protection Plan

Job Number:	Job Description:	Crew Size:
Foreman:		Date:
1. Identify all fall hazards in the work area:		
2. Describe the methods of fall arrest or fall restraint to be provided:		
3. Describe the correct procedures for the assembly, maintenance, inspection and disassembly of the fall protection system to be used:		
4. Describe the correct procedure for handling, storing and securing tools and materials:		
5. Describe the method of providing overhead protection for workers who may be in or pass through the area below the work site:		
6. Describe the method for prompt, safe removal of injured workers:		
I (we) certify that I (we) have received proper explanation, instruction and information on the above material. I (we) have been trained in the proper use of all safety equipment being utilized on the referenced job:		
Printed Name:	Signature:	
Printed Name:	Signature:	
Printed Name:	Signature:	
Printed Name:	Signature:	
Printed Name:	Signature:	

General Fall Protection Work Plan

Job Location:	Job Description:

Instructions:
1. Inspect the site prior to the start of the job.
2. Complete this form.
3. Post at worksite where it can be plainly seen along with the summarized plan.

Fall Hazards 6 Feet Or More

- ☐ Open Beam/Truss/Frame Work
- ☐ Beyond Guard Rails
- ☐ Hanging Scaffolds/Staging
- ☐ Tank/Vessel/Equipment Tops
- ☐ Standard Scaffold/Staging
- ☐ Roof Edge
- ☐ Erection/Disassembly
- ☐ Equipment Frame
- ☐ Floor Opening
- ☐ Ripe Rack System
- ☐ Other Describe: _____

Other Hazards

- ☐ Electrical
- ☐ Water
- ☐ Chemical
- ☐ Hot Surfaces
- ☐ Foot Traffic
- ☐ Overhead
- ☐ Below
- ☐ Other: Describe: _____

Methods Of Protection To Be Used

- ☐ Guardrail
- ☐ Parapet Wall
- ☐ Barrier Structure
- ☐ Fixed Lanyard
- ☐ Retractable Lanyard
- ☐ Harness
- ☐ Safety Block
- ☐ Rope Grab
- ☐ Life Line
- ☐ Warning Line (low pitched roofs/floors only)
- ☐ Rope Protection
- ☐ Sling/Runners
- ☐ RFP w/Boatswain
- ☐ Safety Net
- ☐ Other Describe: _____

Methods Of Work Area Access

- ☐ Portable Ladder
- ☐ Fixed Ladder
- ☐ Scaffolding
- ☐ Roof
- ☐ Manlift
- ☐ Staging
- ☐ Truss/Beam
- ☐ Framework
- ☐ Suspended Decent
- ☐ Other: _____

Methods Of Material/Tool Handling

- ☐ Line
- ☐ Hoist
- ☐ Crane
- ☐ Tool Belt
- ☐ Tool Bucket
- ☐ Designated Lifting Zone
- ☐ Material stored at least 10 feet away from edge and no higher than barrier.

Methods Of Securing Lanyards/Lines (Minimum 5,000 Pounds Holding Force)

- ☐ Ladder Siderail (secured)
- ☐ Eye Bolts
- ☐ Structural Workings
- ☐ Steel Pipe
- ☐ Other: _____

Location Of Anchor Points (Describe)

Other

Fall protection equipment inspected prior to use? ☐ Yes ☐ No

Equipment inspected by: _____

Name of monitor assigned (leading edge work only): _____

Has the work plan been reviewed in detail with person assigned working below? ☐ Yes ☐ No

Barrier tape/tags set up for overhead hazards when people are working below? ☐ Yes ☐ No

Person Assigned:	
Competent Person:	Date:

Training Record Forms

The following record is to be used by the qualified trainer to document the name of the employees trained, date of the training, and the signature of the person who conducted the training.

1. **Employee Fall Protection Written Certification Record**
2. **Employee Previous Training Record**

Fall Protection
Employee Training Certification

Employee Name:	Date:
The fall protection policy and procedures have been reviewed with me. This included information on the following: 1. Recognition of fall hazards due to the nature of the work area. 2. Fall protection requirements. 3. Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection system to be used. 4. The use and operation of the following systems as they apply to the need for fall protection at the job site: a. guardrail systems b. personal fall arrest systems c. safety net system d. warning line system e. safety monitoring f. controlled access zones g. other protection to be used 5. Each employee needs to understand their role if a safety monitoring system is used. 6. The correct procedures for the handling and storage of equipment and materials and erection of overhead protection. 7. The role of employees in fall protection plans as applicable. 8. Review of the Oregon OSHA fall protection standard. 9. The enforcement and discipline policy.	
I understand the fall protection procedures and policy. My supervisor has shown me the specific equipment procedures.	
Employee Signature:	
Trainer's/Supervisor's Signature:	Date:

The following training has been given to ensure that the employee understands the specific fall equipment operation procedure. This includes providing the following information: (Fill in as applicable)

1.

2.

Fall Protection
Employee's Past Training Certification

Employee Name:	Date:

My previous employer
or other trainers provided me with fall protection training that included the following (certification proof required with date required):

1. Recognition of fall hazards due to the nature of the work area.
2. Fall protection requirements.
3. Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection system to be used.
4. The use and operation of the following systems as they apply to the need for fall protection at the job site:
   - a. guardrail systems
   - b. personal fall arrest systems
   - c. safety net system
   - d. warning line system
   - e. safety monitoring
   - f. controlled access zones
   - g. other protection to be used
5. Each employee needs to understand their role if a safety monitoring system is used.
6. The correct procedures for the handling and storage of equipment and materials and erection of overhead protection.
7. The role of employees in fall protection plans as applicable.
8. Review of the Oregon OSHA fall protection standard.
9. The company's enforcement and discipline policy.

I understand the fall protection procedures and policy. My supervisor has shown me the specific equipment procedures.

Employee Signature:	
Trainer's/Supervisor's Signature:	Date:

The following training has been given to ensure that the employee understands the specific fall equipment operation procedure in our workplace. This includes providing the following information: (Fill in as applicable)

1.

2.

3.

WELDING – FIRE & EXPOSURE CONTROL

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	025	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	Hot Work Permit Procedures and Instructions	**Training Frequency:**	Prior to use

WELDING: FIRE AND EXPOSURE CONTROL

OAR 437, Division 2, Subdivision Q (Welding, Cutting, and Brazing)

OAR 437, Division 2, Subdivision H (Hazardous Materials)

OAR 437, Division 2, Subdivision Z (Chromium)

This welding safety policy is designed to ensure that employees are aware of the hazards associated with welding and to ensure proper fire protection. Welding is a hazardous operation, which must be performed in accordance with safety standards and by qualified trained employees. This chapter is to ensure work place safety and compliance with Oregon OSHA standards.

Note: For employers that weld, cut, and grind on Stainless Steel structures for fabrication and/or repair a hexavalent chromium exposure plan may be needed. Initial employee exposure monitoring must be done and if levels exceed the Oregon OSHA standard, a written plan is required. See below for a hexavalent chromium plan.

This chapter reviews welding safety procedures. Specific information on the welding hazards is also found in the Hazard Communication Program section.

DEFINITIONS

Approved: Either listed or approved by a nationally recognized testing laboratory.

Welding and welding operator: Any operator of electric or gas welding and cutting equipment.

All other welding terms used in the Oregon OSHA standard are in accordance with American Welding Society: Terms & Definitions A3-0.969.

RESPONSIBILITIES

Department Director and supervisors: Must see that only trained employees are authorized to weld. Fire watch personnel will be trained in their duties by the Maintenance Supervisors. Management is required to see that adequate maintenance services are provided and used to ensure safe operating conditions and that all Energy Control Procedures (see Lockout/Tagout Safety) are followed as they relate to maintenance welding on equipment.

Authorized Operators: Employees who are authorized to perform welding must follow all safety procedures as outlined in this chapter, by Oregon OSHA rules and manufacturer's recommendations. Employees are required to inspect their equipment daily prior to operation to ensure that all safeguards are on the equipment. Any problems are to be reported immediately to the employee's supervisor.

All accidents will be reported immediately to the supervisor.

Personnel Director: Assist in providing employee training and auditing facilities for compliance with this chapter and Oregon OSHA regulations.

Safety Committee: The Safety Committee will include review of welding safety in their quarterly inspection activities.

Basic Hazard Awareness: Safety in the many processes of welding and cutting requires certain precautions and standardized operating procedures. Welding is associated with five principal hazards. It is the responsibility of the employee supervisor and/or Safety Coordinator to ensure that all welders and fire watch personnel understand these hazards.

1. Electric shock and burns must be guarded against when using welding equipment. The degree of risk depends on the type of welding process. Welders are to be trained in Electrical Safety.
2. Fire Hazards:
    a. Flying sparks are the source of many industrial fires.
    b. In areas where flammable gases, vapors, and dusts are present, only a tiny spark is needed to set off a fire or explosion. Flying pieces of molten metal can fall through cracks and openings as small as nail holes and ignite combustibles that are beyond the welder's visual range.
    c. Hot metal that is being welded or cut can cause fires if allowed to contact flammable or combustible material such as drip pans, oily rags or combustible materials.
    d. The torch flame used by the welder is another source of ignition and must be handled carefully. Compressed oxygen gas used in welding is a fire hazard because it supports and intensifies the rate of combustion of other materials.
3. Radiant energy hazards in welding include: ultraviolet light, infrared light and visible light.
    a. Exposure to the welding arc (ultraviolet rays) may result in very painful irritation of the eyes and skin.
    b. Infrared rays act upon the eyes simply as heat and can cause a burn or irritation of the tissue affected.
    c. The glare of excessive visible radiation can cause head-aches, eye fatigue and loss of visual efficiency.
    d. Protective eye wear must be worn during welding to prevent harm to the eyes from light energy
    e. Welding barriers will be used to protect employees working in the same area as welding operations.
4. Inhalation of Welding Fumes: Welding produces airborne exposures to a variety of potentially harmful gases and fumes. Fumes are generated from both the base metal and the wire or rod used in the process. The hazard level from metal fumes depends on the type of metal. In steel welding exposures include iron oxides, chromium, manganese, and nickel. The gases also vary with the type of shield gases used in arc welding, type of rods and fluxes used. Welding must be performed in a well-ventilated area, either by working outside the building, near an open doorway or in a location with a fan ventilation system.

Authorized Employees: Welding will be performed by qualified welders only. Welding operations need to be performed away from flammable materials.

1. If the object to be welded cannot be moved to a safe location, all movable hazardous materials should be moved to a safe location.
2. If this cannot be done, a Hot Work Permit will need to be issued by the Supervisor. The permit will describe the welding zone controls such as enclosing in fireproof blankets or other protective shields when materials in nearby areas can be affected by welding arcs, flames, sparks, spatter, slag or heat. (See below).
3. Fire protection equipment should be kept immediately at hand and ready for use. In critical areas, the fire protection equipment should be staffed while welding operations are being conducted.
4. Care must be taken against allowing mixtures of fuel gas and air to accumulate.
5. Flammable and other potentially hazardous materials should be cleaned from surfaces before welding is started. (Note: The very high temperature of the welding air or flame can cause ignition of materials such as grease, oil or surface coating. These materials will also break down under heat to hazardous gases or fumes).
    a. No welding, cutting or similar work should be under-taken on tanks, barrels, drums or other containers which have been contaminated with flammables unless the contamination is first removed so that there is no possibility of fire, explosion, or emission of toxic vapors. (See Hot Work Permit).
    b. Adequate ventilation should be provided as protection against accumulations of toxic fumes and gases. If such precautions cannot be taken, the welder should wear appropriate respiratory protection (See Personal Protective Equipment and Respiratory Protection).
    c. If welding is to be done in enclosed or confined spaces, a specific “confined space” work permit will be required to be obtained from the management staff. The permit will detail the specific precautions that are required to perform welding in confined areas (See Confined Space Procedures).
6. Precautions need to be taken to avoid shock from electric welding operations.
    a. The welder should not stand in water while doing electric welding.
    b. Hot electrode holders should not be dipped in water.
    c. Cables with damaged insulation or exposed conductors must not be used, and should be replaced before any such work is attempted. If necessary to join lengths of cable, it must be done using only connectors designed specifically for the purpose.

PERSONAL PROTECTIVE EQUIPMENT

The face, body and hands should be covered to prevent burns from splatter, slag, sparks, or hot metal. Flame proof; heat-insulating gloves should be worn during welding operations. Wet or excessively worn gloves should not be used.

1. The eyes and skin should be protected against the glare and radiation from a welding arc or flame.
2. Helpers and attendants should also be provided with eye protection.
3. Other personnel in the vicinity of welding operations should be protected from reflections by suitable shields and barriers.
4. Respiratory equipment may be necessary if ventilation is not sufficient. Specific operation requirements should be made by your supervisor.

GAS CYLINDERS

Gas cylinders must be handled carefully (breaking the neck from a full cylinder can turn the bottle into a missile).

1. Cylinders must be secured to keep them from falling.
2. Acetylene cylinders must always be maintained in an upright position.
3. Oxygen cylinders should be separated from fuel-gas cylinders or other combustible materials by at least 20 feet or by a fire-resistant barrier at least 5 feet high.

4. Oxygen from supply cylinders should be checked to make certain they are not leaking, especially in enclosed spaces, where it can cause ignition of materials that are not normally highly flammable.
5. Grease and oil should be kept away from and never used to lubricate oxygen cylinder valves or regulators.
6. Do not handle oxygen cylinders with oily hands or gloves.
7. Before connecting an oxygen bottle, first open the valve slightly for an instant, then close and attach an oxygen regulator to the valve. Always stand to one side when opening the valve.
8. Empty gas cylinders should be marked and have their valves closed tightly. Valve protection caps should always be in place on those cylinders designed for caps, except when the cylinder is in use or being connected/disconnected.
9. Gas cylinders should be stored out of the direct rays of the sun and away from other sources of heat. Never strike an arc against a gas cylinder.
10. Do not use a hammer or wrench to open cylinder valves. If valves will not open by hand, notify the supplier. Always open the cylinder valve slowly.
11. Do not tamper with cylinder valves or try to repair them. Send the supplier a prompt report of the trouble, including the cylinder serial number, and follow the supplier's instructions.
12. Backflow or flashback preventers will be installed on all oxygen/flammable gas welding and cutting units between the torch or blowpipe and the hoses.
13. Gauges will be maintained in good condition. Cracked or missing glass will be replaced prior to use.

HEXAVALENT CHROMIUM EXPOSURE PLAN

This plan provides the required Oregon OSHA Exposure Assessment Plan OAR 437, Division 2, Subdivision Z Chromium (VI). http://osha.oregon.gov/OSHARules/div2/div2Z-1026-chromiumVI.pdf

The exposure assessment process is designed to comply with the "performance-oriented option" which permits current sampling data, historical data, and objective data to determine the TWA 8-Hour exposure for plant operations.

This plan is also the compliance plan for protection of employees' whose exposures exceed the action limit and the permissible exposure limit.

KEY DEFINITIONS

Action level means a concentration of airborne chromium (VI) of 2.5 micrograms per cubic meter of air (2.5 µg/m3) calculated as an 8-hour time-weighted average (TWA).

Employee exposure means the exposure to airborne chromium (VI) that would occur if the employee were not using a respirator.

Permissible exposure limit (PEL). The employer will ensure that no employee is exposed to an airborne concentration of chromium (VI) in excess of 5 micrograms per cubic meter of air (5 µg/m3), calculated as an 8-hour time-weighted average (TWA).

Regulated area means an area, demarcated by the employer, where an employee's exposure to airborne concentrations of chromium (VI) exceeds, or can reasonably be expected to exceed, the PEL.

RESPONSIBILITIES

Department Management must ensure compliance with this program and supervisors are responsible to implement the program with their employees.

Safety Manager is responsible to ensure that adequate expo-sure monitoring is conducted, written program for chromium(VI) protection are developed and implemented by the affected departments and various records are appropriately maintained.

The following processes result in exposure to Cr(VI) during welding and grinding operations. Note: Each employer must arrange for baseline and periodic sampling of employees' exposures during welding, cutting, grinding on stainless steel. The results of monitoring should be included in this plan.

1. **Employee Job Classes with Cr(VI) Exposures**: Fabrication Welders/Grinders. These employees weld tanks and parts together and make structures for the tanks. The processes involve: gas metal shielded wire arc welding; plasma arc cutting, carbon scarfing, electrode arc welding, and grinding down welds.
2. **Compliance Issues**
    a. Exposure Determination and On-going Monitoring:
        i. Sampling will be based on quarterly to semi-annual monitoring based on Oregon OSHA requirements if the action limit or permissible expo-sure limit is exceeded.
3. **Regulated Area**: If overexposures occur to employees during welding and grinding operations, then the work area becomes a regulated area. Employees working in these areas will be trained and required to wear respiratory equipment when working with stainless steel. Warning signs are posted at the east personnel door entrance and other appropriate areas.
4. **Methods of Compliance:** Respiratory protection of either N100 or P100 filters are required for exposed personnel in the regulated area. Mechanical ventilation improvements are currently under engineering study. Long-term goal is to reduce exposure by engineering methods to less than the action limit.
5. **Respiratory Protection**: For complete respirator pro-gram see Chapter 14. Respiratory Protection Plan.
6. **Emergencies:** No emergency release of Cr (VI) is possible based on the exposure processes.
7. **Protective work clothing and equipment:**
    a. Welders and grinders are provided coveralls that are part of special laundering process.
    b. Coveralls used in the regulated area are laundered by an outside company that has been informed of the potential Cr(VI) contamination.
    c. No employee will remove contaminated protective clothing or equipment from the workplace except those who launder, repair, clean or replace these items.
    d. Removal of chromium from protective clothing or equipment by blowing or shaking into the air or onto an employee's body is prohibited.
    e. Employees have assigned change room lockers for storing clean street clothing and these facilities pre-vent cross-contamination from protective clothing and equipment
    f. Welding leather coats and other styles of non-flammable clothing are stored in the regulated area welding supply lockers.
    g. Leather gloves will also be stored with welding supplies and leather clothing in regulated area lockers.
8. **Hygiene areas and practices**:
    a. The welders and grinders have wash facilities available at
    b. Laundry bins are located in the change room at
    c. Prior to eating, the employees will change out of the work coveralls at either the entrance to regulated area or on dirty side of the locker room.
    d. Employees will wash their face and hands prior to entering lunchroom.
9. **Eating and Drinking Areas**:
    a. Employees are not permitted to eat or drink in the regulated area.
    b. Welders and grinders will doff protective outer clothing prior to eating and wash face and hands.
10. **Housekeeping**:
    a. All surfaces are maintained as free as practicable of accumulations of Cr(VI).

b. All spills and releases of Cr(VI) containing material are cleaned up promptly.
c. Cleaning methods including use of compressed air and dry sweeping of Cr(VI) contaminated dust to remove Cr(VI) from any surface is prohibited.
d. Cleaning equipment is handled in a manner that minimizes the reentry of Cr(VI) into the workplace.
e. Disposal of waste, scrap, debris, and any other materials contaminated with Cr(VI) are collected and dis-posed of in sealed, impermeable bags or other closed, impermeable containers and these containers are clearly labeled.

11. **Medical Surveillance**: The welders and grinders are part of Cr(VI) medical surveillance program managed by The employees are part of the respiratory protection clearance program.
12. **Training**: All welders, grinders and supervisors are part of the Cr(VI) training and information program. The employees will be informed of the quarterly exposure monitoring results and any changes in compliance plan.
13. **Recordkeeping**: All exposure records, exposure assessment and related documents are maintained for a mini-mum of 30 years by the main office administration.

Hot Work Permit Procedures And Instructions

Instructions:

1. This cutting and welding permit may be issued only by a ***supervisor*** and must be used for all cutting and welding done outside of an approved shop.
2. Complete the checklist below before issuing the permit.
3. Display the permit in a highly visible location at the job site.
4. The permit is to be picked up by the supervisor who issued the permit 2 to 4 hours after the work is completed. In the event of a change of shifts, it is the responsibility of the supervisor who issued the permit to notify the supervisor ***on the next shift*** that a permit was issued and will need to be picked up.
5. If you issue a permit late in the work shift and the worksite is down the following shift, notify the next shift supervisor to pick up the permit.
6. If a permit is issued for an unstaffed area of the worksite, notify the next shift supervisor so that they can check there more often.
7. All permits are to be turned into the Safety Office after the final checkup has been completed.

P	Checklist of required precautions:
	Floor swept clean of combustibles.
	Floor wet down (protections from possible shock are put into place if operating arc welding or cutting equipment).
	Flammable liquids removed; other combustible, if not removed, wet down or protected with fire-resistant tarpaulins or metal shields.
	Explosive atmospheres in area are eliminated.
	All wall and floor openings covered or provide an additional fire watch at the lower level.
	Fire watch will be provided during and for ***at least*** 30 minutes after completion of welding or cutting operations to detect and extinguish possible smoldering fires and during any coffee or lunch breaks.
	Fire watch is supplied with a charged fire hose.
	Fire watch is trained in the use of this equipment.

Job date:	Location:
Nature of job:	
Welder's name:	
Time started:	Time finished:
Fire watch name:	

Hot Work Permit Procedures And Instructions, *page 2*

Final checkup by maintenance: work area and all adjacent areas to which sparks and heat might have spread (i.E. Floors above, below and opposite side of walls) were inspected after the work was completed and found to be fire safe.
Maintenance Person Signature:
Final checkup by supervisor: 2 to 4 hours after work completed
Date & time:
Signature of person responsible:

Cutting: Welding Hot Work Permit

Date:	Location:
Work To Be Done:	
Maintenance:	
Instructions To Fire Watch:	
Fire Watch Names:	

ELECTRICAL SAFETY

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	026	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	At appointment to related position

ELECTRICAL SAFETY

OAR 437, Division 2, Subdivision C

This Electrical Safety Program was established to provide the maximum protection to our employees whenever they must work around any electrical hazards.

Employees involved in the maintenance, repair, and servicing of equipment that requires electrical energy or that work around overhead or underground electrical lines must follow these guidelines.

Note: Please also refer to the lockout/tagout program when completing work on equipment and machinery.

GENERAL RESPONSIBILITIES

Direct Supervisor: The Direct Supervisor is responsible for overall policy implementation and working with the Safety Committee and employees. The Direct Supervisor is also responsible to oversee completion of periodic audits and an annual policy review. In order to protect employees from hazards when working with electrical equipment, tools and appliances the Direct Supervisor must:

1. Inspect all electrical equipment to make sure the equipment is safe.
2. Require that all electrical equipment is used for its approved or listed purpose.
3. Require that all electrical equipment used or located in wet or damp locations is designed for such use.
4. Identify disconnecting means (see also lockout/tagout program).
5. Maintain electrical fittings, boxes, cabinets and outlets in good condition.
6. Maintain all flexible cords and cables in good condition and use safely.
7. Guard electrical equipment to prevent employees from electrical hazards.
8. Require that all electrical equipment be effectively grounded.
9. Require that all electrical equipment have overcurrent protection.

Authorized Employees: Only workers and supervisors who have received special training to recognize and understand the particular hazards involved with the tasks to be performed and the type/magnitude of electrical hazards are authorized to implement the procedure.

Affected Employees: An affected employee is one whose job requires them to perform maintenance on items powered by electrical energy, or that performs work around areas with overhead and/or underground electrical lines.

Training: A key component of this program is employee training. It is the supervisor's responsibility to see that all employees exposed to electrical hazards are trained on working around them. The authorized employees are

to receive additional specialized training as outlined in this program. The training must be documented by the Direct Supervisor.

INSPECTION OF ELECTRICAL EQUIPMENT

1. All electrical equipment must be inspected to make sure there are no recognized hazards likely to cause your employees' death or serious physical harm. Determine the safety of the equipment by using the following list:
2. Approved or listed by a recognized testing laboratory, such as Underwriters Laboratories (UL) or other certification agency.
3. Approved, or listed as approved, for the purpose it is being used.
4. Includes strong and durable guards that provide adequate protection, including parts designed to enclose and protect other equipment.
5. Has electrical insulation.
6. Won't overheat under conditions of use.
7. Won't produce arcs during normal use.
8. Classified by:
    a. Type
    b. Size
    c. Voltage
    d. Current Capacity
    e. Specific Use
    f. Other Factors

ENSURING APPROVED OR LISTED PURPOSE USE

Electrical Outlets: Places on an electric circuit where power is supplied to equipment through receptacles, sockets and out-lets for attachment plugs.

Receptacles: Outlets that accept a plug to supply electric power to equipment through a cord or cable.

Electrical outlets should be rated equal or greater to the electrical load supplied.

The proper mating configuration should exist when connecting the attachment plug to the receptacle.

When electrical outlets, cord connectors, and receptacles are joined, they should accept the attachment plug with the same voltage or current rating (see below graphic).

SOME COMMON ELECTRICAL OUTLET (RECEPTACLE) CONFIGURATIONS

	15 Ampere	20 Ampere	30 Ampere	50 Ampere
Two Pole 3 - Wire Grounding 125 Volt				
Three Pole 3 - Wire 125/250 Volt				

Note: A 20-ampere "T-solt" outlet or cord connector may accept a 15-ampere attachment plug of the same voltage rating.

ENSURE WET/DAMP LOCATIONS ARE DESIGNED FOR SUCH USE

- Fixtures and receptacles located in wet or damp locations must be approved for such use. They must be constructed or installed so that water cannot enter or accumulate in wire ways, lamp holders, or other electrical parts.
- Cabinets, fittings, boxes, and other enclosures in wet or damp locations should be installed to prevent moisture or water from entering or accumulating inside.
    - In wet locations, enclosures must be weatherproof.
    - Switches, circuit breakers, and switchboards located in wet locations must be in weatherproof enclosures.

MANUFACTURERS MARKINGS

Markings on electrical equipment must be durable and appropriate for the environment.

Appropriate markings include:

- The manufacturers name; or
- Trademark; or
- The organization responsible for the product; and
- Voltage, current, wattage or other ratings as necessary.

IDENTIFY MEANS OF DISCONNECTING

The disconnect means (such as on/off switches and circuit breakers) must be marked to show when it's open and closed, and what equipment it controls unless located and arranged so the purpose is obvious.

Each service, feeder and branch circuit should be marked at its disconnecting means or overcurrent device to show when the circuit is open/closed, and what circuit it controls (unless located and arranged so the purpose is obvious).

Markings on the disconnect should be durable and appropriate to the environment in which the disconnect is located.

FITTINGS, BOXES, CABINETS, AND OUTLETS

<u>Openings and Covers</u>

1. When conductors enter boxes, cabinets, or fittings, the following must be in place:
    a. The conductor must be protected (i.e. the wires must be protected from abrasions).
    b. Openings where conductors enter should be effectively closed so that the internal wiring is not exposed.
    c. Any unused openings should be covered with blanks to ensure that employees are not exposed to the internal wiring.
2. Provide pull boxes, junction boxes, and fittings with covers approved for the purpose
3. Each outlet box must have a cover, faceplate, or fixture canopy in completed installations.
4. Covers for outlet boxes with openings for flexible cord pendants must have bushing to protect the cord, or have a smooth and well-rounded surface where the cord touches the opening.
5. Metal covers must be grounded.

<u>Areas in front of electrical panels, circuit breaker boxes, and similar equipment which operate at 600 volts or less</u>

1. Must have sufficient working area at least 30 inches wide for operational and maintenance of the equipment.
2. Must be kept clear and free of stored materials so that employees can access this equipment for servicing, adjustments, or maintenance.
3. Should have at least one access route that is free of obstructions.
4. Have at least 3 feet (36 inches) of working space in front from floor to ceiling (measured from the exposed live part or the enclosure front). Consider installing signage that states this requirement to ensure that the 3 feet clearing is maintained at all times (or marking the area with yellow paint).
5. Should have adequate indoor lighting for clear viewing of the area.
6. Have at least 6 feet 3 inches of headroom.

The table below shows the area to keep clear depending upon the layout of the electrical equipment

Conditions*	0-150 Volts to Ground	151-600 Volts to Ground
A	3 ft	3 ft
B	3 ft	3.5 ft
C	3 ft	4 ft

Minimum clear distances may be 0.7 m (2.5 ft) for installations built before April 16, 1981.

*Conditions A, B, and C are as follows:

A = Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating material. Insulated wire or insulated bus bars operating at not over 300 volts aren't considered live parts.

B = Exposed live parts on one side and grounded parts on the other side.

C = Exposed live parts on both sides of the workspace (not guarded as provided in condition (a) with the operator between the panels).

FLEXIBLE CORDS AND CABLES

Exemption: Rules do not apply to cords and cables that are an internal part of factory assembled appliances and equipment, like the windings on motors or wiring inside electrical panels.

1. You must perform a visual inspection of all flexible cords and cables on portable cord and plug connected equipment and extension cords before use on each work shift. It is not required that you visually inspect portable cord and plug connected equipment and extension cords that stay connected once in place and aren't exposed to damage until they are moved. Defects and damage to look for include:
    a. Loose parts;
    b. Deformed or missing pins;
    c. External defects and damage;
    d. Damage to the outer covering or insulation;
    e. Pinched or crushed covering or insulation that might indicate internal damage
2. You must remove from service any defective or damaged cord until repaired and tested.
3. Make sure flexible cords and cables are used as described.
4. Use flexible cords only as follows:
    a. Wiring of equipment and appliances;
    b. Data processing cables approved as a part of the data process system;
    c. Pendants;
    d. Wiring for fixtures;

    e. Connecting portable lamps or appliances to an approved outlet with an attached plug;
    f. Connecting stationary equipment that is frequently changed with an attachment plug energized from an approved outlet;
    g. Preventing noise or vibration transmission;
    h. Appliances that have been designed to permit removal for maintenance and repair if the appliance is equipped with an attachment plug energized from an approved outlet;
    i. Elevator cables;
    j. Wiring of cranes and hoists.
5. If additional power supplies are needed, utilize an approved surge protector with multiple outlets.
6. Extension cords cannot be plugged into or piggybacked on to other extension cords or surge protectors.
7. If the light on the surge protector is flickering or off, remove the surge protector from service. This flickering or absence of a light indicates that a power surge has gone through the surge protector, and it is no longer working appropriately.
8. Cheater boxes plugged into electrical receptacles are not allowed.
9. Flexible cords cannot be used in the following ways:
    a. As a substitute for fixed wiring of a structure;
    b. To run through holes in walls, ceilings, or floors;
    c. To run through doorways, windows, or similar openings;
    d. To attach to building surfaces;
    e. To conceal behind building walls, ceilings, or floors;
    f. To raise or lower equipment.
10. Flexible cords and cables will be approved for conditions of use and location.
11. Do not fasten or hang cords and equipment in any way that could cause damage to the outer jacket or insulation of the cord. Use tension relief devices.
12. Insulation on flexible cords and cables must be intact.
13. Flexible cords and electrical cords must be:
    a. Connected to devices and fittings so that any pulling force on the cord is prevented from being transmitted to joints or terminal screws on the plug.
    b. Used only in continuous lengths without splice or tap.
14. Do not plug or unplug equipment or extension cords of equipment that is energized using wet hands.

TEMPORARY CORD USE

1. Temporary electrical power (such as extension cords) and lighting installations that operate at 600 volts or less are used only:
    a. During and for remodeling, maintenance, repair or demolition of buildings and similar activities.
    b. For experimental or development work.
    c. For a period not to exceed 90 days for:
        i. Christmas decorative lighting;
        ii. Carnivals;
        iii. Other similar purposes.
2. Flexible cords and electrical cords used on a temporary basis must be protected from accidental damage by avoiding sharp corners and projections, especially where they pass through doorways and other pinch points.

GUARD ELECTRICAL EQUIPMENT

1. Guard live parts of electrical equipment operating at 50 volts or more against accidental contact by any of the following means:
    a. Approved cabinets or other forms of approved enclosures.

   b. By location in a room, vault or similar enclosure that is accessible only to employees qualified to work on the equipment. Entrances to rooms and other guarded locations containing exposed live parts must be marked with conspicuous warning signs forbidding unqualified persons from entering.
   c. By permanent, substantial partitions or screens so that only employees qualified to work on the equipment will have access within reach of the live parts. Any openings must prevent accidental contact with live parts by employees or objects carried by employees.
   d. By location on a balcony, gallery, or platform that will exclude unqualified personnel.
   e. By being located 8 feet or more above the floor or other working surface.
2. All electrical appliances, fixtures, lamps, rosettes, and receptacles should not have live parts normally exposed to employee contact.
   a. Rosettes and cleat type lamp holders at least 8 feet above the ground may have exposed parts.
3. In locations where electrical equipment would be exposed to physical damage, enclosure or guards must be so arranged and of such strength as to prevent such damage.

GROUND ELECTRICAL EQUIPMENT

1. The path to ground from circuits, equipment, and enclosures must be permanent and continuous.
2. Grounding prongs must not be removed from electrical cords and each electrical receptacle must provide a location for a ground prong. Cords without grounding prongs must not be used.
3. Equipment connected by cord and plug must be grounded under these conditions:
   a. Equipment with exposed noncurrent carrying metal parts;
   b. Cord and plug connected equipment which may become energized;
   c. Equipment that operates at over 150 volts to ground;
   d. Equipment in hazardous locations.
4. The following types of equipment must be ground:
   a. Hand-held motor-operated tools;
   b. Refrigerators;
   c. Freezers;
   d. Air conditioners;
   e. Water fountains or water dispensing machines;
   f. Clothes washers and dryers;
   g. Electrical aquarium equipment;
   h. Hedge clippers;
   i. Electric lawn mowers;
   j. Electric snow blowers;
   k. Web scrubbers;
   l. Tools likely to be used in damp or wet locations (i.e. in water or wastewater facilities);
   m. Appliances used by employees standing on the ground, on metal floors, or working inside of metal tanks or boilers;
   n. Portable hand lamps.
5. Grounding can be achieved by using tools and appliances equipped with an equipment grounding conductor (3 prong plug and grounded electrical system). Hand held tools and some types of equipment must use a 3-wire plug or the tool label must show the tool as insulated by words or symbol.
6. Exposed metal parts of fixed equipment that don't conduct electricity (but may become energized) must be grounded if the equipment is in a wet or damp location and isn't isolated.
7. Grounded wires must be identified and look different than the other conductors (wires).
8. Grounded conductors should not be attached to any terminal or lead to reverse polarity of the electrical outlet or receptacle.

9. Grounding terminals or grounding-type devices on receptacles, cords, connectors, or attachments plugs should not be used for purposes other than grounding.

OVERCURRENT PROTECTION

1. All electrical circuits that are rated at 600 volts or less must have overcurrent protection.
2. Protect conductors and equipment according to their ability to safely conduct electrical equipment.
3. Overcurrent devices should not interrupt the continuity of grounded conductors unless all conductors are opened at the same time, except for motor running overload protection.
    a. Protect employees from electrical arcing or suddenly moving electrical parts by locating fuses and circuit breakers in safe places. If this isn't possible, install shields on fuses and circuit breakers.
4. The following fuses and thermo cutouts should have dis-connecting mechanisms:
    a. All cartridge fuses accessible to nonqualified persons;
    b. All fuses on circuits over 150 volts to ground;
    c. All thermal cutouts on circuits over 150 volts to ground;
    d. The disconnecting mechanism must be installed so you can disconnect the fuses or thermal cutouts without disrupting service to equipment and circuits unrelated to those protected by the overcurrent device.
5. Provide easy access to overcurrent devices for each employee or authorized building management personnel.
6. Protect the overcurrent devices by locating them away from easily ignitable materials.
    a. They must be placed to avoid exposure to physical damage.
7. Circuit breakers:
    a. Must clearly indicate when they are open (off) and closed (on).
    b. That operate vertically must be installed so the handle is in the up position when the break is closed (on).
    c. Used as switches in 120-volt, fluorescent lighting circuit must be approved for that purpose and marked "SWD".
    d. That have arcing or suddenly moving parts should be shielded or located so employees won't get burned or injured by the operation of the circuit breaker.
8. Fuses that have arcing or suddenly moving parts must be shielded or located so employees won't get burned or injured by the operation of the fuses.

GROUND-FAULT CIRCUIT INTERRUPTERS (GFCI)

1. OAR 437-003-0404 requires ground-fault circuit interrupters (GFCIs) on all 125-volt, single-phase, 15-, 20-, and 30-ampere receptacles that are not part of the permanent wiring of a building or structure.
2. If a permanently wired receptacle (not equipped with GFCI protection) is used for temporary power in a construction project, GFCI protection must be provided at the user end.
3. Portable plug-in and cord-type GFCIs are probably the most practical devices for construction workers who use cord sets for temporary power when there is no protection at the source.
4. GFCIs sense imbalances or differences along the electrical circuit and shut it down when needed. For this reason, GFCI can be critical to workers in wet environments. The rule for GFCI does not exempt work with intrinsically safe or double insulated tools.
5. GFCIs must either be built into the overall circuit, as part of the outlet receptacle, or using protected cord sets or GFCI devices.

6. GFCI protection can be anywhere on the circuit as long as it works effectively to protect the worker. Protection can be for the entire circuit, the outlet receptacle, or the extension cord.
7. For receptacles with more than 125 volts, single-phase, or more than 30-amp capacity, use GFCI or have a program that ensure equipment is grounded: see OAR 437-003-0404(3).
8. There must be a written description of assured equipment and grounding program at each job site that includes specific procedures.
9. One or more competent persons should be designated to run the program. (A competent person is someone who is capable of identifying hazards and has authority to promptly correct them).
10. Each day, inspect all extension cords and equipment (plug connected) for external defects before using them.
11. Conduct periodic tests of all grounding conductors for continuity and test each receptacle or plug to ensure that the grounding conductor is connected to the right terminal.
12. Testing is required before the first use, before the first use after a repair, before use after any event that could cause damage, and at least every three months (six months for fixed cords sets and receptacles not exposed to damage).
13. Record all tests by identifying each cord, receptacle, or piece of equipment and its test date or test interval. Keep the test record until a new record replaces it using logs, color coding, or other means. These records must be available on the job site.
14. All electrical receptacles located within 6 feet of a water source (i.e. sink) must have a GFCI on the receptacle or the circuit that controls that receptacle.

BURIED ELECTRICAL LINES

1. Any time workers are required to start any in-ground work like digging or driving objects, OR-OSHA standard OAR 437-003-1926.651(b)(1) requires locating utilities before digging. For more information see: http://osha. oregon.gov/OSHAPubs/hazard/2993-05.pdf
2. The primary contractor or facilitator of the work must call the Oregon Utility Notification Center (OUNC) before starting work. Call (800) 332-2344.
3. OUNC will then come out to locate and mark all utilities in the area where the work will be performed.
4. The contractor or facilitator of the work must ensure that power to any electrical lines in the area of work must be deenergized to ensure employee safety.
5. If a worker contacts an underground line or pipe, the contact could be fatal.
6. In addition, the contractor or person responsible for the work is responsible for all repair costs if they did not contact OUNC before starting work.

OVERHEAD ELECTRICAL LINES

1. To protect those working near overhead power lines from accidental contact, the Oregon Legislature passed into law the High Voltage Overhead Line Safety Act. See ORS 757.800 and 757.805.
2. The law provides that no work activities take place within 10 feet of a high voltage overhead power lines until the following two requirements are met:
    a. The responsible party must notify the utility operating the line of the intended work activity.
    b. The responsible party and the utility must complete mutually satisfactory precautions for the activity.
3. As soon as you inform your local utility of your intended work activity, the following can occur:
    a. Coordination of work schedules.
    b. Identification of temporary mechanical barriers to prevent contact with the lines.
    c. Temporary de-energizing and grounding of the lines
    d. Temporary raising or moving of the lines.

PERSONAL PROTECTIVE EQUIPMENT

1. Employees must wear appropriate Personal Protective Equipment (PPE) when working around electrical sources. See PPE standard at General Industry Div. 2 Subdivision I: 1910.137 Electrical Protective Equipment. Electrical protective equipment is subject to regular electrical tests to ensure they are still providing protection to the employee.
2. Electrical protective equipment will be maintained in a safe, reliable condition.
3. Insulating equipment will be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage. Insulating gloves will be given an air test, along with the inspection.
4. Insulating equipment will be stored in such a location and in such a manner as to protect it from light, temperature extremes, excessive humidity, ozone, and other injurious substances and conditions.
5. Insulating equipment with any of the following defects may not be used:
    a. A hole, tear, puncture, or cut;
    b. Ozone cutting or ozone checking (the cutting action produced by ozone on rubber under mechanical stress into a series of interlacing cracks);
    c. An embedded foreign object
    d. Any of the following texture changes: swelling, softening, hardening, or becoming sticky or inelastic;
    e. Any other defect that damages the insulating properties.

LADDER SAFETY

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	027	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes
Associated Form:	n/a	**Training Frequency:**	At appointment to related position and periodically thereafter

LADDER SAFETY

OAR 437, Division 2, Subdivision D

We take portable ladders for granted because they're so easy to use. Yet more workers are injured in falls from ladders than from any other elevated surface—roofs, scaffolds, balconies, even stairs. Why do workers fall from ladders? Most falls happen because workers select the wrong type of ladder for the job, the ladder is set up improperly, or the ladder shifts or slips unexpectedly. Workers also fall when their foot slips, they lose their balance, they overreach, or something knocks the ladder over.

DEFINITIONS

Check: A lengthwise separation of the wood that occurs across the rings of annual growth.

Cleat: A rectangular ladder crosspiece placed on edge, upon which a person may step while ascending or descending.

Competent person: One who can identify existing and predictable hazards where employees work and who can take prompt corrective measures to eliminate the hazards.

Decay: Disintegration of wood substance due to action of wood-destroying fungi. Also known as dote and rot.

Extension ladder: A non-self-supporting portable ladder that is adjustable in length. It consists of two or more sections in guides or brackets that permit length adjustment. Length is designated by the sum of the lengths of each section, measured along the side rails.

Extension trestle: A self-supporting portable ladder that is adjustable in length, consisting of a trestle ladder base and a vertically adjustable single ladder with means for locking the ladders together. Length is designated by the length of the trestle ladder base.

Fastening: A device that attaches a ladder to a structure, building, or equipment.

Platform ladder: A self-supporting ladder of fixed size with a platform at the working level.

Rungs: Ladder crosspieces on which a person steps when ascending or descending.

Sectional ladder: A non-self-supporting portable ladder, nonadjustable in length, consisting of two or more sections that function as a single ladder. Its length is designated by the over-all length of the assembled sections.

Single (or straight): A single section non-self-supporting portable ladder that is nonadjustable in length. Its length is measured along a side rail.

Special-purpose: A general-purpose portable ladder with modified features for specific uses.

Stepladder: A self-supporting portable ladder, nonadjustable in length that has flat steps and a hinged back. Length is measured along the front edge of a side rail.

Steps: The flat crosspieces of a ladder on which a person steps when ascending or descending.

Tread: The horizontal member of a step.

Tread width: The horizontal distance from front to back of the tread, including nosing.

Trestle ladder: A self-supporting portable ladder, nonadjustable in length that consists of two sections hinged at the top to form equal angles with the base. Length is measured along the front edge of a side rail.

SELECTING A LADDER

Which ladder is the right one for your job? You'll save time, energy and reduce your risk of injury if you select the correct one. Key factors are type and style, length, duty rating, and the material from which the ladder is made. Most portable ladders are either non-self-supporting, such as an extension ladder, or self-supporting, such as a standard stepladder. But there are also combination ladders that convert quickly from a stepladder to an extension ladder. You're likely to find the right size, shape, and type of ladder to accomplish your task within one of these categories.

Extension Ladders (Non-Self-Supporting)

Extension ladders offer the greatest length in a general-purpose ladder. The ladder consists of two or more sections that travel in guides or brackets, allowing adjustable lengths. The sections must be assembled so that the sliding upper section is on top of the lower section. Each section must overlap its adjacent section a minimum distance, based on the ladder's overall length. The overall length is determined by the lengths of the individual sections, measured along the side rails. The table below shows the minimum overlap for two-section ladders up to 60 feet long.

Ladder Length	Overlap
Up to 36 feet	3 feet
36 to 48 feet	4 feet
48 to 60 feet	5 feet

Most extension ladders are made of wood, aluminum, or rein-forced fiberglass. Wood ladders can't have more than two sections and must not exceed 60 feet. Aluminum and fiberglass ladders can have as many as three sections; however, the overall length must not exceed 72 feet. Individual sections of any extension ladder must not be longer than 30 feet. Extension ladders can be used only by one person at a time.

Is It Necessary To "Tie Off" An Extension Ladder To Prevent It From Slipping?

You don't have to tie off the ladder but you do have to ensure that the ladder cannot be accidentally moved or displaced. Tying off the top or bottom of a ladder is one way to ensure that it cannot be accidentally moved or displaced.

Standard Stepladders (Self-Supporting)

The standard stepladder has flat steps and a hinged back. It is self-supporting and nonadjustable. Standard stepladders should be used only on surfaces that have a firm, level footing such as floors, platforms, and slabs. They're available in aluminum, wood, or reinforced fiberglass and are intended to support only one worker at a time. Remember not to stand on the top step. Stepladders must have metal spreaders or locking arms and can't be longer than 20 feet, measured along the front edge of the side rails.

Can I use a standard stepladder like a straight ladder?

Using a standard stepladder in a closed position is not a safe practice because it's more likely to slip on surfaces such as concrete and wood than a straight ladder. Standard stepladders are designed to be used only when the spreader arms are open and locked. If a standard stepladder doesn't meet your needs, choose an appropriate straight ladder or a combination ladder.

Other Types of Stepladders Include:

- Two-way stepladder: The two-way stepladder is similar to the standard stepladder; however, each side of this ladder has a set of steps. One person can work from either side or two people can work from the ladder at the same time—one on each side.
- Platform ladder: The platform ladder is a special-purpose ladder that has a large, stable work platform. The ladder's length is determined by the length of the front edge of the side rail from the bottom of the ladder to the base of the platform; it can't exceed 20 feet.
- Orchard ladder: The orchard ladder is a special-purpose ladder for pruning and harvest work. It has a flared base and a single back leg that offers support on soft, uneven ground. Orchard ladders are intended for use by only one person at a time and can't be longer than 16 feet. Wood, aluminum, and reinforced fiberglass versions are avail-able. A more rigid orchard ladder, the so-called double base version, incorporates a triangular box brace with stub rails attached to the bottom step. The ladder is available in wood or with a combination wood or fiberglass rail and metal step. Maximum length is 16 feet and it is intended for use by one person. Do not stand on the top step of an orchard ladder. Orchard ladders are often safer on uneven or sloped ground than conventional stepladders. An orchard ladder is designed to be used on soil or turf so that each leg slightly penetrates the ground. Orchard ladders should never be used on concrete or hard surfaces. Tripod ladders that have spreader braces, also called electrician's ladders, are common on construction sites, too.
- Trestle ladder: A trestle ladder is a self-supporting por-table ladder that has two sections hinged at the top, forming equal angles with the base. A variation of the trestle ladder, the extension trestle ladder includes a vertically adjustable single ladder that can be locked in place. (The single extension section must lap at least 3 feet into the base section.) Trestle ladders are used in pairs to support planks or staging. The rungs are not intended to be used as steps. The angle of spread between open front and back legs must be 5½ inches per foot of length. The length can't be more than 20 feet, measured along the front edge of the side rails. Rails must be beveled at the top and have metal hinges to prevent spreading. Metal spreaders or locking devices are required to keep the rails in place.
- Combination ladders and multipurpose ladders: These ladders share many of the features of stepladders and extension ladders. Most quickly convert from standard stepladders to extension ladders, and many can be used in three or more variations—such as a stairway ladder, two-way stepladder, or a self-supporting scaffold base.

Determine The Proper Length

- Standard stepladders: You should be able to reach about 4 feet above the top of the ladder when you're standing two steps down from the top. For example, you should be able to reach an 8-foot ceiling on a 4-foot ladder. Never use the top of a stepladder as a step.

- Extension ladders: The total length of an extension ladder should be 7-10 feet longer than the vertical distance to the upper contact point on the structure—a wall or roofline, for example. Never stand on the ladder rungs that extend above a roofline.

Determine The Duty Rating

Manufacturers give ladders duty ratings, based on the maxi-mum weight they can safely support. The worker's weight plus the weight of any tools and materials that are carried onto the ladder must be less than the duty rating. Before you purchase a ladder consider the maximum weight it will support. Don't subject it to a load greater than its duty rating. Duty ratings for portable ladders:

1. Special duty (IAA) 375 pounds
2. Extra heavy duty (I-A) 300 pounds
3. Heavy duty (I) 250 pounds
4. Medium duty (II) 225 pounds
5. Light duty (III) 200 pounds

Determine The Right Material

- Wood: Wood provides a natural feel and good insulation against heat and cold. However, untreated wood ages quickly; wood ladders need a protective coat of clear varnish to keep the wood from drying and splitting. Also, wood ladders are heavy, particularly longer ones.
- Aluminum: Aluminum ladders are lightweight and corrosion resistant. Aluminum will not crack or chip with rough handling; however, aluminum doesn't insulate well against heat and conducts electricity. Never use aluminum ladders for work near energized electrical lines.
- Fiberglass: Fiberglass is durable, weather resistant, and nonconductive when clean and dry. Unlike wood, fiberglass won't dry out or split and provides better insulation against heat than aluminum. However, fiberglass ladders are heavier than comparable aluminum or wood ladders and can chip or crack with improper handling.
  Fiberglass ladders must also be handled and maintained with more care than wood ladders. After a few years, the reinforcing fibers in fiberglass rails may become exposed, resulting in a condition known as "fiber bloom." High humidity and exposure to strong sunlight can accelerate the condition. Fiber bloom doesn't affect a ladder's strength but it will affect the appearance and may cause users mild discomfort if exposed fibers penetrate their skin. Regular washing and waxing with a commercial non-slip paste wax will protect the ladder and reduce the potential for fiber bloom. Periodically coating the ladder with acrylic lacquer or polyurethane also will protect it.

HOW TO SET UP A LADDER

Setting up the ladder:

1. Move the ladder near your work. Get help if the ladder is too heavy to handle alone.
2. Lock the spreaders on a stepladder. Secure the lock assembly on extension ladders.
3. Make sure there are no electrical wires overhead.
4. Use traffic cones or other barriers to protect the base of the ladder if vehicles or pedestrians could strike it.
5. Make sure that a non-self-supporting ladder extends at least 3 feet above the top support point for access to a roof or other work level. Do not step on rungs above the upper support.
6. Angle non-self-supporting ladders properly. The length of the side rails from the ladder's base to the top support points (the working length) should be four times the distance from ladder's base to the structure (the set-back distance). Done correctly, this results in a 4:1 set-up angle.

Achieving a 4:1 Set-up Angle

1. A non-self-supporting ladder should have a set-up angle of about 75 degrees, or a 4:1 ratio of the ladder's working length to set-back distance.
2. Here's how to achieve it: Stand at the base of the ladder with your toes touching the rails. Extend your arms straight out in front of you. If the tips of your fingers just touch the rung nearest your shoulder level, the angle of your ladder has a 4:1 ratio.

Five Steps for Setting up an Extension Ladder

1. The ladder should be closed. Position the ladder with the base section on top of the fly section. Block the bottom of the ladder against the base of the structure.
2. Make sure there is clearance and no electrical lines are overhead. Carefully "walk" the ladder up until it is vertical. Keep your knees bent slightly and your back straight.
3. Firmly grip the ladder, keep it vertical, and carefully move back from the structure about one quarter the distance of the ladder's working length. This allows you to place it at the correct angle against the structure.
4. Raise the fly section. After the bottom rung of the fly section clears the bottom rung of the base section, place one foot on the base rung for secure footing.
5. Lean the ladder against the structure. The distance from the base of the ladder to the structure should be one quarter the distance of the ladder's working length. Make sure the ladder extends 3 feet above the top support points for access to a roof or other work level. Both rails should rest firmly and securely against the structure.

WORKING SAFELY ON A LADDER

1. Wear shoes that have non-slip soles; make sure they are free of mud, oil, or anything else slippery.
2. Climb facing the ladder. Center your body between the rails and keep your hips square to the rungs. Hold the side rails with both hands; you have a better chance of avoiding a fall if a rung or step fails.
3. Hold the ladder with one hand and work with the other hand whenever possible.
4. Attach light, compact tools or materials to the ladder or to yourself.
5. Raise and lower heavy, awkward loads with a hand line or a hoist.
6. Use extreme caution when you're pushing or pulling materials.

INSPECTING A LADDER

Neglected ladders quickly become unsafe ladders. Step bolts loosen, sockets and other joints work loose, and eventually the ladder becomes unstable. Periodic maintenance extends a ladder's life and saves replacement costs. Maintenance includes regular inspection, repairing damage, and tightening step bolts and other fastenings.

1. Inspect your ladder each time you use it. (A competent person must periodically inspect ladders for defects and after any occurrence that could make them unsafe.)
2. Replace lower steps on wooden ladders when one-fourth of the step surface is worn away. Typically, the center of a step receives the most wear. Mineral abrasive or other skid-resistant material reduces wear.
3. Don't paint wood ladders—paint conceals defects.
4. Clean and lightly lubricate moving parts such as spreader bars, hinges, locks, and pulleys.
5. Inspect and replace damaged or worn components and labels according to the manufacturer's instructions.
6. Inspect the rails of fiberglass ladders for weathering, fiber bloom, and cracks.

7. Keep the ladder away from heat sources and corrosive materials.

STORING A LADDER

1. Use a well-ventilated storage area.
2. Store wood and fiberglass away from excessive moisture, heat, and sunlight.
3. Keep them away from stoves, steam pipes, or radiators.
4. Store non-self-supporting ladders in flat racks or on wall brackets that will prevent them from sagging.
5. Secure them so that they won't tip over if they are struck.
6. Keep material off ladders while they are stored.

TRANSPORTING A LADDER

When carrying a ladder, keep the front end elevated, especially around blind corners, in aisles, and through door-ways. You'll reduce the chance of striking another person with the front of the ladder.

When transporting a ladder in a truck or a trailer, make sure that it is properly supported parallel to the bed. Pad the support points with soft, nonabrasive material such as rubber or carpeting and tie the ladder securely to eliminate chafing and road shock.

SAFE PRACTICES CHECKLIST

- When portable ladders are used to access an upper landing, the side rails extend at least 3 feet above the upper landing. When this is not possible, the ladder is secured to a rigid support at its top and a grab rail is available to help employees get off the ladder.
- Ladders are free of oil, grease, and other hazards that could cause slips.
- Ladders are not loaded beyond the manufacturer's duty rating.
- Ladders are used only for the purpose for which they were designed.
- Extension ladders are placed so that the working length of the ladder is four times the horizontal distance from the ladder's base to the structure, or a 4:1 ratio.
- Ladders are used on stable, level surfaces or they are secured so that they cannot be displaced.
- Ladders are not used on slippery surfaces unless they are secured or they have slip-resistant feet.
- All ladders, except stepladders, have non-slip safety feet.
- Employees are prohibited from placing ladders on boxes, barrels, and other unstable objects.
- Ladders used near passageways, doorways, or driveways are protected so that vehicles or pedestrians do not strike them.
- The area around the top and bottom of a ladder is free from slipping and tripping hazards.
- The top of a non-self-supporting ladder is placed so that both rails are supported equally.
- Ladders are not moved, shifted, or extended when they are occupied.
- Ladders that could contact exposed energized electrical equipment have non-conductive side rails.
- Portable aluminum ladders have legible signs reading "CAUTION: Do Not Use Around Electrical Equipment" or equivalent wording.
- The top step of a stepladder is not used as a step.
- Cross bracing on the rear section of a stepladder is not used for climbing unless the ladder is designed for that purpose.
- Employees are prohibited from using ladders that are missing steps, rungs, cleats, or have broken side rails or other faulty parts.

- A competent person inspects ladders periodically for defects and after any occurrence that could damage them.
- Defective ladders are marked as defective, or are tagged “Do Not Use” and removed from service until they are repaired.
- Repaired ladders meet their original design criteria before they are returned to service.
- Employees face ladders while climbing or descending.
- Employees use at least one hand to grasp the ladder when they are climbing and descending.
- Employees do not carry objects or loads that could cause them to lose their balance.
- Employees who use ladders receive training by a competent person in proper use, placement, and handling.
- Employees know the hazards associated with ladder use and follow procedures that minimize the hazards.
- Retraining is provided periodically to ensure that employees maintain their knowledge of proper ladder use, placement, and handling.

JOB HAZARD ANALYSIS

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	March 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	028	**Revised Date:**	n/a
Scope:	All Employees	**Training Needed:**	Yes; Department Heads/Supervisors
Associated Form:	Job Hazard Analysis Form	**Training Frequency:**	At position creation and periodically thereafter

JOB HAZARD ANALYSIS AND CONTROL

The following basic principles are to be used during review of employee job activities. The job hazard analysis is done to identify any hazards or risks that could cause injury or illness to employees.

Recommendations on how to eliminate or reduce the hazards are made based on the extent feasible and may involve an incremental abatement process.

DEFINITIONS

Job Hazard Analysis: A tool or process to make a job safe before hazards become accidents. This is done through the identification of hazards associated with a specific job and planned actions to control or eliminate the hazards. It provides a formal systematic method, that when used consistently can provide the basic framework of a proactive safety program.

Hazard: A potential danger which can result in injury or illness.

PROCEDURES

The following procedure will be followed when performing a Job Hazard Analysis:

1. Employees will be interviewed about whether performing the job poses physical difficulties and if so, which physical work activities or conditions of the job they associate with the difficulties.
2. Employees will be observed performing the job to identify which physical work activities, workplace conditions and risks/hazards are present.
3. Evaluate the job's hazards and risk factors including duration, frequency and magnitude.
4. Identify, assess and implement feasible controls to eliminate or materially reduce the job hazards. This includes prioritizing the control of hazards and includes consideration of appropriate controls including administrative, engineering, PPE and work practice controls.
5. Track progress of eliminating or materially reducing the job hazards. This process includes consulting with employees about whether the implemented controls have eliminated or materially reduced the hazards.

TYPES OF CONTROLS

Any combination of engineering, administrative and/or work practice controls can be used to eliminate or materially reduce hazards.

Personal protective equipment may be used to supplement engineering, work practice and administrative controls, but may only be used alone where other controls are not feasible.

TRAININGS

Training will be provided to department heads/supervisors or responsible staff on how to properly conduct job hazard analysis.

JOB HAZARD ANALYSIS FORM

Factors	Issues	Response
Job tasks	Describe a typical day (shift) on your job.	
Safety Hazards	Hazards encountered?	
	Need for PPE?	
	Need for lifting aid/ergonomic devices?	
	If lifting or force exertion is required, how often?	
PPE	Types of PPE and safety training for PPE provided.	
Work Cycle	How much time does it take to complete one inspection?	
	How much does that time vary per shift?	
	How long does it take to learn the job?	
	What tasks are the most difficult and why?	
Job Task/Operation	Description of job and the safety practices involved. Use both on-site audit information, interview information from focus group leaders (supervisors or managers), and any written job descriptions.	
Hazards	List the hazards associated with the job process.	
Safety Procedures	List the PPE, ergonomic aids, other safety equipment needed.	
Training Requirements	List the type of training provided, including training required by Oregon OSHA.	

HEAT ILLNESS PREVENTION

OCCUPATIONAL SAFETY AND HEALTH MANUAL

Policy Owner:	Risk Management	**Effective Date:**	August 1, 2021
Category:	600	**Reviewed Date:**	n/a
Policy Number:	029	**Revised Date:**	n/a
Scope:	All Employees and Volunteers	**Training Needed:**	Yes – Supervisor and Employee
Associated Form:	n/a	**Training Frequency:**	Annual

Heat Stress

Oregon OSHA adopted a temporary rule (effective August 1, 2021) to address employee exposure to high ambient temperatures. These rules are adopted in Division 2 – General Occupational Safety and Health.

Therefore, reasonable measures will be taken to protect employees and volunteers from heat illnesses in compliance with OSHA rules specific to the hazards of high and extreme heat to include:

1. **When the heat index is equal to or above 80 degrees F.**
2. **When the heat index rises above 90 degrees F.**
3. **Access to shade**
4. **Drinking water**
5. **Supervisor and employee training**

Scope

This policy applies to all employees and volunteers whose job assignment(s) involve outdoor work that may expose them to environmental risk factors that could result in heat illnesses.

DEFINITIONS

Acclimatization: The temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed work in a hot environment. Acclimatization peaks in most people within four to fourteen days of regular work for about two hours per day in the heat.

Drinking Water: Also known as potable water, is safe to drink or use for food preparation.

An adequate supply of drinking water must be:

- Readily accessible to employees at all times and at no cost.
- Sufficient quantity to enable each employee to consume 32 ounces per hour. Employees must also have ample opportunity to drink water.
- Cool (66-77 degrees Fahrenheit) or cold (35-65 degrees Fahrenheit).
- Packaged as a consumer product. Electrolyte-replenishing drinks that do not contain caffeine (for example, sports drinks) are acceptable substitutes, but should not completely replace required water.

Environmental Risk Factors: Factors in working conditions that create the possibility that heat illness could occur, include:

- 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 personnel protective equipment worn by employees.

Heat Illness: A serious medical condition resulting when the body is no longer able to control its internal temperature. Heat stress can lead to heat exhaustion and heat stroke. The symptoms of heat exhaustion include dizziness, headache, rapid pulse, nausea, and vomiting. The symptoms of heat stroke include high body temperature, confusion, and convulsions. Heat stroke can be fatal.

Heat Index: The heat index, also known as the apparent temperature, is what the temperature feels like to the human body when relative humidity is combined with the air temperature.

Preventative Recovery Period: A period of time to recover from the heat in order to prevent heat illness. Heat illness can be prevented when working in a hot environment by drinking water frequently (even if not thirsty), resting in the shade to cool down, and wearing a hat and light-colored clothing.

Shade: The blockage of direct sunlight. To be sufficient, shade must:

- Be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.
- Either be open to the air or provide mechanical ventilation for cooling.
- At least accommodate the number of employees on recovery or rest periods, so that they can sit in in the shade.
- Be located as close as practical to the areas where employees are working.
- Shade present during meal periods must be large enough to accommodate the number of employees on the meal period that remain onsite.

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.

GENERAL RESPONSIBILITIES

A. Risk Management:

1. Preparing and maintaining a written program that complies with the requirements of applicable OSHA requirements.
2. Assisting with training potentially impacted employees and their supervisors on the risks and prevention of heat illnesses, including recognizing symptoms and responding when they appear.

B. Directors, Managers, and Supervisors are responsible for:

1. Identifying all employees who are required to work outdoors where potential heat illnesses could occur.
2. Assuring that adequate water and shade are available at a job site when the environmental risk factors for heat illnesses are present.
3. Providing a cool-down rest period in the shade of 10 minutes for every two hours of work. These preventative cool-down rest periods may be provided concurrently with any other meal or rest period required by policy, rule, or law.
4. Ensuring that employees are observed for alertness and signs and symptoms of heat illness and monitored to determine whether medical attention is necessary.
5. Ensuring that all affected employees have received proper training on heat illness prevention.

    - The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment.
    - The procedures for complying with the requirements of this standard, including the employer's responsibility to provide water, provide daily heat index information, shade, cool-down rests, and access to first aid as well as an employee's right to exercise their rights under this standard without fear of retaliation.
    - The concept, importance, and methods of adapting to working in a hot environment.
    - The importance of employees immediately reporting symptoms or signs of heat illness in themselves or co-workers.
    - The effects of non-job factors (medications, alcohol, obesity, etc.) on tolerance to workplace heat stress.
    - The different types of heat-related illness and the common signs and symptoms of heat-related illness.

6. Ensuring that the requirements in this document are followed.

C. Affected employees:

1. Complying with the provisions of the rules described in this document to include attending required training.
2. Verify they have drinking water available at all times when environmental risk factor(s) for heat illnesses are present.
3. Report water supply deficiencies to their supervisor.
4. Verify they have access to a shaded area to prevent or recover from heat-related symptoms and report to their supervisor any inadequate shade conditions.
5. Observe supervisors, peers, and subordinates for alertness and signs and symptoms of heat illness and monitored to determine whether medical attention is necessary.
6. Reporting heat related illness symptoms to the supervisor.

PROCEDURES

A. Employees and volunteers determined to be at risk for heat illness shall be identified for inclusion and training.

B. Training shall be provided for all potentially impacted employees and their supervisors.

- Training information shall include, but not be limited to, the risks and prevention of heat illnesses, including how to recognize symptoms and respond when they appear.

C. Ample quantities of cool drinking water (one quart per hour per employee) shall be available at all times for each employee for the duration of the entire shift while working outdoors in the heat. Supervisors shall remind employees to drink frequently.

D. Employees shall have access to a properly shaded (natural and/or artificial) area(s) to prevent or recover from heat illness symptoms and where they can take their rest breaks.

E. In the event an employee feels the onset of heat illness symptoms, a preventative recovery period will be provided to allow the employee to cool down and prevent heat illness while being monitored by a supervisor or co-worker. If symptoms do not subside within a reasonable period of time, medical attention should be sought.

For additional information and resources regarding prevention of Heat Related Illness, go to:

- https://www.oregon.gov/oha/ph/preparedness/prepare/pages/prepareforextremeheat.aspx
- https://www.cdc.gov/disasters/extremeheat/heattips.html