

 Portland Community College Health & Safety Manual	Dept: Environmental Health and Safety	
	Topic: Chapter 23 — Cranes & Lifts	
	Board Policy: B507	Revised Date: January 2025

Authority	PCC Board Policy—B507
	Portland Community College is committed to providing a safe and healthy work and educational environment for our employees, students and visitors.

Summary	This plan includes procedures that must be followed by employees when operating cranes and hoists at all PCC locations. It meets all applicable safety regulatory requirements.
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Sections	I. Purpose
	II. Authority
	III. Responsibility
	IV. Procedures
	A. General Safety
	B. Overhead, Gantry & Jib Cranes
	C. Safety Procedures for Hoists
Appendices	D. Safety Procedures for Slings
	V. Training
	VI. Recordkeeping
	A. Definitions
B. Sling Specifications by Type	
Forms	1. Daily Crane Inspection Checklist Specimen
	2. Periodic Crane Inspection Checklist Specimen

I. PURPOSE

This safety plan (the Plan) outlines Portland Community College's (PCC) requirements for safe use and operation of cranes and lifts at PCC campuses and centers. General administrative, training, and recordkeeping requirements, including inspection criteria and operational procedures, are laid out within this Plan. Department specific equipment, procedures, training and record keeping are the responsibility of each respective department impacted by this plan.

This Plan was established to ensure that employees are protected from hazards associated with crane and lift operations, the use of slings, and to ensure compliance with Oregon OSHA (OR-OSHA) regulations. Only trained and authorized employees are permitted to operate cranes or lifts. All operators are required to follow the procedures in this chapter as well all manufacturer's recommendations regarding equipment use and safety.

This Plan is applicable solely to the equipment used by departments at PCC for non-construction uses. Subcontractors on site performing construction activities are responsible for their own equipment and operator responsibilities.

II. AUTHORITY

PCC Board Policy B507

OR OSHA Div 2/N Material Handling

OR OSHA 1910.176 Handling Materials – General

OR OSHA OAR 437-02-0221 Additional Oregon Rules for Handling Materials

OR OSHA OAR 437-02-0228 Oregon General Requirements for Cranes

OR OSHA 1910.179 Overhead and Gantry Cranes

OR OSHA OAR 437-02-0229 Additional Oregon Rules for Overhead & Gantry Cranes

OR OSHA 1910.184 Slings

OR OSHA OAR 437-02-0235 Additional Oregon Rules for Slings

OR OSHA Div 3/CC Cranes and Derricks in Construction

III. RESPONSIBILITY

Department Management:

- Notify EH&S when considering or executing a crane or lift purchase
- Ensure that only trained and authorized employees operate cranes and lifts
- Develop department specific written crane and lift procedures in line with this Plan
- Maintain training records which demonstrate an employee's training as a crane operator
- Maintain crane, lift, and alloy steel chain sling inspection records
- Ensure that equipment manufacturer's recommended and required maintenance and inspection services are performed and followed

Environmental Health & Safety:

- Develop general training covering the contents this Plan
- Represent the College during interactions with regulatory agency representatives
- Annually review this Plan to ensure it reflects current PCC policies, as well as updates to applicable regulatory requirements

Project Managers:

- Notify EH&S whenever a contractor's operations on PCC property will involve the use of a crane or lift to ensure that the contractor's crane safety policy meets the standards

laid out in this Plan

Crane Operators:

- Conduct inspections as outlined in this Plan and as per manufacturer's requirements
- Follow equipment manufacturer's recommendations and safety guidelines related to working load limits and equipment operation
- Never operate damaged or faulty equipment
- Report unsafe crane use

Employees:

- Heed all warnings given by crane or lift operators when equipment is in use
- Never pass or work underneath a suspended load

IV. PROCEDURES

A. General Safety

This section outlines general safety and inspection procedures applicable to all cranes, lifts, and slings as required by OR OSHA regulations. Employees must also follow all operating procedures for all equipment as provided in the manufacturer's instructions and included in department specific procedures and training.

- 1. Equipment** – This Plan covers cranes and lifts at all PCC locations, including but not limited to:
 - OMIC – Overhead/bridge crane
 - Rock Creek Auto Collision – Automotive lifts
 - Rock Creek Aviation – Gantry crane
 - Rock Creek Diesel Services – Overhead/bridge crane
 - Rock Creek Microelectronics – Overhead/bridge crane
 - Rock Creek Facilities Maintenance Services Grounds – Automotive lift
 - Rock Creek Farm – Automotive Lift
 - Rock Creek Think Big – Jib Cranes, overhead/bridge crane
 - Swan Island Trade & Industry Center – Gantry crane
 - Sylvania Automotive Repair – Automotive lifts
 - Sylvania Facilities Maintenance Services Grounds – Automotive lifts
- 2. Operator Training** – Crane and lift operators are to be trained in the safe use and operation of the equipment they use by reputable, credentialed instructors. Each department using cranes and/or lifts shall establish written procedures for the safe operation of their equipment.
- 3. Operator Fitness for Duty** – The operator of overhead cranes (cranes rated for two tons or larger) must be a physically fit and thoroughly trained, competent individual, not using, or under the influence of, any drug that could impair physical, visual, or mental reactions or capabilities, and must understand all the regulations regarding crane safety.
- 4. Rated Load Considerations** – Crane and lift operators must never exceed the load limits of the equipment components. The total load must include the total superimposed weight on the load block or hook as well as any lifting devices such as magnets, spreader bars, chains and slings. The rated load of the crane or lift shall be plainly marked on each side of the crane. If the crane has more than one hoisting

unit, each hoist and attachment should have the rated load clearly marked. Rated load markings shall be clearly legible from the ground or the floor.

B. Overhead, Gantry & Jib Cranes

The following apply to all overhead, gantry & jib cranes:

1. General Requirements

- Installation/set-up must meet manufacturer recommendations, and current OSHA 29 CFR 1910.179 regulatory requirements. Contact EH&S for details regarding the regulatory requirements.
- New and altered cranes must be tested to ensure proper hoisting and lowering, trolley travel, bridge travel, and proper function of limit switches, locking and safety devices. A rated load test must also be performed in accordance with applicable regulations.
- Passages and walkways must be provided to ensure safety of personnel and should be kept free of obstacles.
- Hooks must have a safety latch to prevent loads from bouncing off.

2. Inspections

Overhead crane inspections are divided into two categories: daily (pre-use) inspections and periodic inspections. Inspections can be completed using the provided checklists in this Plan: *Form 1: Daily Crane Inspection Checklist* and *Form 2: Quarterly Crane Inspection Checklist*. Department managers are free to develop their own inspection checklists for the specific equipment used in their departments so long as they include the applicable OR OSHA inspection criteria.

- a. Daily Inspections should occur each day before the equipment is operated and include all the criteria listed on *Form 1: Daily Crane Inspection Checklist*.
- b. Periodic Inspections should occur at quarterly intervals, or after any extended period of cranes not being used. The periodic inspections should include all criteria listed on *Form 2: Quarterly Crane Inspection Checklist*.
- c. Annual Inspections are a type of periodic inspection but must be conducted by a qualified and certified inspector. A complete inspection of the crane shall be performed at least every 12 months. If any defect is found, the crane cannot be operated until the repair or adjustment is made.

C. Safety Procedures for Lifts

The following requirements apply to all lifts, including automobile lifts:

- Ensure the area is clear of people and equipment before operating.
- Ensure all guards and safety devices are fitted, secure and functional.
- Ensure the vehicle lift has operating and maintenance instructions permanently located and clearly visible.
- Check the capacity of the lift compared to the weight of the vehicle. If the vehicle is too heavy, do not proceed.
- Check workspaces and walkways to ensure no slip/trip hazards are present, such as oil or grease.
- Ensure support arms are capable of being locked in position.
- Ensure rubber pads are in good condition on all load points.
- Do not operate the lift if it is in a condition of disrepair or deteriorated.

- Center the load on the lift, ensuring the weight is evenly distributed.
- Only one person shall operate the lift at a time.
- The lift must not be operated unless it has a current certificate of inspection.
- Lower the lift and switch off the equipment when work is completed.

D. Safety Procedures for Slings

There are different types of slings used with cranes and lifts, including alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope, and synthetic web. Special safety requirements for each of the various sling types can be found in *Appendix B: Sling Specifications by Type*. The following requirements for safe use apply to all sling types:

1. Markings:

Slings should be clearly marked (indelibly) with:

- Name or trademark of manufacturer
- Work-load limit (WLL) or rated load
- Diameter or size
- Serial number

2. Inspections:

Prior to lifting, users must conduct a daily visual inspection of each sling to be used, checking for:

- Missing or illegible identification
- Kinking, crushing, punctures, tears, or any other damage resulting in distortion of the sling's material
- Evidence of heat damage
- End attachments that are cracked, deformed, or worn
- Corrosion of the sling material or end attachments
- Broken or damaged joints
- Elongation of material

3. Use

Safe Operating Requirements Applicable to All Slings:

- Slings that are damaged or defective shall not be used
- Slings shall not be shortened with knots or bolts or other makeshift devices
- Sling legs shall not be kinked
- Slings shall not be loaded in excess of their rated capacities or working load
- Slings used in a basket hitch shall have the loads balanced to prevent slippage
- Slings shall be securely attached to their loads
- Slings shall be padded or protected from the sharp edges of their loads
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load
- Slings shall not be pulled from under a load when the load is resting on the sling
- Slings must not be used without properly affixed and legible identification markings

4. Storage

Store slings in an area and in a configuration where they will not be subjected to mechanical damage, corrosive action, moisture, extreme temperatures, or to kinking.

V. TRAINING

Training will be provided for both general information covered in the Plan as well as for department specific procedures and equipment.

- A.** EH&S will develop and facilitate general Cranes & Lifts safety training which will cover:
- Types of lifting equipment at PCC
 - Roles and responsibilities for crane and lift use at PCC
 - Hazards associated with lifting operations and their controls.
 - Inspection requirements for cranes, lifts, and accessories.
 - Recording keeping requirements
- B.** Departments will provide their employees specific training on:
- Procedures for proper use of lifting equipment used in their work areas.
 - Maintenance and inspection requirements for the equipment.
 - Work area or task specific hazards and controls that could impact use of lifting equipment.

Additional training requirements should be included when the employer has reason to believe that an employee lacks the skill or understanding needed for safe work involving cranes and lifts.

- C.** Retraining is required in at least the following situations:
- Where changes at the worksite present a hazard about which an employee has not been previously trained; or
 - Where changes in the types of equipment present a hazard about which an employee has not been previously trained; or
 - Where inadequacies in an affected employee's work indicate that the employee has not retained the requisite proficiency.

VI. RECORDKEEPING

All records required by this Plan are to be retained by the applicable departments as follows:

- A. General Cranes & Lifts Training Records** – Are maintained in PCC's learning management system.
- B. Department Specific Training Records** – Are maintained by Managers/Supervisors in department records and employee files.
- C. Crane, Lift, and Sling Inspection Records** – Are maintained by each Department Managers/supervisors in their department records