

# Chapter 296-155 WAC, Part L (Construction Cranes) Preliminary Draft Rule Updates

Bill Sloniker, Crane Certification Program Supervisor/Crane Technical

Phone: (206) 715-3287

Email: [bill.sloniker@Lni.wa.gov](mailto:bill.sloniker@Lni.wa.gov)



Washington State Department of  
**Labor & Industries**

# Agenda

- Introductions
- Overview of recent process
- Discuss updates to preliminary draft of the construction cranes rules
- Q&A
- Next steps

# Overview of Recent Process

- L&I circulated an updated preliminary draft of the rule in August 2023
  - Held two stakeholder meetings to discuss draft and receive stakeholder feedback on suggested changes
- A subcommittee was convened to assist with making additional edits to the preliminary draft of the rule
  - Met six times between October 2023 and February 2024
- L&I circulated an updated preliminary draft of the rule on March 13, 2024 (via GovDelivery), and requested stakeholder feedback

# High-Level Summary of Changes

## **OSHA-initiated changes**

- Forklift when used as crane
- Operator certification
- Operator evaluation
- Flash-butt welding trucks exemption

# High-Level Summary of Changes (cont.)

## Changes made by L&I

- Forklift being used as a crane
- Power line rule
- Tower crane assembly, disassembly, and/or reconfiguration
- 2,000 pounds and under
- Crane certifier certification
- Crane certification worksheet/annual
- Lift director qualifications
- A/D director qualification
- Rigger duties
- Multi-tier rigging

# OSHA-Initiated Updates

# Powered Industrial Truck



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## Powered Industrial Trucks - Forklifts



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### Overview

#### What are powered industrial trucks?

Powered industrial trucks, commonly called forklifts or lift trucks, are used in many industries, primarily to move materials. They can also be used to raise, lower, or remove large objects or a number of smaller objects on pallets or in boxes, crates, or other containers. Powered industrial trucks can either be ridden by the operator or controlled by a walking operator. Over-the-road haulage trucks and earth-moving equipment that has been modified to accept forks are not considered powered industrial trucks.

What are the hazards associated with operating powered industrial trucks?

### Highlights

- [Protect Workers Operating and Working Near Forklifts](#). OSHA Alert (Publication 3973), (2019).
- [Safe Forklift Operation](#). OSHA QuickCard™ (Publication 3949), (2019).

# Forklifts Being Used as a Crane – OSHA Language

Current OSHA language:

- 1926.1400(c) Exclusions. This subpart does not cover:
  - (8) Powered industrial trucks (forklifts), **EXCEPT** when configured to hoist and lower (by means of a winch or hook) and horizontally move a suspended load.
- This has been the OSHA language since 2010. The change made by OSHA in 2018 added the certification of operators.



# Forklifts Being Used as a Crane – Current Part L

Current Part L language:

## **WAC 296-155-52900 Scope.**

- (3)(a) Powered industrial trucks (forklifts) when configured to hoist and lower (by means of a winch or hook) and horizontally move a suspended load are exempted from WAC 296-155-532 crane certification. Operators must also follow the requirements in chapter 296-863 WAC, Forklifts and other powered industrial trucks.

# Forklifts Being Used as a Crane – Part L Draft

Draft language:

- **WAC 296-155-52900 Scope.**

- (3)(a) Powered industrial trucks (forklifts) when used to lift, lower, and/or horizontally move a suspended load. See WAC 296-155-53300 for operator certification information. Operators must also follow the requirements in chapter 296-863 WAC, Forklifts and other powered industrial trucks.

# Multipurpose – OSHA Language

- Multipurpose pieces of equipment being used as a crane to perform construction work will require operator certification.
- Will accept most similar. Currently for forklifts, NCCCO offers two forklift operator certifications.
- If no accredited testing agency offers certification examinations for a particular type of equipment, an operator will be deemed to have complied with the certification requirements of this section for that equipment if the operator has been certified for the type that is most similar to that equipment and for which a certification examination is available. The operator's certificate must state the type of equipment for which the operator is certified.

# Evaluation – OSHA Language

Operator evaluation. Through an evaluation, the employer must ensure that each operator is qualified by a demonstration of:

- (i) The skills and knowledge, as well as the ability to recognize and avert risk, necessary to operate the equipment safely, including those specific to the safety devices, operational aids, software, and the size and configuration of the equipment. Size and configuration includes, but is not limited to, lifting capacity, boom length, attachments, luffing jib, and counterweight set-up.
- (ii) The ability to perform the hoisting activities required for assigned work, including, if applicable, blind lifts, personnel hoisting, and multi-crane lifts.

# Evaluation - Part L Draft

## **WAC 296-155-53300 Operator qualifications and certification.**

- (3)(a) Through an evaluation, the employer must ensure that each operator is qualified by a demonstration of:
  - (i) The skills and knowledge, as well as the ability to recognize and avert risk, necessary to operate the equipment safely, including those specific to the safety devices, operational aids, software, and the size and configuration of the equipment. Size and configuration includes, but is not limited to: lifting capacity; boom length; attachments; luffing jib; and counterweight set-up;
  - (ii) The ability to perform the hoisting activities required for assigned work, including, if applicable, on rubber hoisting, pick and carry work, assembly/disassembly or reconfiguration work, blind lifts, personnel hoisting, and multi-crane/equipment lifts;
  - (iii) The ability to perform the duties as an A/D director, if the operator is expected perform the duties of an A/D director; and
  - (iv) The evaluation shall be based on all of the information from the operator's manual. Any additional requirements/language interpretations must be in writing from the manufacturer, or if the manufacturer is no longer available, an RPE must be used.

# Flash-Butt Welding Trucks – OSHA Language

- Flash-butt welding trucks or other roadway maintenance machines not equipped with any hoisting device other than that used to suspend and move a welding device or workhead assembly. For purposes of this subsection (4)(v), the terms flash-butt welding truck and roadway maintenance machine refer to railroad equipment that meets the definition of “roadway maintenance machine” in 49 CFR 214.7, and is used only for railroad track work.

# Additional Changes to Part L

# Power Lines

## **WAC 296-155-53408 Power line safety.**

### (1) Assembly, disassembly, and/or reconfiguration of crane/equipment:

- (i) Conduct a planning meeting with the A/D director, operator, assembly, disassembly, and/or reconfiguration crew and the other workers who will be in the assembly/disassembly work zone to review the location of the power line(s) and the steps that will be implemented to prevent encroachment/electrocution. The utility owner shall be invited to attend. Should power line conditions change, another meeting shall be conducted prior to work commencing. The meeting document shall include at least the following:
  - (A) Date the meeting is conducted;
  - (B) Names and signatures of all meeting attendees;
  - (C) Address/location of where the crane assembly, disassembly, and/or reconfiguration will be performed;
  - (D) Drawing showing the crane/equipment's work zone and how it will be identified;
  - (E) Voltage information and the location of all energized lines; and
  - (F) Steps that are implemented to prevent encroachment/electrocution.



# Power Lines (cont.)

## (2) Operation of crane/equipment:

- (i) Conduct a planning meeting with the operator and the other workers who will be in the area of the crane/equipment or load. This meeting shall be conducted prior to the commencement of using the crane/equipment, documented, and must remain on site for the entire duration that the crane/equipment is on site. The utility owner shall be invited to attend. Should power line conditions change, another meeting shall be conducted prior to work commencing. The meeting document shall include at least the following:
  - (A) Date the meeting is conducted;
  - (B) Names and signatures of all meeting attendees;
  - (C) Address/location of where crane/equipment work will be performed;
  - (D) Picture/drawing showing the crane/equipment's work zone at the site and how it will be identified (360 degrees around the crane/equipment, up to its maximum working radius, range limit device, or range control warning device);
  - (E) Voltage information and the location of all energized lines; and
  - (F) Steps that are implemented to prevent encroachment/electrocution.

# Duties of Assigned Personnel – Site Supervisor

## **WAC 296-155-53401(5) – The site supervisor's duties include:**

- (g) Ensuring that the assembly, disassembly work zone is adequate, and that access into the zone is controlled;
- (n) Notify the department by email at [towercranenotify@Lni.wa.gov](mailto:towercranenotify@Lni.wa.gov) at least seven business days prior to having a tower crane assembled, disassembled, and/or reconfigured at the site. All of the following information shall be included in the email:
  - (i) Planned start and end date of the assembly, disassembly, and/or reconfiguration of the crane;
  - (ii) Job site address;
  - (iii) Type of work being performed, i.e. assembly, disassembly, and/or reconfiguration the tower crane; and
  - (iv) The names and contact numbers of all employers involved and their role in performing the work.
- (o) Display the name(s) of the site supervisor, A/D director, lift director(s), rigger(s), signal person(s), and the crane/equipment operator(s) for the job site. The display shall be conspicuously posted on the premises for the entire duration that any crane/equipment is on site. (This requirement shall not apply to a crane/equipment making a delivery while unloading that delivery.)

# Duties of Assigned Personnel - Rigger

## **WAC 296-155-53401(8) – Rigger added into the duties of assigned personnel.**

The rigger(s) assigned to load handling activity duties include the following:

- (a) Ensuring the weight of the load and its approximate center of gravity have been obtained;
- (b) Selecting the proper rigging equipment, inspecting it, and complying with the applicable ASME B30 Volume (i.e., B30.9, B30.10, B30.20, B30.23, or B30.26) and applicable chapter 296-155 WAC, Part L, requirements;
- (c) Ensuring the rated load of the rigging equipment as selected and configured is sufficient for the load to be handled, based on the number of legs, hitch configuration and effects of angles;
- (d) Properly attaching the rigging equipment to the hook, shackle, or other load-handling device;
- (e) Ensuring that rigging equipment is adequately protected from abrasion, cutting, or other damage during load handling activities;

# Duties of Assigned Personnel – Rigger (cont.)

- (f) Rigging the load in a manner to ensure balance and stability during the load handling activity;
- (g) Knowing and understanding the applicable signal for equipment in use;
- (h) Installing and using a tag line(s) when additional load control is required;
- (i) Ensuring that the load is properly rigged and balanced before it is lifted more than a few inches;
- (j) Ensuring that the load is properly stabilized and balanced before the weight is removed from the crane/equipment; and
- (k) Ensuring all loads are attached to the hook by means of suitable slings and/or other suitable devices of sufficient lifting capacity.

# Duties of Assigned Personnel – A/D Director

**WAC 296-155-53401(9) – A/D director added into the duties of assigned personnel.**

Qualifications:

- (a) Having the authority, and ensuring prompt corrective measures are taken, to eliminate hazards associated with the assembly, disassembly, and/or reconfiguration work;
- (b) Ensuring that WAC 296-155-53402 is followed;
- (c) Providing direct on-site supervision of all assembly, disassembly, and/or reconfiguration work;
- (d) Understanding and following the applicable assembly, disassembly, and/or reconfiguration procedures;

# Duties of Assigned Personnel – A/D Director (cont.)

- (e) Creating an assembly/disassembly plan. This plan shall be in written or digital format, and remain on site for the entire duration that the crane is on site. The plan shall include at least the following:
  - (i) Date of meeting;
  - (ii) Names and signatures of all personnel, their role, and their responsibilities;
  - (iii) A sequence of operation detailing the assembly, disassembly, and/or reconfiguration, along with the components, the rigging, and capacity to be used in such operations;
  - (iv) A weight list and configuration of all assemblies and components proposed to be lifted;
  - (v) List of all assist cranes and their gross rated capacity;
  - (vi) The location and voltage information of all energized line(s) in the vicinity. (WAC 296-155-53408 shall also be followed);
  - (vii) The location and proposed timeline of the assembly, disassembly work zone;
  - (viii) Relevant weather warnings, and how to address them; and
  - (ix) Discuss disassembly issues or concerns found, and how to remedy them.

# Tower Cranes

## **WAC-296-155-52902 Definitions.**

- Assembly/disassembly work zone. Applicable to tower cranes. The total area that the crane/equipment, and/or components, and/or attachments could reach if the crane/equipment were to collapse during the assembly, disassembly, and/or reconfiguration of a tower crane. Height of the crane, length of boom, attachments, and loads shall all be considered in order to calculate the area, which can shrink or grow as the work progresses. Control access as necessary to restrict unauthorized access to the zone.

## **WAC 296-155-53401(1). Duties of assigned personnel.**

- For the assembly, disassembly, and/or reconfiguration work, the lift director and A/D director may not perform more than one of the listed duties found in the duties of assigned personnel section.

# 2,000 Pounds or Less

## **WAC 295-155- 53414 Cranes/equipment with a rated hoisting/lifting capacity of 2,000 pounds or less.**

- (2) Prior to utilizing a crane/equipment inside of or on a multi-level building, the following must be reviewed and acknowledged as acceptable by a RPE:
  - (a) The engineering of the structural support of the crane/equipment;
  - (b) The methods to prevent the crane/equipment from inadvertently moving while hoisting a load; and
  - (c) The equipment base, structural supports, and connection points provide adequate support with applied torsional and overturning moments, and horizontal and vertical forces.
- Qualified riggers, lift director, and operator evaluation added.



# Accreditation of Certifiers

## **WAC 296-155-53100 Accreditation of crane/equipment certifiers – Requirements.**

- Crane certifier certification.
- A crane certifier would acquire the national certification, in conjunction with a singular Washington State test.
- Valid for a period of five years instead of the current three.

# Worksheet/Annual Certificates

## **WAC 296-155-53114 Issuance of worksheet/annual certificates of operation.**

- Crane certification annual/worksheet.
- Certifiers will provide a worksheet/crane annual certification which will then be verified and validated by the crane certification program.

# A/D Director Qualifications

## **WAC 296-155-53303 Assembly/disassembly director qualifications.**

- A competent and qualified person, who may rely on qualified personnel to assist.
- Must pass a written test, which can be employer given or 3<sup>rd</sup> party. Qualification valid for 5 years.
- (a) Be capable of identifying existing and predictable hazards in the surroundings or working conditions of the assembly, disassembly, and/or reconfiguration work which are hazardous, or dangerous to employees;
- (b) Have knowledge of applicable chapter 296-155 WAC, Part L, requirements regarding relevant crane assembly, disassembly, and/or reconfiguration procedures;
- (c) Have knowledge of manufacturer's instructions, warnings, precautions and prohibitions regarding the assembly, disassembly, and/or reconfiguration of the specific crane being assembled, disassembled, and/or reconfigured;
- (d) Know and fulfill the relevant duty requirements of WAC 296-155-53401(9) and this section; and
- (e) Demonstrate that they meet the requirements in (a) through (d) of this subsection through an oral or written test. All tests must be documented.

# Assembly/Disassembly Training

## **WAC 296-155-53409 Training.**

(1)(f) Assembly/disassembly and/or reconfiguration work.

- (i) Prior to performing assembly, disassembly, and/or reconfiguration work, the employer must ensure that each employee receives training applicable to their respective roles.
- (ii) For tower cranes, the employer shall attest that this training has occurred, and shall ensure documentation of this training is on site.

# Multi-Tier Rigging

## **WAC 296-155-55600 General requirements.**

- (a) Multi-tier rigging is only permitted when all of the following criteria are met:
  - (i) Only employees essential to the operation are allowed to be in the fall zone, but must keep clear of loads and never be directly under the suspended load;
  - (ii) All employees engaged in the multi-tier rigging must be made aware of and understand the additional hazards imposed by multi-tier rigging, and will avoid the associated hazards;
  - (iii) A maximum of 3 tiers are hoisted per lift;
  - (iv) Slings are protected with material of sufficient strength, thickness, and construction to prevent damage from sharp edges, corners, protrusions, or abrasive surfaces;
  - (v) Hooks with self-closing latches or their equivalent must be used.

# Multi-Tier Rigging (cont.)

- (b) The total load must not exceed:
  - (i) The rated capacity of the hoisting equipment specified in the hoisting equipment load charts;
  - (ii) The rigging capacity specified in the rigging-rating chart.
- (c) The multi-tier rigging assembly must be rigged:
  - (i) Appropriately rigged and maintained reasonably level;
  - (ii) Rigged from the top down; and
  - (iii) Rigged with enough space for at least 7 feet apart from each load.
- (d) As each load is landed, the remaining loads must be swung off to the side prior to disconnecting the landed load.
- (e) Controlled load lowering must always be used.
- (f) Loads shall be landed on a stable surface to prevent movements causing hazards such as crush/pinch points.
- (g) No material shall be basket hitched.

# Questions



# Next Steps

- Stakeholder meetings
  - April 2<sup>nd</sup>, 9 a.m. to noon – L&I Tukwila office
  - April 3<sup>rd</sup>, 9 a.m. to noon – Enduris Training Center (Spokane)
- L&I is requesting feedback on the current preliminary draft
  - Draft will be available on L&I's website
  - Please submit comments by April 15, 2024, to Cindy Ireland – [Cynthia.Ireland@Lni.wa.gov](mailto:Cynthia.Ireland@Lni.wa.gov)
- Tentatively filing a CR-102 summer 2024
  - L&I anticipates making edits to the current preliminary draft rule to reflect changes based on Second Substitute House Bill 2022 (2024)
  - Updates to the draft rule will be shared with stakeholders for review/comment



# Contact Information

- For technical questions, please contact:
  - Bill Sloniker, Crane Certification Program Supervisor/Crane Technical - [Bill.Sloniker@Lni.wa.gov](mailto:Bill.Sloniker@Lni.wa.gov), (206) 715-3287
- To submit feedback, or for questions related to the rulemaking, please contact:
  - Cindy Ireland, Administrative Regulations Analyst - [Cynthia.Ireland@Lni.wa.gov](mailto:Cynthia.Ireland@Lni.wa.gov)