

DOSH DIRECTIVE

Department of Labor and Industries
Division of Occupational Safety and Health
Keeping Washington safe and working

18.70

Working Around Overhead Energized Trolley Lines

Date: March 25, 2016

I. Purpose

This Directive establishes guidance, inspection procedures and enforcement policies for compliance and consultation staff, related to employees performing construction work in proximity to overhead energized trolley lines.

II. Scope and Application

This Directive applies to all DOSH operations statewide. It replaces all previous instructions on this issue, whether formal or informal.

III. References

- Part I, Electrical, WAC 296-155-428(1)(e), which covers any work being performed in proximity of energized power lines (including machinery or equipment).
- Part I, Electrical, WAC 296-155-428(20)(a), which specifically addresses vehicular or mechanical equipment in proximity to energized lines and the “in transit” provision.
- Part M, Motor Vehicles, Mechanized Equipment, and Marine Operations, WAC 296-155-605(1)(f), which refers to meeting the requirements of Part I, Electrical, WAC 296-155-428(1)(e).
- Part M, Motor Vehicles, Mechanized Equipment, and Marine Operations in 296-155-605(1)(h), which refers to meeting the requirements of Part R, Miscellaneous Construction Requirements, WAC 296-155-77100(1)(h).

IV. Background

From 2003 to 2015, there have been 53 variance requests from WAC 296-155-428(20)(a). The majority of these requests are related to work being performed with vehicular or mechanical equipment under or near energized King County Metro trolley lines within the city limits of Seattle. This standard calls for a minimum clearance distance of 10 feet for vehicular or mechanical equipment working near energized lines under 50kV, but allows for a minimum clearance distance of 4 feet if the vehicle or mechanical equipment is in transit.

When employers have identified adequate alternative protections for employees that may be exposed to a hazard from possible contact of vehicular or mechanical equipment to energized trolley lines, DOSH has granted an interim variance to allow a minimum clearance distance of 4 feet for working under or near energized lines under 50kV.

To date, DOSH has not issued any citations or violations related to employers not following approved procedures in their variances. In addition, employers have not reported any injuries, accidents or near miss incidents related to work performed under an approved variance.

V. Enforcement Policies

- A.** If the following conditions are met, the Department views the equipment as vehicles in transit, and will allow a 4-foot clearance for operating vehicles or mechanical equipment near overhead energized trolley lines.
1. The employer has identified an alternative means of protection from the electrical hazard that utilizes both engineering controls and administrative controls, based on the type of work being performed and equipment in use.
 2. For mechanized equipment with a boom/bucket, a height limitation device (sensor) will be installed that will limit and restrict the height the boom/bucket can be raised. The operator cannot adjust the limits on the equipment past a height which will maintain a distance of 4 feet or more from the overhead energized trolley lines.
 3. For other mechanized equipment where there is potential for a part of the equipment to come in contact with the overhead energized trolley lines, a device such as a chain or strap will be in place so the operator cannot adjust the limits on the equipment past a height which will maintain a distance of 4 feet or more from the overhead energized trolley lines.
 4. For all other equipment where there is potential for employees to come in contact with overhead energized trolley lines by climbing on part of the equipment structure, such as an access ladder, a physical barrier and signage will be installed to warn employees of the electrical hazard and prevent access to the equipment or hazard.
 5. The employer has developed a written policy and trained all employees and designated competent persons with awareness training when working around overhead energized trolley lines. The written policy or training includes:
 - Identifying hazards when the equipment or employees are within 10 feet of the trolley lines,
 - NFPA 70E Arc Flash and Arc Blast Protection Training, and
 - A complete competent person training.
 6. The employer will also implement an “Electrical Safety Watch” person who has the authority to stop work and to take the necessary corrective actions. This person’s only responsibility as the Safety Watch is to warn employees and those in the work area (by verbal, hand signal or red flag and air horn commands) of impending hazards associated with work within 10 feet of the trolley lines.

7. The employer has communicated with the owner, department, agency or utility responsible for the overhead lines that they will be working in the area proposed, and have verified the height of the lines. It is the responsibility of the employer to verify the overhead energized trolley line heights, and document in writing that this requirement has been met. Written documentation will be kept onsite for the duration of the project, and made available to the department upon request.
 8. Signage on the equipment will be installed to tell workers and anyone else in the area that the equipment is working under the energized circuits and to stay away.
 9. Prior to the actual start of work, a pre-job safety meeting will be held with the owner, department, agency or utility responsible for the overhead lines, and all employees involved in the work, to discuss the overhead energized trolley lines clearances and safety procedures that must be followed. This meeting will be documented in writing, kept onsite for the duration of the project, and made available to the department upon request.
- B.** When DOSH consultation and compliance staff determine that the employer is following the procedures above, DOSH considers it a *de minimus* violation, and will not issue a citation, or identify the violation as a hazard in the consultation report.
- C.** The guidance in this Directive only applies to construction work as defined by WAC 296-155-005, Purpose and scope, and covered by WAC 296-155-428(20)(a). This Directive, along with any guidance or information contained in it, does not apply to any work activities covered by Chapter 296-45 WAC, Electrical Workers.

VI. Who to Contact

If DOSH staff have questions or need additional guidance or interpretive assistance, they are encouraged to contact the construction technical specialist in DOSH Technical Services.

VII. Expiration Date

This Directive will expire two years from the effective date, or earlier, if the requirements in WAC 296-155-428 are amended to include the above steps as an option for compliance.

Approved:



Anne F. Soiza

L. & I Assistant Director

Division of Occupational Safety and Health