



Tower Crane Electrical Safety Requirements

December 2008

State law requires electrical inspections for tower cranes

RCW 19.28.010(3) Electricians and Electrical Installations, WAC 296-46B-901(8) Electrical Safety Standards, Administration, and Installation, regulations, and WAC 296-155-444-(1) Safety Standards for Construction Work require third-party evaluation and labeling of all electrical equipment on all tower cranes operating anywhere in the state. Crane failure due to mechanical or electrical problems can cause loss of life and significant property damage.

The evaluation and labeling requirement for electrical equipment

When the electrical inspection authority finds that a tower crane has not had the third-party evaluation for the site where the crane is installed, it issues a correction notice to the crane installer requiring a field evaluation to be made. Until the crane has the proper evaluation or the electrical inspection authority has granted temporary approval to operate, the crane should not be used.

In L&I jurisdictions, many crane owners and contractors have found that they can get temporary operating approval in as little as 24-48 hours after receiving the initial electrical correction.

Permitting requirements are similar in L&I and city jurisdictions.

Electrical permits must be obtained before the electrical installation begins. The installer doing the electrical work must obtain the electrical permit. L&I permitting applications, fees, and procedures are available on the web at www.Lni.wa.gov/tradeslicensing/electrical/

For information regarding crane installation and permits in cities that administer the electrical code, a complete list of city electrical jurisdictions and their contact information can be found on the L&I website at: <http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/default.asp>

Crane certification and electrical inspection

An electrical inspection should not be confused with a crane certification. DOSH will be requiring crane certification for the construction industry beginning January 1, 2010. Electrical inspection by the electrical inspector will be a part of the certification process. DOSH crane certification will not be granted until the crane's electrical inspection is completed.

Electrical inspection for tower cranes as described in this information sheet always has been and is currently required. To get electrical inspection approval the crane must be listed or field evaluated by a laboratory before the electrical inspector can grant inspection approval.

L&I has a process in place to expedite the field evaluation

Using this process gets a crane back into operation as quickly as possible:

- Once a correction is issued, the owner of the crane must contact an L&I approved electrical testing laboratory and make arrangements for the laboratory to field evaluate the crane.
- The laboratory then requests permission from L&I to do the evaluation. The laboratory provides L&I details of the electrical safety standards to be used and the approximate time needed to complete the evaluation.
- After determining that the laboratory's application is appropriate, L&I will grant approval to do the evaluation and issue a field evaluation project number for the evaluation. L&I is the only agency allowed to approve evaluations or electrical testing laboratories in Washington.

L&I will send the evaluation approval to the laboratory, owner and the local electrical inspection office.

Accredited electrical product-testing Laboratories

Some of the local accredited electrical product-testing laboratories are:

- ETI Conformity Services, Auburn, WA
- Intertek Testing Service, Beaverton, OR
- TUV Rheinland of North America, Beaverton OR
- Underwriters Laboratories, Camas, WA

These testing laboratories have indicated that tower crane field evaluations may be site specific. If there is a site specific restriction, an evaluation will be necessary each time the crane is moved.

For a complete list of accredited electrical product-testing laboratories go to:
www.Lni.wa.gov/TradesLicensing/Electrical/Install/ProdTest/.

What is next?

If the owner needs to operate the crane during the field evaluation process, the owner must request permission to operate in writing to the electrical inspection jurisdiction. In L&I electrical inspection areas, the owner must reference the field evaluation project number, issued by L&I to the laboratory, in the request to operate. In L&I's jurisdiction, L&I typically grants approval to operate on a temporary basis based upon the time needed for the laboratory to complete the evaluation.

Cities that do electrical inspections have similar policies and procedures. For procedures within City jurisdictions that administer the electrical code, contact the city jurisdiction for more information about City policy and procedures.

DOSH safety policy on tower cranes erected prior to December 15, 2008

Effective immediately, a voluntary compliance effort will be initiated for the lack of third-party electrical evaluation and certification of tower cranes erected prior to December 15, 2008. This voluntary effort will extend through February 14, 2009. However, beginning February 15, 2009, L&I's Division of Occupational Safety and Health (DOSH) will resume normal enforcement when construction tower crane electrical components do not have the required third-party evaluation; DOSH staff will be directed to issue citations with possible monetary penalties.

All tower cranes erected on or after December 15, 2008, are expected to carry the appropriate electrical certification following third-party evaluation before they are put into operation. If electrical components are not properly evaluated and certified, DOSH will issue citations with possible monetary penalties. In all cases where inspections are performed, if DOSH determines that there exists an imminent danger to workers or the public, immediate correction will be required prior to continuing operation.

Need more information?

For electrical questions, please call the Electrical Technical Specialist at (360) 902-5249 or e-mail to ElectricalProgram@Lni.wa.gov.

For crane safety questions, please call the Crane Safety Program at (360) 902-4669 or e-mail to Lemc235@Lni.wa.gov.