

TerranearPMC Safety Share

Week of January 25, 2016 – Overhead Power Lines

Back in November, 2011, OSHA published a new standard on cranes and derricks: 29 CFR 1926, Subpart CC. The most notable revision of the past requirements was the change of the *10-foot rule*. This distance has been the benchmark to use whenever overhead powerlines were encountered and the voltage was unknown. Now, this distance has been changed to 20 feet. This means that when an overhead power line is encountered (with an unknown voltage) cranes (while performing work) needed to ensure that no portion would come within 20 feet of the powerline.

While the previous rule required a minimum distance of 10 ft. to overhead lines (up to 50kV), it was lacking in methods that would help prevent operators from inadvertently breaching the distance. Consequently, overhead line contact was one of the leading causes of accidents/fatalities on construction sites. Thus OSHA concluded that the old 10 ft. rule was not effective in preventing accidents and fatalities involving contact with power lines.

The new standard outlines three options of programmatic requirements containing elements that include such things as training, planning meetings, elevated warning lines, dedicated spotters, insulating load links, non-conductive tag lines, special signage, power line proximity detectors on the crane, range control limit devices, and possibly even a registered PE's involvement.

The new standard requires an assessment protocol that involves identifying the work zone by one of various means, such as demarcating boundaries (such as with flags, or a device such as a range limit device or range control warning device) or defining the work zone area as the area 360 degrees around the equipment up to the maximum working radius of the special crane to be used. This helps to ensure that no part of the crane, load line or load (including all rigging accessories) can get closer than 20 ft. to a power line. If there is the ability for a crane to get closer than 20ft, then the employer must meet additional requirements outlined in one of three options.

De-energize and ground. Confirm from the utility owner/operator that the power line has been de-energized and visibly grounded at the work site. The cardinal rule for qualified electrical workers is and has always been, “if it’s not grounded, it’s not dead”. This new standard also presumes that all power lines are energized unless the line is de-energized and visibly grounded at the worksite. De-energization alone is not acceptable since any power line which has been de-energized can still contain a lethal voltage due to induced/inductive coupling, inadvertent re-energization at the source, lightning strikes upstream on the utility system and/or other factors.

20 foot clearance. Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing specific measures detailed in the new standard. If the assessment shows that the crane could get closer than the 20 foot trigger distance then additional actions are required. They include such things as: a planning meeting with minimum specified agenda items to be covered, non-conductive tag lines (which need to meet the applicable ASTM standards), erect and maintain an elevated warning line,



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barricade, or line of signs, in view of the operator, equipped with flags or similar high-visibility markings, at 20 feet from the power line, If the operator is unable to see the elevated warning line, a dedicated spotter must be used with more actions required (including additional items such as positioning to effectively assess the clearance distance, direct and continuous communications with the crane operator to insure the clearance distance can be maintained). Additionally one of the following must also be implemented:

1) A proximity alarm set to give the operator sufficient warning to prevent encroachment. 2) A device that automatically warns the operator when to stop movement, such as a range control warning device. 3) A device that automatically limits range of movement, set to prevent encroachment. 4) An insulating link/device, installed at a point between the end of the load line (or below) and the load.

These additional measures state that employees who may come in contact with the equipment, load line or the load must be insulated or guarded from the equipment, the load line and the load. One option recognized by the standard could be the use of insulating gloves rated for the voltage involved. Naturally there are voltage limits based upon the class of the gloves and they obviously can only be used at distribution level voltages (below 36,500 volts). Also issuing this type of PPE to employees requires additional employee training.

Option 3 is required when the crane has the ability to encroach boundaries specified in Table A of the standard (approved distance based on the voltage of the overhead line).

Training is also required by this standard as well as other general standards for employees to be trained in the hazards they could be exposed to as well as the methods of avoidance of those hazards.

This new standard does not apply to work covered under the Power Generation Transmission and Distribution Standard (OSHA 1910.269) and/or Subpart V (OSHA 1926), however work covered under these standards require “qualified” persons who are trained in accordance with those standards and entirely different rules and clearance distances apply for these qualified workers. Are your “qualified” workers trained in those standards to satisfy OSHA?

It is always recommended that an experienced safety professional be consulted for guidance with the application of the appropriate standards for the work being performed as well as interpretation and guidance with respect to implementing the standards appropriately. It’s no secret that OSHA, in their words is “back in the enforcement business” and they have stepped up inspections and enforcement actions.

I do take my work seriously and the way to do that is not to take yourself too seriously – Alan Rickman (1946 – 2016)

