



New OSHA Crane & Derricks Rule is Effective November 8, 2010

OSHA has revised its Cranes and Derricks Standard (29 CFR Part 1926) to update and specify industry work practices necessary to protect employees during the use of cranes and derricks in construction. November 8, 2010 is the date which the revised OSHA standard goes into full effect. The revised standard addresses advances in the designs of cranes and derricks, related hazards, and the qualifications of employees needed for safe operation. Under the standard, employers must determine whether the ground is sufficient to support the anticipated weight of hoisting equipment and associated loads. The employer is then required to assess hazards within the work zone that would affect the safe operation of hoisting equipment, including power lines and objects or personnel that would be within the work zone or swing radius of the hoisting equipment. Finally, the employer is required to ensure that the equipment is in safe operating condition via required inspections and that employees in the work zone are trained to recognize hazards associated with the use of the equipment and any related duties that they are assigned to perform. For a complete copy of the revised rule including explanatory and interpretive details see http://www.osha.gov/FedReg_osha_pdf/FED20100809.pdf.

The New Rule and Insulating Links

Among a number of comprehensive safety measures, the revised OSHA standard will require the use of insulating links under specific conditions during equipment operations involving work near energized power lines. The relevant sections of the rule covering power line safety are 1926.1407-1411. Insulating links are mechanically load-bearing, high-voltage electrical safety devices which are used between the end of the load line and the load to isolate the load from the load line and crane structure above it. They are intended to prevent injury by electrical shock to workers in contact with the load in the event of accidental crane contact with energized overhead power lines. Insulating links also provide protection for workers in contact with the crane when the load accidentally contacts a live line. Insulating links have been manufactured and employed in the US construction industry and other industrial and military sectors for many decades.

Before operations start, the employer must identify the work zone and any power lines, and then determine how close the crane, the load, the load line or the rigging can get to them. For power lines up to 350 kV a 20 foot "trigger distance" is established. If the assessment determines that encroachment inside the 20 foot distance is possible, additional measures are mandated. Option one is to de-energize and visibly ground the power lines, eliminating the danger completely. However, where this is not a practical option a number of additional measures are added.

In cases where it is determined that during operations "any part of the equipment, load line or load (including rigging and lifting accessories)", can get closer than 20 feet to any energized line or within the minimum approach distance given by the Table A for a determined voltage, insulating links are one among four options, one of which must be used. Table A minimum approach distances vary according to line voltage- 10 feet up to 50 kV, 15 feet up to 200 kV, 20 feet up to 350 kV, and so on. See the regulation, section 1926.1408 for the complete Table A. In cases where it is determined that "any part of the equipment, load line or load (including rigging and lifting accessories)" will operate inside the Table A zone for a determined voltage, use of an insulating link, among a number of other additional steps is mandatory.

Phase-In Period

The revised standard, for the first time provides a definition for an insulating link as "an insulating device listed, labeled, or accepted by a Nationally Recognized Testing Laboratory (NRTL)." Though there are a number of Federally-designated NRTLs and a number of insulating link manufacturers, no common test standard currently exists for insulating links. In its revised crane & derricks standard, OSHA recognized this fact and therefore allowed one year, until November 8, 2011 for insulator links approved by a NRTL to be available in the market. OSHA has provided for two phase-in periods to allow time for the NRTL recognition process and to reduce the economic burden on employers with existing inventories of insulating links.

During the first three years of the new rule (until November 8, 2013) insulating links manufactured before November 8, 2011 and not approved by a NRTL can be used as long as they are maintained and used in accordance with manufacturer requirements and recommendations AND that all workers, including the operator who might come into contact with the equipment, the load line, or the load must be "insulated or guarded". OSHA had designated "insulated gloves for the voltage involved" as adequate insulation for the purpose. Insulating links manufactured after November 8, 2011 cannot be used unless they have been NRTL-approved.

During the first year of the new rule (until November 8, 2011) alternate measures to the mandated use of an insulating link can be applied. These require that all workers, including the crane operator, who might come into contact with the equipment, the load line, or the load, must be "insulated or guarded" and again stipulate that "insulated gloves for the voltage involved" are deemed adequate insulation for the purpose.

Miller Lifting Products has designed and manufactured AC and DC insulating links in the United States since the 1950's and developed its ISO/Link-AC specifically for crane electrical safety. Miller is currently working with standards organizations and other device manufacturers to develop a common test standard for future NRTL acceptance testing. Please feel free to contact us if we can be of assistance as these new regulations come into effect. We will publish additional user information relating to the new standard as we develop it. Please see www.millerproducts.net for more information on load insulation and Miller's ISO/Link-AC.