

## ***OSHA ELECTRIC POWER STANDARDS Q&As***

### **SESSION 1 Q&A**

<p>What is OSHA's definition of a draaw-out type circuit breaker?</p>	<p>OSHA's definition is "One in which the removable portion may be withdrawn from the stationary portion without unbolting connections or mounting supports."</p>
<p>NESC2012 only requires guarding of live parts above 300V. Should I reference NESC-2002 for guarding of live parts operating at more than 150 volts to ground?</p>	<p>Yes- OSHA referenced NESC-2002 For example, an ungrounded, single-phase circuit operating at 240 volts between conductors has a phase-to-ground voltage of 240 volts. The phase-to-phase voltage of this circuit also is 240 volts. NESC-2002 requires guarding of live parts on this circuit, while NESC-2012 does not. OSHA identified that ANSI/IEEE C2-2012 requires guarding of fewer live parts providing less employee protection than the OSHA standard and NESC-2002. However, with regard to the dimensions of clearance distances about electric equipment, employers can rely on NESC-2012 for providing sufficient clearance to minimize the possibility of accidental employee contact.</p>
<p>Is there a consensus standard that addresses substation signage?</p>	<p>Yes- NESC address substation signage in Section 11 110. General Requirements. NESC references ANSI Z535 standards containing information regarding safety signs. A safety sign shall be displayed on or beside the door or gate at each entrance. For fences or walled electric supply stations without roofs, a safety sign shall be displayed on each exterior side of the fenced or wall enclosure.</p>

<p>Does NESC address consensus requirements to keep unqualified persons out of substations?</p>	<p>Yes- Section 11 110. General Requirements states an installed barrier may be satisfied with any one of the following:</p> <ul style="list-style-type: none"> <li>a. Fence fabric, not less than 7 ft in height</li> <li>b. A combination of 6 ft or more of fence and an extension utilizing 3 or more strands of barbed wire to achieve an overall height of not less than 7 ft.</li> <li>c. Other types of construction, not less than 7 ft that present equivalent barriers to climbing or other unauthorized entry.</li> </ul>
<p>Do earlier versions of the NESC provide equivalent protection to the 2012 edition?</p>	<p>Yes, OSHA reviewed the NESC- 2002 edition and found it provides equivalent protection as referenced in 2012.</p>

**SESSION 2 Q&A**

<p>If all equipment is deenergized within a vault, does that change its classification or does it remain an enclosed space?</p>	<p>The space can certainly still be a Enclosed Space. The presence of whether conductors, energized/de-energized, are in the space does not change the classification if you meet the requirements of an Enclosed Space.</p>
<p>Can an enclosed space become a permit required confined space?</p>	<p>: Yes, the standard says “If, after the employer takes the precautions given in this section and in § 1926.965, the hazards remaining in the enclosed space endanger the life of an entrant or could interfere with an entrant's escape from the space, then entry into the enclosed space must meet the permit space entry requirements of subpart AA of this part.”</p>

<p>When does rescue equipment need to be arc rated?</p>	<p>The standard does not necessarily require that equipment be “arc-rated” however other portions of the utility standard (working on or near exposed live parts) require that employees be protected from flames and electric arcs. If there is an incident energy exposure while working in an enclosed space the rescue equipment would need to meet the requirements of ASTM F887.</p>
<p>If an employee uses a tool to hang a tag in a space is that considered an Entry?</p>	<p>I think you may be asking: If an employee uses a tool to hang a tag in the space is that considered an “entry”? Not according to OSHA. Entry is only made once a part of the employee’s body breaks the plane of the space.</p>
<p>Why does OSHA only require an attendant for an enclosed space when there is a traffic hazard?</p>	<p>OSHA stated that enclosed spaces do not present the type of atmospheric hazards that require the use of an attendant once all of the precautions have been taken. Therefore, the only hazards (other than electrical) that necessitate the presence of an attendant are traffic pattern hazards. Keep in mind this only applies to work that falls under the application of the enclosed space standard.</p>
<p>How often does OSHA require air monitors to be calibrated?</p>	<p>OSHA does not set a frequency requirement in the Enclosed Spaces standard. They require that the instruments to have a minimum accuracy of +/- 10%. It is considered to be kept in calibration when the manufacturer’s recommendations or other reasonable guidelines are followed. ,This should be answered after the next break. If you still have questions please send.,OSHA does not set a frequency requirement in the Encloses Spaces standard. They require that the instruments to have a minimum accuracy of +/- 10%. It is considered to be kept in calibration when the manufacturer’s recommendations or other reasonable guidelines are followed.</p>

Is rescue equipment required to be set up at every enclosed space?	The standard states “Employers shall provide equipment to ensure the prompt and safe rescue of employees from the enclosed space.” It is unlikely that “prompt” rescue can be made if the equipment is not already set up and ready for use.
Is there a required order for atmospheric Testing? In other words does oxygen have to be first for example.	Not in the enclosed space standard. Most testers provide testing of all hazards simultaneously
What is the alternative confined space entry rule?	If you have removed all atmospheric hazards and no other hazards are present you can reclassify a space to a non-permit space. You must be able to have historical data to prove you don't have any other hazards.
Do you need an attendant for an enclosed entry or only for confined space?	This will be covered after the next break. If you still have questions please ask and we will respond.

## SESSION 3 Q&A

OSHA requires employers to physically guard pole holes or ensure that employees attend the hole/s whenever someone is working nearby. What does nearby mean?	Near by means that an employee on the ground is near enough to the hole that they could fall into the hole.
What is an example of a barrier when the tension stringing method is not used?	Rope, nets or guards that physically prevent one line from contacting another.

<p>What hazards can occur with induced voltages on overhead lines?</p>	<p>The hazard depends not only on the voltage of the existing line, but also on the length of the line employees are installing and the distance between the existing line and the new one. Electric shock, whether caused by induced or other voltage, poses two different hazards. First, the electric shock could cause an involuntary reaction, which could cause a fall or other injury. Second, the electric shock itself could cause respiratory or cardiac arrest. If the employer takes no precautions to protect employees from hazards associated with involuntary reactions from electric shock, a hazard exists if the induced voltage is sufficient to pass a current of 1 milliampere through a 500-ohm resistor. (The 500-ohm resistor represents the resistance of an employee. The 1 milliampere current is the threshold of perception.) If the employer protects employees from injury due to involuntary reactions from electric shock, a hazard exists if the resultant current would be more than 6 milliamperes</p>
<p>Does turning reclosing off protect employees?</p>	<p>Disabling the reclosing feature of circuit protective devices does not provide any protection against initial contact with the energized circuit involved. It only prevents the devices from reenergizing the circuit after they open it on a fault condition as would occur, for example, when a line an employee is stringing drops onto an energized conductor.</p>
<p>Why does OSHA address reliable communication in overehad tension stringing?</p>	<p>OSHA designed the rule to ensure that, in case of emergency at the conductor supply end, the pulling rig operator can shut the equipment down before injury-causing damage occurs.</p>
<p>Why is an attendant required for manholes and vaults?</p>	<p>OSHA states “To provide emergency assistance when employees work unobserved and where undetected injury could occur.” Hazards primarily include electric shock.</p>

<p>If an attendant enters a manhole or vault what work can they perform?</p>	<p>The attendant may remain within the manhole only for short periods necessary to assist the employee inside the manhole with a task that one employee cannot perform alone. Example- If a second employee is necessary to help lift a piece of equipment into place, the attendant may enter only for the period needed to accomplish the task.</p>
--	---

**SESSION 4 Q&A**

<p>Should the rubber gloves be separated from the leathers when in the bag?</p>	<p>Refer to the manufacturers of both products. Novax does recommend the separation.</p>
<p>What does primary protection mean?</p>	<p>OSHA discusses in the preamble- Designed to contact an energized part and insulate the worker from that part. IEEE-516 Guide for Maintenance Methods on Energized Power Lines defines "insulating tool or device" as a tool or device "designed primarily to provide insulation from an energized part or conductor.</p>
<p>In the COVID environment, what about hand sanitizer or disinfectant that may inadvertently get on rubber goods?</p>	<p>Refer to the manufacturer as the sanitizer could cause damage to the rubber. Employees should be alerted about the damage. I will say that damage can occur fast so it is certainly an issue.</p>
<p>Does the class of the glove determine what category of arc rated clothes I need?</p>	<p>No, there is not a direct correlation between PPE categories and glove classes. They are worn for 2 different hazards - Shock (gloves) and Arc Flash (AR Clothing).</p>
<p>Is testing still required even if I don't use my equipment very often (once a month)</p>	<p>Yes, the standard requires that testing be conducted based on the type of equipment regardless of how often it is used. The only limited exception to that requirement is "If the insulating equipment has been electrically tested but not issued for service, the insulating equipment may not be placed into service unless it has been electrically tested within the previous 12 months."</p>

<p>Does a portable tester meet OSHA's testing requirements for hot sticks?</p>	<p>Yes, assuming the tester meets the requirements of the standard. Always ensure you have the data from the manufacturer stating that it meets the requirements.</p>
<p>What are some examples of products that could be harmful to rubber gloves, sleeves, and blankets?</p>	<p>Oil and any other product that contains petroleum can be harmful to natural rubber and some chemicals. Some lotions and hand creams contain petroleum so make sure to check on the products that you are using on your skin to make sure they are not contributing to the breakdown of the rubber. If something does get on the equipment most manufacturers recommend washing them with water and a bleach and petroleum free cleaner.</p>
<p>OSHA requires the employer to certify that equipment has been tested. What does that mean?</p>	<p>According to OSHA, the certification must identify the equipment passed the test along with the date of the test. Marking equipment and recording results and dates of the tests are two acceptable means of meeting the certification requirements.</p>
<p>Can I use class 2 rubber gloves if I have a 24.9/14.4 kV system?</p>	<p>OSHA requires the maximum use voltage classification that designates the maximum nominal design voltage of the energized system that may be worked safely. The nominal design voltage is equal to the phase-to-phase voltage on multiphase circuits. However, the phase-to-ground potential is considered to be the nominal voltage if: there is no multiphase exposure in the area, or the multiphase exposure is removed through insulation or isolation or both so that the multiphase exposure on a grounded wye circuit is removed.</p>
<p>What is the best way to clean my hot sticks?</p>	<p>Wipe insulating tools with a clean, absorbent paper towel or cloth. This may be followed by wiping with a silicone-treated cloth. If wiping does not remove the contaminant, apply a solvent or cleaner recommended by the manufacturer with a clean, absorbent paper towel or cloth and wipe with a silicone-treated cloth.</p>

<p>Should I wax my hot sticks?</p>	<p>Waxing is not necessary after every use of the tool but rather to maintain a glossy surface that will not allow moisture or water to bead on the surface. Before waxing, clean the tool and use a wax recommended by the manufacturer to avoid a wax build-up.</p>
------------------------------------	---