

# DOES YOUR FACILITY NEED TO BE NFPA 70E COMPLIANT?



## WHY DO YOU NEED TO BE COMPLIANT?

- OSHA is now using NFPA 70E as a national consensus standard for citations
- Protect your assets (Personnel & Facility)
- Limit your liability
- Identify potential hazards
- Reduce the risk of violations and citations


## HOW DO YOU BECOME COMPLIANT?

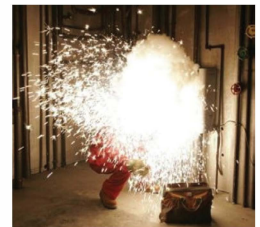
### Six Step Compliance Checklist:

1. Understand NFPA 70E and Develop a Site Specific Written Safety Plan
2. Train and Qualify Employees in Accordance With NFPA 70E Compliance Guidelines
3. Generate and Post a Facility Electrical One-Line Diagram
4. Perform a Shock Risk / Arc-Flash Risk Assessment and Apply Labels
5. Provide the Appropriate Personal Protective Equipment (PPE)
6. Perform Preventative Maintenance on Electrical Equipment

## WHAT IF YOU DON'T BECOME COMPLIANT?

- Increases your risk for electrical hazards
- Exposes your potential for willful violations
- Greatly increases your facility's liability

<b>WARNING</b>	
<b>Arc Flash and Shock Risk</b>	
<b>Appropriate PPE Required</b>	
Flash Hazard Boundary	18 in
Incident Energy at 18 in	1.2 cal/cm <sup>2</sup>
1.2-12 cal/cm <sup>2</sup>	AR single or multi-layered full body and face protection (rated equal to or greater IE level above), hearing protection, hard hat, safety glasses or goggles, leather glove protectors, leather work boots.
Shock Hazard when cover is removed	480 VAC
Class Glove with Leather Protectors	0
Limited Approach (Fixed Circuit)	42 in
Restricted Approach	12 in
<b>H1</b>	
 Southwest Energy Systems 2231 E Jones, Suite A Phoenix, Arizona 85040 (602) 438-7500	
SES#	XXXXXXX
Date:	10/03/17
By:	CSI
<b>Warning:</b> Changes in equipment settings, system configuration, or utility service will invalidate the calculated values and PPE requirements	



### OSHA'S General Duty Clause:

Section 5(A)(1) of the Occupational Safety and Health Act requires an employer to furnish to its employees: employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to its employees...

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# SIX STEP COMPLIANCE CHECKLIST

<p><b>Goal #1: Understand NFPA 70E and Develop a Site Specific Written Safety Plan</b></p> <p><b>70E-110.1(A):</b> “The employer shall implement and document an overall electrical safety program that directs activity appropriate to the risk associated with electrical hazards.” <b>70E-110.1(H):</b> “The electrical safety program shall include a risk assessment procedure and shall comply with 110.1(H)(1) through 110.1 (H)(3).”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>
<p><b>Goal #2: Train and Qualify Employees in Accordance With NFPA 70E Compliance Guidelines</b></p> <p><b>70E-105.3(A):</b> The employer shall have responsibilities to (1) “establish, document, and implement the safety-related work practices and procedures required by this standard”, (2) “provide employees with training in the employer’s safety-related work practices and procedures”. <b>70E-110.2(A):</b> Training requirements “shall apply to employees exposed to an electrical hazard when the risk associated with that hazard is not reduced to a safe level by the applicable electrical installation requirements.” <b>70E-110.2(A)(1):</b> “A qualified person shall be trained and knowledgeable in the construction and operation of equipment or a specific work method and be trained to identify and avoid the electrical hazards that might be present with respect to that equipment or work method.”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>
<p><b>Goal #3: Establishing an Electrically Safe Work Condition</b></p> <p><b>70E-120.1(A):</b> Each employer shall establish, document, and implement a lockout/tagout (LOTO) program and procedures to safeguard workers from exposure to electrical hazards. <b>70E-205.2:</b> “A single-line diagram, where provided for the electrical system, shall be maintained in a legible condition and shall be kept current.”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>
<p><b>Goal #4: Perform a Shock Risk / Arc-Flash Risk Assessment and Apply Labels</b></p> <p><b>70E-130.4(A):</b> A shock risk assessment shall determine the voltage to which personnel will be exposed, the boundary requirements, and the PPE necessary in order to minimize the possibility of electric shock to personnel.</p> <p><b>70E-130.5(A):</b> “An arc flash risk assessment shall be performed:”</p> <ol style="list-style-type: none"> <li>(1) “to identify arc-flash hazards”</li> <li>(2) “to estimate the likelihood of occurrence of injury or damage to health and the potential severity of injury or damage to health”</li> <li>(3) “to determine if additional protective measures are required, including the use of PPE”</li> </ol> <p><b>70E-130.5(H):</b> “Electrical equipment such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are in other than dwelling units and that are likely to require examination, adjustment, servicing, or maintenance while energized shall be field-marked with a label containing all the following information:”</p> <ol style="list-style-type: none"> <li>(1) Nominal system voltage</li> <li>(2) Arc flash boundary</li> <li>(3) At least one of the following: <ol style="list-style-type: none"> <li>a. Available incident energy and the corresponding working distance, or the arc flash PPE category in Table 130.7(C)(15)(a) or Table 130.7(C)(15)(b) for the equipment, but not both</li> <li>b. Minimum arc rating of clothing</li> <li>c. Site-specific level of PPE</li> </ol> </li> </ol> <p>“The method of calculating and data to support the information for the label shall be documented.”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>
<p><b>Goal #5: Provide the Appropriate Personal Protective Equipment (PPE)</b></p> <p><b>70E-130.7:</b> “When the employee is working within the restricted approach boundary, the worker shall wear PPE in accordance with 130.4. When an employee is working within the arc flash boundary, he or she shall wear protective clothing and other PPE on accordance with 130.5. All parts of the body inside the arc flash boundary shall be protected”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>
<p><b>Goal #6: Perform Preventative Maintenance on Electrical Equipment</b></p> <p><b>130.5(B):</b> The estimate of the likelihood of occurrence of injury or damage to health and potential severity shall take into consideration the following:</p> <ol style="list-style-type: none"> <li>(1) The design of the equipment, including its overcurrent protective device and operating time</li> <li>(2) The electrical equipment operating condition and condition of maintenance.</li> </ol> <p>” <b>70E-205.3:</b> “Electrical equipment shall be maintained in accordance with manufacturers’ instructions or industry consensus standards to reduce the risk associated with failure” and the subsequent exposure of employees to electrical hazards. <b>70E-205.3 Informational Note:</b> “Common industry practice is to apply test or calibration decals to equipment to indicate the test or calibration date and overall condition of equipment that has been tested and maintained in the field.”</p>	<p>____/____/____</p> <p>Planned Completion Date</p> <p>____/____/____</p> <p>Actual Completion Date</p>

## What is the relationship between OSHA and NFPA 70E?

**NFPA 70E is considered a national consensus standard** and is intended for use by employers, employees, and OSHA. **OSHA has not “adopted” NFPA 70E**, simply because adoption would require a lengthy and expensive process. **OSHA has instead referenced compliance to NFPA 70E** using section 5(a)(1) of the Occupational Safety and Health Act of 1970, commonly referred to as the “**general duty clause**” as their basis of implementation. The general duty clause states that employers “shall furnish to each of his employees: employment and place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to its employees.”

It is clear that **OSHA is using NFPA 70E as a national consensus standard**. Furthermore, OSHA expects employers and employees to comply with the provisions of NFPA 70E, regardless of whether or not it has been “adopted” as an OSHA requirement.