

EFCOG Best Practice # 222

Best Practice Title: Electrical Safety Training Model

Facility: DOE Complex

Point of Contact:

Andrew Olsen

(360) 689-5405

andrew@elecTrain.com

Jacqueline Mirabal-Martinez

(505) 665-3060

jmirabal@lanl.gov

Brad Stedem

(816) 488-4717

bstedem1@kcp.com

Brief Description of Best Practice: The EFCOG Electrical Safety Task Group has developed a training model for personnel exposed to electrical hazards that takes into account the level of hazard to which they are exposed as well as specialty qualifications that may need to be obtained.

Why the best practice was used: NFPA 70E and other standards outline several requirements for training that tend to be interpreted and implemented very differently between sites. The Electrical Safety Task Group set out to identify a compliant model that will provide a framework for organizations to check their training and qualification against, or to use as a starting point for those building a new program.

What are the benefits of the best practice: DOE sites and other facilities can follow this model to establish an electrical safety training program outline, if needed, or can validate their current programs and interpretations.

What problems/issues were associated with the best practice: N/A

How the success of the Best Practice was measured: Implementation of the training model will lend to having a more aligned training process for electrical safety which will allow for a more consistent implementation across the DOE complex and for easier sharing of resources between sites.

Description of process experience using the Best Practice: Many of the sites represented in the quorum of contributors currently have training programs that adhere to the training model that was developed and find that they are compliant with the driving standards.

Electrical Safety Training Program Overview

For a graphical representation see: *Figure 1 – Electrical Safety Training Program Model*

Step One of the Model:

The first step of the program starts with the training that is given to all employees upon initial hire. This is generally considered a module of general employee training (GET). For many employees, such as administrative staff, this will be the only electrical safety training they receive. This training is an awareness level of training necessary for the safety of employees and does not qualify persons to perform work.

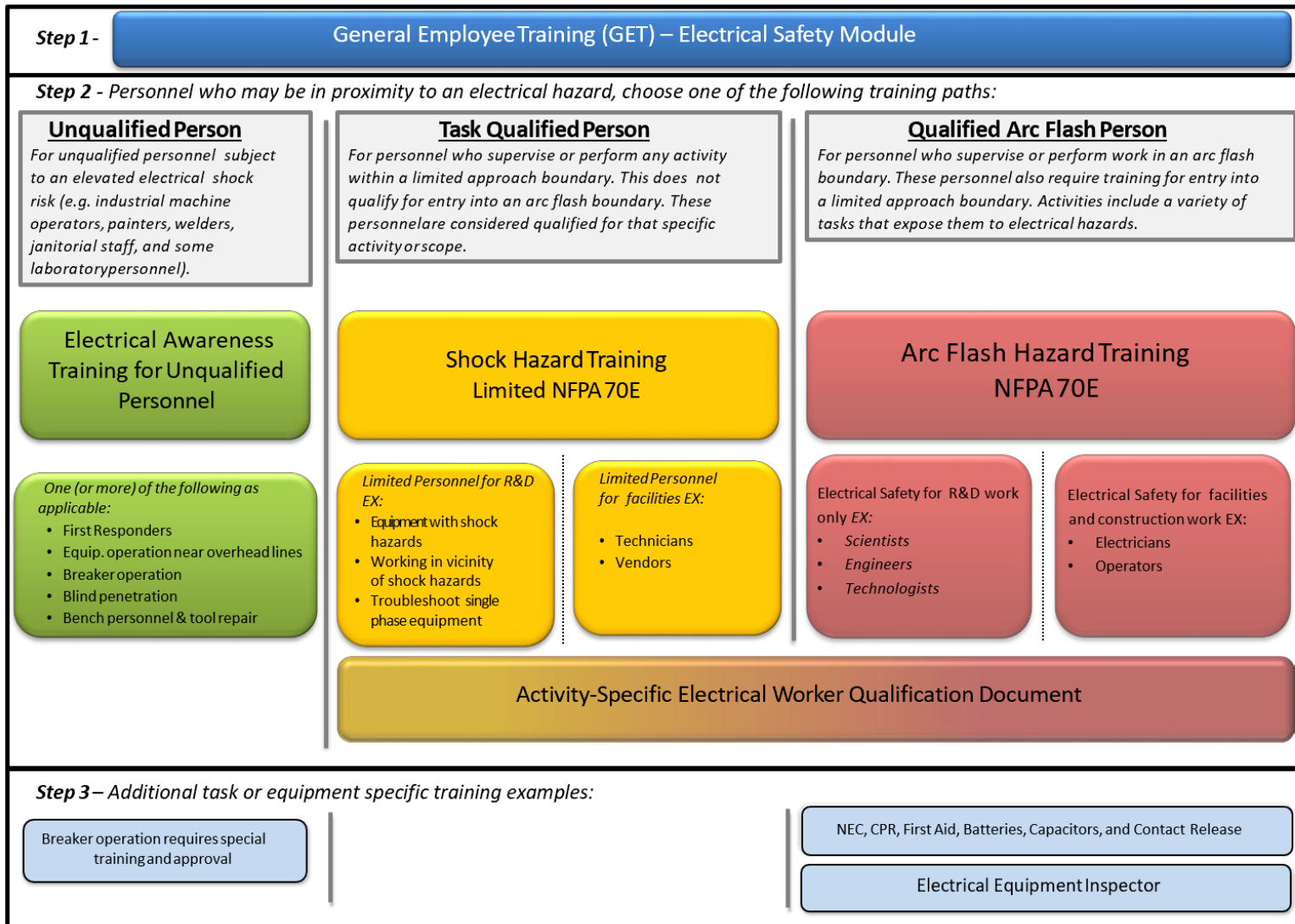
Step Two of the Model:

The second step of this training program is to ensure that the workers are trained to the hazards with which they are exposed. The training would consist of the electrical safety principles, policies, procedures, and processes that directs activities appropriate for the risk associated with electrical hazards. The levels of training are determined based on whether the employee has a heightened risk of electrical shock due to the tasks they perform, they work with equipment that pose electrical shock hazards, or they are required to work with equipment that pose arc flash hazards.

Not all organizations adopt a model with three levels of training, but some instead use a two level (Unqualified persons and Qualified persons) method where workers that may be exposed to either shock or arc flash hazards will be trained and qualified for both hazards. Workers that are qualified to work with electrical shock or arc flash hazards are required to have their demonstration of skills and knowledge documented.

Step Three of the Model:

A qualified person shall be trained to identify and avoid the electrical hazards that might be present with respect to equipment or work methods. A person can be considered qualified with respect to certain equipment and tasks but still unqualified for others. The third step of the program is to provide additional task specific and equipment specific training and qualification. The model lists examples of training but is not all inclusive. Each site/organization will determine additional training requirements as necessary.



Energy Facility Contractors Group

Figure 1 – Electrical Safety Training Program Model