Best Practice Title: Controlled Work Area

Facility: DOE Complex

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Brief Description of Best Practice: A Controlled Work Area (CWA) concept has been developed to aid DOE facilities that struggle with implementation of lockout/tagout requirements and the application of NFPA 70E boundaries.

Why the best practice was used: Clarification was needed to address inconsistencies across the DOE complex regarding application of NFPA 70E boundaries and the requirements of lockout/tagout.

What are the benefits of the best practice: The establishment of a recognized CWA with a designated person in charge (PIC) will help alleviate issues and questions concerning application of NFPA 70E boundaries and the requirements of lockout/tagout.

What problems/issues were associated with the best practice: No or inconsistent guidance applied across the complex.

How the success of the Best Practice was measured: Success will be measured by the use of the best practice in complex site operating procedures.

Description of process experience using the Best Practice: N/A

Problem: Confusion exists regarding the application of NFPA 70E shock & arc flash boundaries when an exposed electrical conductor or circuit part is present in the workplace.

Purpose: The establishment of a recognized Controlled Work Area (CWA) with a designated person in charge (PIC) will help alleviate questions concerning application of LO/TO and the establishment of NFPA 70E boundaries.

Note: *For the purposes of this best practice, lockout/tagout establishes an electrically safe work condition (i.e., de-energized). All authorized employees performing servicing and maintenance are required to apply their personal lock and personal danger tag.*

Note: *NFPA 70E (2015) Handbook Article 130.3 (C) states: If the conductors are placed in an electrically safe work condition (ESWC), approach boundaries no longer exist and unqualified persons can approach the conductor without risk of injury.*

1. **Question:** Do the boundaries of NFPA 70E apply to exposed electrical conductors and circuit parts when the conductors are physically separated from a source of energy? (***see physical separation best practice # 180***)
   Answer: No, the shock and arc flash boundaries do not apply when exposed conductors and circuit parts are physically separated from a source of energy. (During installation or removal of wiring where not connected to a circuit breaker or other source of energy such as in new construction or demolition and decommissioning activities (D&D))

2. **Question:** Do the boundaries of NFPA 70E apply to exposed electrical conductors and circuit parts where the energy source is controlled by lockout/tagout?
   Answer: No, if the energy source has been isolated using an approved lockout/tagout procedure an exposed conductor or circuit part is no longer energized. The shock boundaries apply only when a conductor or circuit part has not been placed in an electrically safe work condition. Likewise an arc flash boundary does not exist if an arc flash cannot occur due to the energy source being isolated through lockout/tagout.

3. **Question:** Do the boundaries of NFPA 70E apply to exposed electrical conductors and circuit parts when affected employees enter an area where an approved lockout/tagout is being used to isolate the energy source?
   Answer: No, NFPA 70E boundaries do not apply when electrical hazards are controlled using lockout/tagout. Affected employees are not required to observe NFPA 70E boundaries for exposed conductors and circuit parts that may be present in the workplace where the energy source is controlled by lockout/tagout.

4. **Question:** Are affected employees in the vicinity of exposed electrical conductors or circuit parts that are controlled by lockout/tagout required to apply personal locks and personal danger tags per an approved lockout/tagout procedure?
   Answer: No, lockout/tagout procedures apply to authorized employees performing servicing and maintenance activities or when exposed to a hazard. Being in the vicinity or in close proximity to exposed electrical conductors or circuit parts where the energy source is controlled by lockout/tagout does not constitute servicing and maintenance activities or exposure to a hazard.

5. **Question:** Does a lockout/tagout require an area to be controlled by means of barriers and barricades (roping and posting) to restrict entry by affected employees to an area that contains exposed electrical conductors and circuit parts?
   Answer: No, lockout/tagout is the means by which the hazardous energy is controlled and the lock or other approved means is considered the boundary for the lockout tagout and no additional boundary is required.

Controlled Work Area

Controlled Work Area (CWA): An area, within which a work activity is being performed, established by the person in charge (PIC) of the activity, in order to control access to the area.

1. The size of the CWA will be determined by the PIC using a graded approach based on the scope of the work activity being performed.

2. The CWA, when established, is to be controlled using barriers, barricades, attendants or other suitable means. If barriers or barricades are used, a sign or signs depending on the size of the area are to be posted designating it as a CWA. Signs used to designate a CWA shall comply with OSHA and or ANSI standards and serve to notify affected employees of the CWA. The word "NOTICE" is the recommended signal word and the major message or body should contain the words "CONTROLLED WORK AREA / PERMISSION REQUIRED FOR ENTRY". The contact information for the person in charge and/or alternate of the area is to be listed at the bottom of the sign.

3. The CWA is controlled by a PIC or a designated alternate. The PIC has the responsibility to evaluate all requested entry into the CWA by affected employees.

    a. The PIC determines if access by affected employees is necessary and whether access should be granted based on the scope of work being performed in the CWA and the scope of work to be performed by the person requesting entry into the CWA.

    b. The PIC, with the help of a safety professional (as needed), determines if the controls within the CWA are adequate to protect the affected employees requesting entry or whether additional controls may be required to grant entry into the CWA. (e.g. placing personal locks on an existing lockout/tagout, donning required personal protective equipment (PPE), or whether an escort might be needed.)

    c. Entry and duration of access into the CWA is at the discretion of the PIC and must be communicated to the affected employee/(s) requesting entry.