HANFORD SITE ENERGIZED ELECTRICAL WORK PERMIT INSTRUCTIONS

The Hanford Site Energized Electrical Work Permit (EEWP) form is required when work is performed within the restricted approach boundary or the employee interacts with electrical equipment when conductors or circuit parts are not exposed, but an increased likelihood of injury from an exposure to an arc flash hazard exists. Exemptions to an EEWP are listed in DOE-0359, Section 4.2.3. References used below refer to sections and tables in NFPA 70E 2018.

The employer, by approving energized electrical work, agrees that the worker will be exposed to an unusually high/ additional level of work. The decision to use an EEWP should only be made as a last resort.

This is a **senior management decision**, not a work control decision.

To use this form: *(**NOTE:** Step numbers below refer to blocks on the EEWP)*

1. Number the page in the space provided. Indicate total pages included.
2. Enter Work document number(s) if available, or N/A if not applicable *(e.g., tasks covered in operating procedures)*.
3. Enter Equipment ID and Location where the electrical hazard exists.
4. Enter a detailed description of the work activity, and of which equipment will be energized.
5. Select the justification for energized work that applies. If needed, refer to Article 130.2(A) for an explanation of the choices. Provide a detailed basis for justifying the work. The following are examples of work scope that could warrant energized under these conditions:

   Greater Hazard
   - Deactivation of emergency alarm systems
   - Shutdown of hazardous location ventilation equipment
   - Interruption of life support equipment
   - Shutdown of life safety systems
   - Hazardous environmental spill may result
   - Hazardous chemical release may result

   Infeasibility
   - Orderly shutdown of continuous process causes additional or increased hazards
   - Work on battery banks

6. Normal Operation:

   Normal operation of electrical equipment shall be permitted where a normal operating condition exists. A normal operating condition exists when all of the following conditions below are met. If any of the conditions are not met, then additional controls or PPE need to be considered. Check N/A for equipment with no arc flash hazard.

   a. Equipment is properly installed
   b. Equipment is properly maintained
   c. The equipment is used in accordance with instructions included in the listing and labeling, and in accordance with the manufacturer's instructions
   d. The equipment doors are closed and secured
   e. The equipment covers are in place and secured
   f. There is no evidence of impending failure

7. Estimate the likelihood of occurrence of shock or arc flash incident for AC and DC systems. Table 130.5(C) offers a simple guide for estimating the risk and can be used in addition to the hierarchy of risk controls identified in Article 110.1(H). A real-time risk assessment must be continuous from the planning process through completion of the work. Conditions of the work/worker, the environment, and the equipment are all factors that affect risk.

8. 8a. N/A if any of the following conditions below are met.
   - The work will not be performed within an AFB
   - The system is single phase
   - The circuit is rated less than 240 Volts, is supplied by a single transformer *(or equivalent)*, or generator, rated at less than 125kVA.

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8b. If an incident energy analysis has not been performed, the AFB is determined by Article 130.7(C)(15). If block 8b is selected and a PPE Category (HRC) is assigned, ensure the parameters identified within the task of Table 130.7(C)(15)(a) or 130.7(C)(15)(b) are satisfied. Document the Arc Flash PPE Category and AFB in block 8b.

8c. Enter calculation information. Contact engineering or technical authorities for calculation information as required.

9. Shock Risk Assessment - record the highest nominal voltage and check VAC or VDC.

9a. Select N/A if there is no shock hazard *(e.g., equipment operating with covers in place)*

9b. Make the appropriate selections for Approach Boundaries. If other voltages are identified, write in the voltage and appropriate approach boundaries from Table 130.4(D) (a) or (b).

10. PPE - Identify the minimum appropriate PPE for both the shock and arc risks identified. Combinations of the listed PPE that provide the same level of protection for the risk are acceptable. Additional PPE may be required if the equipment is not in normal operating condition.

a. For shock risk, identify the appropriate protective clothing and PPE as described in Article 130.7(C)(7)(a).

b. For arc flash risk, if Table 130.7(C)(15) (a) or (b) is used in lieu of an incident energy analysis, reference Table 130.7(C)(15)(c) and identify the appropriate protective clothing and PPE.

c. If an incident energy analysis is used, identify the appropriate protective clothing and PPE based on the incident energy exposure associated with the specific task. Reference Article 130.5(G). Employees shall wear hearing protection whenever their head is within the AFB.

11. These steps will be addressed and documented before commencing energized electrical work, understanding that all steps might not be completed at the time of signature in block 10.

12. Enter additional protective equipment as needed.

13. Enter Additional Protective Measures as required. Reference Informative Annex Q, *Human Performance and Workplace Electrical Safety*, Table Q-5 or other sources.

14. Provide additional comments as necessary.

15. All signatures are required before the energized work is performed.