ELECTRICAL RISK ASSESSMENT FORM - SUBCONTRACTORS

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| 1. **GENERAL** | | |
| Date:  Company:  Qualified Personnel: | Equipment:  Location:  Normal operating conditions exist per NFPA 70E 130.1(A)(4)?  Y  N | System Voltage:  Movable circuit part  Fixed Circuit Part  Arc Flash label present on equipment?  Y  N  Date on Label: \_\_\_\_\_\_\_\_\_\_ |

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| 1. **TASK** |
| Reading a panel meter while operating a meter switch  Normal operation of a circuit breaker (CB), switch, contactor, or starter  Work on energized electrical conductors and circuit parts, including voltage testing  Voltage testing on individual battery cells or individual multi-cell units  Removal or installation of CBs or switches  Removal or installation of covers for equipment such as wireways, junction boxes, and cable trays that does not expose bare energized electrical conductors and circuit parts  Removal of bolted covers (to expose bare energized electrical conductors and circuit parts).  Removal of battery intercell connector covers  Opening hinged door(s) or cover(s) (to expose bare energized electrical conductors and circuit parts)  Perform infrared thermography and other noncontact inspections outside the restricted approach boundary. This activity does not include opening of doors or covers.  Application of temporary protective grounding equipment after voltage test  Work on control circuits with exposed energized electrical conductors and circuit parts, 120 volts or below without any other exposed energized equipment over 120 V including opening of hinged covers to gain access  Work on control circuits with exposed energized electrical conductors and circuit parts, greater than 120 V  Insertion or removal of individual starter buckets from motor control center  Insertion or removal (racking) of CBs or starters from cubicles, doors open or closed  Insertion or removal of plug-in devices into or from busways  Insulated cable examination with no manipulation of cable  Insulated cable examination with manipulation of cable  Work on exposed energized electrical conductors and circuit parts of equipment directly supplied by a panel board or motor control center  Insertion and removal of revenue meters  For dc systems, insertion or removal of individual cells or multi-cell units of a battery system in an enclosure or open rack.  For dc systems, maintenance on a single cell of a battery system or multi-cell units in an open rack  For dc systems, work on exposed energized electrical conductors and circuit parts of utilization equipment directly supplied by a dc source  Insertion or removal (racking) of CBs from cubicles  Insertion or removal (racking) of ground and test device  Insertion or removal (racking) of voltage transformers on or off the bus  Opening voltage transformer or control power transformer compartments  Outdoor disconnect switch operation (hook stick operated) at 1 kV through 15 kV  Outdoor disconnect switch operation (gang-operated, from grade) at 1 kV through 15 Kv  **EXPLAIN TASK / ADDITIONAL DETAIL**: |
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| 1. **POTENTAL ELECTRICAL HAZARDS** | |
| *Shock hazard*  Yes  No  *Likelihood of an arc flash incident per NFPA 70E Table 130.5 (C)*  Yes  No  Potential for an arc blast  Yes  No | |
| 1. **POTENTIAL RISKS** | |
| **Potential Severity of Injury or Damage to Health** | |
| Irreversible — trauma, death  Permanent — skeletal damage, blindness, hearing loss, third degree burns  Reversible — minor impact, hearing damage, minor laceration, bruises, first/second degree burns | |
| **Likelihood of Hazardous Event** | **Likelihood of Avoiding Injury** |
| Very high  Likely  Possible | Impossible  Probable |
| **Protective Measures** | |
| Physical barrier at \_\_\_\_\_ feet (based on boundary information below)  Signage  SOPs | Training  PPE (see below)  Other Controls, Explain |

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| 1. **SHOCK APPROACH BOUNDARIES**   *From NFPA 70E Table 130.4(D)(a) or (b)* | |
| Restricted Approach Boundary (feet) = | Limited Approach Boundary (feet) = |

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| 1. **ARC FLASH BOUNDARY** | |
| Method for determining Arch Flash Boundary:  Arc Flash PPE Categories Method *(from NFPA 70E Table 130.7(C)(15)(a) or (b))*  Incident Energy Analysis Method  Incident energy= \_\_\_\_\_\_\_\_\_\_ cal/cm2 | Arc Flash Boundary (feet) = |

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| 1. **ARC FLASH PPE REQUIREMENTS**   *From NFPA 70E Table 130.7(C)(15)(c) or 130.5(G)* | |
| PPE Category = \_\_\_\_\_\_\_\_\_\_ and/or PPE Calorie Rating = \_\_\_\_\_\_\_\_\_\_  Arc flash PPE conforms to NFPA 70E 130.7(14)?  Yes  No | |
| Protective Clothing and PPE: | Protective Equipment: |

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| 1. **REQUEST PERMIT** |
| Is incident energy > 40 cal/cm2  Yes  No Is system voltage > 480V?  Yes  No  Does work include more than voltage verification, troubleshooting, or thermal imaging?  Yes  No  *Is equipment operating condition abnormal?*  Yes  No  *If any answer is yes, then work must be completed under an approved Energized Electrical Work Permit* |

**Note: The ERA must be completed by a Qualified Person per NFPA 70E.**

**Workers must review this ERA prior to starting work.**

**The ERA must be available at the job site during work activities.**