# ELECTRICAL RISK ASSESSMENT FORM – LEIDOS BIOMED

## 1. GENERAL

| | | |
|---|---|---|
| Date: | Electrical Equipment: | System Voltage: |
| Company: | Location: | ☐ Movable circuit part<br>☐ Fixed Circuit Part |
| Qualified Personnel: | Normal operating conditions exist per NFPA 70E 110.2(B)? ☐ Y ☐ N | Arc Flash label present on equipment? ☐ Y ☐ N<br>Date on Label: _____ |

## 2. ENERGIZED ELECTRICAL WORK 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 (hookstick 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 (ATTACH ADDITIONAL DOCUMENT IF NECESSARY)**:

## 3. 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

## 4. 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 |
|---|---|
| ☐ High<br>☐ Possible | ☐ Impossible<br>☐ Probable |

**Protective Measures**

| | |
|---|---|
| ☐ Physical barrier at _____ feet | ☐ Training |
| ☐ Signage | ☐ PPE (see below) |
| ☐ SOPs | ☐ Other Controls, Explain: |

## 5. SHOCK APPROACH BOUNDARIES *From NFPA 70E Table 130.4(D)(a) or (b)*

| | |
|---|---|
| Restricted Approach Boundary (feet) = | Limited Approach Boundary (feet) = |

## 6. ARC FLASH BOUNDARY

| | |
|---|---|
| Method for determining Arch Flash Boundary:<br>☐ Arc Flash PPE Categories Method *(from NFPA 70E Table 130.7(C)(15)(a) or (b))*<br>☐ Incident Energy Analysis Method<br>Incident energy= _____ cal/cm$^2$ | Arc Flash Boundary (feet) =<br>Modified Arc Flash Boundary (feet) based on FNLCR Electrical Directive = |

## 7. ARC FLASH PPE REQUIREMENTS *From NFPA 70E Table 130.7(C)(15)(c) or 130.5(G)*

PPE Category = _____ and/or PPE Calorie Rating = _____

Modified PPE Category =_____ and/or PPE Calorie Rating =_____ based on FNLCR Electrical Directive

Arc flash PPE conforms to NFPA 70E 130.7(14)? ☐Yes ☐No

| Protective Clothing and PPE: | Protective Equipment: |
|---|---|
| | |

## 8. REQUEST PERMIT

Is incident energy > 40 cal/cm$^2$ ☐ Yes ☐ No Is system voltage > 480V? ☐ Yes ☐ No

Does energized work include more than voltage verification, troubleshooting, thermal imaging, or operating a breaker or switch? ☐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.**