

ELECTRICAL RISK ASSESSMENT FORM – LEIDOS BIOMED

1. GENERAL		
Date:	Equipment:	System Voltage:
Company:	Location:	<input type="checkbox"/> Movable circuit part <input type="checkbox"/> Fixed Circuit Part
Qualified Personnel:	Normal operating conditions exist per NFPA 70E 130.1(A)(4)? <input type="checkbox"/> Y <input type="checkbox"/> N	Arc Flash label present on equipment? <input type="checkbox"/> Y <input type="checkbox"/> N Date on Label: _____

2. TASK
<ul style="list-style-type: none"> <input type="checkbox"/> Reading a panel meter while operating a meter switch <input type="checkbox"/> Normal operation of a circuit breaker (CB), switch, contactor, or starter <input type="checkbox"/> Work on energized electrical conductors and circuit parts, including voltage testing <input type="checkbox"/> Voltage testing on individual battery cells or individual multi-cell units <input type="checkbox"/> Removal or installation of CBs or switches <input type="checkbox"/> 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 <input type="checkbox"/> Removal of bolted covers (to expose bare energized electrical conductors and circuit parts) <input type="checkbox"/> Removal of battery intercell connector covers <input type="checkbox"/> Opening hinged door(s) or cover(s) (to expose bare energized electrical conductors and circuit parts) <input type="checkbox"/> Perform infrared thermography and other noncontact inspections outside the restricted approach boundary. This activity does not include opening of doors or covers. <input type="checkbox"/> Application of temporary protective grounding equipment after voltage test <input type="checkbox"/> 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 <input type="checkbox"/> Work on control circuits with exposed energized electrical conductors and circuit parts, greater than 120 V <input type="checkbox"/> Insertion or removal of individual starter buckets from motor control center <input type="checkbox"/> Insertion or removal (racking) of CBs or starters from cubicles, doors open or closed <input type="checkbox"/> Insertion or removal of plug-in devices into or from busways <input type="checkbox"/> Insulated cable examination with no manipulation of cable <input type="checkbox"/> Insulated cable examination with manipulation of cable <input type="checkbox"/> Work on exposed energized electrical conductors and circuit parts of equipment directly supplied by a panel board or motor control center <input type="checkbox"/> Insertion and removal of revenue meters <input type="checkbox"/> For dc systems, insertion or removal of individual cells or multi-cell units of a battery system in an enclosure or open rack <input type="checkbox"/> For dc systems, maintenance on a single cell of a battery system or multi-cell units in an open rack <input type="checkbox"/> For dc systems, work on exposed energized electrical conductors and circuit parts of utilization equipment directly supplied by a dc source <input type="checkbox"/> Insertion or removal (racking) of CBs from cubicles <input type="checkbox"/> Insertion or removal (racking) of ground and test device <input type="checkbox"/> Insertion or removal (racking) of voltage transformers on or off the bus <input type="checkbox"/> Opening voltage transformer or control power transformer compartments <input type="checkbox"/> Outdoor disconnect switch operation (hookstick operated) at 1 kV through 15 kV <input type="checkbox"/> Outdoor disconnect switch operation (gang-operated, from grade) at 1 kV through 15 kV <p>EXPLAIN TASK / ADDITIONAL DETAIL (ATTACH ADDITIONAL DOCUMENT IF NECESSARY):</p>

3. POTENTIAL ELECTRICAL HAZARDS	
Shock hazard <input type="checkbox"/> Yes <input type="checkbox"/> No Likelihood of an arc flash incident per NFPA 70E Table 130.5 (C) <input type="checkbox"/> Yes <input type="checkbox"/> No Potential for an arc blast <input type="checkbox"/> Yes <input type="checkbox"/> No	
4. POTENTIAL RISKS	
Potential Severity of Injury or Damage to Health	
<input type="checkbox"/> Irreversible — trauma, death <input type="checkbox"/> Permanent — skeletal damage, blindness, hearing loss, third degree burns <input type="checkbox"/> Reversible — minor impact, hearing damage, minor laceration, bruises, first/second degree burns	
Likelihood of Hazardous Event	Likelihood of Avoiding Injury
<input type="checkbox"/> High <input type="checkbox"/> Possible	<input type="checkbox"/> Impossible <input type="checkbox"/> Probable
Protective Measures	
<input type="checkbox"/> Physical barrier at _____ feet <input type="checkbox"/> Signage <input type="checkbox"/> SOPs	<input type="checkbox"/> Training <input type="checkbox"/> PPE (see below) <input type="checkbox"/> Other Controls, Explain:

5. SHOCK APPROACH BOUNDARIES <i>From NFPA 70E Table 130.4(D)(a) or (b)</i>	
Restricted Approach Boundary (feet) = _____	Limited Approach Boundary (feet) = _____

6. ARC FLASH BOUNDARY	
Method for determining Arch Flash Boundary: <input type="checkbox"/> Arc Flash PPE Categories Method (<i>from NFPA 70E Table 130.7(C)(15)(a) or (b)</i>) <input type="checkbox"/> Incident Energy Analysis Method Incident energy= _____ cal/cm ²	Arc Flash Boundary (feet) = _____ Modified Arc Flash Boundary (feet) based on FNLCR Electrical Directive = _____

7. ARC FLASH PPE REQUIREMENTS <i>From NFPA 70E Table 130.7(C)(15)(c) or 130.5(G)</i>	
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)? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Protective Clothing and PPE:	Protective Equipment:

8. REQUEST PERMIT
Is incident energy > 40 cal/cm ² <input type="checkbox"/> Yes <input type="checkbox"/> No Is system voltage > 480V? <input type="checkbox"/> Yes <input type="checkbox"/> No Does energized work include more than voltage verification, troubleshooting, thermal imaging, or operating a breaker or switch? <input type="checkbox"/> Yes <input type="checkbox"/> No Is equipment operating condition abnormal? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If any answer is yes, then work must be completed under an approved Energized Electrical Work Permit</i>

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.