Date: _____________

Name/Title: _____________________________ Signature: _____________________________

Performed by: _____________________________ _______________

Supervisor: _____________________________ _______________

Shop/Department: _____________________________

Successful completion:

1. Review appropriate operating procedures. Consult manufacturer’s instructions, or machine operator or person responsible, if assigned. □ Yes □ No

2. Complete an electrical job hazard analysis (JHA). Review warning labels if present. Use NFPA 70E to select PPE if no label. Document your findings below.

### Electrical Safe Work Condition/LOTO by Qualified Person (per NFPA 70E)

<table>
<thead>
<tr>
<th>Shock (Circle boundary to be crossed)</th>
<th>Arc Flash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary</td>
<td>Limited</td>
</tr>
<tr>
<td>Phase-to Phase</td>
<td>Enter Voltage</td>
</tr>
<tr>
<td>0-50</td>
<td>Not specified</td>
</tr>
<tr>
<td>51 - 150</td>
<td>10' 3' 6&quot;</td>
</tr>
<tr>
<td>151-750</td>
<td>10' 3' 6&quot;</td>
</tr>
<tr>
<td>750 - 15KV</td>
<td>10&quot; 5' 0&quot;</td>
</tr>
</tbody>
</table>

Check all that apply: □ Yes □ No

- **LOTO**
- **Ladders (NON-CONDUCTIVE SIDERAIS)**
- **Signs/Barricades/Attendant**
- **EH rated shoes**
- **DI rubber boots**
- **Rubber gloves** Class of gloves __________
- **Rubber sleeves**
- **Rubber blanket**
- **Insulated tools**
- **Hot sticks**
- **Live work permit (not required for testing)**
- **AED/CPR/First-Aid training**
- **Stored electrical energy (capacitors, inductors, batteries, magnets)** □ Yes □ No
- **Mechanical energy (gravity, air, hydraulic, springs)** □ Yes □ No
- **Pinch points** □ Yes □ No
- **Hot to touch** □ Yes □ No
- **Chemical/ explosive/ environmental** □ Yes □ No
- **Slips, trips, falls, moving equipment** □ Yes □ No
- **Temporary / permanent** □ Yes □ No
- **Unusual hazards** □ Yes □ No
3. Complete pre-job briefing. Consider what might go wrong – human error
   If more than one person doing work, discuss the hazards present and the SOP/Job plan

4. Inspect and prepare PPE for used based on Worksheet #1 Inspect PPE, Tools and Test Equipment. If selecting PPE using NFPA 70E Tables from Section 130.
   - For shock protection and boundaries, use Table 130.4(D)(a)
   - To determine if arc flash protection is required, use Table 130.5 (C)
   - If protection is required and using incident energy and cal/cm² from equipment label, use Table 130.5(G) if A/C volts
   - If protection is required and using PPE categories form equipment label, use Table 130.7(C)(15)(c) if A/C volts.
   - If protection is required and no label is present, use Table 130.7(C)(15)(c) in conjunction with Table 130.7(C)(15)(c) if A/C volts.

5. Select and inspect test instrument and accessories
   - Verify proper Voltage Rating
   - Verify proper Category Rating
   - Verify proper design for environment and manner test equipment is to be used
   - Visually inspect for external defects or damage
   - Identify any limitations of voltage detector
   - Check meter battery; test meter functions per manufacturer’s per-use recommendations

6. Determine all possible sources of electrical supply to specific equipment
   - Check up-to-date one-line drawings, diagrams, and equipment identification tags.

7. Remove all conductive objects (jewelry, watches, cell phones, metal frames glasses, etc.). Appropriately don PPE as instructed in Worksheet #1 Inspect PPE, Tools & Equipment

Lockout/Tagout Written Procedures

Exceptions – A tag without a locking device may be used if all conditions exist:

- The isolation point cannot be locked or is not readily adaptable to lockable controls.
- The tagout device attachments are of a non-reusable type, attachable by hand, and self-locking, with a minimum unlocking strength of no less than 50 lbs.
- The tag provides a reason for placement.
- The tag provides the name and contact Information of person placing the tag.
- The tag provides the date of placement.

PROCEDURES

1. Properly interrupt load current as applicable
   Turn off machine or equipment using stop button or standard shutdown method or procedure
   Avoid standing in front of a switch or breaker if possible, during operation
   Demonstrate proper body positioning and technique for operating a disconnect or breaker
   Open the disconnect for each source of supply
   Where possible
     - Visually verify all disconnect and knife blades open, or
     - Drawout-type circuit breakers are withdrawn to the fully disconnected position
   Note: Ensure all drawout-type circuit breaker position and/or condition indications installed locally and/or remotely are in agreement and functioning properly.
     - Mechanical flags on breaker.
     - Local/remote ammeters.
     - Mechanical position indicators
     - Activate controls to "Try", to close circuit breaker/starter

☐ YES ☐ NO
2. Demonstrate Lockout and Tagout (LOTO) process per training.
   - Verify Cal Poly safety training requirements satisfied.
   - Discuss Cal Poly LOTO procedures on equipment used for training.
   - Apply lock to proper place on permanently installed breaker/fuse protected equipment
     Alternately as applicable
     - Apply lock to drawout-type circuit breaker in proper place to lock breaker into cubicle or
     - If breaker is to be removed for maintenance/cleaning during work task, apply lock to
       appropriate place on cubicle (cubicle rails, door, etc.) to ensure safety

   **Lock ID #______________     ___________________     ________________    _______________**
   **Tag ID # ______________     ___________________      ________________     _______________**

3. Use adequately rated voltmeter (or voltage detector on >600 volts) to test for absence of voltage
   - Verify meter (detector) has been selected and inspected for use (see previous step for procedure)
   - Verify meter (detector) works correctly by testing on a known source of voltage
   - Test each phase conductor or circuit part and verify zero energy state. When using
     voltmeter test both phase-to-phase and phase-to-ground and verify zero energy state on
     meter
     Minimum of 6 tests:
     a) 3 - n to n
     b) 3 – n to G
   - Verify meter (detector) continues to work correctly by testing on a known source of voltage.

   **☐ YES  ☐ NO**

4. Determine need to apply personnel protective grounding devices to phase conductors or circuit
   parts before touching them if any of the following conditions are met:
   - Cal Poly policy requires installation of ground devices
   - Possibility of induced voltage present
   - Possibility of stored electrical energy exists
   - Possibility of equipment becoming re-energized
   - A contact voltage detector (multimeter) has not been used to verify the absence of voltage
     (non-contact pressure)

   **☐ YES  ☐ NO**

5. Install personnel protective ground cable sets as applicable installing per Worksheet#1 Personal
   Protective Grounds

   **☐ YES  ☐ NO**

6. Prepare to restore system to normal
   - Remove all tools and test equipment from enclosure
   - Inspect/clean work area (floor trips, falling objects, flying parts)
   - Remove personnel protective grounds per Worksheet#8 Personal Protective Grounds
   - Secure enclosure doors properly
   - Follow Lockout/Tagout procedure for re-energizing equipment and restoring system to
     normal
   - Warn other personnel as applicable
   - Demonstrate proper technique for closing disconnect or circuit breaker as applicable

   **☐ YES  ☐ NO**

7. Re-energize equipment and test for proper operation and safety. Remove barriers, warning
   signs, etc. clean-up work area

   **☐ YES  ☐ NO**