Appendix A: Hazardous Energies Control Procedure Form

UC Irvine HAZARDOUS ENERGIES CONTROL PROCEDURE

NOTE: This procedure must be strictly followed to ensure protection of all persons involved.

Equipment ID: Mfgr., Model #, ID #:			
Equipment Location(s):		Date Performed:	
Task To Be Performed:			

Energy Forms: (check and list all that apply)

1. **Electrical**
   - **a. Voltage** - Potential is> 30V RMS or DC but < 600V
     List:_____
   - **b. Voltage** - Potentials are > 600V
     List:_____
   - **c. High Current** - > 25 amperes at any voltage
     List:_____
   - **d. Static Electricity**
2. **Chemical** – Explosion, pressure, extreme heat, fire, corrosive, reactive, oxidizer, toxic
   List:_____
3. **Pressure** - > 1 atm, pneumatic, hydraulic, liquid
   List:_____
4. **Vacuum** - < 1 atm
5. **Mechanical/Kinetic** – capable of crushing, pinching, cutting, snagging, striking
   List:_____
6. **Thermal** - High or Low Temperature - >60°C or < 0°C surface temperature, hot liquids, steam, cryogens
   List:_____
7. **Ionizing Radiation** - > 2mRem/hr
8. **Non-Ionizing Radiation**
   - **a. Ultraviolet** - > ACGIH TLV
   - **b. Infrared** - > ACGIH TLV
   - **c. Rf/Microwave** - > ACGIH TLV
   - **d. Laser** - Class II, Class III, Class IV
   - **e. Magnetic Fields** - > ACGIH TLV
9. **Potential -** Flywheels, springs, differences in elevation, elevated parts that could drop, capacitors, batteries

Note on SHIFT CHANGES: If this procedure lasts more than one work shift, the oncoming persons will apply their locks and tags before the departing shift removes their locks and tags.

Lockout Procedure

Follow the procedure below exactly as listed - check off each line as each step is completed:

1. Notify all Affected and Other Employees of intended lockout.
2. Turn off or shutdown and lockout and tag each energy control point listed below.

Specific Lockout Locations

3. Dissipate any stored energy as described below.

Dissipate These Energy Sources

4. Block any mechanical parts, and remove any mechanical links listed below. Lock blocking in place. (Note: Two physical blocks in the line required with the space in between depressurized and emptied to break and secure any hazardous gas/liquid line.)

Block These Parts/Remove Linkages

5. Verify all persons clear of Hazard Zone.
6. Attempt to re-start machinery or re-energize equipment.
7. Verify no hazardous energy remains by the methods listed below. Use circuit tester/meter if electricity is involved.

Verify No Residual Energy By These Methods

8. Perform required work.

Procedure To Return Equipment To Operation

9. Verify Hazard Zone is clear of equipment, workers, tools, and test equipment.
10. Unlock and remove any blocking devices; replace linkages.
11. Reposition any safety valve(s) left open to prevent re-buildup of pressure.
12. Remove all locks and tags from energy control points.
13. Re-start or re-energize the equipment.
14. Notify all Affected and Other Employees that the lockout has been cleared.

Names of Authorized Lockout/Tagout Employee(s) performing this lockout (only individuals who have completed Advanced Electrical Safety/Lockout/Tagout Training)	

Names of Affected Employees affected by this Lockout procedure (include tool owners, Security, Facilities Management, EH&S, Affected lab managers)	