Electrical Lockout/Tagout/Tryout Procedures

1 PURPOSE

To provide a minimum standard by which qualified persons must isolate all potential energy sources before electrical work can be performed. This applies to all employees, contractors or other persons doing electrical work at a company location.

2 POLICY REQUIREMENTS

Identify the specific equipment or component to be isolated.

Locate the isolation device and compare the equipment identification number to assure that the two are a match.

Inform everyone in the immediate work area of your intentions and make sure they are removed to a safe location.

De-energize/Deactivate all potentially hazardous electrical energy sources and/or block against unexpected movement or release of stored energy.

Lockout and Tagout — Each person performing electrical work on that equipment must verify the circuit is de-energized and they must install their own personal lock and tag on the multi-lock tree or group lock box. (See Notes 2 & 4, Page 2)

Test attempt to operate the piece of equipment or component to verify that it has been properly isolated and/or immobilized.

- Use the proper device (Voltmeter or Tic Tracer depending upon the Voltage) to test for absence of voltage. (Verify proper instrument operation before and after testing.)
- Do an assessment to make sure that all possible hazards have been accounted for and mitigated.

Perform the work safely. Follow site specific Safe Work Procedures where available.

Notify all affected persons when the work has been completed and let them know that you intend to re-energize the equipment or component.

Remove your lock and tag when;

- the work has been completed and the equipment has been inspected to assure that it is safe to test or be returned to duty.
- all tools, restraints and testing devices have been removed and properly stored. As well as any parts, lubricants and other materials have been removed and stored.
- all persons have been cleared from the immediate area and machine guards, where applicable have been replaced. The only exception to this requirement is when the

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equipment must be energized for troubleshooting or adjusting purposes. This work must be done following very strict procedures which shall be well communicated before the work is started.

- Individual employee locks will be replaced by a community lock at the end of the work shift. The community lock key will be transferred to the current or on-coming shift supervisor or to the qualified person responsible for the work on the on-coming shift.

Restore Power — when all repair work is completed and all persons are positioned safely.

- Notify all personnel involved with the job or task that the lockout/tagout is complete, that the electrical supply is being restored, and to remain clear of the equipment and electrical supply.

Notes:

1 Lockout/Tagout of 3 phase equipment – Each individual working on a three phase circuit must assure that all three phases are open and grounded.

2 Each location shall also adopt lockout procedures that address situations where work extends beyond the end of a shift, as well as specifics to address how and when a lock can be removed by someone other than the person who placed the lock.

3 All work done on electrical equipment components must be done by or under the direct supervision of a qualified electrician as defined in 30 CFR, Parts 75 & 77.

4 Each mine shall produce individual laminated tags for persons performing electrical work which will include the person's picture, name, and signature with spaces for the time, date and description of the work they are performing.

3 APPENDIX I

Example Checklist: Quick Checklist for Lockout/Tagout

A. STEPS FOR SHUTDOWN:

1 Prepare — Before you begin, be sure you know:

a all the types of energy involved.

b hazards presented by energy.

c how to control the energy.

2 Shutdown — Turn off the machine or equipment.

3 Isolate — Isolate the machine or equipment from the energy source (i.e., turn off the main circuit breaker).

4 Lockout — Apply your lock. Be sure that it holds the isolating device in the "off" or "safe" position.

5 Release — Release stored energy. Relieve, disconnect, restrain, block, or otherwise ensure that all energy sources (such as electrical, mechanical, hydraulic, compressed, or others) are de-energized.

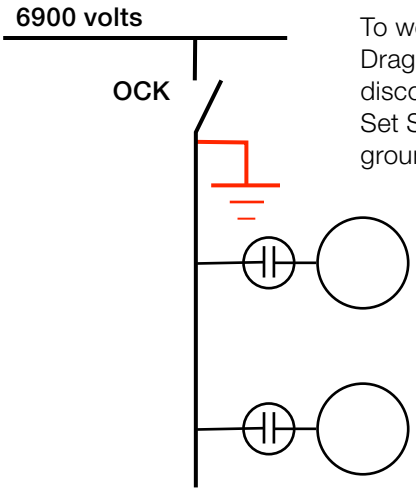
6 Verify — Try the on-off switch or other controls to be sure the machine will not start. Return the switch to the "off" position.

B. STEPS FOR RESTART:

1. Remove all tools, loose parts, etc., from the machine.
2. Replace all guards or shields.
3. Check the area around the machine or equipment to ensure that no one is exposed to danger after servicing or repairing is completed and that the equipment is ready for normal operation.
4. All employees are safely positioned and all effected employees are notified of the restart.
5. Remove lockout devices. Remember that only the person who put the lock on the machine may remove it.

3 APPENDIX II

Example: Procedure for Dragline and Shovel MG Sets



To work on MG Sets or DC Motors on a Dragline or Shovel, open and lock the visible disconnect that removes power from the MG Set Stator or Drive isolation Transformer then ground the load side of the switch.

Open and Lock the visible disconnect or Breaker that feeds power to the Generator Field Exciter.

If Static Motor Fields or Space Heaters are used in the motors, open and lock the breakers feeding those circuits as well.

3 APPENDIX III

Lockout/Tagout Individual Card Template

Card should be folded in half and laminated with heavy laminate. Lamination should be large enough for the tag to be punched so it can be attached with the padlock. Card should also be signed by the employee before it is laminated.

This card should be used in conjunction with a Lockout/Tagout Tag which will describe the reason that the equipment is de-energized.

(Individual Electrical Tag)