

ELECTRICAL PROTECTION PROGRAM

A. Introduction:

1. Almost every workplace has a source of electrical power. If electrical energy is used

- a. All equipment grounding conductors will be tested for continuity and will be electrically continuous.
 - b. Each receptacle and attachment cap or plug will be tested for correct attachment of the equipment grounding conductor which will be connected to its proper terminal.
 - c. Cord sets and temporary receptacles will be tested for correct polarity.
 - d. All required tests will be performed:
 - i. Before first use.
 - ii. When equipment is repaired.
 - iii. When equipment is reasonably suspected to have been damaged.
5. Test Equipment: All receptacles, cord sets and cord and plug connected equipment, will be tested in the following manner:
- a. If in service, tested with a circuit tester.
 - b. If not service, tested with continuity tester.
6. Test Verification: Tests will be documented and maintained for a minimum of three years.
7. Personal Protective Equipment: Faculty and Staff will be provided with and will wear all personal protective equipment that is appropriate for their work as defined by EHS. This may include but is not limited to: arc flash protecting hoods/face shields/overalls, insulated gloves/sleeves, leather gloves, arc flash protecting eyewear, etc.
- a. Testing and Inspection. Gloves and sleeves must be electrically tested before being issued for use. They must also be visually inspected and gloves need to be air tested for any possible defects (for example, cuts, holes, tears, embedded objects, changes in texture) before each day's use and whenever there is a reason to believe they may have been damaged. Best practice is to inspect PPE and air test the gloves and sleeves before each use.
 - i. Insulating equipment may not be used if any of the following defects are present: holes, tears, punctures or cuts, ozone cutting or ozone checking, embedded foreign objects, texture changes, including swelling, sof

and both insulating gloves and sleeves need to be stored properly when not in use. Proper storage means that gloves must not be folded and need to be kept out of excessive heat, sunlight, humidity, ozone, and any chemical or substance that could damage the rubber.

8. Using Tools: When working near exposed, energized parts, employees will only use insulated tools and handling equipment such as the following:
 - a. Tools that are in good repair, double insulated, grounded.
 - b. The insulating material must be protected from damage.
 - c. Insulated, fuse handling equipment (when working with energized fuses).
 - d. Nonconductive ropes and hand-lines (caution--wet ropes are conductive)
 - e. Protective, insulated shields/barriers
 - f. Wooden or Fiberglass ladders will be used if work requires the use of a ladder around electrical equipment. All metal ladders should be marked, CAUTION: DO NOT USE AROUND ELECTRICAL EQUIPMENT.
 - g. Switch tools OFF before connecting them to a power supply.
 - h. Disconnect power supply before making adjustments.
 - i. Ensure tools are properly grounded or double-insulated. The grounded tool must have an approved 3-wire cord with a 3-prong plug.

10. House Keeping: A neat, clean work space is essential where work on electrical equipment is to take place. Spaces behind and under consoles or power supplies should never be used for storage, and always be kept clear of rubbish or unnecessary equipment.

11. Electrical Panels:

- a. Access is restricted to authorized personnel only.
- b. Panels will have the function of each switch, circuit breaker, or fuse typed or printed clearly on the panel door interior.
- c. Panels will not be left unattended if opened for service.
- d. A three foot (minimum) work space around all breaker panels, distribution panels, motor control centers, motor starters and disconnect will be maintained. No equipment, machinery, or supplies are to be stored in front of electric panels.
- e. Ensure the appropriate signage is in place and all electrical panels are marked without being defaced or damaged in any way.

D. Training:

1. All new hires will be required to review the contents of this chapter.
2. Any Facilities employee whose job may change to include electrical work shall review the contents of this chapter and follow all rules/regulations within.