

Marshall Municipal Utilities
INSULATING RUBBER GLOVES AND RUBBER SLEEVES POLICY
Effective July 15, 2013

Purpose

To establish a program - for employees working in locations where electrical hazards exist - that will provide the necessary protective equipment which is suitable for the parts of the body to be protected for the specific work performed, and ensure its use. **(Note: The requirements established in this policy shall be followed in conjunction with the MMU FR Clothing Policy.)**

Objective

1. Reduce or eliminate the possibility and probability of injuries.
2. Ensure that insulating rubber gloves and sleeves, and other appropriate protection is worn where required.
3. Assure the required protective equipment is maintained in safe working condition, via completion of required inspection and documented testing.

Qualified Employee

(General): One who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve or resolve problems related to the subject matter, the work, or the project.

(Electric Power Generation, Transmission, and Distribution): One who is knowledgeable in the construction and operation of the electric power generation, transmission, and distribution equipment involved, along with the associated hazards. To be considered "Qualified", employees shall be trained and competent in:

1. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
2. The skills and techniques necessary to determine the nominal voltage of exposed live parts.
3. The minimum approach distances corresponding to the voltages to which the qualified employee will be exposed.
4. The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near energized parts of electric equipment.

Note: An employee who is undergoing on-the-job training and who, in the course of that training, has demonstrated an ability to perform duties safely at his/her level of training and who is under the direct supervision of a qualified employee is considered to be a qualified employee for the performance of only those specific duties.

Procedure

1. "Working on or near exposed energized parts" applies to work on exposed live parts, or near enough to them, to expose the employee to any hazard they present.
2. Only "Qualified" employees may work on or with exposed energized lines or parts of equipment. Only "Qualified" employees may work in areas containing unguarded, uninsulated energized lines or parts of equipment operating at 50 volts or more (refer to APPA Safety Manual, OSHA or NESC table(s) for *Minimum Approach Distances*). Electric lines and equipment shall be considered and treated as energized, unless:
 - i. The employee is isolated from the energy source through *hazardous energy control (lockout/tagout) procedures*, or
 - ii. Lines and/or equipment are tested to confirm deenergized, and grounded.
3. "Working position" – Employees shall work in a position from which a slip/trip/fall or shock will not bring the employee's body into contact with exposed, uninsulated parts energized at a potential different from the employee.

Note: When requirements of the *NESC, NFPA 70E, APPA and/or OSHA* are being applied to specific job functions, the latest edition published shall apply.

Protection

1. Employees shall be protected from any two simultaneous points of contact with energized and/or grounded conductors.
2. The appropriate class rubber gloves shall be worn when working on exposed energized lines or equipment energized at 50 volts or more. Rubber gloves shall also be worn when working on ungrounded lines and equipment that are subject to backfeed and induced voltage. (Refer to the APPA Safety Manual, OSHA or NESC table(s) for the classes of, and *Maximum-Use Voltage for Rubber Gloves and Sleeves*.)
 - i. The appropriate class rubber gloves shall be worn when installing, removing, changing, repairing, or testing energized electric meters and related equipment.
 - ii. The appropriate class rubber gloves shall be worn when connecting or disconnecting energized service conductors in metering equipment.
 - iii. A face shield with safety glasses and the appropriate class rubber gloves shall be worn when working on energized metering equipment at or above 480 volts.
3. The appropriate class rubber gloves and rubber sleeves shall be worn if exposed energized parts, on which work is not being performed, are not insulated from the employee exposing the employee's upper arm to contact with other energized parts.
4. Any voltage in excess of 600 volts shall be worked while wearing the appropriate class rubber gloves and sleeves, or by the use of hot sticks, unless live parts that are exposed to contact with an employee's upper arm or shoulder are insulated.

5. Employees may work without sleeves by installing rubber line hose, rubber blankets, and/or plastic guard equipment on energized lines and equipment.
 - i. An employee installing such protective equipment must wear rubber sleeves unless the employee's upper arms and shoulders are not exposed to contact with other live parts during installation.
6. Rubber gloves shall not be worn without leather protectors.
7. Leather protectors shall not be worn in place of work gloves.
8. Care shall be taken to not allow gloves and/or sleeves to come in contact with oil-base products.
9. Rubber gloves and rubber sleeves shall be solely stored in their appropriate rubber gloves bag, or rubber sleeves bag. No additional items shall be placed in the bags.
10. . Employees shall remove all exposed conductive articles such as key or watch chains, rings, or wrist watches or bands, if such articles increase the hazards associated with inadvertent contact with energized parts. Rings and wrist watches with metal case and watch bands shall not be worn while working on or near energized equipment or lines

Electrical Protective Devices & Equipment: Inspection and Testing

Rubber insulating equipment shall comply with the following American Society for Testing and Materials (ASTM) standards:

- **Specification for *Rubber Insulating Gloves*:** **ASTM D120**
- **Specification for *Rubber Insulating Matting*:** **ASTM D178**
- **Specification for *Rubber Insulating Blankets*:** **ASTM D1048**
- **Specification for *Rubber Insulating Covers*:** **ASTM D1049**
- **Specification for *Rubber Insulating Line Hose*:** **ASTM D1050**
- **Specification for *Rubber Insulating Sleeves*:** **ASTM D1051**

All electrical protective equipment shall be subjected to periodic electrical tests conducted in accordance with appropriate voltages identified by ASTM standards to reliably indicate whether the insulating equipment can withstand the voltage involved. Insulating equipment failing to pass inspections or electrical tests shall NOT be used.

Rubber insulating gloves and sleeves inspection requirements:

- ✓ Each glove shall be visually inspected and air tested prior to each daily use; and immediately following any incident that could be reasonably suspected to have caused damage. Defective gloves shall NOT be used.
- ✓ Each sleeve shall be visually inspected prior to each use; and immediately following any incident that could be reasonably suspected to have caused damage. Defective sleeves shall NOT be used.
- ✓ Leather protectors for rubber gloves shall be inspected daily prior to use for nicks, cuts, tears, and oil contamination. Defective leather protectors shall NOT be used.

Rubber insulating equipment testing requirements and intervals:

- ✓ Rubber insulating gloves shall be tested prior to first issue, and at least every six months thereafter; or more often if field conditions warrant.
- ✓ Rubber insulating sleeves shall be tested prior to first issue, and at least every six months thereafter; or more often if field conditions warrant.
- ✓ Rubber insulating blankets shall be tested prior to first issue, and annually thereafter; or more often if field conditions warrant.
- ✓ Rubber insulating line hoses, and covers, shall be tested annually, or upon indication that the insulating value is suspect.

Note: If the insulating equipment has been electrically tested but not issued for service, the insulating equipment shall not be placed into service unless it has passed electrical testing within the previous twelve months.

All departments using rubber insulating equipment shall make the appropriate arrangements for testing of such equipment.