
NAVY PUBLIC WORKS CENTER
NORFOLK, VIRGINIA
UTILITIES DEPARTMENT

STANDARD OPERATING PROCEDURE / JOB HAZARD ANALYSIS

TITLE

MEGGAR ELECTRIC MOTOR

PROCEDURE NUMBER

WC 622 HVE 042

SIGNED:_____

(DATE)

APPROVED:_____

(DATE)

SAFETY PROFESSIONAL:_____

(DATE)

MANAGEMENT OFFICIAL:_____

(DATE)

REVISION A

MEGGAR ELECTRIC MOTOR

DISTRIBUTION

CODE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE
601.C3							
620							
622							
610.E1							
622.1							
622.3							

REVISIONS

REV	DESCRIPTION	SIGNATURE	DATE
A	Initial Issue.		

MEGGAR ELECTRIC MOTOR

Purpose:
Procedure to meggar an electric motor's windings.

Potential Energy Sources:
1. 480, 208, 120, 277, and 240 motor voltages.
2. Meggar voltages of 500 or 1000 volts.

Tools and PPE:
Tools: Hand tools, Multimeter, Meggar test set. PPE: Nomex coveralls, Nomex hood, insulating rubber gloves, insulating rubber sleeves, hard hat, safety shoes, safety glasses, and back brace if required to by Back Injury Prevention and Control Program. The class of rubber gloves and sleeves will depend on the exposure voltage as per the following: Class 0 - up to 1,000 volts, Class 1 - up to 7,500 volts, Class 2 - up to 17,000 volts, Class 3 - up to 26,500 volts, Class 4 - up to 36,000 volts.

References:
1. PWC Occupational Safety and Health Program Manual, PWCNORVAINST 5100.33E
2. Occupational Safety and Health Standards for General Industry 29 CFR PART 1910): Subpart I, Personnel Protective Equipment; Subpart R, Electrical Power Generation / Transmission / Distribution; Subpart S, Electrical
3. NFPA 70 E, Approach Distances To Exposed Energized Electrical Conductors and Circuit Parts
4. ANSI C2-1987, National Electrical Safety Code
5. SOP WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout)
6. NETA Maintenance and Testing Specifications(1993)

Procedures:
1. Open, lock(if possible), and tag the motor circuit. Refer to SOP WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout). If the circuit is 300 volts or less avoid contact with the energized equipment. If the circuit is greater than 300 volts, then wear Nomex coveralls, safety glasses, hard hat, safety shoes, and insulating rubber gloves and sleeves.

2. Test a known energized circuit with a Multimeter to verify the meter is working properly. Test the motor circuit to verify it is deenergized. Afterwards test a known energized circuit with the Multimeter to make certain the meter is working properly. Maintain above PPE while testing.

3. Identify and mark the motor's leads and then disconnect the motor.

4. Connect the meggar test set to the motor and perform insulation resistance test. Refer to attached Table 10.13 from NETA Maintenance and Testing Specifications(1993) manual. Wear insulating rubber gloves, hard hat, safety shoes, and Nomex coveralls during testing.

5. Reconnect the motor leads.

6. Remove lock(if placed), and tag from the motor circuit. Reenergize the circuit. Refer to SOP WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout). If the circuit is 300 volts or less avoid contact with the energized equipment. If the circuit is greater than 300 volts, then wear Nomex coveralls, safety glasses, hard hat, safety shoes, and insulating rubber gloves and sleeves.

7. Check the motor’s voltage and rotation. If the circuit is 300 volts or less avoid contact with the energized equipment. If the circuit is greater than 300 volts, then wear Nomex coveralls, safety glasses, hard hat, safety shoes, and insulating rubber gloves and sleeves.

END