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**NAVY PUBLIC WORKS CENTER
NORFOLK, VIRGINIA
UTILITIES DEPARTMENT**

STANDARD OPERATING PROCEDURE / JOB HAZARD ANALYSIS

TITLE
CLEAN, REPAIR, REPLACE INSULATING BARRIER
BOARDS

PROCEDURE NUMBER
WC 624 HVE 062

SIGNED: _____ **(DATE)**

APPROVED: _____ **(DATE)**

PROFESSIONAL: _____ **SAFETY**
(DATE)

MANAGEMENT
OFFICIAL: _____ **(DATE)**

REVISION

A

CLEAN, REPAIR, REPLACE INSULATING BARRIER BOARDS

Purpose:

Procedure to clean, repair, or replace insulating barrier boards mounted on various electrical devices.

Potential Energy Sources:

1. 34.5/11.5/4.16 kv cables and low voltage circuits.
2. Generators that have been placed to supply temporary power to facilities which have had their normal power switched off due to this work.

Tools and PPE:

Tools: High voltage tester, rags, hand tools, Glyptol, cleaning solvent. PPE: Nomex coveralls, Nomex hood, insulating rubber gloves, insulating rubber sleeves, hard hat, safety shoes, work gloves, safety glasses, and back brace if required 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. Electrical Transmission and Distribution Safety Manual, P-1060
6. SOP WC 622 HVE 013, Deenergization, Lockout, Tagout
7. SOP WC 622 HVE 007, Switchout and Switchback Energized Circuit

Procedures:

1. Operations personnel will perform deenergization switching per SOPs
 - a) WC 622 HVE 007, Switchout and Switchback Energized Circuit
 - b) WC 622 HVE 013, Deenergization, Lockout, Tagout

operations personnel will ensure that the facility's emergency generator or temporary power generator, if present, is isolated and will not back feed to the device being serviced.

2. Using a high voltage tester test the primary circuit's cables to verify they are deenergized. Before the conductors are checked, test the high voltage tester on a known energized circuit to verify the tester is working. Test each deenergized conductor separately, taking care not to cross phase during test. If voltage is detected, stop the test and (a) notify operations personnel that the circuit is still energized, (b) wait for operations personnel to correct the problem, (c) perform the deenergization verification test once again after operations personnel finish switching operations and declare the cables deenergized. If no voltage is indicated, retest the high voltage tester to re-

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verify it is working properly. Wear Nomex coveralls, Nomex hood, safety glasses, safety shoes, insulating rubber gloves and sleeves, and hard hat while testing.

The PPE for the repair work will include work gloves, safety shoes, and safety glasses. Refer to the JHA for further information.

3. Unbolt and remove the barrier boards.
 - a) Wipe with lint free rags and cleaning solvent. Be sure to do this step outdoors or in a well ventilated area.
 - b) If tracking damage is deep into the board, cut a new board to the same dimensions, and discard the damaged board.
 - c) If board cleans up per step (a), then let the unit dry and spray it with Glyptol insulating paint.
4. When all boards are dry, put them back into the device and bolt in place.
5. Operations personnel will energize the primary circuit SOPs
 - a) WC 622 HVE 007, Switchout and Switchback Energized Circuit
 - b) WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout)

END