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

STANDARD OPERATING PROCEDURE / JOB HAZARD ANALYSIS

TITLE
ENERGIZING UNDER-PIER VAULT

PROCEDURE NUMBER
600 HVE 005

SIGNED: _____ **(DATE)**

APPROVED: _____ **(DATE)**

SAFETY PROFESSIONAL: _____ **(DATE)**

MANAGEMENT OFFICIAL: _____ **(DATE)**

REVISION

B

ENERGIZING UNDER-PIER VAULT
DISTRIBUTION

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ENERGIZING UNDER-PIER VAULT

Purpose:

Procedure for energizing electrical vaults located below piers.

Potential Energy Sources:

Transfer switch, Lights, sump pumps, fans, etc. are energized in the vault by way of an auxiliary power source which is fed from a transformer located off the pier. This source is classified as low voltage (600 volts or less).

Tools and PPE:

Tools: voltmeter, 1000 volt mega-ohmmeter, small hand tools, shotgun stick.

PPE: Nomex coveralls & hood, insulated rubber gloves (class according to voltage source), safety glasses, safety harness & rope, manhole retrieval device , Work gloves, hard hat, safety shoes.

References:

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1. PWC SOP WC 622 HVE 013, Hazardous Energy Control (Lockout, Tagout).
 2. PWC Safety Manual gas free confined space procedures.
 2. OSHA 1910 safe working practices, PPE, and safe manhole procedures.

**Procedure:**

1. Gas free every vault that had been deenergized, follow gas free for confined space procedures. Pay particular attention to LEL reading.



2. Enter and inspect each vault that had been deenergized. Verify that all trash, tools, and other foreign items are removed from switchgear and vaults. Inspect all vaults and equipment for potential hazards which may arise when the vault is energized. Specifically, look for anything that could contribute to a fire or explosion if subjected to electrical equipment failure, such as, rags, electrical equipment oil (mineral oil), fuel oil, waste oil or any other materials or substances which could cause or contribute to a fire and/or explosion.

3. On all vaults which have been down for a period of 24 hours or longer, perform insulation tests as per SOP 622.4HVE7, Insulation Resistance Testing Of Low Voltage Switchgear. Inspect primary switchgear. If primary switch is an oil filled device, draw an oil sample and perform a dielectric breakdown test. The determination to re-energize the vaults will be based on the insulation resistance tests, primary switchgear inspections, and oil dielectric test results.

4. Re-close all necessary vault equipment required for vault operation. Close secondary main circuit breakers but, leave secondary feeder breakers in the open position.

5. Remove all temporary safety grounds in the vault as per WC 622 HVE 013, HAZARDOUS ENERGY CONTROL (LOCKOUT, TAGOUT). Replace all vault equipment covers. Use two man rule and proper lifting techniques when removing / replacing switchgear covers.

6. Ensure that no personnel are in the vault.

ENERGIZING UNDER-PIER VAULT

7. Clear turtleback tags and remove locking bars. Beware of obstructions around the turtleback such as steam leaks, water and shore power cable.

8. Check that all personnel and equipment are clear from the vault and then follow SOP WC 622 HVE 013, HAZARDOUS ENERGY CONTROL (LOCKOUT, TAGOUT) to energize the vault.