

## STATEMENT OF WORK

### Clean and Test Emergency Substations in buildings 2, 6, 8, and 16

#### Background

The Philadelphia VA Medical Center is required to clean all electrical switch gear every 3 years.

#### Objectives

Have all switch gear tested and cleaned to meet Joint Commission standards.

#### Scope

The vendor will be required to perform an infrared survey of the main electrical power distribution system. Each substation needs to have all switch gear cleaned and connections checked. The vendor shall test and clean all associated low voltage circuit breakers. All systems are required to have the grounding system tested by the 3 point fall of potential test and inspect connections.

#### Task or Requirements

The required testing will be:

**Medium Voltage Switch** – Direct Current ( DC )insulation resistance test, contact resistance test, mechanical and electrical test, visual and mechanical inspection, clean inspect and lubricate contacts and connections, and verify strip heater operation if applicable. Clean and test arresters, inspect and tighten connections. Clean, inspect and tighten connections of medium voltage cables.

**Dry Type Transformers** – Perform Alternating Current ( AC) power factor test, AC excitation test, DC insulation resistance test, and transformer turns ratio test. Clean and inspect terminations and connections.

**Low Voltage Power Circuit Breakers**- Perform secondary current injection test, DC insulation resistance test, contact resistance test, test mechanical and electrical operation, clean, inspect and lubricate contacts and connections.

**Low Voltage Molded Case Circuit Breakers** – Perform secondary current injection test, DC insulation resistance test, test mechanical and electrical operation. Clean, inspect and lubricate contacts and connections.

**Low Voltage Switch Gear** – Perform DC insulation resistance test, inspect and exercise mechanical components. Clean and lubricate contacts and tighten connections.

The following is a breakdown of the equipment to be tested and cleaned:

**Bldg 2, room B2A103A Emergency Substation**

- 2 – 15 KV fused switch gear, Factory Order# 178LS23893-1 Ser# 87432-3 and 87429-2
- 1 - GE 1500/2250 KVA Dry Type Distribution Transformer, SN: P113346-1LUBTX10344001
- 1 – GE, 3000 amp, 600VAC main circuit breaker, Cat# SSF30G350
- 4 – Molded case feeder circuit breakers, 2-1200 amp 1-800 amp and 1-250 amp.

**Bldg 6, Emergency Substation for system and Bldg's 6 and 8**

- 2 – 15 KV fused switch gear, Factory Order# 178LS23893-1
- 1 – GE 500/667 KVA Dry Type Transformer, SN: P113349-1LUBTX10358001
- 2 – Molded Case Circuit Breakers.

**Bldg 6, Main Emergency Switch Gear**

- 13 – 15 KV Circuit Breakers Sq D. 1200 amps, Cat# V5DB133Y000

**Bldg 8, Normal Power Substation for Bldg's 6 and 8**

- 1 – 15 KV fused switch gear, Factory Order# 178LS23894-14
- 1 – GE 500/667 KVA Dry Type Transformer, SN: P113349-1LUBTX10358001
- 2 – Molded Case Circuit Breakers.

**Bldg 16, Emergency Substation**

- 4 – 15 KV fused switch gear, Factory Order # 178LS23893-1 and 178LS23893-2
- 3 - GE, 2000 amp, 600VAC main circuit breaker, Cat# SSF20G220
- 2 - GE 1000/1500 KVA Dry Type Distribution Transformer, SN: P113347-1LUBTX10351001 and P113348-1LUBTX10352001
- 15 – Molded Case Circuit Breakers ranging from 150 to 800 amps.
- 2 – GE, 1600 amp, 600VAC main circuit breakers, Cat# SSF16G216.
- 2 – GE, 500 KVA Dry Type Transformer, Cat# 9T83C9879
- 2 – GE 112.5 KVA Dry Type Transformers, Cat# 9T83C9875

**Other Criteria**

The vendor will be expected to coordinate any electrical shutdowns with facilities Technical Point of Contact (TPOC). Work will be required to be completed ***after*** normal working hours. Vendors shall follow lock-out, tag-out procedures. When cleaning the gear in building 6, this will be a 2 day shutdown cleaning half the left gear one day and right gear the next.

**Place of Performance**

All work will be performed at the VA Medical Center in Philadelphia. The Period of Performance is 60 days after award of contract.