SECTION 16360

MEDIUM VOLTAGE INTERRUPTER SWITCHES

PART 1  GENERAL

1.01  SUMMARY

A. Section Includes:

1. Medium voltage interrupter switches.

B. Related Sections:

1. Section 03300 - Cast-in-Place Concrete: Concrete Pad for Equipment Support.

1.02  REFERENCES

A. Where appropriate, refer to Current ANSI and NEMA Standards for material ratings.

B. Institute of Electrical and Electronic Engineers (IEEE)

1.03  SYSTEM DESCRIPTION

A. Primary Distribution:

1. The UCB Campus is served by a campus owned primary underground distribution system. Distribution voltage is nominally 7970/13800V, 3Ø, 4 wire wye system.

1.04  SUBMITTALS

A. Require submittals under the provisions of Section 16010 - Basic Electrical Requirements and Section 01300 - Submittals.

PART 2  PRODUCTS

2.01  MANUFACTURERS

A. Vacuum Interrupter Switches:

1. Kearney Vac Pac
2. Joslyn - Power Products Puffer Pak fused SF6 Switch.
3. Or equal as specifically approved by Division of Utilities Generation and Distribution prior to Specification.

B. Dry Type Interrupter Switches

1. Indoor use only with dry type transformers
2. Westinghouse, General Electric, S&C, Square D or approved equal by Department of Facilities Management prior to specification.

2.02 EQUIPMENT

A. Vacuum Interrupter Switches:

1. System Voltage:
   a. 13.8 kV, 3Ø, 60 Hz, 4 wire, wye
2. Maximum Design Voltage:
   a. 15 kV
3. Basic Impulse Level:
   a. 95 kV
4. Ampacity:
   a. Minimum ampacity shall be 600 Amps.
5. Short Circuit Rating:
   a. Minimum momentary and fault close of 19.2 kA-asymmetrical.
6. Accessories:
   a. Incoming Cable Terminations:
      1. Bushing wells for vacuum and/or oil switches.
      2. Clamp type for dry type switches.
   b. Operating handle permanently mounted, lockable in both positions.
   c. Oil or vacuum switches shall include pressure gauge for Fill valve.
   d. Ground studs will be provided on all switches.
7. Housing:
   a. Construction:
      1. Weatherproof/waterproof NEMA 4 for outdoor installations and NEMA 12 for indoor.

PART 3 EXECUTION

3.01 INSTALLATION

A. Require installation in accordance with manufacturer’s instruction and be pad mounted.

3.02 FIELD QUALITY CONTROL

A. Perform insulation resistance test in each phase to ground and phase to phase using manufacturer’s recommended voltage.

B. Perform contact resistance test across each switch blade, reject contacts with resistance in accordance with manufacturers recommendation. If manufacturers data is not available, investigate any valves which deviate from adjacent poles by more than 25%.

C. Require tests to be performed in the presence of a representative of the Department of Facilities Management.
D. All cable and/or bus connections shall be torqued to manufacturers recommendations and witnessed by the owner and manufacturer shall submit certification that all connections have been properly torqued.