

GENERAL:

The scope of this document is to provide instruction for the installation and testing of medium voltage switchgear.

DESIGN GUIDELINES:

1. Materials

1.1. Switchgear shall be Vista as manufactured by S&C Electric configured for 3-, 4-, 5-, or 6-ways as required. No Substitutions will be accepted.

1.1.1. 3-Way, 1-Fault Interrupter /Catalog #: 853212-P4-O-L2

1.1.2. 4-Way, 2-Fault Interrupter /Catalog #: 854222-P4-O-L2

1.1.3. 5-Way, 3-Fault Interrupter /Catalog#: 855232-P6-O-L2

1.1.4. 6-Way, 4-Fault Interrupter /Catalog#: 856242-P6-O-L2

1.2. Voltage Ratings

1.2.1. 13.8 kV Nominal

1.2.2. 15.5 kV Max Design

1.2.3. 95 kV BIL

1.3. Current Ratings

1.3.1. 600 Amp Continuous Bus

1.3.2. 600 Amp Continuous Load Dropping

1.3.3. 600 Amp Continuous Load Interrupter Ways

1.3.4. 600 Amp Continuous Fault Interrupter Ways

1.4. Fault Duty Ratings

1.4.1. 25,000 Amp RMS Symmetrical, three-time fault closing duty-cycle

1.4.2. 65,000 Amp Peak, three-time fault closing duty-cycle

1.4.3. 12,000 Amp RMS Symmetrical, ten-time fault closing duty-cycle

1.4.4. 32,500 Amp Peak, ten-time fault closing duty-cycle

1.5. Fault Interrupter Ways

1.5.1. 25,000 Amp RMS Symmetrical, three-time fault interrupting duty-cycle

1.5.2. 12,500 Amp RMS Symmetrical, ten-time fault interrupting duty-cycle

1.6. Required Optional Features

1.6.1. P4, P6 – Mild-steel, Olive Green

1.6.2. O – Two-hole ground pad per way

1.6.3. L2 – Low Voltage Phasing Option

2. Fault Interrupter

2.1. Programmable overcurrent control

2.2. Vacuum fault interrupters to provide 3-pole fault interruption

3. Drawings
 - 3.1. Record drawings shall be sent to system owner at the time of order.
4. Installation
 - 4.1. Refer to Switchgear Pad Detail.dwg for foundation requirements.
 - 4.2. Care shall be taken not to damage the switchgear during moving and installation.
 - 4.3. There shall be an 8 foot long, level, clear area in front of doors and a 3 foot level clear area by switch operating handle locations to allow for safe operation and maintenance.
 - 4.4. Route cable beneath switchgear to avoid excessive slack.
 - 4.5. The switchgear shall be bolted down to the pad per manufacturer's recommendations.
 - 4.6. The edges of the switchgear at the concrete shall be sealed with clear silicone caulk.
 - 4.7. Cable connections shall be torqued to manufacturer's recommendations.
 - 4.8. The switchgear shall be grounded to the ground ring detailed in the Switchgear Pad Detail.dwg. All cable shield drain lines shall be connected to the grounding conductor.
5. Testing
 - 5.1. Insulation ground wall test (Megger) at 5kV DC must be performed after all splices and terminations have been completed. Written report of result of test with resistance values shall be delivered to system owner.
 - 5.2. If Megger test is passed, a Hipot test shall be performed on the switchgear at 35 kVDC for 15 minutes.
6. Commissioning
 - 6.1. MU Only: All medium voltage switchgear shall be operated by Campus Facilities - Energy Management Electric Distribution personnel only.
 - 6.2. MU Only: All terminations, testing, fire taping, and grounding shall be completed prior to placing the equipment in service by system owner personnel. Campus Facilities - Energy Management Electric Distribution personnel shall perform energizing of the switchgear.

REFERENCES