15KV SWITCHBOARD WITH CIRCUIT BREAKERS SPECIFICATION

The 15kV Metal Clad Switchboard with Circuit Breakers and Potential Transformers to be furnished shall be NEMA 3R (approved for outdoor use, protection against falling rain, sleet, external ice formation) and in accordance with the following requirements:

1. Two Section Line-Up
   - 1.1 Switchgear Assembly
   - 1.2 Label Requirements: UL
   - 1.3 Outdoor, Non Walk-In (NEMA 3R) With Front and Rear Access
   - 1.4 Rear Door NEMA Type 3R with Padlock Provisions

2. General Equipment Ratings
   - 2.1 Frequency: 60 Hertz
   - 2.2 Impulse Withstand Voltage (BIL): 95kV
   - 2.3 Maximum Bus Continuous Current: 2000A
   - 2.4 Maximum Short Circuit Current: 40kA (RMS Symmetrical)
   - 2.5 Maximum Voltage: 15kV
   - 2.6 Nominal System Voltage: 13.8/7.97kV, 3 Phase, 3 Wire, Highly Resistive Grounded Wye
   - 2.7 One-Minute Withstand Voltage: 36 kV RMS
   - 2.8 MVA Class: 1000 MVA

3. General Structure Information
   - 3.1 120 VAC Receptacle and Incandescent Light (per section)
   - 3.2 2000A Silver Plated Copper Main Bus
   - 3.3 Auxiliary Control Power: Govt. Supplied 120VAC
   - 3.4 Breaker Close Control Power: Govt. Supplied 120VAC
   - 3.5 Breaker Trip Control Power: Govt. Supplied 120VAC
   - 3.6 Bus Bracing: 40kA (RMS Symmetrical)
   - 3.7 Bus Supports: Epoxy (Std)
   - 3.8 Control Wiring: #14 AWG type SIS (600V, flame retardant) Wire
   - 3.9 Exterior Paint Color: ANSI #61, Light Grey (Std)
   - 3.10 Ground Bus: Copper, Un-plated (Std)
   - 3.11 Lug Type: Supplied by Govt.
   - 3.12 Screw Terminal Blocks, Insulated
   - 3.13 LED indicating lamps, (2) per cell
   - 3.14 Provide Device Nameplate
   - 3.15 Switchgear to be "draw out" type
   - 3.16 Heaters, 300W / 240V (8) per frame

4. Overall Dimensions
   4.1 Width: 72.00" or 36" per section
   4.2 Height: less than 122"
   4.3 Depth: less than 112"
   4.4 Approximate Weight: less than 10,500 lbs.

5. Switchgear to Include:

SECTION #1, UPPER FEEDER

1 – 15kV Max. Voltage Breaker with the following functions and features:
- Three Phase MVA = 1000 MVA
- Nominal Voltage Rating = 13.8 kV
- Rated Continuous Current = 2000A
- Low Frequency Withstand Voltage = 36 kV
- Impulse Level (BIL) = 95 kV
- Rated Short Circuit Current = 40,000 A
- Short Time rating, 2 sec, Amps RMS = 40,000 A
- Close and Latch Rating, Amps RMS = 104,000 A
- Interrupting Time = 3 cycles
- Epoxy Encapsulated
- Magnetically Activated

3 – Single Ratio 2000:5 CT, 0.3% Accuracy
1 – Breaker Control Switch (trip, close)
1 – Mechanism Operated Contact (MOC) switch supplying at least 10 additional contacts
1 – Truck Operated Contact (TOC) switch supplying at least 10 additional contacts
1 – Capacitor – Trip Device
1 – Backup Control power for electrical operation - 200 seconds
1 – Relay with the following functions:
- 50 (Instantaneous over current)
- 51 (Time over current)
- Remote Communications, 4/4 I/O

SECTION # 1, LOWER, MAIN –

1 – 15kV Max. Voltage Breaker with the following functions and features:
- Three Phase MVA = 1000 MVA
- Nominal Voltage Rating = 13.8 kV
- Rated Continuous Current = 1200A
- Low Frequency Withstand Voltage = 36 kV
- Impulse Level (BIL) = 95 kV
- Rated Short Circuit Current = 40,000 A
- Short Time rating, 2 sec, Amps RMS = 40,000 A
- Close and Latch Rating, Amps RMS = 104,000 A
- Interrupting Time = 3 cycles

SECTION # 1, LOWER, MAIN – (continued)

- Epoxy Encapsulated
- Magnetically Activated

3 – Single Ratio 1200:5 CT, 0.3% Accuracy
1 – Breaker Control Switch (trip, close)
1 – Mechanism Operated Contact (MOC) switch supplying at least 10 additional contacts
1 – Truck Operated Contact (TOC) switch supplying at least 10 additional contacts
1 – Capacitor – Trip Device
1 – Backup Control power for electrical operation - 200 seconds
1 – Relay with the following functions:

- 50 (Instantaneous over current)
- 51 (Time over current)
- Remote Communications, 4/4 I/O

SECTION #2, UPPER, Auxiliary

2 – Draw Out Switchgear Tray with Line-to-Line Potential Transformers with the following functions and features:

- (3) 14.4kV/120V
- Impulse Level (BIL): 95kV
- 60 Hz nominal frequency
- 0.3% Accuracy
- Withstand 125% of rated voltage for 2 minutes
- Mylar Film insulation to primary and secondary coils
- Polyurethane formulated core and coil assembly
- Load break bushing wells rated for PT current
- Each phase fused

SECTION #2, LOWER, FEEDER –

1 – 15kV Max. Voltage Breaker with the following functions and features:

- Three Phase MVA = 1000 MVA
- Nominal Voltage Rating = 13.8 kV
- Rated Continuous Current = 1200A
- Low Frequency Withstand Voltage = 36 kV
- Impulse Level (BIL) = 95 kV
- Rated Short Circuit Current = 40,000 A
- Short Time rating, 2 sec, Amps RMS = 40,000 A
- Close and Latch Rating, Amps RMS = 104,000 A
- Interrupting Time = 3 cycles
- Epoxy Encapsulated
- Magnetically Activated

3 – Single Ratio 1200:5 CT, 0.3% Accuracy
1 – Breaker Control Switch (trip, close)

SECTION #2, LOWER, FEEDER (continued)–

1 – Mechanism Operated Contact (MOC) switch supplying at least 10 additional contacts
1 – Truck Operated Contact (TOC) switch supplying at least 10 additional contacts
1 – Capacitor – Trip Device
1 – Backup Control power for electrical operation - 200 seconds
1 – Relay with the following functions:

- 50 (Instantaneous over current)
- 51 (Time over current)
- Remote Communications, 4/4 I/O