



Scott Engineering Application Brief

Capacitor Bank Features

- **MAIN VACUUM SWITCH**
For neutral voltage protection and remote SCADA control of the capacitor bank
- **FOUR-POLE GROUND SWITCH**
Provides grounding of the capacitor bank with a single switching operation. Air break switch can also be used as a visible break
- **MULTI-STAGE SWITCHING**
Individual stage switching provided by electrically ganged single phase vacuum switches
- **CURRENT-LIMITING REACTORS**
Current limiting reactors provided for inrush and back-to-back switching protection



7.2Mvar 15kV Four-Stage Capacitor Bank with Neutral Unbalance Protection

Scott Engineering designed and constructed the 7.2Mvar Capacitor Bank with (4) 1800kvar steps for a utility customer for their substation applications. The Capacitor Bank design includes a ground switch for grounding the capacitor bank for maintenance or repair. The Bank is controlled and managed by a SEL 2411 Programmable Automation Controller and protected by a GE Neutral Voltage Relay which is all installed in an integral control and metering cabinet. Primary connections are made to 600A apparatus bushings in an integral dead front connection cabinet on one end of the capacitor bank.

Internal power transformer provided for local power and metering information. All stages are switched by 200A vacuum switches and protected with current limiting reactors for back-to-back switching and inrush protection. Individual capacitors are fused using direct connected current limiting fusing for overcurrent protection. The entire bank can be isolated using the Joslyn VBM Vacuum Switch which is part of the SEL 2411 control scheme and includes provisions for integration into the customers Substation SCADA package for remote control and status.