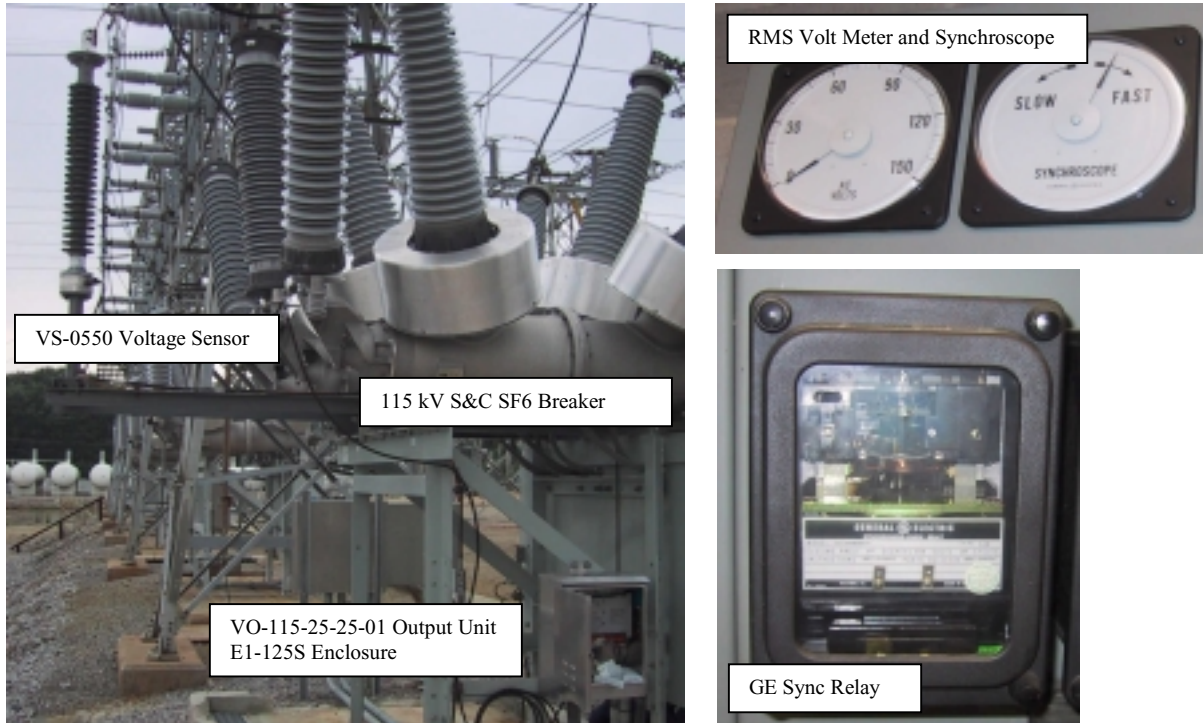




Case Study 3: Voltage Monitoring and Synchronization



Customer: Investor Owned Utility

Location: Southeast U.S.

Problem Definition: The Utility has undertaken a program to change out older oil-filled 115 kV breakers with new SF6 breakers. For synchronization purposes the new breakers were being installed with CCVT's, which required their own separate support structures and foundations. The Utility was interested in an alternative voltage sensing device for synchronization that would be lighter, more compact, safer and eliminate the need for a traditional foundation and pedestal structure.

Business Objective(s): Reduce cost, installation time and space requirements.

Solution: SEECO's voltage only sensor provided the economical, time and space saving alternative this Utility was seeking. The total equipment package to accomplish the synchronization application included the following:

- (1) SEECO 115 kV Type VS Voltage Sensor
- (1) S&C SF6 Breaker
- (1) GE Sync Relay
- (1) Synchroscope
- (1) RMS Volt Meter



Implementation: The SEECO sensor was used to drive a sync relay, synchroscope and volt meter, which were located in a control house approximately 400 feet from the sensor. The sensor was installed on a lightweight support bracket attached directly to the support structure of the breaker. Weight of the installed sensor was just 60 lbs compared to approximately 600 lbs for the conventional CCVT. Steel fabrication was kept to a minimum and the traditional concrete footer was eliminated. The elimination of the concrete footer was a significant advantage in this application as the location of the new breaker would have placed the footer and pedestal structure required by a CCVT on an adjacent embankment.

The Utility's personnel stated that the installation time for the SEECO sensor is approximately 25% of the time for the CCVT. The cost savings associated with the elimination of the footer and pedestal is estimated at approximately \$3,500.00.

Conclusion: The Utility's engineering and construction personnel who were involved in this initial installation were very enthusiastic in their assessment of the voltage sensor. A second sensor unit was immediately ordered for another scheduled SF6 breaker replacement application.