QualiTECH ENGINEERING LLC
SUBSTATION PROTECTION & CONTROL

Energizing The Future

Protective Relaying and Communication Schemes for a New 34.5kV Line

Client: ComEd

The scope of this project was to install a new 34.5kV position onto a single bus to accommodate for a new 34.5kV two-terminal line between ComEd and a neighboring utility company. This new 34.5kV line position consisted of: one (1) 34.5kV live tank gas circuit breaker; two (2) disconnect switches; two (2) Line Pot devices (A & CØ only) ; three (3) surge arrestors.

The new 34.5kV line included the installation of a new 34.5kV relay panel . The new relay Panel was used as a Primary and Backup Protection for the new line, and as a Direct Transfer Trip transmitter.

This relay panel consisted of a distance relay with a re-closer (SEL-311B), phase and ground distance relay (SEL-311A), and a Logic Processor (SEL-2100) configured as a Transfer Trip Transmitter. A fiber optic was used for the transfer trip that runs parallel with the new line to the ComEd neighboring utility company. The work also included a revision of the existing 34.5kV bus relay zone of protection to include the new 34.5kV circuit breaker, and a revision of the local annunciator and SCADA RTU.

The scope of this project also included the installation of new control switch, and new Amp, Watt and Var transducers in the control cabinet. Future additions and potential upgrades were taken into consideration in the design of this project.

To learn more, please contact us at:

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