



Renewables – Silvercreek Solar Park Inc.

Background

Located in the Township of Malahide, Silvercreek Solar Park is a 10 MW site. ESAC supplied integrated protection and control system to provide Operations real-time information with alarming, control operating functions, historian and performance-based reporting.

Approach and Methodology

The project comprised of a 115kV transformer station, 17km tap line, collection station and solar farm with the entire system SCADA integrated. The communications system is distributed as zones, each station interconnected on fiber with solar inverters as a self-healing fiber ring. Inter-station protection uses the same fiber communications to ensure the entire system is continuously covered. Station RTUs address supply authority interfacing and solar inverters PF/VAR management. SCADA remote smart-phone alarming and user interfacing provides 24/7 operation's coverage. Operators use the production performance historian trending and reporting to quickly identify issues in optimizing equipment operation.

Key Challenges

Utility main and backup supplies are requiring transfer trip schemes and dual protection relay settings groups. RTU algorithm integrated control of solar inverter PF/VAR management system is compensating for the 17km tap line. As a subcontractor to the general contractor, ESAC is working with the different project groups (i.e. Transformer station, tap line, collection station and solar farm) and the overall project engineer, ensuring designed solution requirements are addressed as per supply authorities.

Ongoing Support

ESAC is providing multi-year technical support and maintenance since project completion. Program will involve technical interfacing with supply authority including trip/event analysis, system tuning as a result of system performance SCADA historian reports and required maintenance testing.