Embedded Generation Safety

Distribution Company Awareness

Recently a shutdown was scheduled for preventative maintenance of a 600 Volt service switchboard. The LDC was required to be on site to isolate and de-energize the pad mounted transformer and secondary cables. The Service Contractor turned off the main breaker and the LDC isolated the primary at the pad mounted transformer. The crew conducted a voltage check and measured potential at the secondary terminals of the transformer. The crew and service contractor were unaware there was an embedded photovoltaic (PV) system in place connected to the line side of the main service.

The Ontario Electrical Safety Code (OESC) rule 84-008 requires a distributed generation system to automatically disconnect electric power production sources when there is a loss of power from the supply authority. In the case of this near miss incident, the solar inverter's "anti-islanding" feature failed to fully disconnect the energy produced from the PV system.

Safety Awareness

Prior to work on equipment, crews should be made aware of embedded generators at customer facilities. The utility disconnect switch required by the LDC should be used as the disconnecting means. PV system outputs may become energized at anytime with changing sunlight conditions.

ESA Recommends

LDC's review operating procedures and identify their customers who have embedded generation system.

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