

Transforming Distribution Networks into Smart Grids

The development of a Smart Grid in Ontario is intended to harness advanced technologies, facilitate the connection of small-scale generators and allow for the two-way flow of information.

Smart grid technologies will modernize the electricity system in a way that we could only dream of two decades ago, including the development and integration of local smart distribution networks. A smart distribution grid will provide greater efficiency and will be invaluable in upgrading and effectively modernizing large segments of aging electricity infrastructure. As implementers of Ontario's smart metering initiative, the province's distributors have already taken the first steps towards the creation of the smart grid of the future. LDCs are expected to have significant responsibilities in smart grid development and implementation.

The GEA gives government the power to issue regulations governing implementation of Ontario's smart grid which will likely include a timeline for its development, the roles and responsibilities of key players, and standards for communications. Ministerial Directives could also allow the OEB to amend licenses to improve distribution systems.

It is anticipated that the province will provide a policy framework for smart grid development shortly. In the interim, the OEB is allowing LDC smart grid activities to get underway by establishing guidelines for deferral accounts and funding adders. This is allowing some distributors to get an early start on investments in smart grid development (smart grid studies and demonstration projects, planning, etc.).

At this time (June 2010) the OEB is not requiring distributors to file formal system development plans covering smart grid development.

Current Issues/Challenges

- The issue of cost recovery for smart grid development projects remains a critical consideration.
- How the industry manages and keeps up with technological advances will be an important consideration as the smart grid is phased in over time
- There is also the challenge of ensuring the compatibility of grid technologies – there will need to be minimum industry standards or commonalities in technology as a smart grid is connected in communities across the province.