

Stay informed

Up-to-date information on this project will be available on the OPA website. For more detailed information, please visit www.powerauthority.on.ca. In addition, if you have questions or comments please contact us at: info@powerauthority.on.ca.



Solutions to Address Electricity Needs in Northern York Region



Ensuring an affordable, reliable and secure electricity service for Ontario's growing communities



www.powerauthority.on.ca

www.powerauthority.on.ca

Who We Are and What We Do

We are the Ontario Power Authority (OPA), and our role is to ensure a long-term supply of electricity for the province. We do this by:

- leading and coordinating electricity conservation initiatives across the province
- ensuring that investment in needed new electricity supply resources occurs
- preparing a comprehensive, long-term power system plan
- facilitating a commercial structure that over time will transfer financial risk from Ontario's electricity ratepayers to willing investors.

The OPA is responsible for preparing the Integrated Power System Plan, which will ensure that Ontario has enough electricity to meet its future needs. The first plan was submitted to the Ontario Energy Board (OEB) in August 2007 for review, and it is expected to take about one year before final approval is granted.

A critical part of the plan is ensuring generation is available where it is needed, particularly in areas of the province where the need is urgent, such as in Northern York Region.



What is the Challenge in Northern York Region?

As evidenced in York Region's "Planning for Tomorrow" initiative, the area is growing rapidly with new businesses, homes, roads, schools and neighbourhoods. As a result, electricity demand in Northern York Region is expected to grow by more than three percent annually for the next 10 years.

Upgrades to the electricity system in the southern part of York Region took place in 2004; however, there have been no major improvements in the northern part since the 1990s.

The area is supplied with electricity primarily from the Armitage Transformer Station (TS) located in the Town of Newmarket. This station receives most of its power from a 230,000 volt transmission line coming from Vaughan. Summer peak demand is now close to 400 megawatts, which stretches the supply capability of the area.

A 2005 study identified four electrical service issues in Northern York Region:

- inadequate capacity of the transmission line from Vaughan that supplies the area
- a lack of supply diversity, which means that there is too much reliance on a sole transmission line to serve a large load
- inadequate transformer capacity at Armitage TS
- inability to add more distribution lines at Armitage TS to meet the area's growth in demand for electricity.

The electricity demand in Northern York Region is beyond the planned capacity of the existing infrastructure. It is crucial that new supply options – either in the form of new local generation or additional transmission capacity – be pursued.

Meeting Northern York Region's Electricity Needs

In developing the plan to meet the electricity needs of Northern York Region, the OPA sought and received significant input through local community involvement during the summer of 2005. Northern York Region's communities and other stakeholders offered helpful advice and ideas on electricity supply and conservation options for the region.

The OPA met with elected officials and senior municipal staff, facilitated several public meetings and established a working group of municipal and community representatives. The broader community was invited to attend all working group meetings.

In September 2005, the OPA submitted a report to the OEB after several months of extensive study and consultation. The OPA's report recommended a multi-stage plan to meet the region's electricity requirements and to ensure an affordable, reliable and secure electricity service. The plan was built on several key elements, including:

- conservation
- upgrades to the existing Armitage Transformer Station
- a new transformer station at Holland Junction
- new generation located in the area.



Conservation

Aggressive implementation of several conservation programs was an essential part of the OPA's recommendations. These programs are expected to meet conservation targets of an immediate nine megawatts in 2007, growing to 58 megawatts by 2017. The OPA is actively working with local electricity distribution companies and other service providers to deliver conservation programs in Northern York Region. More information is available by visiting www.everykilowattcounts.ca.



Upgrades to Area Transformer Station

The OPA also recommended that reinforcements be completed at the Armitage TS to increase its capacity. This was required for the near term and has already been successfully completed by Hydro One.

New Transformer Station

A new transformer station is required near Holland Junction to serve Northern York Region. Hydro One will begin construction of this transformer station in the winter of 2008, and it is expected to be in service by the summer of 2009. The new station, together with the upgrades to the Armitage TS, will provide additional transformer capacity and address the need to distribute electricity more effectively throughout the growing region.

New Generation

Another element of the OPA plan is to procure a new natural gas-fired electricity generating facility in Northern York Region, which should be in service by the end of 2011. This facility will address both the lack of transmission line capacity and supply diversity.

Once it is operating, the generating facility will respond to local needs while helping the province meet its overall electricity generation needs.

During the OPA's consultations on the region's electricity supply challenges, the community expressed support and preference for a local natural gas-fired electricity generating facility rather than a new transmission line that would provide similar relief.

A competitive process for procuring the natural gas-fired electricity generating facility will begin shortly. Matters dealing with siting, permitting, and community and environmental impacts will be addressed by the proponents of the generation projects. At the end of the process only one facility will be selected to proceed to construction and operation.

the costs of transmission assets such as the Holland Junction TS are paid by local electricity distribution companies and other transmission customers, who then pass these costs onto their customers.

Where will the new natural gas-fired electricity generating facility be located?

That is still to be determined through the procurement process.

What other types of electricity generation were considered?

Wind, hydroelectric and nuclear generation were considered but eliminated as not being feasible because no capability was identified in the area or those technologies do not effectively address the particular supply needs of Northern York Region. Solar was not considered because it is not of sufficient scale to meet the need, and current technology makes it prohibitively expensive. Small distributed generation is still being considered where opportunities exist, but it is not expected to meet all of the current needs in Northern York Region.

Will more conservation avoid the need for a new natural gas-fired electricity generation facility?

Conservation and demand management play an important role in an integrated solution, but a local natural gas-fired electricity generating facility will still be required to provide long-term electricity supply to Northern York Region. Aggressive conservation programs for the area have already been incorporated into the OPA's planning and will continue to be required to complement local generation.



How soon is additional electricity supply required for Northern York Region?

It is required now. During peak times, electricity supply in Northern York Region has to be augmented with supply from neighbouring areas with spare capacity because the region cannot supply all its own electricity needs.

How will these projects be paid for?

The electricity generating facility, which will be a system resource, will benefit all Ontario electricity consumers, and its costs will be recovered through charges on customers' electricity bills. Rates to recover