

Ontario Energy Board

Northern York Region CDM

Ontario Power Authority Report

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BACKGROUND:

The in-service date of the Holland Junction Transformer Station (the "HJTS") has been delayed as it is waiting for Environmental Assessment approval. This station is designed to relieve the Armitage Transformer Station (the "Armitage TS"). It had been anticipated that this station would be in service for the summer of 2007. It now appears that delays related to the environmental assessment process mean that this date is no longer possible and may also mean that the station will not be in service for the summers of 2008 and 2009.

The construction of the HJTS was part of an integrated approach to addressing the need for new electricity infrastructure in Northern York Region that was set out in the OPA's report to the OEB dated September 30, 2005 (the "OPA Report"). The OPA's proposed approach had a number of components in addition to the construction of the HJTS. These included demand response ("DR") and the construction of local generation. The report noted that, in the event that no successful procurement contract for local generation is concluded, the OPA's alternative recommendation would be to proceed to upgrade the line from Buttonville TS to Gormley with a double-circuit 230 kV line and to build a transformer station at Gormley. The Board responded to the OPA Report by issuing its decision on November 22, 2005 in which it, among other things, directed Hydro One "to proceed as soon as possible with the implementation of" the HJTS.

OEB REQUEST:

The OEB, by letter dated March 26, 2007, has requested the OPA to file a report with the Board:

.... focusing on the status of CDM projects that have been implemented or will be in place in Northern York Region that are designed to reduce peak loading on Armitage TS during the summer (June to September), 2007.

The letter also requests that the OPA identify "Initiatives expected to assist with the management of electricity demand for 2008 and 2009".

The Board has also written to Hydro One requesting further information relating to these delays and their potential impact. In addition, the Board has written to the local distributors (PowerStream, Hydro One and Newmarket Hydro or the "York Utilities") seeking information on the status of all distribution projects and CDM initiatives (other than those funded by the OPA) that are expected to reduce the loading on the Armitage TS in the summers of 2007 to 2009.

EXISTING DR CONTRACT:

The OPA issued an RFP for DR in York Region dated November 30, 2005. This arose from the OPA Report. The result of the RFP was that the OPA entered into a contract with Rodan Energy and Metering Solutions Inc. ("Rodan") on May 2, 2006. Under the contract, Rodan is obligated to supply 3 MW of DR in the Armitage TS area. Rodan, acting as an aggregator, has contracted

with local area businesses to have them available to curtail their loads. Rodan is required to respond to operational directives from the IESO. Rodan is paid a capacity payment and an energy payment for load curtailed. The contracted MWs under the Rodan contract were not available in the summer of 2006 but are now available.

The OPA is also in discussions with Rodan to increase the contract capacity by an additional 2 MW. These MWs should be available in the summer of 2007.

The current contract with Rodan is not designed to address weather dependent load. The OPA believes, based on discussions with aggregators active in York Region, that there may be the potential for up to 3 MW of weather dependent load-related DR in the area served by the Armitage TS for the summer of 2007 and up to an additional 2 MW more in the summer of 2008.

OPA FUNDED CDM PROGRAMS:

LDC CDM Directive:

The OPA intends to launch four programs in the summer of 2007 in response to the LDC CDM Directive issued by the Minister on July 13, 2006. LDCs will play a substantial role in the delivery of each of these four province wide programs.

These programs are the Appliance Retirement Program, the Business Incentive Program, the Summer Savings Program and the Residential and Small Commercial DR Program.

The Appliance Retirement Program will focus on retiring older, secondary refrigerators and freezers and recycling them in an environmentally responsible manner. Consumers will be able to call to arrange for free in-home pick-up of these older appliances. LDCs primary role in this program will be to undertake local community promotional activities. This program will be launched in June.

The Business Incentive Program is designed to encourage energy-efficiency improvements for business customers. LDCs will administer the program. They will provide incentives for commercial, industrial and institutional customers to undertake energy efficiency retrofit projects. Eligible projects include upgrading lighting, heating, ventilation, air conditioning, electric motors and transformers. This program will be launched in July.

The Summer Savings Program is intended to build awareness of Ontario's growing summer electricity requirements and the need for conservation during these warm months when air conditioning use dramatically increases the demand for electricity. The program will provide a financial incentive to consumers to reduce their electricity use between June 15 and September 15. If consumers achieve a 10% reduction (weather normalized) in their consumption during this time period as compared to 2006 then they will receive an additional 10% credit to their bill for this time period.

The Residential and Small Commercial Demand Response Program will also address the summer peak electricity load by remotely controlling the operation of some central air conditioning units during periods of high demand. Consumers who register for the program will receive a small registration payment and have a load control device installed on their air conditioning unit at no cost. The program will be launched on July 15, 2007 and the deadline for an LDC to apply to participate is May 1, 2007.

The participation of LDCs is obviously critically important to the successful roll out of these four programs for the summer of 2007. Based on preliminary discussions with the York Utilities, the OPA is confident that each of these three utilities will be actively involved in OPA funded CDM in the summer of 2007. The OPA has also suggested to these utilities that greater emphasis be placed on advertising and promotion in York Region with respect to the summer 2007 programs and this has been met with a favorable response. This will hopefully have a positive impact on the take-up rate for these programs in Northern York Region.

EKC, Cool Savings and DR III:

The OPA's Every Kilowatt Counts Program ("EKC") will also be operating again in 2007. The EKC Program provides financial incentives to install such products as more energy efficient lighting and ceiling fans. The instant rebate coupons distributed under the program are redeemable at over 3000 participating retail locations in Ontario.

The Cool Savings Program will also be in operation again in 2007. This program provides rebates to consumers to have their air conditioners tuned up by a certified technician. For those consumers who are replacing their air conditioning or heating equipment, rebates are available for the installation of an ENERGY STAR qualified system.

The OPA is planning to roll out a suite of province-wide DR programs in time for the summer of 2007. One of these programs, titled DR III, may have some impact in Northern York Region. DR III is a committed resource peak shedding product. It will be aimed at building capability in small and medium industrial and commercial customer sites. The program will require a high reliability response that is triggered by a dispatching agent using electricity market signals.

All the OPA funded programs discussed above are designed to be province-wide programs. The OPA has not developed regional targets for each of these programs and has not done any work to specifically assess the potential for these programs in Northern York Region. Therefore, it is extremely difficult to attribute possible MW savings to each of these programs to Northern York Region. However, based on a simple extrapolation of the provincial targets, the OPA estimates that the peak demand in the area served by the Armitage TS is likely to be reduced by no more than 2 MW in the summer of 2007 as a result of these programs.

The program portfolios and province-wide targets have yet to be established for 2008 and 2009 so it is impossible to provide an estimate of likely MW reductions to the summer peak for the Armitage TS service area. However, the programs initiated in 2007 should be more refined in subsequent years. Further, programs such as the Business Incentive Program referred to above

and other programs, such as the Commercial/Industrial New Construction Program, that are focused on capital investments in 2007 will start to result in MW savings in subsequent years.

OTHER POTENTIAL RESOURCES:

The OPA is aware of two other potential resources. One of these entails the expanded use of standby generation that currently provides backup power for facilities where there is a blackout. Based on discussions with potential aggregators in York Region, the OPA believes that there may be up to 6 MW of such generation available in the area served by the Armitage TS (this is in addition to the 4 MW of distributed generation that we understand will be referenced in the letter of the York Utilities). These facilities could be switched to running in peak periods to put power into the system.

There are environmental concerns related to the fact that most of this generation is diesel fueled. It may be possible to reduce the emissions of these facilities to the same level as a single-cycle gas turbine generator through a combination of the installation of emissions reduction technology and the use of low sulphur diesel and bio-diesel. However, an environmental screening process under the *Environmental Assessment Act* will have to be undertaken and amendments to the Certificates of Approval for these facilities will also have to be obtained before the way in which these facilities are operated can be changed.

In light of the likely need to undertake capital improvements and obtain Ministry of Environment approval, none of these facilities is expected to be in a position to take on this new role for the summer of 2007.

Another potential resource is from the Keele Valley NUG facility owned by Eastern Power. This facility is a landfill gas site enhanced by natural gas. The facility is the subject of a power purchase agreement with OEFC. The OPA has no specific knowledge of the terms of this agreement. However, it is the OPA's understanding that there is 10 MW of unused gas-fired capacity at the facility which is not covered by the power purchase agreement.

CONCLUSION:

CDM can play a role in helping to address the concerns raised by the delay in the construction of the Holland Junction Transformer Station. The OPA will work with LDCs and other potential delivery agents in the manner described above to maximize the impact of CDM in Northern York Region. However, these activities will not result in sufficient savings to address the load/supply imbalance in Northern York Region.