



590 Steven Court, Newmarket, Ontario L3Y 6Z2  
Tel: (905) 895-2309  
Fax: (905) 895-8931  
E-mail: nmhydro@nmhydro.ca  
Web: www.nmhydro.ca

**Newmarket-Tay Power Distribution Ltd.**

September 17, 2010

Kirsten Walli  
Board Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, Suite 2700  
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

**RE: Initiative to Develop Electricity Distribution System Reliability Standards  
Board File Number: EB-2010-0249**

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This is regarding the Board's August 23, 2010 invitation to submit written responses to the subject "Questions for Distributors" outlined in Attachment A.

Newmarket-Tay Power Distribution Ltd. (NT Power) hereby submits three (3) paper copies and one (1) electronic copy of our response attached.

Yours truly,

A handwritten signature in cursive script that reads "G. Young".

G. Young, P.Eng.  
COO

GY/  
attach.



## Attachment A

### Questions to Discuss For Electricity Distributors

#### Current Practices

- In addition to SAIDI, SAIFI and CAIDI, what, if any, other system reliability measures do you use?

*Answer:* We also look at rolling 12-month monthly reliability statistics and compare to our own internal annual reliability benchmark. Experienced, competent staff and management keep a close watch on the performance and maintenance of the system in general including daily review of trouble reports. There is a good sense of system performance without formal performance numbers.

- Provide a detailed description of your methodology utilized to record SAIDI and SAIFI. Please include information such as:

*Answer:* Over the past 5 years, a combination of automated and manual event tracking has been employed to derive reliability statistics. Each year, progress has been made to improve accuracy of recording events. Reliability stats are tracked separately with and without Loss of Supply, for planned and unplanned outages, and again separately for the Tay service area and Newmarket service area. Generally our current methodology is as follows:

1. Trouble reports are filled out and reviewed daily; response and outage times are recorded. Data from switching orders and the SCADA system (Newmarket service area) are employed for deriving planned outage reliability. Data from the SCADA system and from major outage reports (Newmarket service area) is also employed for unplanned outages or large multi-step planned outages.
2. The daily trouble reporting data for the Newmarket service area is entered manually into a 3<sup>rd</sup> party software. This 3<sup>rd</sup> party software for the most part, calculates the reliability indices and generates a variety of reports including one for reporting to the OEB.
3. Final Newmarket service area reliability data employs a variety of source data to come up with the final reliability indices e.g. data from switching orders are used to manually derive planned outage reliability statistics; for unplanned outages that involves multiple steps for restoration, the reliability statistics are manually derived in a spreadsheet format; outage data from the 3<sup>rd</sup> party software is added to the spreadsheet to derive the final reliability stats for Newmarket, with and without "Loss of Supply".
4. The data from the Tay service area is not currently set up to be input into the 3<sup>rd</sup> party software. NTPower plans to incorporate the outage data from the Tay service area into a 3<sup>rd</sup> party software that will be common to both service areas. Currently the Tay data is manually placed in a spreadsheet to calculate the reliability indices for the Tay area. Planned outages and

*unplanned outage data is tracked separately. Also reliability data is tracked separately for data which includes loss of supply versus excluding loss of supply.*

5. *For reporting purposes to the OEB, and as per OEB's instructions, the data from both the Tay and Newmarket service areas are combined to provide Newmarket-Tay Power Distribution Ltd. reliability statistics for each month of the calendar year and for the reporting calendar year, as well as with and without "Loss of Supply".*

6. *About twenty percent of the time, the number of customers involved in an outage event is estimated where the actual number of customers is not known. The rule of thumb employed is 8 residential customers per underground transformer and 12 customers per overhead transformer. With implementation of GIS, we expect to improve accuracy of the data employed to derive outage statistics.*

o The degree of use of automated event tracking from SCADA systems, as well as reliance on manual observations.

*Answer: We employ a combination of automated and manual event tracking. Also see our response above.*

o Whether planned outages are tracked separately.

*Answer: Yes, planned outages are tracked separately. Also see our response above.*

o The level of detail captured throughout a stepped restoration process to record the total customer duration impact.

*Answer: Regarding staged restorations, for each step of the restoration we record both the number of customers out and the duration they are out, in order to manually derive the reliability statistics for that particular outage event. Our current outage management system does not provide for automated reliability statistics for staged restoration events. It is our intention to explore the availability of more sophisticated outage management systems ("OMS") that are more technologically advanced, including OMS that readily and cost-effectively leverages smart meter system technology.*

- Do you use system reliability performance results in planning, investment and maintenance expenditures, as well as establishing operation and maintenance procedures? Please explain.

*Answer: System reliability performance is one of the factors considered when planning investment and maintenance expenditures. Other factors include (but are not limited to) reports and/or concerns raised from field staff during the course of their daily work. As well, information from inspection/maintenance reports are also considered when planning capital and maintenance budgets and work.*

*Trouble reports and reliability statistics are reviewed to identify any trending that may be apparent. Any reliability issues are then investigated in greater detail and any resulting necessary expenditures are incorporated into proposed capital planning and maintenance budgets.*

*Trending analysis may be used to revise existing maintenance programs such as tree trimming or insulator washing. It also assists us to identify and prioritize capital reconstruction projects.*

*The 3<sup>rd</sup> party outage management software we currently employ provides us with a means of tracking cause of an outage event as well as outage cause summaries. We also review these type of outage reports for trending.*

- Do you identify and track the impacts of extraordinary events?  
*Answer: On the rare occasion that we experience an extraordinary event, it is reviewed in more detail and an additional written report is generated and circulated e.g. for a major feeder or station outage event. Also, a separate meeting with the appropriate operations/engineering personnel is conducted to review the event and to identify any opportunities for improvement.*
- What other actions do you take to manage system reliability performance?  
*Answer:*
  - We design and install a robust distribution system with reliability in mind, and we are careful to employ well-built equipment in our system. Our distribution system is designed as a loop feed system and feeders optimally loaded with at least first contingency back-up in mind in order to minimize restoration time. Feeder routes are selected to provide as much flexibility and potential for sectionalizing faulted feeders in a single step to localize the number of customers experiencing an outage. When designing for back-up, consideration is also given to whether the feeder is mostly supplying underground or overhead type of distribution system as underground repair times generally take longer than overhead type repairs.
  - After an outage event, restoration in most cases is staged to minimize the impact on customers affected by an outage.
  - Distribution inspection and maintenance programs such as infrared inspection, tree trimming and insulator washing are used to identify potential problems before they cause an outage.
  - Consistent capital budget replacement of equipment or distribution lines prior to failure