March 10, 2008

VIA EMAIL & VIA COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St, Suite 2701
Toronto ON M4P 1E4

Dear Ms. Walli:

Board Files No. EB-2007-0050
Hydro One Networks Inc.
Energy Probe – Interrogatories Set # 4

Pursuant to Procedural Order No. 5, issued February 25, 2008, please find 10 hard copies of the Interrogatories of Energy Probe Research Foundation (Energy Probe) Set # 4. An electronic copy of this message will be provided in PDF format.

Should you require additional information, please do not hesitate to contact me.

Yours truly,

David S. MacIntosh
Case Manager

cc: Glen MacDonald, Hydro One Networks Inc. (By email)
Michael Engelberg, Hydro One Networks Inc. (By email)
Gordon Nettleton, Osler, Hoskin and Harcourt LLP (By email)
Peter Faye, Energy Probe Counsel (By email)
Interested Parties (By email)

EB-2007-0050

Ontario Energy Board

IN THE MATTER OF *the Ontario Energy Board Act, 1998*; S.O. 1998, c. 15, (Schedule B) ("the Act");

AND IN THE MATTER OF an Application by Hydro One Networks Inc. pursuant to section 92 of the Act, for an Order or Orders granting leave to construct a transmission reinforcement project between the Bruce Power Facility and Milton Switching Station, all in the Province of Ontario.

INTERROGATORIES OF
ENERGY PROBE RESEARCH FOUNDATION
("ENERGY PROBE")

SET NUMBER 4

March 10, 2008

HYDRO ONE NETWORKS INC.
BRUCE TO MILTON LEAVE TO CONSTRUCT
EB-2007-0050

ENERGY PROBE RESEARCH FOUNDATION

INTERROGATORIES – SET NUMBER 4

Interrogatory # 29

Ref: Exh. B/T 3/S 1

Issue 1.1: Has the need for the proposed project been established?

Two large commercial wind farms inject into the transmission system serving Bruce – Amaranth and Kingsbridge. Amaranth has completed two years of service, and Kingsbridge is now about two weeks short of two years of service. In its first two individual years of service, Amaranth's output exceeded 50% capacity factor in 22% and 24% of the hours in the respective years. If transmission service to Amaranth was limited to 50% of the nameplate capacity of the farm, the output in year one would have been reduced by 4.6% of CF and the output in year two would have been reduced by 5.4% of CF. The bottled power lost to the customer would have been 27 GWh in year one and 32 GWh in year two. The market value of the replacement power to customers would have been about $1.2 million in year one and $1.5 million in year two.

Similarly, for Kingsbridge output exceeded 50% CF in 28% and 32% of the hours in the respective years. If transmission service to Kingsbridge was limited to 50% of the nameplate capacity of the farm, the output in year one would have been reduced by 6.4% of CF and the output in year to date two would have been reduced by 8.2% of CF. The bottled power lost to the customer would have been 22 GWh in year one and 28 GWh in year two. The market value of the replacement would have cost customers about $1 million and $1.3 million per year respectively.

The correlation coefficient for output from the two farms is approximately 75%. The correlation coefficient for output from wind power and nuclear in the region is much lower. This indicates that if transmission capacity to a wind generation region was limited to 50% of the nameplate, the bottle power lost to customers would be much less than estimated above.

Similar to wind power, the nuclear station at Bruce rarely generates at or close to its full nameplate capacity. Wind power in Ontario, like most regions of the northern hemisphere at our latitude, is subject to a very reliable drop in wind output during summer.

a) **Please indicate the net consumer impact, including transmission cost and replacement generation cost, of sizing the peak summer transmission capacity with firm capacity to serve 50% of the expected nameplate capacity of wind power in the Bruce region and 7/8ths or 87.5% CF of the expected nameplate nuclear capacity.**

b) **Please provide any analysis done by Hydro One or the OPA analyzing the economically optimal sizing of transmission capacity serving the Bruce region.**

c) **Please confirm that all generation figures in Figure 1 on Page 2 reflect forecast resource nameplate capacity without any adjustment for reliability.**