

**UNDERTAKING NO. J1.4**

**REFERENCE**

Hearing Day May 9, 2011 Tr. p. 134

UNDERTAKING NO. J1.4: TO PROVIDE ADDITIONAL INFORMATION ON DERIVATION OF THRESHOLD OF \$500 PER KILOWATT ECT.

**RESPONSE**

The \$500/kW threshold was developed as a screening tool to identify transmission expansion projects for initiating development work, as described in the response to GEC Interrogatory 2, at Exhibit I-2-2. It applies to ratepayer-funded transmission expansions, including network expansion and the ratepayer-funded portion of enabler lines. It does not apply to connection facilities, which are proponent-funded.

The threshold was not intended to justify project need or to allow a project to forego review before the OEB. It was designed as part of the FIT Program, in the context of the Green Energy Act, to allow transmitters to focus development work efforts on the most economic transmission projects. It is expected that the OEB would review all proposed transmission projects as part of the approval process associated with each project (e.g., Leave-to-Construct or rate applications).

The threshold was derived from historical capital expenditures on transmission assets adjusted for inflation. This provided a rough estimate of the investment to build the transmission system that is in place today. The OPA adjusted this investment value to account for the share of investment that was attributable to generation. Using the installed capacity of generation on the system today, the OPA arrived at a value of approximately \$300/kW. This value was increased to \$500/kW to reflect the screening nature of the threshold, the uncertainties in the cost and generation data available at an early stage in the development of a transmission project, and the fact that FIT generation was expected to be located more remotely and more sparsely than the large, centralized generation that the existing transmission system was built to accommodate.

The OPA also performed the following assessments to confirm the reasonableness of this threshold:

1. An assessment of the cost of electricity service using the OEB's network service rate, which is an approximation of the cost of transmission capacity on the system today.

The OPA's analysis used the 2010 network service rate of \$2.97/kW per month (see EB-2008-0272, Board Order dated January 21, 2010). The present value of the stream of payments for 1 kW over a 20-year period, which is the lifetime of most FIT contracts,

1 is \$484. This demonstrates that the \$500/kW threshold is consistent with the current  
2 cost of transmission capacity in Ontario based on the prevailing network transmission  
3 rate, which reflects the investment and expenditures that have been deemed  
4 appropriate through past regulatory reviews.

- 5 2. A calculation of the cost per kW of generation enabled by recent transmission projects  
6 approved by the OEB.

7 For example, the Bruce to Milton Expansion Project and the North-South Reinforcement  
8 Project had cost per kW values in the range of \$200/kW to \$300/kW. The Bruce to  
9 Milton project is expected to be well utilized, and will have a high capacity, and the  
10 North-South Reinforcement project maximizes the use of the existing system. As a  
11 result, these projects can be expected to be among the most economic projects for  
12 enabling generation. The \$500/kW threshold is thus set at a level that will facilitate  
13 development work on a broader set of transmission project options, which is consistent  
14 with its use as a screening tool.

- 15 3. A comparison to project costs in other jurisdictions.

16 A 2009 Lawrence Berkeley National Laboratory report collected data from over 40  
17 different transmission studies for projects that would incorporate wind. The report found  
18 that the majority of studies had a unit cost below \$500/kW, with a median cost of  
19 \$300/kW.