

**GREEN ENERGY COALITION RESPONSE TO
ENVIRONMENTAL DEFENCE
INTERROGATORY #1**

QUESTION:

Issue A.3 “Are the costs of the facilities and rate impacts to customers appropriate?”

Reference: L.EGD.GEC.1 p.20

Please compare and provide the approximate ratio of

- (i) The avoided costs associated with avoiding each of Segments B1 and B2 and future load growth driven GTA reinforcements; and
- (ii) The avoided costs that Enbridge utilizes for screening DSM?

Please provide an estimate assuming the DSM will be spread throughout the GTA and alternatively assuming that the DSM will be delivered in the zone served by the Don Valley line (if possible).

RESPONSE:

The following responses compare Mr. Chernick’s estimate of the present value of the annual cost of the various facilities over 20 years to EGD’s estimate of the present value of the avoided costs of space-heating measures over 20 year. For Segments B1 and B2, the avoided costs are based on the alternative assumptions about the amount of annual load reduction needed to defer the facilities:

- (1) a GTA-wide portfolio saving $21.4 \times 10^3 \text{ m}^3/\text{hr}$, the average annual growth in design-peak load forecast in Exhibit I.A1.EGD.GEC.6 Attachment 6, spread over the GTA Project Influence Area (GTAPIA); and
- (2) a Don Valley targeted portfolio saving $6.4 \times 10^3 \text{ m}^3/\text{hr}$, the load growth served by Victoria Square, assuming that to be 30% of the GTA Project Influence Area. (See Exhibit M.EGD.GEC.3 for derivation of the 30% value.)

The avoided costs in $\$/\text{m}^3/\text{hr}$ of peak hour loads are converted to $\$/\text{m}^3$ at a ratio of $2,000 \text{ m}^3/\text{year}$ per m^3/hr , consistent with the ratios developed in Exhibit L.EGD.GEC.2, Table 1, and with the ratio of normal annual HDD in Toronto (about 4,035 HDD) to EGD’s 41 HDD at design peak (times 20 to convert from peak hour to peak day).

The 2015 load reduction (at $21.4 \times 10^3 \text{ m}^3$ per hour in design peak) avoids the 2015 facility costs by itself, is half the reduction needed in 2016, one third in 2017, and so on. So if, for example, the first year’s savings were $\$0.60/\text{m}^3$ in 2015, they would be $\$0.30/\text{m}^3$ in 2016, $\$0.20/\text{m}^3$ in 2017, $\$0.15/\text{m}^3$ in 2018, $\$0.12/\text{m}^3$ in 2019, $\$0.10/\text{m}^3$ in 2020, $\$0.06/\text{m}^3$ in 2024, $\$0.05/\text{m}^3$ in 2026, $\$0.04/\text{m}^3$ in 2029, and $\$0.03/\text{m}^3$ in 2034, all in constant dollars.

Assuming that the program continues over 20 years, following table shows estimates of the ratio of the benefit of the 2015 load reduction for various portions of Segment B as a percentage of EGD’s estimate of avoided costs for 20-year DSM starting in 2015:

Geographic scope	GTAPIA-wide	Targeted
Segment B1 and Buttonville		
Segment B2		
Segment B		

For example, 2015 targeted DSM in the Don Valley that contributes to deferring Segment B2 should be evaluated using an avoided cost that is █% of the standard avoided costs that EGD uses for screening space-heating measures.

The benefits per m³ are lower for incremental load reductions implemented in later years. The 2016 incremental load reduction, for example, would be credited with half the value of deferring the facilities in 2016, one third in 2017, a quarter in 2018, and so on. Averaged over all the savings in the first 20 years, or over all the lifetimes savings from 20 years of programs, the levelized avoided costs per m³ for Segment B would be about half the values in the table above.

The present value of the avoided cost of the GTA reinforcements (assuming that a portfolio covering the entire GTAPIA would be needed to defer them all), as described at Exhibit L.EGD.GEC.1 page 21, would be about 122% of EGD's estimate of avoided costs for space heating. Assuming that load growth would require continuing reinforcements costing \$12.6 million annually, similar adders would apply to all years' load reductions, so long as annual incremental savings are comparable in magnitude to load growth.

**GREEN ENERGY COALITION RESPONSE TO
ENVIRONMENTAL DEFENCE
INTERROGATORY #2**

QUESTION:

Issue A.3 "Are the costs of the facilities and rate impacts to customers appropriate?"
Reference: L.EGD.GEC.1, p.20

Please discuss the rate impact of DSM that would avoid the capital investment listed above compared to the rate impact of proceeding with these projects.

RESPONSE:

See reply at M.GEC.CCC.9.