

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENVIRONMENTAL DEFENCE INTERROGATORY #14

INTERROGATORY

Issue A4: "What are the alternatives to the proposed facilities? Are any alternatives to the proposed facilities preferable to the proposed facilities?"

Reference: Ex. A, Tab 3, Schedule 4, page 8

- a) For each year from 2014 to 2025 inclusive, please state the forecast impact of DSM on peak hourly demand and total annual demand in the GTA Project Influence Area, both yearly and cumulative, based on the "reduction factor" used by Enbridge in its forecast. For each year, please also estimate Enbridge's DSM budget needed to achieve the DSM reductions assumed in the forecast.
- b) Please state the amount of DSM, in addition to that assumed in Enbridge's forecast, that would be needed to meet Enbridge's customers' needs in the GTA Project Influence Area in each year from 2014 to 2025 inclusive (i.e. to ensure that minimum system requirements with respect to capacity and pressure are met) without the proposed new Enbridge pipelines.
- c) Has Enbridge estimated the potential for incremental DSM in addition to the amount assumed in its forecast? If yes, please state this potential for each year from 2014 to 2025 inclusive. Please also provide all the reports, studies and analyses that support these estimates and state when this research was commenced and was completed.
- d) For each of the above, please also provide the requested data in a table or tables covering only the period from 2015 to 2025. This will assist in comparing the data with Enbridge's load forecast at Exhibit A, Tab 3, Schedule 4, which covers only the 2015 to 2025 period

RESPONSE

- a) Enbridge reports DSM using annual figures and does not communicate, measure, or interpret DSM reductions on a peak day or peak hour basis. For illustrative

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purposes, the Company has converted its annual results into peak hour and peak day reductions using several theoretical assumptions. The assumptions include:

- the use of a linear conversion ratio to derive peak day from annual figures and peak hour from peak day;
 - o In practice the conversion ratio will not be linear and will vary between DSM measures and customer segments
- the use of a factor to apportion the amount of the whole franchise-wide DSM which is attributable to the GTA Project Influence Area; and
- static cost effectiveness as conservation budgets increase (i.e. each incremental m³ saved is priced at the same as the first m³).

Because of the theoretical and simplified nature of the assumptions built into the numbers, the charts below should only be used to illustrate the relative magnitude of the data.

Franchise-wide DSM		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peak Hour Demand Reductions (10 ³ m ³)	Yearly	24	25	25	25	25	25	25	25	25	25	25	25	25
	Cumulatively	24	49	73	98	122	147	171	196	221	245	270	294	319
Peak Day Demand Reductions (10 ³ m ³)	Yearly	600	614	614	614	614	614	614	614	614	614	614	614	614
	Cumulatively	600	1,214	1,828	2,442	3,056	3,670	4,284	4,898	5,513	6,127	6,741	7,355	7,969
Annual Demand Reductions (10 ³ m ³)	Yearly	74,353	76,049	76,049	76,049	76,049	76,049	76,049	76,049	76,049	76,049	76,049	76,049	76,049
	Cumulatively	74,353	150,402	226,451	302,501	378,550	454,599	530,648	606,697	682,747	758,796	834,845	910,894	986,943
Annual Province-wide DSM Budget		\$32,380,295	\$32,966,700	\$33,626,034	\$34,298,555	\$34,984,526	\$35,684,216	\$36,397,901	\$37,125,859	\$37,868,376	\$38,625,743	\$39,398,258	\$40,186,223	\$40,989,948

GTA Influence Area DSM		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peak Hour Demand Reductions (10 ³ m ³)	Yearly	12	12	12	12	12	12	12	12	12	12	12	12	12
	Cumulatively	12	23	35	47	59	70	82	94	106	118	129	141	153
Peak Day Demand Reductions (10 ³ m ³)	Yearly	288	295	295	295	295	295	295	295	295	295	295	295	295
	Cumulatively	288	583	877	1,172	1,467	1,762	2,056	2,351	2,646	2,941	3,236	3,530	3,825
Annual Demand Reductions (10 ³ m ³)	Yearly	35,689	36,504	36,504	36,504	36,504	36,504	36,504	36,504	36,504	36,504	36,504	36,504	36,504
	Cumulatively	35,689	72,193	108,697	145,200	181,704	218,207	254,711	291,215	327,718	364,222	400,726	437,229	473,733
GTA Influence Area DSM Budget		\$15,542,541	\$15,824,016	\$16,140,496	\$16,463,306	\$16,792,572	\$17,128,424	\$17,470,992	\$17,820,412	\$18,176,820	\$18,540,357	\$18,911,104	\$19,289,387	\$19,675,175

As shown in the GTA Project Influence Area DSM table above, the impact of the Company's forecasted 2014 DSM reduction on peak hour demand is 12 10³m³/hr.

In comparison, the peak load demand reduction as calculated using the reduction factor impact is 13 10³m³/hr.

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b) In the table below are estimates of the DSM reductions that would be necessary in the GTA Project Influence Area in order to meet the Company's customers' growth needs from 2014 to 2025 inclusive (i.e. to meet a 'growth only' scenario) without the pipelines proposed, holding all other factors constant.

Enbridge asserts that the enormous DSM reductions required to meet customers' needs without the proposed pipeline far exceed any realistic or achievable level.

The data below assumes that the realm of available natural gas savings in the GTA Project Influence Area is unlimited and that cost effectiveness is static. The Company knows this not to be the case. Furthermore, significant portions of the Company's results are achieved through industrial customers of whom there are limited quantities. It is for these reasons among others that conservation was discounted as a non-viable option to offset the GTA Project.

DSM Required to Offset Growth in the GTA Project Influence Area		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Additional Annual DSM Needed in GTA (10 ³ m ³)		77,811	77,811	77,811	77,811	77,811	77,811	77,811	77,811	77,811	77,811	77,811	77,811
Total Franchise-wide Annual DSM Needed (10 ³ m ³)		153,860	153,860	153,860	153,860	153,860	153,860	153,860	153,860	153,860	153,860	153,860	153,860
Total DSM Budget Needed	Yearly	\$66,697,115	\$68,031,057	\$69,391,679	\$70,779,512	\$72,195,102	\$73,639,004	\$75,111,785	\$76,614,020	\$78,146,301	\$79,709,227	\$81,303,411	\$82,929,479
	Cumulatively	\$66,697,115	\$134,728,173	\$204,119,851	\$274,899,363	\$347,094,466	\$420,733,470	\$495,845,255	\$572,459,275	\$650,605,576	\$730,314,802	\$811,618,214	\$894,547,693

c) The Company completed a DSM Potential Study in 2009. (The study commenced in 2008.) The Potential Study covered the period 2008 through 2017 using the base year of 2007. The Study Report was filed with the 2012 DSM Plan (EB-2011-0295, Exhibit B, Tab 2, Schedule 7).

d) Please see the table above for 2015 to 2025.

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