

ENBRIDGE GAS INC.
Answer to Interrogatory from
Board Staff (STAFF)

Reference: Exhibit B1/Tab 1/Schedule 1/pg. 12

Question:

The Enbridge Gas Distribution rate zone average use adjustment reflects the existing OEB-approved methodology to forecast the year over year change in average use consumption for Rate 1 and Rate 6 customers. The methodology relies on regression equations to estimate the underlying historical trend of average use. Driver variables have remained unchanged and coefficients of existing models are re-estimated to include the most recent year of actual data.

- a) In the last Enbridge Gas deferral and variance accounts proceeding (EB-2017-0102), the utility acknowledged that the average use model was updated with the 2016 actual value and a diagnostic test indicated that a structural break occurred in 2016 for some models. Please confirm whether Enbridge Gas has rectified the issues identified in 2016. If not, please explain why.
- b) Please explain the steps that Enbridge Gas has taken to ensure that the results to estimate the year over year change in 2019 average use are reliable.

Response

- a) The addition of 2017 actual data confirmed that the abnormally large decline in 2016 average use was just an outlier and there is no structural break in 2017 in any of Enbridge Gas' models used to determine 2019 average use forecast.

For its 2019 rate application Enbridge Gas hasn't changed its models and used the same models as its 2014 to 2018 rate application. The models are planned to be reviewed/tested once again at rebasing as directed by the Board (with the amended settlement proposal dated December 6, 2017, and with its Decision and Order August 30, 2018 for EB-2017-0306/ EB-2017-0307).

Table 1 below shows the 10-Year history of Normalized Actual versus Board-Approved average uses normalized to each year's respective Budget degree days. The out-of-sample average percentage variance over the last 10 years is -0.5% for Rate 1 and 0.5% for Rate 6. The results support the view that the General Service

average use forecasting methodology continues to be a reliable predictor for General Service average use.

TABLE 1
GENERAL SERVICE AVERAGE USE

Test Year	Rate Classes	Col. 1	Col. 2	Col. 3	Col. 4
		Actual Normalized Average Use	Board-Approved Normalized Average Use	Variance Normalized Average Use	%Variance Normalized Average Use
2008	Rate 1	2,636	2,647	(11)	-0.4%
	Rate 6	24,869	24,204	665	2.7%
	Total General Service	4,493	4,449	44	1.0%
2009	Rate 1	2,616	2,637	(21)	-0.8%
	Rate 6	27,654	28,165	(511)	-1.8%
	Total General Service	4,659	4,770	(111)	-2.3%
2010	Rate 1	2,579	2,622	(43)	-1.6%
	Rate 6	29,106	27,949	1,157	4.1%
	Total General Service	4,403	4,705	(302)	-6.4%
2011	Rate 1	2,594	2,643	(49)	-1.8%
	Rate 6	29,471	28,029	1,442	5.1%
	Total General Service	4,764	4,726	38	0.8%
2012	Rate 1	2,529	2,510	18	0.7%
	Rate 6	28,941	30,122	(1,182)	-3.9%
	Total General Service	4,642	4,715	(73)	-1.5%
2013	Rate 1	2,547	2,568	(22)	-0.8%
	Rate 6	29,203	29,878	(675)	-2.3%
	Total General Service	4,665	4,719	(54)	-1.1%
2014	Rate 1	2,475	2,433	41	1.7%
	Rate 6	28,634	28,383	251	0.9%
	Total General Service	4,543	4,461	82	1.8%
2015	Rate 1	2,427	2,419	9	0.4%
	Rate 6	28,600	28,341	259	0.9%
	Total General Service	4,485	4,465	20	0.4%
2016	Rate 1	2,401	2,480	(79)	-3.2%
	Rate 6	28,203	28,753	(550)	-1.9%
	Total General Service	4,413	4,537	(124)	-2.7%
2017	Rate 1	2,485	2,472	13	0.5%
	Rate 6	29,462	29,058	404	1.4%
	Total General Service	4,569	4,538	31	0.7%

- b) The key factor used to evaluate the accuracy of the General Service average use forecast is the percentage variance between normalized actual and normalized forecast average use per customer. As seen in Table 1 above, the results support the view that the General Service average use forecasting methodology continues to be a reliable predictor for General Service average use. Besides tracking historical accuracy through the percentage variances, the models also have been subjected to a battery of tests. The models' estimation and test results for 2019 forecast show that the models continued to have high R-squared, and to generate small forecast errors while passing most of the statistical specification tests. Therefore they continued to be good predictors of average use.