

EP INTERROGATORY #5

INTERROGATORY

References: Exhibit C1 Tab 2 Schedule 1 Appendix A
Exhibit C2 Tab1 Schedule 3 Table 5

- A). Please discuss why EGD is relying on the Average Use model to predict that the declining use trend of prior years will continue in 2017/18.
- B). The NAC Forecast for 2018 is ~100m³ lower than 2017F. Please discuss in more detail why/how dummy variables were introduced (based on the Chow Test) for Class 20 Metro and Eastern Zone Class 73, but not other zones and why a DUM 2016 of – 0.04 was chosen and why resulting 2018 forecast is credible.
- C). Please provide an estimate the impact of a 10 m³ change in residential Normalized Average Use on each of: the 2018 volume forecast; revenue forecast and revenue requirement. Provide references to filed schedules.

RESPONSE

- A) The Company's average use models rely on historical data and given the historical trend, in the absence of any other development that would reverse the trend, the expectation is that the declining trend will continue. Every statistical test that has been run on the models continues to indicate that the models are good predictors of average use. Residential average use has continued to decline consistently since the Energy Efficiency Act prohibited selling of the conventional low-efficiency furnace in January 1992. Energy efficiency gains in new construction, the turnover in stock to higher efficiency gas furnaces and appliances, utilities' Demand Side Management ("DSM") programs, high commodity prices between 2001 and 2008 and a global economic slowdown since 2009 have resulted in a significant decrease in the residential average use over the 20 year period (1993 to 2016). On a weather-adjusted basis, residential average use fell from 3,196 m³ in 1993 to 2,509 m³ in 2015 and to 2,410 m³ in 2016 (more than 20 percent). The Ontario Government's efforts to cut its greenhouse gas emissions 15% by the end of 2020, 37% by the end of 2030, and 80% below 1990 levels by 2050 also supports the Company's declining average use trend expectation.
- B) The change in average use for 2018 as calculated in Exhibit C1, Tab 2, Schedule 1 Appendix A, Table 3, page 4, Column 12 is the percentage change from the 2017 Board Approved Budget shown in Column 11. The 2017 Board Approved Budget was

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developed in an earlier proceeding using the actuals to 2015 and the assumptions from 2016 Spring Economic Outlook while the 2018 forecast is developed using the actuals to 2016 and the assumptions from 2017 Winter Economic Outlook. As a result, the decrease of 101 m³ in 2018 is not reflective of the average use trend.

Regarding the introduction of a dummy variable for 2016, please see the response to Board Staff Interrogatory #6, at I.C2.EGDI.STAFF.6. As noted in that response and in Exhibit C2, Tab 1, Schedule 3, besides testing forecast accuracy, the models were subjected to a battery of diagnostic tests. These tests were run on the model to check for incorrect functional forms, parameter instability, structural breaks, omitted variables and randomness of residuals. Diagnostic tests indicated the existence of a structural break only for the Revenue Class 20-Metro and the Revenue Class 73-Eastern models. To suppress the likelihood of a similar off-trend result in 2016 being forecast, the Company included dummy variables in those models by assuming that this specific 2016 data was an outlier.

Without controlling for the 2016 outlier through a dummy variable, the Rate 1 average use forecast would have been 2.4 m³ lower than proposed.

- C) A change in forecast residential average use by 10 m³ would have an impact on the 2018 volume forecast by approximately 20.0 10⁶m³.

Note that the change in forecast volume does not impact / change the forecast 2018 distribution revenue requirement.

The impacts of such a change in the volume forecast on delivery revenue at existing rates (EB-2017-0181 rates) and the 2018 revenue deficiency (Exhibit F1, Tab 1, Schedule 1, page 3) would be approximately \$1.5 million.