Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue

Interrogatory #29

Board Staff

3. Operating Revenue

Issue 3.1: Is the proposed load forecast for 2013 and 2014, including billing determinants, appropriate?

Reference: E3-T1-S1 p. 2 & 11

At p. 2 Enersource states that sixteen years of Enersource's actual energy purchases from the Ontario electricity wholesale market from 1996 to 2011 are used to establish relationships between analytic and econometric drivers to energy and peak demand. At p. 11 Enersource also states that it developed multivariate regression models to determine energy consumption for each rate class and that the models capture the relationship between rate class sales and a number of explanatory variables including weather, calendar, econometric and other explanatory variables. The models were developed based on energy sales from 2004 to 2011 and include the same input variables such as weather, calendar, and econometric data as the system energy and peak demand models.

The models appear to utilize different historical periods, i.e. 15 years vs. 7 years.

a) Which model underpins the forecasted load (consumption purchases), for 2012 and 2013.

b) In the underpinning model, has Enersource made any adjustment to weight more recent years more heavily than earlier years? If so, please elaborate the details of the adjustment.

c) For the residential and large uses classes, please provide a description the actual steps, including the trail numbers, that was used to generate the load forecast (billed/charge determinant volumes) for 2012 and 2013.

Response:

a) Enersource created two independent forecasting models.

The first model is the load forecast model that captures purchases from the Ontario electricity wholesale market from 1996 to 2011 (i.e., sixteen years) based on weather, calendar, and econometric variables.

The second model was developed solely to determine a weather-correction normalization for rate classes and relied on seven years of actual energy sales data by customer class.

The load forecast model, which is the first model described above, underpins the energy purchase forecast, as addressed in Exhibit 3 Tab 1 Schedule 1 page 2.

b) No. Enersource has not made any adjustments to weight more recent years more heavily.

c) The following are the actual steps used to generate the load forecast, billed determinant volumes, for 2012 and 2013. The table below highlights these steps and the trail numbers used to generate the billed determinants for residential and large user classes.

1. Enersource developed a multivariate regression load forecast model to obtain total energy purchases for 2012 and 2013;

2. Enersource developed multivariate regression models for weather sensitive rate classes to derive weather corrected energy sales by rate class;

3. Enersource adjusted total purchases to incorporate projected incremental CDM activity in 2012 and 2013;

4. Enersource adjusted total purchases to account for line losses to derive total billed consumption;

5. Enersource converted billed consumption to billed demand for demand related classes (i.e., GS > 50 kW) by utilizing five year actual average load factors by class by average days per month and hours per day.

	Reference	2012		2013	
Step 1 – Load Forecast	E3-T1-S2, p. 2 of 31	7,749,732,964		7,817,740,567	
Step 2 – Weather normalization models	E3-T1-S2, p. 11 of 31	Residential	Large User	Residential	Large User
Residential		1,498,238,071		1,510,959,264	
Large User			1,011,627,005		1,020,566,402
Step 3 - Remove CDM Impact					
Residential	E3-T1-S2, p. 6 of 31	(22,709,000)		(35,842,920)	
Large User	E3-T1-S2, p. 6 of 31		(14,714,815)		(8,983,655)
	E3-T1-S2, p.29 of 31, Attach. 2&3	1,475,529,071	996,912,190	1,475,116,344	1,011,582,747
Step 4 - Remove Line Losses to obtain metered billed kWh					
Residential	E3-T2-S1, p.24-25 of 27, Attach. 10&11	1,424,255,860		1,423,857,475	
Large User (Note)			982,663,568		997,124,443
Step 5 – Convert consumption classes to demand					
Load Factor			79%		79%
Average Days per month			30.4		30.4
Hours per Day			24		24
Billed/Charge Determinant Volumes	E3-T2-S1, p.24-25 of 27, Attach. 10&11	1,424,255,860	1,712,059	1,423,857,475	1,737,267