99

TECO's Responses to Staff's Third Set of Interrogatories Nos. 10-15.

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 10
PAGE 1 OF 2
FILED: JULY 10, 2017

Fuel Price Forecasting

10. Please describe the steps the Company took to prepare its fuel price forecast for 2017. Discuss in your response whether any of the steps took to prepare this forecast were new or different from steps used in 2016, or in other prior periods.

A. Tampa Electric has used essentially the same steps in the same process for the generation of fuel price forecasts for several years including 2017 and 2016. (In this response, it is assumed "fuel price forecast for 2017" implies the fuel price forecast prepared in the summer of 2016 for setting the fuel clause factor projected for 2017.) The sources may change occasionally and the approach to "blending" forecasts may adjust with specific conditions, but the overall process remains unchanged and is consistent for both coal and natural gas. The eight-step process is described below.

1) Gather the best-available market indexes for the near-term fuel commodity prices. Depending on the source, this forecast covers the first 12 to 36 months of projections.
2) Gather a long-term fuel price forecast from an independent, well-respected third-party source.
3) Use the most recent Energy Information Administration ("EIA") Long-term Energy Outlook. The Long-Term Energy Outlook extends the fuel commodity price forecast beyond the end-point of the third-party long-term fuel commodity price forecast.
4) Blend the commodity price forecast to create reasonable transitions between forecast data points from the different sources.
5) Adjust the market prices to match qualities and location of specific commodities purchased for Tampa Electric to the extent actual quality or location is different than "market price" provided by source (e.g., basis for natural gas receipts, heat content for coal purchases).
6) Project the transportation costs incurred by Tampa Electric for specific commodity sources to the company's power generation plants based on existing transportation contracts and reasonable extrapolation of terms beyond existing contracts.
7) Compare the resulting Tampa Electric commodity price forecast against a collection of other independent sources to confirm reasonableness and avoid anomalous results.

1

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 10
PAGE 2 OF 2
FILED: JULY 10, 2017

8) Make final accounting refinements to ultimate "as burned" delivered fuel price to account for "non-market" costs such as hedging, other fixed costs, inventory effects for solid fuel, etc.

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 11
PAGE 1 OF 2
FILED: JULY 10, 2017

11.   List the "inputs" or sources of information the Company relied upon in order to prepare its fuel price forecast for 2017.

    a.   Identify each source of information the Company relied upon to prepare its fuel price forecast for 2017 and whether the source was internal or external.

    b.   Discuss whether each source of information the Company relied upon to prepare its fuel price forecast for 2017 used public or proprietary information.

    c.   Discuss whether each source of information the Company relied upon to prepare its fuel price forecast for 2017 was new or different from sources used in preparing the fuel price forecast for 2016, or in other prior periods.

A.   a.   Tampa Electric utilizes a Natural Gas ("NG") Model for its natural gas forecast. The NG Model is a Microsoft Excel spreadsheet that captures a variety of source material from market indices and existing contracts, including those listed below.
- NYMEX US Harbor ULSD #2 – External Source
- NYMEX Henry Hub Natural Gas Futures (via Marketview software) – External Source
- PIRA Annual Outlook for Natural Gas Scenario Planning Service (SPS Appendix file) – External Source
- 2017 EIA Annual Energy Outlook – External Source
- Gulfstream NG Contracts – Internal Source
- Florida Gas Transmission ("FGT") Contracts – Internal Source
- SESH Contract – Internal Source
- Transco Pipeline Contract – Internal Source
- Bay Gas Storage Contracts – Internal Source
- Hedge Contracts – Internal Source
- Propane Forecast (assumptions based on EIA escalation and ratio to No. 2 Oil) – External Source

For its coal forecasts, Tampa Electric utilizes a Coal Commodity Forecast model, which is a Microsoft Excel spreadsheet that captures a variety of source material from market indices and ties to both the NG Model and Coal Transportation spreadsheets.

3

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 11
PAGE 2 OF 2
FILED: JULY 10, 2017

- Coal Daily and ICAP Spot Coal Price Indices file – External Source
- PIRA Annual Outlook for Coal Scenario Planning Service (SPS Appendix file)- External Source
- EIA Coal Supply Disposition and Prices file (Annual) – External Source
- 2017 (Mar) Moody's Analytics 1) CPI less Energy and 2) PPI less Fuels – External Source

For its coal transportation costs, Tampa Electric utilizes a Coal Transportation model. The Coal Transportation model is a Microsoft Excel spreadsheet that captures source material from a variety of contracts related to solid fuel transportation and links to the NG Model.

- 2017 United Ocean Services Gulf Transportation Contract – Internal Source
- 2017 Ingram Contract – Internal Source
- 2017 (Mar) Moody's Analytics 1) CPI less Energy and 2) PPI less Fuels – External Source
- CSX Rail Transport Association of American Railroads ("AAR") – External Source
- CSX Master Agreement – Internal Source
- Dillon Trucking Agreement – Internal Source
- UBT Terminal Agreement– Internal Source

b. The NYMEX natural gas and oil future contract prices are public. These prices are openly traded and widely reported via the NYMEX and industry publications. The EIA fuel commodity price forecasts are also public. All other sources of data are proprietary to Tampa Electric or the source who requires a paid subscription to access them.

c. The external and internal sources were consistent for 2017 and 2016 with a few minor exceptions. For 2016 and several years prior, the source for the independent, third party long-term natural gas forecast was provided by Wood MacKenzie. For 2016, Tampa Electric used coal price forecasts from Doyle Trading Consultants as the source for both its short-term and long-term independent, third-party forecast. Prior to 2016, coal price forecasts were sourced from JD Energy and or Wood MacKenzie. For its 2017 fuel projection, the company switched to referencing Coal Daily as a source for all short-term pricing and PIRA for all long-term pricing.

4

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 12
PAGE 1 OF 1
FILED: JULY 10, 2017

12. Is the Company planning on introducing any new steps or sources of information it will rely upon to prepare its fuel price forecast for the projected year 2018? If so, please provide a detailed description of each new steps and/or sources.

A. The company does not plan to introduce any new steps or sources of information it will rely upon to prepare its fuel price forecast for the projected year 2018.

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 13
PAGE 1 OF 1
FILED: JULY 10, 2017

Forecasting megawatt-hour sales

13. Please describe the steps the Company used to prepare its forecast of megawatt-hour sales for 2017. Discuss in your response whether any of the steps used to prepare this forecast for 2017 were new or different from steps used in 2016, or in other prior periods.

A. Tampa Electric utilized a five-step process to prepare the forecast of the megawatt-hour sales for 2017. This process is the same process that was utilized in 2016 and in prior periods. The five-step process is described below:

1) Analyze the current situation and trends in the data to be forecasted (e.g. customers, energy consumptions). Review local construction and economic trends. Identify data anomalies and outliers such as extreme weather and/or structural changes in the data.
2) Complete a detailed analysis of the major assumptions used in the forecast models. Each assumption is reviewed for reasonableness and consistency with recent trends, including population, GDP, household income, degree days, appliance saturation and efficiency trends.
3) Develop exogenous forecasts. Project demand and energy impacts of rooftop solar, electric vehicles, interruptible and phosphate accounts, conservation and load management savings.
4) Software/model specification. Combine data, assumptions, and exogenous forecasts; estimate and validate models. Address data anomalies and issues identified in step 1 in the appropriate models.
5) Once models are validated and the individual forecast results are determined to be reasonable, the forecasts are aggregated and finalized.

6

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 14
PAGE 1 OF 2
FILED: JULY 10, 2017

14. List the "inputs" or sources of information the Company relied upon to prepare its megawatt-hour sales forecast for 2017.

   a. Identify each source of information the Company relied upon to prepare its megawatt-hour sales forecast for 2017 and whether the source was internal or external.

   b. Discuss whether each source of information the Company relied upon to prepare its megawatt-hour sales forecast for 2017 used public or proprietary information.

   c. Discuss whether each source of information the Company relied upon to prepare the its megawatt-hour sales forecast for 2017 was new or different from sources used in preparing the megawatt-hour sales forecast for 2016, or in other prior periods.

A. a. Tampa Electric relied upon the information sources listed below to prepare its megawatt-hour sales forecast for 2017.

   - Historical customer and energy consumption data – Internal

   - Price of electricity – Internal

   - Conservation and load management savings – Internal

   - Interruptible and Phosphate assumptions – Internal / customers

   - Solar rooftop historical data for installed PV size (kW) and customer growth – Internal

   - Electric vehicle sales growth – EIA

   - Electric vehicle manufacturing specifications for miles, kWh and kW per charge – weighted averages of Nissan, Chevrolet and Tesla representative models

   - Appliance saturation and efficiency – EIA

7

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 14
PAGE 2 OF 2
FILED: JULY 10, 2017

- Hillsborough County population projections – University of Florida's Bureau of Economic and Business Research ("BEBR")

- Hillsborough County employment, GDP, income – External, Moody's Analytics

- Daily temperatures – National Oceanic and Atmospheric Administration ("NOAA") - External

b.   The requested information is provided below.

Public data
Historical customer and energy consumption data
Conservation and load management savings (Ten Year Site Plan)
Interruptible and Phosphate assumptions (Ten Year Site Plan)
Electric vehicle sales growth (EIA)
Electric vehicle manufacturing specifications for miles, kWh and kW per charge (Nissan, Chevrolet and Tesla)
Appliance Saturation and Efficiency (EIA)
Hillsborough County population projections (BEBR)
Daily temperatures (NOAA)

Proprietary information
Price of electricity
Hillsborough County employment, GDP, income projections
Solar rooftop historical data for installed PV size (kW) and customer growth

c.   Each source of information the company relied upon to prepare the megawatt-hour sales forecast for 2017 is the same as the sources used in preparing the energy sales forecast for 2016 and prior periods.

8

TAMPA ELECTRIC COMPANY
DOCKET NO. 20170001-EI
STAFF'S THIRD SET OF
INTERROGATORIES
INTERROGATORY NO. 15
PAGE 1 OF 1
FILED: JULY 10, 2017

15.   Is the Company planning on introducing any new steps or sources of information
       it will rely upon to prepare its megawatt-hour sales forecast for the projected year
       2018? If so, please provide a detailed description of each new steps and/or
       sources.

A.   The company is not planning to introduce any new steps or sources of
       information in preparing the megawatt-hour sales forecast for the projected year
       2018.

9

A F F I D A V I T

STATE OF FLORIDA   )
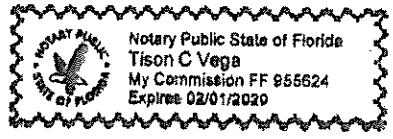   )
COUNTY OF HILLSBOROUGH)

Before me the undersigned authority personally appeared Penelope Rusk who deposed and said that she is Manager, Rates, Tampa Electric Company, and that the individuals listed in Tampa Electric Company's response to Staff's Third Set of Interrogatories, (Nos. 10 - 15) prepared or assisted with the responses to these interrogatories to the best of her information and belief.

Dated at Tampa, Florida this _10th_ day of July, 2017.

Penelope Rusk

Sworn to and subscribed before me this _10th_ day of July, 2017.

[signature]

My Commission expires _____