

State of Florida



## Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

**-M-E-M-O-R-A-N-D-U-M-**

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**DATE:** September 11 2018  
**TO:** Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk  
**FROM:** Takira Thompson, Engineering Specialist, Division of Engineering *TT POE*  
**RE:** Docket No. 20180000-OT - Undocketed filings for 2018.

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Please file the attached, "FPL – TYSP Staff's Supplemental Data Request #4," in the above mentioned docket file.

Thank you.

TTT/pz

Attachment

COMMISSIONERS:  
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STATE OF FLORIDA



DIVISION OF ENGINEERING  
TOM BALLINGER  
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## Public Service Commission

September 11, 2018

Ms. Lynne Adams  
Florida Power & Light  
[Lynne\\_Adams@fpl.com](mailto:Lynne_Adams@fpl.com)

VIA EMAIL

Dear Ms. Adams:

**Re: Review of the 2018 Ten-Year Site Plans for Florida's Electric Utilities Supplemental Data Request #4**

Please electronically file all responses to the attached Staff's Supplemental Data Request #4, no later than Tuesday, October 2, 2018, via the Commission's website at [www.floridapsc.com](http://www.floridapsc.com) by selecting the Clerk's Office tab and Electronic Filing Web Form. Please reference 20180000-OT (Undocketed filings for 2018). In addition, please email responses to Takira Thompson at [tthomps@psc.state.fl.us](mailto:tthomps@psc.state.fl.us).

If you have any questions, please contact Takira Thompson by phone at (850) 413-6592 or at the email address provided above, or contact Phillip Ellis by phone at (850) 413-6626 or by email at [pellis@psc.state.fl.us](mailto:pellis@psc.state.fl.us).

Sincerely,

A handwritten signature in blue ink that reads "Takira Thompson".

Takira Thompson  
Engineering Specialist  
Division of Engineering

TTT:pz

Enclosure

cc: Office of Commission Clerk (20180000-OT – Undocketed filings for 2018)

1. Please refer to Florida Power & Light Company's (FPL or Company) responses to Staff's Supplemental Data Request No. 1, response No. 70. Please discuss the decrease in the natural gas price (of -30 percent) from 2017 actual, to the 2018 projected value. As in, what are/were the drivers of this price difference?
  
2. Please refer to FPL's 2018-2027 Ten-Year Site Plan (2018 TYSP), page 28.
  - a. Indicated in the third paragraph appearing on page 28, is that FPL used IHS Markit's *October 2017* population forecast for the purposes of forecasting customers. Did the Company compare the population forecast sourced from IHS Markit (*October 2017*) to any other population forecast(s)? If so, please specify the forecast(s) source and briefly discuss the results of any analysis performed.
  
  - b. Does FPL develop high and low case scenarios of its expected population and average number of customers? If so, please explain the methodology used and detail any analysis results.
  
3. On page 27, FPL's 2018 TYSP states that, for the purpose of NEL forecasting, cooling degree-hours are based on thresholds set at 72 degrees Fahrenheit and 68 degrees Fahrenheit and winter heating degree-days are based on thresholds set at 62 degrees Fahrenheit and 66 degrees Fahrenheit. However, in FPL's answer pertaining to Question 6 of Staff's Supplemental Data Request No. 1, it is stated that NEL models are based on several weather variables "including cooling degree-hours based on 68 degrees F and heating degree-days based on 62 degrees F by calendar month, and a respective quadratic term for each." Please explain the disparity between the 2018 TYSP and this Data Request response, specifically as it pertains to the absence of cooling degree-hours threshold of 72 degrees F and a heating degree-days threshold of 66 degrees F. Additionally, please explain how adding quadratic terms enhances the predictability of FPL's NEL forecasts.
  
4. On page 29, FPL's 2018 TYSP states that residential electric usage per customer is estimated based on "cooling degree-hours and heating degree-days, dummy variables for January 2010 and November 2016, and an autoregressive term." In FPL's 2017 TYSP on page 31, the included variables are "cooling degree-hours, heating degree-days, electric prices, and Florida real per capita income weighted by the percentage of the population that is employed." Please explain the exclusion of electric prices and Florida real per capita income in the 2018 TYSP model and how this updated model accounts for variation in consumer income and employment as it relates to residential electric usage. Additionally, please provide an explanation for including dummy variables for January 2010 and November 2016.

5. On page 30, FPL's 2018 TYSP states that the small commercial sales model has been updated to include a dummy variable for September 2017 and to exclude "heating degree-hours, lagged cooling degree-hours, an electric price variable based on increases in the real price of electricity over time, and dummy variables for November 2005 and February 2016." Please provide a justification for why FPL does not include in the 2018 model a term to account for colder days requiring customer usage of heating nor variations in electric prices.
6. On page 30, FPL's 2018 TYSP states that there are multiple autoregressive terms in the commercial sales models for "medium"-sized accounts, here defined as 21 kW to 499 kW of demand. This is in contrast to FPL's 2017 TYSP on page 32, in which only one autoregressive term is implied. Please justify the inclusion of additional autoregressive terms.
7. On page 30, FPL's 2018 TYSP states that the commercial sales model for "large"-sized accounts, here defined as 500kW+ of demand, includes an autoregressive term. In the corresponding section on page 29 of FPL's 2017 TYSP, there is no mention of an autoregressive term in this model, but there are two electric price variables, one based on increases in the real price of electricity over time and one based on decreases in the real price of electricity over time. Please provide a qualitative explanation for these model changes.
8. In FPL's response to Staff's Supplemental Data Request No. 1, Question 6 under "System Summer Peak," FPL acknowledges the exclusion of the three-month average CPI for Energy. Please provide a qualitative explanation for this exclusion.
9. On page 35 of FPL's 2018 TYSP as well as in FPL's response to Staff's Supplemental Data Request No. 1, Question 6, it is stated that peak forecast models are adjusted to account for the City Of Vero Beach transaction. Please specify what this model adjustment entails and the size of the impact this transaction has on FPL's summer and winter peak demand.
10. On page 35 of FPL's 2018 TYSP, it is stated that the system load forecasting program used for hourly load forecasts is called MetrixLT. In FPL's 2017 TYSP on page 38, this program was defined as a "System Load Forecasting 'shaper'" program. Please specify if this is the same program, and if it is not, any potential differences in forecast outcomes as an effect of this program change.

11. On page 37 of FPL's 2018 TYSP, it is stated that "A P80 monthly peak forecast is provided to FPL's System Operations Group for operational planning purposes." This P80 forecast is not mentioned in the same section in FPL's 2017 TYSP on pages 38-39. Please explain the benefit of providing a P80 monthly peak forecast to FPL's System Operations Group.
  
12. According to Schedule 2.2, column (16), FPL experienced a decline in total energy sales to ultimate consumers, from 109,662 GWh in 2016, to 108,871 GWh in 2017. FPL forecasts continued decline in energy sales in the residential and commercial customer classes in 2018, followed by growth from 2019 (except for Industrial) through 2027.
  - a. Please explain the observed decline in total sales to ultimate customers in 2017.
  
  - b. Please explain the forecast continued decline in residential and commercial sales in 2018.
  
  - c. Why does FPL not expect that decline to persist in the residential and commercial classes after 2018?