State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER ● 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

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

DATE: August 9, 2018

TO: Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk

FROM: Takira Thompson, Engineering Specialist, Division of Engineering

RE: Docket No. 20180000-OT - Undocketed filings for 2018.

Please file the attached, "Gulf Power Company – TYSP Staff's Supplemental Data Request #2," in the above mentioned docket file.

Thank you.

TT/pz

Attachment

STATE OF FLORIDA

Public Service Commission

August 9, 2018

Ms. Holly Henderson   **VIA EMAIL**
Lisa Roddy
Gulf Power Company
HHENDERS@southernco.com
Lroddy@southernco.com

Dear Ms. Henderson and Ms. Roddy:

Re: Review of the 2018 Ten-Year Site Plans for Florida's Electric Utilities Supplemental Data Request #2

Please electronically file all responses to the attached Staff's Supplemental Data Request #2, no later than Wednesday, September 5, 2018, via the Commission's website at 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 tthompso@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.

Sincerely,

Takira Thompson
Engineering Specialist
Division of Engineering

TT:pz

Enclosure

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

1.   Please refer to Schedule 3.1 History and Forecast of Summer Peak Demand - MW Base
        Case, Column (2) Total, presented in Gulf Power Company's (Gulf or Company) 2017
        TYSP, page 31, and 2018 TYSPs, page 32, respectively. Please explain why each of the
        forecasted total summer peak demand levels presented in 2018 TYSP is lower than what
        had been forecasted in Gulf's 2017 TYSP (e.g., 2,887 MW vs. 2,958 MW for 2018),
        given that actual level of the peak demand does not show a significant decrease (e.g.,
        2017 actual 2,319 MW vs. 2017 TYSP forecasted 2,932 MW).

2.   With respect to the forecasting methodology, procedures, and models developed
        associated with Winter and Summer Peak Demand, please specify all the differences/
        modifications/ improvements, if any, between what used in Gulf's 2018 Ten Year Site
        Plan (TYSP) and Gulf's 2017 TYSP.

3.   For its 2018 TYSP, please identify and explain the measures and/or criteria, if any, Gulf
        used to ensure the models of peak demand adequately explain historical volatility and to
        enhance the forecasting accuracy.

4.   Please identify and explain the new measures, if any, Gulf used to address the uncertainty
        inherent in the process of peak demand forecasting for its 2018 TYSP.

5.   Please provide the Historical Forecast Accuracy associated with Gulf's Winter Peak Demand for the period 12-13 through 16-17 and Summer Peak Demand for 2013 – 2017.

Table 1. Accuracy of Gulf's Winter Peak Demand Forecasts

Forecast Actual	Winter Peak Demand Forecast Error Rate (%)					Average
	Forecasting Period Prior					
	5	4	3	2	1	
	2008 TYSP	2009 TYSP	2010 TYSP	2011 TYSP	2012 TYSP	–
21-13						
	2009 TYSP	2010 TYSP	2011 TYSP	2012 TYSP	2013TYSP	–
13-14						
	2010 TYSP	2011 TYSP	2012 TYSP	2013TYSP	2014 TYSP	–
14-15						
	2011 TYSP	2012 TYSP	2013 TYSP	2014 TYSP	2015 TYSP	–
15-16						
	2012 TYSP	2013 TYSP	2014 TYSP	2015 TYSP	2016 TYSP	–
16-17						

Table 2. Accuracy of Gulf's Summer Peak Demand Forecasts

Forecast Actual	Summer Peak Demand Forecast Error Rate (%)					Average
	Forecasting Period Prior					
	5	4	3	2	1	
	2008 TYSP	2009 TYSP	2010 TYSP	2011 TYSP	2012 TYSP	–
2013						
	2009 TYSP	2010 TYSP	2011 TYSP	2012 TYSP	2013TYSP	–
2014						
	2010 TYSP	2011 TYSP	2012 TYSP	2013TYSP	2014 TYSP	–
2015						
	2011 TYSP	2012 TYSP	2013 TYSP	2014 TYSP	2015 TYSP	–
2016						
	2012 TYSP	2013 TYSP	2014 TYSP	2015 TYSP	2016 TYSP	–
2017						

Fuel Forecast

6.   Please refer to Gulf's 2018-2027 Ten Year Site Plan (2018 TYSP). Did Gulf develop high and low case scenarios of forecasted fuel prices as part of its 2018 TYSP filing? If so, please explain the methodology used and detail any analysis results.

Customer Forecasts

7.   Please refer to Gulf's responses to Staff's 2018 TYSP First Supplemental Data Request, No. 6, and Gulf's 2018 TYSP, pages 15, and pages 29-31. Please explain, with specificity, how Gulf forecasts its expected population and number of customers for 2018-2027.

8.   Did Gulf perform high and low forecasts (or sensitivity analyses) of its expected number of customers? If so, please explain the methodology used and detail any analysis results.

Load Forecast

9.   Please refer to Gulf's 2018 TYSP, page 30. The industrial class "Average No. of Customers" for the years 2018-2027 appears to be held constant at 255. Please explain how the Company forecasts its expected number of industrial customers and why there is no change in the total number of industrial customers assumed over the 10-year period.

10.   On page 12, Gulf's 2018 TYSP states that there is "potential for inflation to accelerate due to tightening in the labor markets." Please describe the impact, if any, that potential inflation acceleration in the national economy on Gulf's load forecasts in the 2018 TYSP.

11.   On page 16, Gulf's 2018 TYSP states that residential energy sales forecasts ("monthly use per customer billing day") were based on historical data, normal weather, national energy efficiency standards, and price of electricity. In Gulf's 2017 TYSP, all these variables plus real disposable income per household were included in this forecast. If real disposable income per household was not included in Gulf's 2018 residential energy sales forecast, please provide the rationale for why it is no longer used for that purpose.

12.   On page 16, Gulf's 2018 TYSP states that residential energy sales forecasts ("monthly use per customer billing day") were based on historical data, normal weather, national energy efficiency standards, and price of electricity. In Gulf's 2017 TYSP, all these variables plus real disposable income per household were included in this forecast. Gulf acknowledges in the response to question 6 of Staff's First Data Request that, relative to the 2017 models, the 2018 residential short-term energy sales forecasts benefit from "shortening the historical period to 12 years from 20 years, removing the real disposable income per household variable, and adjusting certain binary variables" which improved the model fit "as measured by adjusted R-squared and Mean Absolute Percent Error (MAPE)." Please identify the specific differences between the 2017 and 2018 new model fit statistics listed. Additionally, please provide a rationale for excluding a proxy for consumer income from Gulf's short-term energy sales model, and explain how variations in consumer income is otherwise taken into account in the 2018 models.

13.   On page 17, Gulf's 2018 TYSP states that commercial energy sales forecast estimates are "based upon historical data, normal weather, changes in average lighting efficiencies, and price of electricity." In the 2017 TYSP, these variables were all included, except these models included "MSA-level GDP per capita" instead of "changes in average lighting efficiencies." Although Gulf acknowledges in their response to question 6 of Staff's First Data Request that, relative to the 2017 forecast models, the 2018 commercial small and large short-term commercial energy sales models "removed the real GDP per capita variable" and "add[ed] an energy efficiency variable based on changes in lighting technology," please provide an explanation for how Gulf's commercial energy sales forecasts are able to take into account variation in consumer income when forecasting commercial energy sales.

14.   On page 19, Gulf's 2018 TYSP states that wholesale energy forecasts are based upon historical data, normal weather, national energy efficiency standards, and county-level population. In the 2017 TYSP, these variables were all included, except "MSA-level GDP" was included instead of "national energy efficiency standards" and "county-level population." Please provide a qualitative explanation for why including energy efficiency standards improves the reliability of Gulf's wholesale energy forecasts.

15.   Please provide a comparison of Gulf's 2017 and 2018 TYSPs, identifying any notable differences.

16.   Has Gulf taken solar capacity degradation into account in its planning process? If so, please explain how degraded capacity values are calculated, what assumptions are required for calculating degraded capacity values, if solar degradation is taken into account in Gulf's cost-effectiveness evaluations, and what causes solar capacity degradation. If not, why not?