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**STEVE CRISAFULLI**  
*Speaker of the House of  
Representatives*



July 7, 2016

Ms. Carlotta Stauffer, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

**Re: Docket No. 160021, 160061-EI, 160062-EI and 160088-EI**

Dear Ms. Stauffer:

Please find enclosed for filing in the above referenced docket the Direct Testimony and Exhibits of **David E. Dismukes**. This filing is being made via the Florida Public Service Commission's Web Based Electronic Filing portal.

If you have any questions or concerns; please do not hesitate to contact me. Thank you for your assistance in this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Patricia A. Christensen", written over a horizontal line.

Patricia A. Christensen  
Associate Public Counsel

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Petition for rate increase by Florida Power  
Company

Docket No. 160021-EI

In re: Petition for approval of 2016-2018 storm  
hardening plan, by Florida Power & Light  
Company.

Docket No. 160061-EI

In re: 2016 depreciation and dismantlement  
study by Florida Power & Light Company.

Docket No. 160062-EI

In re: Petition for limited proceeding to modify  
and continue incentive mechanism, by Florida  
Power & Light Company.

Docket No. 160088-EI

Filed: July 07, 2016

**DIRECT TESTIMONY**

**OF**

**DAVID E DISMUKES**

**ON BEHALF OF THE CITIZENS OF**

**THE STATE OF FLORIDA**

**DIRECT TESTIMONY**

**OF**

**OF DAVID E. DISMUKES**

On Behalf of the Office of Public Counsel

Before the

Florida Public Service Commission

Docket No. 160021-EI, et al (consolidated)

1

2 **I. INTRODUCTION**

3 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4 A. My name is David E. Dismukes. My business address is 5800 One Perkins Place Drive,  
5 Suite 5-F, Baton Rouge, Louisiana 70808.

6

7 **Q. WOULD YOU PLEASE STATE YOUR OCCUPATION AND CURRENT PLACE**  
8 **OF EMPLOYMENT?**

9 A. I am a Consulting Economist with the Acadian Consulting Group (“ACG”), a research  
10 and consulting firm that specializes in the analysis of regulatory, economic, financial,  
11 accounting, statistical, and public policy issues associated with regulated and energy  
12 industries. ACG is a Louisiana-registered partnership, formed in 1995, and is located in  
13 Baton Rouge, Louisiana.

14

15 **Q. DO YOU HOLD ANY ACADEMIC POSITIONS?**

16 A. Yes. I am a full Professor, Executive Director, and Director of Policy Analysis at the  
17 Center for Energy Studies, Louisiana State University (“LSU”). I am also a full

1 Professor in the Department of Environmental Sciences and the Director of the Coastal  
2 Marine Institute in the School of the Coast and Environment at LSU. I also serve as an  
3 Adjunct Professor in the E. J. Ourso College of Business Administration (Department of  
4 Economics), and I am a member of the graduate research faculty at LSU. Attachment A  
5 provides my academic vitae, which includes a list all of my publications, presentations,  
6 pre-filed expert witness testimony, expert reports, expert legislative testimony, and  
7 affidavits.

8  
9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. I have been retained by the Florida Office of Public Counsel (“OPC”), on behalf of the  
11 Citizens of the State of Florida (“Citizens”), to provide an expert opinion to the Florida  
12 Public Service Commission (the “Commission” or “FPSC”) on Florida Power & Light  
13 Company’s (“FPL” or the “Company”) load forecast and test year billing determinants  
14 included in the Company’s rate case filing. I am also offering an opinion about the  
15 assumed inflation factor included in the Company’s rate case filing.

16  
17 **Q. CAN YOU PLEASE SUMMARIZE YOUR LOAD FORECASTING**  
18 **RECOMMENDATIONS?**

19 A. Yes. I recommend the Commission reject the Company’s energy sales forecast (also  
20 referred to as the “Net Energy for Load” or “NEL” forecast) as unacceptable for  
21 ratemaking purposes, and instead adopt the energy sales forecast included in the  
22 Company’s 2015 Ten Year Site Plan (“TYSP”). The 2015 TYSP energy sales forecast is  
23 virtually the same as the one filed later in the 2015 Okeechobee need determination. In

1 fact, the Commission approved the Okeechobee need determination based upon the fact  
2 that the energy and peak demand forecasts submitted in that proceeding were consistent  
3 with the 2015 TYSP forecasts. While the energy sales forecasts provided in the 2015  
4 TYSP and the Okeechobee need determination are comparable, neither of these forecasts  
5 are consistent with the energy sales forecasts filed in this rate case. In fact, the  
6 differences are quiet considerable, go far beyond updating the forecast models with more  
7 contemporaneous data, and have not been explained by the Company. Adoption of the  
8 2015 TYSP NEL forecast will increase test year weather-normalized retail delivered  
9 energy by 3,896 gigawatt-hours or 3.5 percent. Likewise, the proposed adjustment will  
10 increase subsequent year weather-normalized retail delivered energy by 4,882 gigawatt-  
11 hours, or 4.3 percent. The adjustment will decrease the Company's needed revenue  
12 requirement increase by \$206.5 million in 2017 and \$259.5 million in 2018.

13  
14 **Q. CAN YOU PLEASE SUMMARIZE YOUR INFLATION FACTOR**  
15 **RECOMMENDATIONS?**

16 **A.** I recommend the Commission adopt an inflation rate equal to a weighted average of the  
17 median result of the Wall Street Journal's June survey of economic analysts, and the  
18 official median projection of the Federal Open Market Committee ("FOMC") for use in  
19 computing expected near-term inflation. Specifically, I recommend a weighted average  
20 that places a 60 percent weighting on the forecasts of the FOMC and a 40 percent  
21 weighting on the forecasts of other industry professionals. This results in a 2016 general  
22 price inflation of 1.44 percent, and a subsequent 2017 general price inflation of 2.06  
23 percent. I additionally recommend this 2.06 percent level be maintained for 2018,

1 consistent with the FOMC's long-term monetary policy of maintaining a 2.0 percent rate  
2 of general price inflation. This inflation estimate is used in estimating the Company's  
3 operations and maintenance ("O&M") cost benchmark and is also used by other OPC  
4 witnesses in the development of their test year expense recommendations.

5  
6 **Q HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?**

7 A. The second section of my testimony addresses the Company's load forecast while the  
8 third section of my testimony addresses the Company's proposed inflation factor in this  
9 proceeding.

10  
11 **II. COMPANY'S LOAD FORECASTING PROCESS**

12 A. Discussion of the Company's Forecasting Process

13 **Q PLEASE EXPLAIN THE COMPANY'S CUSTOMER AND SALES**  
14 **FORECASTING PROCESS.**

15 A. The Company's forecasting process involves multiple econometric models for customer  
16 growth, future electric load requirements, and winter/summer peak load requirements.  
17 The Company notes that the forecasts included in its rate filing are the same as those used  
18 for all business purposes<sup>1</sup> including those used for generation planning purposes and its  
19 TYSP filing.

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<sup>1</sup> Direct Testimony of Rosemary Morley, at p. 9, lines 12-13.

1 **Q. PLEASE EXPLAIN HOW THESE FORECASTING MODELS ARE**  
2 **ORGANIZED.**

3 A. The Company's load forecasting models can be grouped into three categories. First,  
4 there are 13 separate customer and sales models estimating individual monthly customer  
5 and energy sales by major customer class (e.g. residential, small commercial, large  
6 commercial, small industrial, and large industrial). Second, the Company has two peak  
7 demand models to estimate summer and winter peaks. Finally, there is the Net Energy  
8 for Load ("NEL") model that estimates aggregate monthly energy requirements. The  
9 NEL model is estimated separately from the Company's monthly customer class sales  
10 models (which estimate energy on a per-class, as opposed to aggregate, basis), so any  
11 discrepancy between the two models (i.e., the sum of the individual customer class  
12 models versus the results from the aggregate energy sales, or NEL model) is allocated on  
13 an equal percentage basis between the Company's residential and commercial classes.<sup>2</sup>

14  
15 **Q. PLEASE DISCUSS THE COMPANY'S NEL FORECAST.**

16 A. The Company's aggregate energy sales forecast, or its NEL forecast, is estimated on a  
17 per-customer basis utilizing an econometric process with 23 separate independent  
18 variables.<sup>3</sup> Most of these variables control for monthly cooling and heating requirements  
19 across four months (December, January, February, and March). The remaining seven  
20 variables are included to: measure the impact of energy efficiency codes and standards;  
21 the impact of changes in real electricity prices and per capita income; a dummy variable  
22 to account for the presence of a leap year; and a first-order auto-regressive term.

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<sup>2</sup> See FPL Response to Staff's Third Set of Interrogatories, Interrogatory No. 67.

<sup>3</sup> Direct Testimony of Rosemary Morley, at p. 8, lines 8-9; and Petition, Schedule F-5.

1 **Q. PLEASE DEFINE WHAT IS MEANT BY AN AUTOREGRESSIVE MODEL.**

2 A. An autoregressive model refers to an econometric model that conditions future  
3 occurrences on past observations. Thus, the Company's NEL forecast assumes that its  
4 overall load requirement in any given month is partially dependent on its load  
5 requirement in the previous month, in addition to a baseline load requirement. In other  
6 words, the Company assumes that deviations in load in any given month other than that  
7 explained by weather, economic, or efficiency standards, partially persist in the next  
8 month and influence the Company's load requirement in that month.

9

10 **Q. PLEASE DISCUSS THE COMPANY'S SUMMER PEAK DEMAND FORECAST.**

11 A. The Company's summer peak demand forecast is also estimated on a per-customer basis  
12 and utilizes an econometric process based on historical information. The Company's  
13 summer peak demand model contains seven independent variables that include two  
14 variables to account for weather fluctuations, as well as three other variables to account  
15 for the effect of more stringent energy efficiency codes and standards on peak usage, the  
16 effect of energy price inflation on consumer demand, and the effect of economic growth  
17 through increased household disposable income. The final two variables in the  
18 Company's model are dummy variables for the years 1990 and 2005 that are used to  
19 specifically control for historical summer peaks seen in these years.<sup>4</sup>

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<sup>4</sup> The Company failed to provide adequate documentation through testimony, discovery, or its Minimum Filing Requirements regarding its reason for the 1990 and 2005 dummy variables.

1 **B. Problems with the Company's Proposed Forecast**

2 **Q. WHAT EVIDENCE DOES THE COMPANY OFFER AS SUPPORT FOR ITS**  
3 **CUSTOMER AND SALES FORECASTS?**

4 A. The Company notes that in 2015 it saw a 1.4 percent growth in customers. The Company  
5 forecasts customer growth at a compound annual rate of 1.5 percent per year during the  
6 2015-2020 period. Likewise, the Company states that weather-normalized retail-  
7 delivered sales grew at a 0.8 percent compound rate between 2011 and 2015 and projects  
8 a weather-normalized retail delivered sales growth rate of 0.7 percent on a compounded  
9 basis between 2015 and 2020.

10  
11 **Q. IS THE COMPANY'S LOAD PROJECTIONS CONSISTENT WITH**  
12 **HISTORICAL TRENDS?**

13 A. No. The Company's appeal to historic trends as support for its overall forecast hides a  
14 number of problems. These historic comparisons, for instance, are done on an aggregate  
15 basis across a five year time period, not individually for each year. For instance, the  
16 Company's analysis compares growth rates for the 2011-2015 time period to those  
17 expected to arise during the 2015-2020 time period. The Company's forecasting  
18 discussion includes no annual comparisons across this broad 2015-2020 time period.  
19 Most importantly, the Company fails to highlight the specific forecasting results for its  
20 2017 test year and its proposed 2018 adjustment and how those forecasting results  
21 compare to annual historic trends.

1 **Q. HAVE YOU PREPARED A COMPARISON OF HISTORIC WEATHER-**  
2 **NORMALIZED SALES TO PROJECTED SALES?**

3 A. Yes. This comparative analysis is presented in Exhibit DED-1 and is comprised of two  
4 pages. The first page examines the historic and expected trends in the Company's retail  
5 delivered sales for the years 2011-2020. The second page of the exhibit examines the  
6 historic and anticipated trends in total sales for the years 2011-2020. For clarification,  
7 retail delivered sales are defined as being exclusive of the Company's wholesale  
8 contracts, whereas the Company's total sales is inclusive of these wholesale contracts.

9  
10 **Q. WHAT DOES THIS COMPARISON SHOW?**

11 A. Exhibit DED-1 highlights some important problems with the Company's sales  
12 projections, particularly as they relate to recent historical trends. The Company, for  
13 instance, projects that its retail delivered sales for its 2017 test year will be 0.16 percent  
14 less than what was reported in 2016, and 0.55 percent less than sales reported for 2015.  
15 Furthermore, the Company projects that its 2018 retail delivered sales will only be 0.58  
16 percent greater than its 2017 projection (which itself is anticipated to fall relative to  
17 2016). This projected decline in energy sales is even more prevalent when the forecast  
18 for wholesale sales are included (page 2 of Exhibit DED-1), wherein the Company  
19 projects that it will not reach its 2015 level of delivered sales until 2019, well after the  
20 end of its projected test year, and subsequent adjustment, in this proceeding. In other  
21 words, the Company is anticipating a contraction (decrease) of overall sales relative to  
22 reported 2015 numbers, and that its overall sales numbers will not recover until 2019.

23

1 **Q. HAVE YOU DONE ANY COMPARISONS BETWEEN THE COMPANY'S NEL**  
2 **FORECASTS AND ITS PEAK LOAD FORECASTS?**

3 A. Yes. Exhibit DED-2 compares the percentage growth in the Company's NEL forecast to  
4 its projections for total customers and summer peak demand. The comparison shows  
5 continual and consistent customer and peak demand growth, but not continual and  
6 consistent sales growth. Specifically, the Company expects 2016 customer growth of  
7 1.45 percent, and 2017-2018 customer growth of 1.48 percent. Likewise, the Company  
8 projects its summer peak to increase by 5.27 percent in 2016, 0.69 percent in 2017, and  
9 1.11 percent in 2018. In all future years, 2016-2018, the Company forecasts both a  
10 growing customer base and a growing peak load requirement. The Company's sales  
11 estimated from its NEL model, on the other hand, are inconsistent with those estimated in  
12 the customer and peak demand models. The Company forecasts a decrease, not an  
13 increase, in its energy sales of 0.28 percent and 0.66 percent in 2016 and 2017,  
14 respectively. Energy sales are forecast to increase, at a very tepid rate of 0.62 percent in  
15 2018. Thus, the Company's customer and peak demand forecasts are moving in one  
16 direction (upwards) while its energy sales forecasts are estimated to move in an entirely  
17 opposite direction (downwards).

18  
19 **Q. IS THERE AN INCONSISTENCY BETWEEN THE COMPANY'S SALES AND**  
20 **PEAK DEMAND FORECASTS?**

21 A. Yes, there appears to be a serious disconnect between the Company's peak demand,  
22 customer, and sales forecasts. The Company anticipates relatively strong and consistent  
23 customer and peak demand growth; however, at the same time, it anticipates flat sales

1 growth (excluding wholesale sales) relative to 2015 levels. If the Company's rate case  
2 forecasts are accurate, then it would imply that its system average load factor, a degree of  
3 aggregate demand efficiency, is falling, not increasing.

4  
5 **Q. PLEASE DEFINE WHAT IS MEANT BY A "LOAD FACTOR."**

6 A. A load factor is defined as the ratio of the average load to the peak or maximum load.<sup>5</sup> A  
7 utility's annual average load factor is expressed as a percentage and is derived by  
8 dividing system energy sales by the product of peak demand and the number of hours in  
9 the year.<sup>6</sup> A system that is estimated to have a high load factor is often thought to be  
10 utilizing electricity more efficiently since electric use is relatively consistent and does not  
11 swing between average and peak periods by any considerable level.<sup>7</sup> Conversely,  
12 systems with low load factors must maintain idle capacity in order to meet the relatively  
13 large swings in load between average and peak periods.

14  
15 **Q. HAVE YOU ANALYZED THE COMPANY'S HISTORIC AND PROJECTED**  
16 **SYSTEM LOAD FACTORS?**

17 A. Yes, and this analysis is shown in Exhibit DED-3. Over the period 2008 to 2015, the  
18 Company's annual system load factor has remained stable with no clear upward or  
19 downward trend. Indeed, during the eight years 2008 through 2015, the Company's  
20 annual system load factor averaged 58.77 percent, ranging from a 2009 low of 56.81

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<sup>5</sup> Electric Utility Cost Allocation Manual (January 1992), National Association of Regulatory Utility Commissioners, p. 168.

<sup>6</sup> Electric Utility Cost Allocation Manual (January 1992), National Association of Regulatory Utility Commissioners, p. 82.

<sup>7</sup> Managing Your Electrical Demand, Penn State Extension, available online at: <http://extension.psu.edu/natural-resources/energy/energy-use/resources/farm-program/educational-materials/managing-your-electrical-demand>

1 percent to a 2008 high of 60.22 percent: a relatively tight spread of around 3.4 percent  
2 from the high to low observations. The Company's forecasts filed in this proceeding,  
3 however, suggests that its 2016 system average load factor will decline to 56.50 percent.  
4 This decrease is some 2.27 percent below the eight year average, and 0.31 percent below  
5 the lowest load factor (56.81 percent) recorded by the Company over the recent past.

6  
7 **Q. IS 2016 THE ONLY YEAR PROJECTED TO SEE SUCH A SIGNIFICANT LOAD**  
8 **FACTOR DECREASE?**

9 A. No. The Company projects its annual load factor to continue to decline on a forward-  
10 going basis, dropping each and every year for the foreseeable future. By 2025 the  
11 Company forecasts its load factor to reach a level of 53.5 percent, some 5.3 percent  
12 below the average over the past eight years, and some 3.3 percent below the lowest load  
13 factor ever recorded over the past eight years. Such a forecast implies that either (a) the  
14 Company is about to witness a significant and consistent reduction in end-use efficiency  
15 that will have considerable cost and generation resource planning implications or (b) the  
16 Company's projections, particularly its load projections arising from its NEL model, are  
17 significantly understated.

18  
19 **Q. DO THE OTHER FLORIDA INVESTOR-OWNED UTILITIES PROJECT**  
20 **SIMILAR TRENDS?**

21 A. No. Exhibit DED-4 provides both a table and a chart comparing FPL's projected load  
22 factor trends relative to other Florida electric investor-owned utilities ("IOUs"). All of  
23 the other IOUs are projecting load factors that are generally within their historic high/low

1 ranges. FPL, on the other hand, is the only Florida IOU projecting a consistently  
2 decreasing load factor over the 2016 to 2025 time period.

3  
4 **Q. DID YOU ADJUST THE COMPANY'S FORECAST DATA FOR WEATHER?**

5 A. Yes. The data used in the Company's forecast is not weather-normalized. Instead, it uses  
6 a series of weather-related variables to estimate the impact of weather on usage. Thus,  
7 the historic data used in the above comparisons, which comes from the Company's input  
8 data and forecasting results, are not controlled directly for weather. In looking at the  
9 2015 data, Florida experienced one of the warmest Aprils on record resulting in large  
10 electricity loads for that month. Exhibit DED-5, however, examines the Company's  
11 historic averages and projections on a weather-normalized basis and shows results similar  
12 to the ones discussed earlier (i.e., declining load factor). On a weather-normalized basis,  
13 the Company's projections imply that its load factors, for each of the next three years  
14 (2016, 2017, and 2018), will be lower than any other reported since 2009 (over the past  
15 six years).

16  
17 **Q. HAS THE COMPANY PROVIDED ANY EVIDENCE THAT THESE LOAD  
18 FACTOR DECREASES COULD BE ATTRIBUTABLE TO ITS ENERGY  
19 EFFICIENCY EFFORTS?**

20 A. No. However, the Company's energy sales forecast and peak demand models do contain  
21 adjustments for energy efficiency. Exhibit DED-6 estimates the forward-looking load  
22 factors removing the potential impacts associated with energy efficiency. Even  
23 correcting for energy efficiency activities and the weather, the Company's projected

1 system average load factor will consistently be at levels below any it has seen over the  
2 past eight years, with the exception of 2009.

3  
4 **Q. WHAT WOULD BE THE BILLING DETERMINANT ADJUSTMENT IF THE**  
5 **COMPANY'S PROJECTED ENERGY SALES WERE INCREASED TO BRING**  
6 **ITS LOAD FACTORS INTO HISTORIC NORMS?**

7 A. Exhibit DED-7 provides an estimate of the billing determinant impacts of raising the  
8 Company's energy sales forecasts to levels comparable with its historic load factor  
9 trends. The exhibit compares the Company's projected test year billing determinants to  
10 those that would arise if its system average load factor in the respective forecast year  
11 were comparable to the 2011-2015 average (58.87 percent). The difference is an  
12 estimated shortfall of 6,677 gigawatt-hours of electricity sales in 2017, and 7,340  
13 gigawatt-hours of electricity sales in 2018. This suggests that the NEL forecasts need to  
14 be 5.6 and 6.1 percent higher over the two rate years in order to bring the Company's  
15 estimated load factor in line with historical averages.

16  
17 **C. Differences between Current and Prior Company Load Forecasts**

18 **Q. ARE THE COMPANY'S CURRENT FORECASTS CONSISTENT WITH THOSE**  
19 **FILED IN OTHER RECENT COMMISSION PROCEEDINGS?**

20 A. No. The Company's load forecasts in this proceeding differ from the ones it filed in (1)  
21 its most recent Okeechobee need determination and (2) its most recently-approved TYSP  
22 (2015). The Company has failed to provide any information explaining the differences

1 between the currently-filed load forecast and the one included in these two prior  
2 proceedings, despite claims that:

3 [t]he evidence presented to the Commission in the  
4 Okeechobee Need Determination docket was updated to  
5 reflect this October 2015 load forecast. . . . with the  
6 exception of a new price of electric projection, . . . the  
7 models and assumptions incorporated into the October  
8 2015 load forecasts are identical to those utilized in the  
9 load forecast supported in the current proceeding.<sup>8</sup>

10  
11 **Q. WERE THE OKEECHOBEE NEED DETERMINATION AND THE 2015 TYSP**  
12 **LOAD FORECASTS FILED OVER A RELATIVELY CONTEMPORANEOUS**  
13 **TIME PERIOD?**

14 **A.** Yes. The Company filed two NEL and peak demand forecasts with the Commission over  
15 a 12 month period prior to this rate case. The first set of forecasts (NEL and peak  
16 demand) were filed in the 2015 TYSP proceeding. The second set of forecasts were filed  
17 five months later during the Commission's investigations into the Company's 2015  
18 Okeechobee need determination.<sup>9</sup> The Company indicated in the Okeechobee need  
19 determination that the load forecasts supporting its generation need (filed in that  
20 proceeding) were virtually the same as the ones included in the TYSP.<sup>10</sup> While it is true  
21 that both of these forecasts (Okeechobee need determination and TYSP) are relatively  
22 comparable to one another, they differ considerably, both in form and results, from the  
23 load forecast provided in this rate case, particularly the NEL forecast provided in the

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<sup>8</sup> Direct Testimony of Rosemary Morley, at p. 10, lines 3-12

<sup>9</sup> See, In re: Petition for Determination of Need for Okeechobee Clean Energy Center Unit 1, by Florida Power & Light Company Docket No. 150196-EI, Petition.

<sup>10</sup> See, In re: Petition for Determination of Need for Okeechobee Clean Energy Center Unit 1, by Florida Power & Light Company Docket No. 150196-EI, Direct Testimony of Richard Feldman, at p. 29, lines 11-14; See also, In re: Petition for Determination of Need for Okeechobee Clean Energy Center Unit 1, by Florida Power & Light Company Docket No. 150196-EI, Company's response to Staff's First Set of Interrogatories No. 9.

1 instant proceeding. In fact, the sales (NEL) forecast included in the current rate case is  
2 projected to be over six percent less in 2023 than what was filed in the 2015 TYSP and  
3 2015 Okeechobee need determination proceedings.

4  
5 **Q. DID THE COMPANY CLAIM THE LOAD FORECAST FILED IN THIS RATE**  
6 **CASE WAS THE SAME AS WHAT WAS FILED IN THE 2015 OKEECHOBEE**  
7 **NEED DETERMINATION?**<sup>11</sup>

8 A. Yes. The Company states that, with the exception of one minor change, its current model  
9 is identical to that filed by the Company in its 2015 Okeechobee need determination, and  
10 makes allusions to it being essentially the same as the 2015 TYSP.<sup>12</sup> The Company,  
11 however, provides no narrative nor quantitative comparison of its current load forecasts  
12 to its 2015 TYSP. However, in response to discovery, the Company provided a  
13 workpaper that included such a comparative analysis.<sup>13</sup>

14  
15 **Q. HOW DID THE COMPANY'S RATE CASE FORECAST DIFFER FROM THE**  
16 **PRIOR 2015 TYSP AND OKEECHOBEE NEED DETERMINATION**  
17 **FORECASTS?**

18 A. The Company's own comparison of the load forecast filed in this proceeding to the one  
19 included in the 2015 TYSP, shows that, on a weather-normalized retail delivered basis,  
20 the Company's current (rate case) load forecast is between 1.5 percent and 6.0 percent  
21 lower than the one included in the 2015 TYSP. With regards to the Company's 2017 test

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<sup>11</sup> Direct Testimony of Rosemary Morley, at p. 10, lines 3-12.

<sup>12</sup> Direct Testimony of Rosemary Morley, at p. 10, lines 3-12.

<sup>13</sup> Company's response to OPC First Request for Production of Documents, POD OPC-2, "Peak and Energy Jan 2016 TYSP LT Price True-Up.xlsx."

1 year in particular, the forecast filed in this proceeding estimates load being 3,896  
2 gigawatt-hours lower, or 3.5 percent lower than the 2015 TYSP. This discrepancy grows  
3 to being 4,882 gigawatt-hours lower, or 4.3 percent lower, for the 2018 rate adjustment  
4 year.

5  
6 **Q. DID THE COMMISSION BASE ITS DECISION IN THE COMPANY'S**  
7 **OKEECHOBEE NEED DETERMINATION ON THE LOAD FORECASTS**  
8 **PROVIDED IN THAT PROCEEDING?**

9 A. Yes. The Commission's approval for the new generation resource is clearly conditioned  
10 on the originally-filed load forecasts in the Okeechobee need determination since the  
11 Order explicitly notes that the approval is based upon the fact that the Okeechobee need  
12 determination forecast results are virtually the same as those included in the Company's  
13 2015 TYSP.<sup>14</sup> The Commission noted in its Okeechobee need determination Order that  
14 the Company's expected growth in its peak demand and NEL were driven mainly by an  
15 expected growth in its customer base of approximately 1.3 percent per year.<sup>15</sup> Thus, the  
16 Commission acknowledged in its Order that trends in NEL growth should be consistent  
17 with those reported for customer growth and peak demand growth.<sup>16</sup> A result that differs  
18 significantly from the energy sales forecast (NEL forecast) filed in the instant rate case.

19  

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<sup>14</sup> In re: Petition for Determination of Need for Okeechobee Clean Energy Center Unit 1, by Florida Power & Light Company, Order No. PSC-16-0032-FOF-EI, issued January 19, 2016, Docket No. 150196-EI, at p. 6 ("Okeechobee Need Determination Order" or "Order").

<sup>15</sup> Okeechobee Need Determination Order at p. 7.

<sup>16</sup> Okeechobee Need Determination Order at pp. 8-9.

1 **Q. DID ANY PARTIES RAISE QUESTIONS ABOUT THE ACCURACY OF THE**  
2 **COMPANY'S PEAK DEMAND FORECAST IN THE OKEECHOBEE**  
3 **PROCEEDING?**

4 A. Yes. The Company's peak demand forecast was challenged as being over-stated by  
5 Environmental Confederation of Southwest Florida ("ECOSWE").<sup>17</sup> The Commission  
6 explicitly rejected these arguments siding with the Company, and stating its belief that  
7 the Company's peak demand forecasts were accurate, noting:

8 [b]eginning with planning year 2009, FPL's forecasting error was  
9 significantly reduced, and the variance between the projected and  
10 actual summer peak demand started to show both over- and under-  
11 forecasting. Three out of ten of the "five years out" forecasts, for  
12 the period of 2005 through 2014, were under-forecasts . . . , which  
13 demonstrates that FPL's "five years out" forecasts are not  
14 consistently over-forecasts, as ECOSWF asserted. The cumulative  
15 number of over- and under- forecasts for one to five years out . . .  
16 also indicate that FPL's overall summer peak demand forecasts  
17 show almost an equal chance of an over-forecast or an under-  
18 forecast, which demonstrates that no systematic over-forecasting or  
19 under-forecasting is taking place.<sup>18</sup>

20  
21 **Q. WAS THE COMMISSION'S OKEECHOBEE NEED DETERMINATION**  
22 **DECISION BASED IN ANY WAY ON THE FACT THAT THE LOAD**  
23 **FORECASTS INCLUDED IN THAT PROCEEDING WERE CONSISTENT**  
24 **WITH THE 2015 TYSP?**

25 A. Yes. The Commission explicitly noted:

26 FPL's load forecasts in this proceeding are the same forecasts FPL  
27 presented in its 2015 Ten-Year Site Plan (TYSP). These forecasts  
28 are generated using econometric models, including customer  
29 models, summer and winter peak demand per customer models,

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<sup>17</sup> See, Okeechobee Need Determination Order at p. 7.

<sup>18</sup> Okeechobee Need Determination Order at p. 8.

1 and a net energy for load (NEL) per customer model. FPL asserts  
2 that we have consistently relied on these models for various  
3 forecasting purposes, and the modeling results have been reviewed  
4 and accepted by us in past proceedings.<sup>19</sup>

5 \* \* \*

6 In summary, we analyzed FPL's load forecasting models and  
7 found the models to be appropriate for forecasting purposes in the  
8 instant proceeding. We also reviewed the forecast assumptions of  
9 anticipated economic and demographic conditions, as well as the  
10 [out-of-model] adjustments FPL made to its estimates produced by  
11 the forecasting models, and found the assumptions and adjustments  
12 used by FPL appropriate. Finally, we note that none of the  
13 intervenors in this proceeding proffered any forecasting model or  
14 forecasts of FPL's customers, summer peak demand, and net  
15 energy for load. No intervenor challenged FPL's methodology,  
16 input data, assumptions, or out-of-model adjustments used to  
17 project load. Therefore, based on the record, we find FPL's load  
18 forecasts appropriate for consideration in this proceeding.<sup>20</sup>

19  
20 **Q. HAVE YOU COMPARED THE COMPANY'S 2015 TYSP LOAD FORECASTS**  
21 **TO THE ONE SUBMITTED IN THIS PROCEEDING?**

22 **A.** Yes, and the comparisons of summer peak demand and NEL forecasts from the two  
23 proceedings are included in Exhibit DED-8. While there are some differences between  
24 the two peak demand forecasts, those differences are relatively small. For instance, the  
25 Company's rate case 2017 peak demand forecast is slightly higher by 0.35 percent, while  
26 its rate case 2018 summer peak forecast is down by 0.17 percent relative to what it filed  
27 in its 2015 TYSP. The large difference, however, is between the two NEL forecasts. The  
28 Company's current rate case NEL forecast for 2017 and 2018 are understated by more  
29 than four percent relative to the NEL forecast it provided in its 2015 TYSP.

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<sup>19</sup> Okeechobee Need Determination Order at p. 6.

<sup>20</sup> Okeechobee Need Determination Order at p. 9.

1 **Q. DID THE COMPANY'S 2015 TYSP INCLUDE ANY DECLINING SYSTEM**  
2 **LOAD FACTOR ESTIMATES?**

3 A. No, and I have provided a comparison of the two forecasts (2015 TYSP versus the  
4 current rate case) in Exhibit DED-9. The load factor implied by the Company's TYSP  
5 (NEL load divided by peak) is very comparable to the 2011-2015 historic average of  
6 58.77 percent I discussed earlier. In fact, the forecast included in the 2015 TYSP shows  
7 relatively consistent and reasonable load factor projections that range between 56.8 and  
8 58.3 percent for the 2016-2024 time period. In other words, the implied load factors  
9 included in the 2015 TYSP are consistent with the historic averages and trends over the  
10 past decade; however, the one included in this rate case is not. As I noted earlier, the  
11 Company's annual average load factor is calculated as the quotient of its annual load and  
12 its peak demand (times the number of hours in the year). The implied load forecast  
13 estimated from the Company's load forecast and peak demand forecasts reveals trends  
14 that are dramatically at odds with historic trends. This leads to one of the following  
15 conclusions that either (1) the Company's NEL forecast is in error in this proceeding or  
16 (2) the Company's peak demand forecast is in error in this proceeding. However, the  
17 weight of the evidence suggests that it is the Company's NEL forecast that is in error  
18 since (1) the peak demand forecast included in this proceeding is relatively consistent  
19 with the peak demand forecasts in the Okeechobee need determination and the 2015  
20 TYSP, and (2) the Commission explicitly found that the peak demand forecasts in the  
21 TYSP and the Okeechobee need determination were appropriate. Thus, the Company's  
22 NEL forecast needs to be adjusted for ratemaking purposes in this proceeding.

1 **Q. HAVE YOU EXAMINED ANY OTHER INFORMATION THAT INDICATES**  
2 **THE COMPANY'S RATE CASE NEL FORECAST IS FLAWED?**

3 A. Yes. I also compared the Company's NEL forecast to the sum of its individual revenue  
4 class models and these results are provided in Exhibit DED-10. These revenue class  
5 models, as I indicated earlier, estimate the energy requirements for most major customer  
6 classes: residential; small commercial and large commercial.<sup>21</sup> These revenue class  
7 models can be thought of as a "bottoms-up" approach to estimating total retail energy  
8 sales requirements since they model energy usage at the major customer class level and  
9 can then be summed to arrive at an alternative estimate of the Company's overall energy  
10 sales requirements. These revenue class models, however, are not used in estimating  
11 total billing determinants, but instead are used to allocate the total retail sales forecast  
12 arising from the NEL model to each major customer class.<sup>22</sup> However, the results from  
13 both sets of models (NEL versus revenue class models) should be, in theory, close to one  
14 another if they are intended to be accurate, unbiased estimates for future load, regardless  
15 of whether that is load is estimated in the aggregate (NEL forecast) or on a per revenue  
16 class basis.

17  
18 **Q. WHAT DOES THE COMPARISON BETWEEN THE NEL AND REVENUE**  
19 **CLASS FORECASTS SHOW?**

20 A. The comparison shows that the NEL model is significantly under estimating total retail  
21 sales by as much as two percent in 2016, three percent in 2017 and more than four  
22 percent in 2018. The revenue class models, collectively, estimate retail sales that start

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<sup>21</sup> Petition, Schedule F-5.

<sup>22</sup> See, Direct Testimony of Rosemary Morley, at p. 38, line 12, to p. 39, line 2.

1 around 115 million MWhs in 2015 and increase to 119 million MWhs in 2018. The  
2 Company's NEL model, which it uses for billing determinant purposes, estimates retail  
3 sales at around 114 million MWhs for the entire period 2015 to 2018.

4  
5 **Q. DID THE COMPANY'S LAST RATE CASE REPORT SUCH LARGE**  
6 **DIFFERENCES BETWEEN THE NEL AND REVENUE CLASS ENERGY**  
7 **SALES FORECASTS?**

8 A. No. Exhibit DED-11 compares the Company's NEL and revenue class forecast  
9 reconciliations in the last rate case to the current rate case. In the Company's last rate  
10 case, its NEL forecast was only 1.5 percent lower than the sum of its revenue class  
11 models. That percent difference is more than twice as large in the instant rate case,  
12 clearly indicating that something is amiss with the Company's current rate case NEL  
13 forecast.

14  
15 **Q. HAVE YOU COMPARED THE COMPANY'S CURRENT RATE CASE**  
16 **FORECAST TO THE ONE IT RECENTLY SUBMITTED IN ITS 2016 TYSP**  
17 **FILING?**

18 A. Yes, and the NEL forecast provided in the Company's recent 2016 TYSP is just as  
19 flawed as the one included in the current rate case. In fact, it appears that the load  
20 forecasts included in the instant rate case proceeding are very similar, if not the same as  
21 those included in the Company's 2016 TYSP. Like the forecasts included in the instant  
22 proceeding, the Company's 2016 TYSP contains a load forecast that the Company  
23 describes as "moderately lower over the long-term" relative to that forecasted by the

1 Company in its 2015 TYSP.<sup>23</sup> It is my understanding, however, that the 2016 TYSP  
2 forecast is still under review by the Commission and that its usefulness for planning  
3 purposes has yet to be determined. Thus, my recommendation is that the Commission,  
4 for purposes of this rate case, continue to rely upon the load forecasts included in the  
5 prior-approved 2015 TYSP, and not those provided in the instant rate case, nor the 2016  
6 TYSP. While TYSP forecasts are not officially “approved” by the Commission, the  
7 forecasts included in the 2015 TYSP can be thought of as “approved” since they form  
8 part of the evidentiary support for the Commission’s decision authorizing the  
9 development of the Okeechobee generation facility.

10  
11 **D. Recommendations Regarding the Company’s Load Forecasts**

12 **Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING THE COMPANY’S**  
13 **PROPOSED LOAD FORECASTS?**

14 A. I recommend the Commission reject the Company’s energy sales forecast as  
15 unacceptable for forecasting purposes, and instead adopt the energy sales forecast  
16 included in the Company’s 2015 TYSP. The 2015 TYSP energy sales forecast is  
17 virtually the same one filed later in 2015 in the Okeechobee need determination. In  
18 addition, the Commission approved the Okeechobee need determination based upon the  
19 fact that the forecasts submitted in that proceeding were consistent with the 2015 TYSP  
20 forecasts. While the energy sales forecasts provided in the 2015 TYSP and Okeechobee  
21 need determinations are comparable, neither of these forecasts are consistent with the

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<sup>23</sup> Ten Year Power Plant Site Plan: 2016-2025 (April 1, 2016), Florida Power and Light, at p. 28.

1 energy sales forecasts filed in this rate case. To the contrary, the differences are quiet  
2 considerable and have not been explained by the Company.

3  
4 **Q. WHAT IS THE IMPACT OF THE PROPOSED ADJUSTMENT?**

5 A. Adoption of the 2015 TYSP NEL forecast will increase test year weather-normalized  
6 retail delivered energy by 3,896 gigawatt-hours or 3.5 percent. Likewise, the proposed  
7 adjustment will increase subsequent year (2018) weather-normalized retail delivered  
8 energy by 4,882 gigawatt-hours, or 4.3 percent.

9  
10 **Q. HAVE YOU ESTIMATED THE RESULTING REVENUE IMPACT OF THIS**  
11 **PROPOSED ADJUSTMENT?**

12 A. Yes, and this is shown in Exhibit DED-12. This adjustment increases projected revenues  
13 for 2017 and 2018, which results in a decrease in the Company's needed revenue  
14 requirement increase by \$205.7 million in 2017 and \$257.9 million in 2018.

15  
16 **III. PROPOSED INFLATION ADJUSTMENT**

17 **A. Introduction**

18 **Q. HOW IS INFLATION DEFINED IN ECONOMIC TERMS?**

19 A. Inflation refers to the sustained increase in the general price level of goods and services  
20 in the economy over a period of time. Typically, this is caused by a general increase in  
21 the money supply present in the economy as more dollars are chasing the same relative  
22 number of goods.

1 **Q. DOES THE COMPANY INCLUDE AN INFLATION ADJUSTMENT IN ITS**  
2 **TEST YEAR?**

3 A. Yes. The Company’s test year accounts for the impact of inflation in two ways. First,  
4 inflation, along with a factor for customer growth, is utilized in the development of its  
5 operations and maintenance (“O&M”) benchmark. The Company’s benchmark indicated  
6 that it expects 2017 O&M expenses to increase by more than 13 percent from 2013  
7 levels.<sup>24</sup> Second, the Company utilizes its inflation estimates to adjust the costs  
8 associated with several other goods and services identified in its internal budgeting  
9 process.<sup>25</sup> These adjustments likewise impact the Company’s estimated test year revenue  
10 requirement.

11  
12 **Q. DO ALL PARTICIPANTS IN THE ECONOMY EXPERIENCE INFLATION AT**  
13 **THE SAME RATE?**

14 A. No, since consumers and producers purchase different goods at different levels. To make  
15 generalizations on price inflation easier, government agencies, such as the Bureau of  
16 Labor Statistics (“BLS”), publish separate price indexes based on relative prices of a  
17 basket of goods determined through survey instruments.<sup>26</sup>

18  
19 **Q. WHAT MEASURE OF INFLATION DOES THE COMPANY USE IN ITS**  
20 **FILING?**

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<sup>24</sup> Petition, Schedule C-40, O&M Compound Multiplier Calculation.

<sup>25</sup> Direct Testimony of Rosemary Morley, at p. 48, lines 8-9.

<sup>26</sup> See, “Overview of BLS Statistics on Inflation and Prices,” U.S. Bureau of Labor Statistics, available online at: <http://www.bls.gov/bls/inflation.htm>.

1 A. The Company uses what is referred to as the Consumer Price Index (“CPI”) for all urban  
2 consumers (“CPI-U”).<sup>27</sup> The CPI-U is calculated monthly by the BLS, and is sometimes  
3 referred to as the “head-line rate” due to its prevalence in media reports to track the  
4 overall price inflation in the economy. The CPI-U is often reported in both “core” and  
5 “energy” component terms. The “core” component of the CPI-U measures price inflation  
6 to urban consumers in the same manner as the CPI-U, but with the exclusion of food and  
7 energy prices.<sup>28</sup> The energy component of the CPI-U, however, is restricted to measuring  
8 changes in volatile consumer energy prices. These separate inflation measures (energy  
9 and core components) are often looked at independently since energy prices are viewed  
10 as relatively volatile compared to other items within the CPI-U basket of goods.<sup>29</sup> The  
11 Company’s test year forecast, however, is based upon the total (or aggregate) CPI-U that  
12 includes both core and energy components.<sup>30</sup>

13  
14 **Q. HOW IS THE COMPANY’S INFLATION FACTOR DEVELOPED?**

15 A. The Company primarily relies on an outside economic forecasting entity, IHS Global  
16 Insight (hereafter “Global Insight”), as the source of its inflation projections.<sup>31</sup> The  
17 Company also states that it reviewed forecasts developed from other sources and  
18 considers historical trends to assess the reasonableness of Global Insight’s forecast.<sup>32</sup>

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<sup>27</sup> See, Petition, Schedule C-40, O&M Compound Multiplier Calculation; see also, Direct Testimony of Rosemary Morley, at p. 48, lines 8-9.

<sup>28</sup> See, Frequently Asked Questions, U.S. Bureau of Labor Statistics, available online at: [http://www.bls.gov/cpi/cpifaq.htm#Question\\_7](http://www.bls.gov/cpi/cpifaq.htm#Question_7); “core” CPI is published by the BLS as an CPI index labeled “All items less food and energy”.

<sup>29</sup> See, Frequently Asked Questions, U.S. Bureau of Labor Statistics, available online at: [http://www.bls.gov/cpi/cpifaq.htm#Question\\_7](http://www.bls.gov/cpi/cpifaq.htm#Question_7) and [http://www.bls.gov/cpi/cpifaq.htm#Question\\_13](http://www.bls.gov/cpi/cpifaq.htm#Question_13).

<sup>30</sup> Direct Testimony of Rosemary Morley, at p. 48, lines 8-9.

<sup>31</sup> Direct Testimony of Rosemary Morley, at p. 50, lines 14-15.

<sup>32</sup> Direct Testimony of Rosemary Morley, at p. 50, lines 15-17.

1  
2 **Q. IS THE COMPANY USING THE SAME MEASURE OF INFLATION IN THIS**  
3 **RATE CASE AS IT HAS IN PAST PROCEEDINGS?**

4 A. Not in all respects. In the Company's last rate case (Docket 120015-EI), it utilized the  
5 energy component of the CPI-U as an element of its forecast of NEL, which the  
6 Company has removed in the current proceeding.<sup>33</sup> Likewise, the Company uses the  
7 energy component of the CPI-U to forecast the Company's summer peak demand needs.  
8 In both the Company's last rate case and the current rate case, the Company has used the  
9 CPI-U to benchmark its O&M costs.<sup>34</sup>

10  
11 **Q. DID THE COMPANY EXPLAIN THE RATIONALE FOR ITS REMOVAL OF**  
12 **ITS INFLATION MEASURE IN ITS FORECAST OF NET ENERGY FOR**  
13 **LOAD?**

14 A. The Company states that it based this change on the position that "many customers need  
15 to budget for their total energy purchases, not just electricity, particularly when rising  
16 energy prices, such as those for gasoline, exceed the overall cost of living."<sup>35</sup> Likewise,  
17 the Company notes that recent fluctuations in energy prices have caused the link between  
18 energy prices and short-term electricity consumption to decouple.<sup>36</sup>

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<sup>33</sup> Direct Testimony of Rosemary Morley, at p. 32, lines 14-16.

<sup>34</sup> Direct Testimony of Rosemary Morley, at p. 48, lines 8-9.

<sup>35</sup> Direct Testimony of Rosemary Morley, at p. 32, lines 16-18.

<sup>36</sup> Direct Testimony of Rosemary Morley, at p. 32, lines 18-21.

1 **Q. ARE THERE ANY DIFFERENCES IN THE USE OF THESE TWO INFLATION**  
2 **MEASURES FOR PURPOSES OF ESTABLISHING THE COMPANY'S TEST**  
3 **YEAR?**

4 A. Yes. The Company indicates that the energy component portion of the CPI-U (the  
5 method used in its prior rate case) yields inflation rates of 0.9 percent from 2015 to 2016,  
6 6.0 percent in 2016, and 7.3 percent in 2017.<sup>37</sup> The overall CPI-U (which the Company  
7 uses in this rate case) is forecast by Global Insight to yield inflation measures of 2.0  
8 percent (2016) and 2.5 percent (2017).<sup>38</sup>

9  
10 **Q. WHICH MEASURE OF INFLATION IS BETTER FOR ADJUSTING UTILITY**  
11 **EXPENSES?**

12 A. Neither measure is an appropriate gauge of cost inflation for a regulated electric utility.  
13 The CPI-U represents the general level of price inflation in the economy, and recent  
14 empirical evidence, as I will discuss later, shows that those general trends do not often  
15 follow the same cost inflation trends as U.S. electric utilities.

16  
17 **Q. PLEASE EXPLAIN THE DIFFERENCE BETWEEN GENERAL PRICE**  
18 **INFLATION AND COST INFLATION FOR ELECTRIC UTILITIES.**

19 A. The CPI is an index number, developed from a survey that estimates price inflation  
20 across a basket of consumer goods that is defined by BLS. The price inflation measure is  
21 designed to measure the average change over time in the prices of goods and services

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<sup>37</sup> Petition, Schedule F-7, at p. 13.

<sup>38</sup> Direct Testimony of Rosemary Morley, at p. 51, lines 4-5.

1 consumers buy for day-to-day living.<sup>39</sup> In other words, the CPI covers only consumer  
2 purchases in the U.S. economy, and excludes investment items such as stocks, bonds, and  
3 real estate.<sup>40</sup> It also does not measure the average changes in prices received by domestic  
4 producers for their output, such as the average change in input prices for electric  
5 utilities.<sup>41</sup> The CPI is based upon consumer items such as toothpaste, breakfast cereal,  
6 bedroom furniture, jewelry and pet products: none of which are used as inputs, nor have  
7 anything to do with the provision of electricity service.<sup>42</sup>

8  
9 **Q. DO YOU HAVE AN EMPIRICAL EXAMPLE THAT SHOWS THE**  
10 **DIFFERENCES BETWEEN GENERAL PRICE INFLATION AND ELECTRIC**  
11 **UTILITY COST INFLATION?**

12 A. Yes. This past year (2015), *Public Utilities Fortnightly* (“PUF” or “Fortnightly”)  
13 published an article titled “Electric Rates Losing Ground to the CPI.”<sup>43</sup> This article  
14 provided an example of how the baseline CPI for 2015 increased 0.7 percent while the  
15 electricity component of the CPI fell 1.2 percent during the same annual period. The  
16 article further noted that the 2015 increase is not a recent trend, and that electricity prices  
17 have generally increased at a slower rate than prices for all goods generally. A  
18 replication of a chart included in the PUF article is provided in Exhibit DED-13.

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<sup>39</sup> BLS Handbook of Methods, Chapter 17: Consumer Price Indexes, Bureau of Labor Statistics, at p. 1.

<sup>40</sup> BLS Handbook of Methods, Chapter 17: Consumer Price Indexes, Bureau of Labor Statistics, at p. 3.

<sup>41</sup> BLS Handbook of Methods, Chapter 14: Producer Price Indexes, Bureau of Labor Statistics, at p.1.

<sup>42</sup> See, Frequently Asked Questions, U.S. Bureau of Labor Statistics, available online at:

[http://www.bls.gov/cpi/cpifaq.htm#Question\\_7](http://www.bls.gov/cpi/cpifaq.htm#Question_7)

<sup>43</sup> Mitnick, Steve (December 2015), “Electric Rates Losing Group To The CPI”, *Public Utilities Fortnightly*.

1 **Q. ARE THERE ANY OTHER GOVERNMENT INFLATION MEASURES OF**  
2 **UTILITY COST INFLATION?**

3 A. Yes. In addition to publishing a CPI, the BLS also publishes a Producer Price Index  
4 (“PPI”) to measure the average changes in input prices for domestic industries. Because  
5 of the wide variability in industry prices, the BLS publishes hundreds of individual PPIs  
6 that are organized by North American Industry Classification System (“NAICS”) codes.  
7 The NAICS code representing FPL’s industry is Electric Power Generation,  
8 Transmission, and Distribution: NACIS 2211, which covers electric utilities and is a  
9 subset of sector Utilities: NAICS 22.<sup>44</sup> The BLS PPI shows that input prices for electric  
10 utilities have been generally flat since mid-2008, corresponding roughly to the start of the  
11 last recession. Indeed, such input price trends have been trending downwards for the last  
12 two years after reaching highs at the beginning of 2014. Current input price estimates in  
13 the electric utility sector for April 2016 finds such costs to be only 3.4 percent higher  
14 than the same estimates for input costs in April of 2008. This corresponds to an annual  
15 price inflation factor of slightly more than 0.4 percent, or less than one-half of one  
16 percent annually.

17  
18 **Q. DOES THE COMPANY ADDRESS THE DISCONNECT BETWEEN THE CPI**  
19 **AND THE PPI AS MEASURES OF UTILITY COST INFLATION?**

20 A. Yes. The Company acknowledges that CPI and PPIs are two common measures of the  
21 national economy’s general price levels, and that while the CPI-U has shown price  
22 inflation growth of 2.21 percent between December 2012 and December 2014, the PPI

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<sup>44</sup> Industries at a Glance; Utilities: NAICS 22, U.S. Bureau of Labor Statistics, available online at: <http://www.bls.gov/iag/tgs/iag22.htm>.

1 for all manufactured goods has only increased by 0.72 percent.<sup>45</sup> In this, the Company  
2 recognizes that consumers over the past two years have seen more than three times the  
3 rate of price inflation as that seen by producers of manufactured goods.

4  
5 **Q. WHAT IMPACT DOES AN OVERSTATEMENT OF INFLATION HAVE ON**  
6 **THE COMPANY'S TEST YEAR?**

7 A. An unreasonably high inflation rate will tend to overstate test year expenses and will  
8 cause the Company's O&M cost projections (and performance) to appear reasonable  
9 since it will be compared to an inflated O&M benchmark.

10  
11 **B. Inconsistency with consensus inflation estimates**

12 **Q. ARE THERE ANY OTHER PROBLEMS ASSOCIATED WITH THE**  
13 **COMPANY'S PROPOSED INFLATION MEASURE?**

14 A. Yes. The Company's proposed inflation measure is based solely upon the opinions of  
15 Global Insight, without any input from other economic forecasters who routinely assess  
16 and forecast inflationary pressures within the economy. This is a very limited approach  
17 in developing an inflation factor forecast since academic research has consistently shown  
18 that a survey of economic forecasts is more accurate than relying too heavily on a single  
19 forecast which may have intrinsic biases from the forecaster.<sup>46</sup>

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<sup>45</sup> Direct Testimony of John J. Reed, at p.15, lines 3-9.

<sup>46</sup> See, Clemen, Robert T. (1989), "Combining forecasts: A review and annotated bibliography," *International Journal of Forecasting*, 5: 559-583. This survey notes "considerable literature has accumulated over the years regarding the combination of forecasts. The primary conclusion of this line of research is that that forecast accuracy can be substantially improved through the combination of multiple individual forecasts. Furthermore, simple combination methods often work reasonably well relative to more complex combinations."

1 **Q. DID THE COMPANY CONSULT ANY OTHER ECONOMIC FORECAST**  
2 **BESIDES BY GLOBAL INSIGHT?**

3 A. The Company claims that it “review[ed] the forecasts developed by other sources and  
4 considers historical trends in order to assess the reasonableness of IHS Global Insight’s  
5 forecast.”<sup>47</sup> However, in response to discovery requests, the Company was unable to  
6 provide proof of any such analysis besides those produced by Global Insight, in addition  
7 to claiming work product privilege regarding an internal analysis of customer growth  
8 statistics.<sup>48</sup> Regardless, the Company did not use any of this additional research in  
9 developing its proposed inflation factor for this rate case.

10  
11 **Q. DID THE COMPANY REFERENCE ANY OTHER AUTHORITATIVE**  
12 **SOURCES FOR INFLATION PROJECTIONS IN ITS FILING?**

13 A. Yes. The Company claims that its forecast of overall CPI is “consistent with the inflation  
14 projections developed by other experts, including the Philadelphia Federal Reserve Banks  
15 Survey of Professional Forecasters and the National Association for Business Economics  
16 (“NABE”).”<sup>49</sup>

17  
18 **Q. HAVE YOU REVIEWED THE FEDERAL RESERVE BANK OF**  
19 **PHILADELPHIA’S SURVEY OF PROFESSIONAL FORECASTERS?**

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<sup>47</sup> Direct Testimony of Rosemary Morley, at p.50, lines 15-17.

<sup>48</sup> FPL Response to OPC Eight Set of Request for Production of Documents, No.108.

<sup>49</sup> Direct Testimony of Rosemary Morley, at p.52, lines 6-9.

1 A. Yes. Federal Reserve Bank of Philadelphia released its survey of professional forecasters  
2 for the second quarter of 2016 on May 13, 2016.<sup>50</sup> In this release, the survey reported  
3 “little reason to change their views on headline CPI inflation in 2016, 2017, and 2018  
4 compared with (the survey’s) predictions of three months ago.”<sup>51</sup> The survey finds an  
5 average estimate for CPI-U inflation of 1.5 percent for 2016, and 2.1 percent for 2017.<sup>52</sup>

6  
7 **Q. HAVE YOU REVIEWED THE INFLATION PROJECTIONS DEVELOPED BY**  
8 **THE NATIONAL ASSOCIATION FOR BUSINESS ECONOMICS?**

9 A. Yes. The most recent economic outlook published by NABE was released publicly on  
10 June 6, 2016.<sup>53</sup> In this release, NABE noted its expectations that inflation would “remain  
11 modest” going forward.<sup>54</sup> The median annual forecast of CPI-U was estimated to be 1.6  
12 percent for 2016, and 2.3 percent for 2017.<sup>55</sup>

13  
14 **Q. HOW DOES THE PROPOSED INFLATION RATES FOR 2016 THROUGH 2018**  
15 **COMPARE TO HISTORICAL AVERAGES?**

16 A. The Company’s analysis shows that its proposed test year inflation measure differs from  
17 recent trends with no explanation for the rationale of those differences. Specifically, the  
18 Company notes that between 2010 and 2014, the overall CPI increased at a compound  
19 annual rate of 2.1 percent a year, and that the overall CPI during this time was fairly  
20 steady, fluctuating between 3.1 percent and 1.5 percent a year though the four year period

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<sup>50</sup> Second Quarter 2016 Survey of Professional Forecasters (May 13, 2016), Federal Reserve Bank of Philadelphia.

<sup>51</sup> Second Quarter 2016 Survey of Professional Forecasters (May 13, 2016), Federal Reserve Bank of Philadelphia.

<sup>52</sup> Second Quarter 2016 Survey of Professional Forecasters (May 13, 2016), Federal Reserve Bank of Philadelphia.

<sup>53</sup> NABE Outlook (June 2016), National Association for Business Economics.

<sup>54</sup> NABE Outlook (June 2016), National Association for Business Economics, at p.1.

<sup>55</sup> NABE Outlook (June 2016), National Association for Business Economics, at p.8.

1 (2010-2014).<sup>56</sup> The overall CPI in 2015 was virtually flat, increasing only 0.1 percent  
2 from the level of prices in 2014.<sup>57</sup>

3  
4 **Q. DOES THE COMPANY PROVIDE ANY EXPLANATION FOR THIS ABOVE**  
5 **TREND INFLATIONARY INCREASE?**

6 A. Yes. The Company states that its inflation forecast is “consistent with the consensus  
7 view that a moderately positive rate of inflation can be expected for the next few years.  
8 Contributing to this consensus view is the expectation that energy prices should  
9 eventually stabilize following their sharp declines in 2015.”<sup>58</sup>

10  
11 **Q. ARE THERE ANY INHERENT CONCEPTUAL PROBLEMS WITH THE**  
12 **COMPANY’S PROPOSED RATES OF INFLATION OVER THE NEXT TWO**  
13 **YEARS?**

14 A. Yes. In the aftermath of the high inflation era of the late 1970s and the decades since this  
15 period, the Federal Open Market Committee (“FOMC”) has taken renewed interest in  
16 each element of its mandate to ensure price stability and maximum employment. This  
17 has caused the FOMC to define an annual target inflation rate of 2.0 percent over time as  
18 most consistent with its mandate, and thus sets monetary policy with this target in mind.<sup>59</sup>

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<sup>56</sup> Direct Testimony of Rosemary Morley, at p. 49, lines 6-9.

<sup>57</sup> Direct Testimony of Rosemary Morley, at p. 49, lines 12-13.

<sup>58</sup> Direct Testimony of Rosemary Morley, at p. 51, lines 6-8.

<sup>59</sup> Current FAQs, “Why does the Federal Reserve aim for 2 percent inflation over time?” Board of Governors of the Federal Reserve System, available online at: [https://www.federalreserve.gov/faqs/economy\\_14400.htm](https://www.federalreserve.gov/faqs/economy_14400.htm).

1 **Q. WHAT IS THE FOMC?**

2 A. The FOMC is a committee within the Federal Reserve System charged with overseeing  
3 open market operations, and influences the demand for, and supply of, balances that  
4 depository institutions hold at Federal Reserve banks.<sup>60</sup> The FOMC sets the interest rate,  
5 called the federal funds rate, at which depository institutions lend day-to-day balances at  
6 the Federal Reserve to other depository institutions, and thus indirectly influences other  
7 short-term interest rates and ultimate price inflation on goods and services.<sup>61</sup> The FOMC  
8 consists of the seven members of the Board of Governors, including the chair of the  
9 Board of Governors, referred to as the Federal Reserve chairman; the president of the  
10 Federal Reserve Bank of New York; and four of the remaining eleven Reserve Bank  
11 presidents divided by geographical region (i.e. the northeast and mid-Atlantic, the  
12 industrial mid-west, southeast and Texas, and the north-central and western regions).<sup>62</sup>

13  
14 **Q. DOES THE FOMC EXPRESSLY STATE A DESIRE TO MAINTAIN AN  
15 ANNUAL INFLATION RATE OF 2.0 PERCENT?**

16 A. Yes. As noted above, the FOMC has defined a 2.0 percent annual inflation target as most  
17 consistent with its mandate to oversee price stability and achieve maximum employment.  
18 This target is expressly defined and referenced to on the Federal Reserve's website under  
19 a frequently asked question page.

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<sup>60</sup> The Federal Reserve System: Purposes & Functions (June 2005), Board of Governors of the Federal Reserve System, 9<sup>th</sup> ed., at p. 11.

<sup>61</sup> The Federal Reserve System: Purposes & Functions (June 2005), Board of Governors of the Federal Reserve System, 9<sup>th</sup> ed., at p. 3.

<sup>62</sup> The Federal Reserve System: Purposes & Functions (June 2005), Board of Governors of the Federal Reserve System, 9<sup>th</sup> ed., at pp. 11-12; and fn. 1.

1           **Why does the Federal Reserve aim for 2 percent inflation over**  
2           **time?**

3           The Federal Open Market Committee (FOMC) judges that  
4           inflation at the rate of 2 percent (as measured by the annual change  
5           in the price index for personal consumption expenditures, or PCE)  
6           is most consistent over the longer run with the Federal Reserve's  
7           mandate for price stability and maximum employment. Over time,  
8           a higher inflation rate would reduce the public's ability to make  
9           accurate longer-term economic and financial decisions. . . . The  
10          FOMC implements monetary policy to help maintain an inflation  
11          rate of 2 percent over the medium term.<sup>63</sup>

12  
13          **Q.    HOW DOES THIS RELATE TO THE COMPANY'S PROPOSED INFLATION**  
14          **FORECAST?**

15          A.    While it is not impossible for inflation to increase to a rate of 2.5 percent, as assumed by  
16          the Company, it is unlikely that the FOMC would not engage in aggressive monetary  
17          action if such an outcome started to materialize. The Company's inflation forecast  
18          assumptions are, therefore, inconsistent with the goals of U.S. monetary policy. In fact,  
19          the Federal Reserve's hesitancy to raise short term rates repeatedly over several recent  
20          semi-quarterly meetings underscores their belief that inflation is far below levels  
21          requiring monetary action, despite the fact that crude oil prices are nearly double their 10-  
22          year record low reported January 20<sup>th</sup> of this year.<sup>64</sup>

23  
24          **Q.    HAVE YOU REVIEWED PUBLIC MATERIALS ON INFLATION**  
25          **EXPECTATIONS?**

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<sup>63</sup> Current FAQs, "Why does the Federal Reserve aim for 2 percent inflation over time?" Board of Governors of the Federal Reserve System, available online at: [https://www.federalreserve.gov/faqs/economy\\_14400.htm](https://www.federalreserve.gov/faqs/economy_14400.htm).

<sup>64</sup> See, "Petroleum & Other Liquids: Spot Prices", U.S. Department of Energy, U.S. Energy Information Administration, Available online at: [https://www.eia.gov/dnav/pet/pet\\_pri\\_spt-s1\\_d.htm](https://www.eia.gov/dnav/pet/pet_pri_spt-s1_d.htm).

1 A. Yes. The Wall Street Journal conducts a survey of more than 60 economists on 10 major  
2 economic indicators, and their expectations, on a monthly basis.<sup>65</sup> The average  
3 expectations as of June 15, 2016, is that CPI levels will reach 1.8 percent by the end of  
4 2016, and then level off at 2.3 percent by the end of 2017.

5  
6 **Q. IS THIS CONSISTENT WITH THE EXPECTATIONS OF THE FEDERAL**  
7 **RESERVE?**

8 A. No. At the FOMC's March 16, 2016 meeting, the FOMC decided not to raise borrowing  
9 costs and scaled back its forecasts for interest rates.<sup>66</sup> The FOMC's official median  
10 projection found that inflation would not reach two percent until early 2018.  
11 Specifically, the FOMC only expected inflation to reach 1.2 percent by the end of the  
12 year, and increase to 1.9 percent by the end of 2017.<sup>67</sup>

13  
14 **Q. WHAT ARE YOUR RECOMMENDATIONS FOR THE COMPANY'S**  
15 **INFLATION FORECAST?**

16 A. I recommend the Commission adopt an inflation rate equal to a weighted average of the  
17 median result of the Wall Street Journal's June survey of economic analysts, and  
18 FOMC's official median project for use in computing expected near-term inflation.  
19 Specifically, I recommend a weighted average that places a 60 percent weighting on the  
20 forecasts of the FOMC and a 40 percent weighting on the forecasts of other industry  
21 professionals. This results in a 2016 general price inflation of 1.44, and a subsequent

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<sup>65</sup> Economic Forecasting Survey, Wall Street Journal, Available online at:  
<http://projects.wsj.com/econforecast/#ind=gdp&r=20>.

<sup>66</sup> Randow, Jana (March 16, 2016), "Fed Scales Back Rate-Rise Forecasts as Global Risks Remain," Bloomberg.

<sup>67</sup> Randow, Jana (March 16, 2016), "Fed Scales Back Rate-Rise Forecasts as Global Risks Remain," Bloomberg.

1 2017 general price inflation of 2.06 percent. I additionally recommend this 2.06 percent  
2 level be maintained for 2018, consistent with the FOMC's long-term monetary policy of  
3 maintaining a 2.0 percent rate of general price inflation.  
4

5 **Q. DO YOU BELIEVE THAT YOUR PROPOSED INFLATION FORECAST**  
6 **REPRESENTS A CONSERVATIVE ESTIMATE OF THE COMPANY'S**  
7 **ADDITIONAL REVENUE NEEDS TO ACCOUNT FOR GENERAL PRICE**  
8 **INFLATION?**

9 A. Yes. As noted previously, the Company as an electric utility does not experience price  
10 inflation in a manner similar to a household consumer contending with increasing food  
11 and healthcare costs. Historically, input cost inflation for electric utilities has been  
12 significantly lower than that seen in the economy as a whole. In the interest of being  
13 conservative in my adjustment to the Company's requested revenue requirement, I have  
14 maintained the Company's practice of utilizing the CPI-U as a measure of cost inflation  
15 for the utility. However, I have placed a 60 percent weight on the lower FOMC inflation  
16 rate forecast to temper the Company's proposed increase to test year expenses.  
17

18 **Q. DOES THIS CONCLUDE YOUR TESTIMONY FILED ON JULY 7, 2016?**

19 A. Yes.

## Table of Exhibits

**Table of Exhibits**

<b>Title</b>	<b>Exhibit</b>
<b>Company's Historic and Projected Sales: 2011-2020</b>	<b>Exhibit DED-1</b>
<b>Percentage Growth in NEL, Customers, and Summer Peak Demand: 2015-2030</b>	<b>Exhibit DED-2</b>
<b>Company's Historic and Projected System Load Factor: 2008-2030</b>	<b>Exhibit DED-3</b>
<b>Comparison of 2016 Ten-Year Site Plan System Load Factors</b>	<b>Exhibit DED-4</b>
<b>Weather-Normalized Historic and Projected System Load Factor: 2008-2030</b>	<b>Exhibit DED-5</b>
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<b>Net Energy for Load Implications of Declining Load Factor</b>	<b>Exhibit DED-7</b>
<b>Comparison of Summer Peak Demand and NEL: 2015 TYSP vs. 2016 Rate Case</b>	<b>Exhibit DED-8</b>
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<b>Comparison of NEL and Revenue Class Sales Forecasts</b>	<b>Exhibit DED-10</b>
<b>Comparison of 2012 and Current NEL to Revenue Class Reconciliation Adjustments</b>	<b>Exhibit DED-11</b>
<b>Net Energy for Load Adjustment Effect on Requested Revenue Requirement</b>	<b>Exhibit DED-12</b>
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