

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:** February 16, 2018

**TO:** Office of Commission Clerk (Stauffer)

**FROM:** Division of Engineering (Wooten, Ellis, King) *POE*  
Division of Accounting and Finance (Buys, Cicchetti, Richards) *MLTB*  
Division of Economics (Higgins, Stratis, Wu) *CRR*  
Office of the General Counsel (Murphy, Cuello) *won* *for TLT*

**RE:** Docket No. 20170225-EI – Petition for determination of need for Dania Beach Clean Energy Center Unit 7, by Florida Power & Light Company.

**AGENDA:** 03/01/18 – Regular Agenda – Post-Hearing Decision – Participation is Limited to Commissioners and Staff

**COMMISSIONERS ASSIGNED:** Graham, Brown, Clark

**PREHEARING OFFICER:** Clark

**CRITICAL DATES:** 03/15/18 – Final decision within 135 days of petition per 403.519, Florida Statutes.

**SPECIAL INSTRUCTIONS:** None

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### Case Background

On October 20, 2017, Florida Power & Light (FPL or Company) filed a petition and supporting testimony to determine the need for the construction of a new combined cycle generating unit at FPL's existing Fort Lauderdale power plant in Broward County, Florida. This plant would utilize existing facilities, including transmission lines, substation facilities, and gas infrastructure. The petition was filed pursuant to Sections 366.04 and 403.519, Florida Statutes (F.S.), and Rules 25-22.080, 25-22.081, 25-22.082, and 28-106.201, Florida Administrative Code (F.A.C.).

Docket No. 20170225-EI

Date: February 16, 2018

According to FPL's petition, the proposed Dania Beach Clean Energy Center Unit 7 (DBEC Unit 7) will be a natural gas, combined cycle power plant, with an expected summer peak rating of about 1,163 megawatts (MW). The new DBEC Unit 7 will replace the older, less efficient existing Lauderdale Units 4 and 5 currently at the site.

On October 21, 2017, the Office of Public Counsel (OPC) filed its Notice of Intervention. The Order Establishing Procedure, Order No. PSC-2017-0426-PCO-EI, was issued on November 6, 2017. The issues for the docket were set forth in Order No. PSC-2017-0447-PCO-EI, issued on November 17, 2017. On that same day, by Order No. PSC-2017-0448-PCO-EI, the Sierra Club was granted intervention. On December 20, 2017, by Order No. PSC-2017-0476-PCO-EI, the hearing dates for this docket were changed from January 18-19, 2018, to January 17-18, 2018. On January 10, 2018, a prehearing conference was held. The hearing was held on January 17, 2018.

The Florida Public Service Commission (Commission) has jurisdiction over the subject matter of this proceeding pursuant to Sections 366.041 and 403.519, F.S.

### Discussion of Issues

**Issue 1:** Is there a need for the proposed Dania Beach Clean Energy Center Unit 7, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519(3), F.S.?

**Recommendation:** Yes. The record indicates that FPL has demonstrated a need for the DBEC Unit 7 in the 2024 to 2026 timeframe to maintain its system reliability and integrity. FPL's decision to retire the Lauderdale units in 2018 results in a significant impact on the Southeastern Florida region's reliability and FPL is responsible for ensuring that the reliability and integrity of Southeastern Florida is maintained. Once completed, the proposed DBEC Unit 7 will enhance FPL's system reliability. Further, as discussed in Issue 5, the primary issue in this proceeding is about the timing of the DBEC Unit 7 and its impact on regional reliability and system economics. (Wooten, Stratis)

#### **Position of the Parties**

**FPL:** Yes. There is a need for DBEC Unit 7, taking into account the need for electric system reliability and integrity. DBEC Unit 7 will enhance FPL's system reliability and integrity as measured by FPL's two reserve margin criteria. The net additional 279 MW from DBEC Unit 7 will increase FPL's system reserve margins and defer the need for future capacity additions. The new unit will also maintain and enhance reliability in the Southeastern Florida region.

**Sierra Club:** No. There is no reliability need for DBEC to come into service in June 2022 because—assuming that FPL retires the existing Lauderdale 4 and 5 units in 2018—FPL's own projections show 2022 is two years before any projected reserve margin shortfall, three years before any projected system balance issue, and five years before the full 1,163 MW capacity of the project is forecast to be needed for reserve margin.

**OPC:** No. FPL's own analysis demonstrates that there is no need for a new unit before 2024.

#### **Parties' Arguments**

##### **FPL**

FPL claims that DBEC Unit 7 will enhance FPL's system reliability and integrity as measured by FPL's 20 percent reserve margin, and that no party has contested the use of FPL's 20 percent reserve margin in this docket. (FPL BR 19)

##### **Sierra Club**

Sierra Club asserts that FPL's projected need proves that assuming the retirement of Lauderdale Units 4 and 5, DBEC Unit 7 is not needed until 2024. Sierra Club further asserts that the addition of DBEC Unit 7 in 2022 would result in a reserve margin that would exceed FPL's 20 percent reserve margin. (Sierra Club BR 7) Sierra Club suggests that the projected imbalance in the Southeastern Florida region does not support the need of DBEC Unit 7 in 2022. (Sierra Club BR 10)

### **OPC**

OPC states that FPL does not have a projected need until 2024 and that FPL's own analyses, Ten-Year Site Plan and the construction of the Corbett-Sugar-Quarry (CSQ) line supports this assertion. (OPC BR 3-4) OPC claims that the construction of DBEC Unit 7 prior to 2024 results in a reserve margin that exceeds 20 percent yet FPL is using the planning criteria to justify the construction of DBEC Unit 7. (OPC BR 4-5) OPC explains that the FPL presented four-year period in which a major Southeastern Florida generation component would be missing is an artificial constraint on the resource plans. OPC further explains that FPL witness Sanchez does not provide adequate justification of the four-year period or reliability with this area reliability margin. (OPC BR 7-8)

**Staff Analysis:** As discussed below, all parties agree that FPL has demonstrated a need to retire the Lauderdale 4 and 5 Units early which results in the system reliability need to add capacity by at least 2024. Further, as discussed in Issue 5, the primary issue in this proceeding is the timing of DBEC Unit 7 and its impact on regional reliability and system economics.

### **Load Forecasting**

FPL's forecasts of growth in net energy for load (NEL), peak demand, and customers are generated using the results of econometric models. (TR 187) FPL's customer growth model is based on variables such as population projections, while its peak demand and NEL models are based on variables such as weather conditions, energy efficiency codes and standards, customer growth, and economic conditions. (TR 188-192) At hearing, witness Feldman testified that FPL's customer and NEL forecast methods have been reviewed and accepted by the Commission in past proceedings. (TR 189)

FPL forecasts its customer base to grow by 404,377 customers from its 2016 level to over 5.2 million customers by 2022, the year that DBEC Unit 7 is scheduled to go online, as shown below in Table 1-1. This represents an average annual growth rate (AAGR) from 2016 to 2022 of 1.35 percent, as compared to an AARG of 1.15 percent over the previous 6-year period (2010-2016). (EXH 6) Growth in summer peak demand is forecasted by FPL to reach 24,967 MWs by 2022, representing an AARG of 0.76 percent from 2016 through 2022, compared to 1.39 percent annually from 2010-2016. (EXH 7) NEL growth is forecasted by FPL to reach 122,806 GWhs, representing an AAGR of 0.16 percent annually from 2016 through 2022, an increase of 1,187 GWhs over the period, compared to 1.00 percent from 2012 to 2017. (EXH 8)

**Table 1-1  
 FPL Historical and Future Growth in Customers and Load**

| <b>Year</b>   | <b>Customers</b> | <b>Summer Peak (MWs)</b> | <b>Net Energy for Load (GWhs)</b> |
|---|------------------|--------------------------|-----------------------------------|
| <b>2010 (actual)</b>  | 4,520,328        | 21,962                   | 114,604                           |
| <b>2016 (actual)</b>  | 4,840,279        | 23,858                   | 121,619                           |
| <b>2022 (projected)</b>   | 5,244,656        | 24,967                   | 122,806                           |
| <b>Growth, 2010-2016</b>  | 319,951          | 1,896                    | 7,015                             |
| <b>Growth, 2016-2022</b>  | 404,377          | 1,109                    | 1,187                             |
| <b>AAGR, 2010-2016*</b>   | 1.15%            | 1.39%                    | 1.00%                             |
| <b>AAGR, 2016-2022*</b>   | 1.35%            | 0.76%                    | 0.16%                             |
| <b>*((Final Year Units/Beginning Year Units)<sup>1/6</sup>-1)*100</b> |                  |                          |                                   |

Source: EXH 6, EXH 7, EXH 8

Intervenors provided no testimony regarding FPL’s customer, peak demand, and load forecasts. At hearing and in its brief, Sierra Club questioned the accuracy of FPL’s NEL forecasts, citing examples of consistent over-forecasting of load in the recent past, especially for forecasts of load five years into the future. (TR 203, TR 207- 208, TR 219, EXH 65) In particular, Sierra Club cited a recent Commission order indicating an average forecasting error of 3.52 percent for FPL forecasts produced 5 years out.<sup>1</sup> (TR 217-219) Sierra Club maintains that the decision that FPL seeks in this case raises a substantial risk of overforecasting. (BR 11)

FPL witness Feldman acknowledged the forecast error calculation referenced in Order No. PSC-16-0032-FOF-EI, noting that forecast errors tend to increase with forecast time horizon. (TR 207, 218) Witness Feldman also discussed the effect of the Great Recession. He testified that, during the 2006 and 2007 period, no utility was able to anticipate the impact, magnitude, or duration of the recession, which tended to magnify forecast errors throughout the utility industry. (TR 219-220, 228) Meanwhile, FPL witness Feldman testified that the Commission should have confidence that its load forecast is reasonable and accurate, citing an average summer-peak forecast error of 1 percent when projecting 5 to 6 years out, based on FPL’s last four Ten Year Site Plans (TYSP). (TR 229) The Commission recognized in Order No. PSC-16-0032-FOF-EI that FPL’s “five year out” forecasts included three underforecasts out of ten “five year out” forecasts, and concluded that such forecasts are not consistently overforecasts. (EXH 65) While recognizing that a five year out forecast is prone to a greater error rate than a shorter term forecast, staff recommends that the record does not support Sierra Club’s claim that FPL’s forecast is biased towards an overforecast in this instance.

In summary, staff analyzed FPL’s load forecasting models, including the model specifications, assumptions, data inputs, and statistical output, and believes the customer, summer peak demand, and NEL models are reasonable. Staff also reviewed FPL’s forecast assumptions pertaining to economic, weather, and demographic conditions, as well as data adjustments, used by FPL to

<sup>1</sup>Order No. PSC-16-0032-FOF-EI, p.8, issued January 19, 2016, in Docket No. 150196-EI, *In re: Petition for Determination of Need for Okeechobee Clean Energy Center Unit 1 by Florida Power and Light Company.*

construct its load forecasts. Based on staff's analysis and review, staff recommends that FPL's load forecasts as filed in this proceeding are reasonable.

**Reserve Margin**

FPL's projected system need is based on its 20 percent reserve margin criterion; therefore, FPL has demonstrated a need for new generation in order to maintain electric system reliability and integrity with the retirement of Lauderdale Units 4 and 5. As shown in Table 1-2 below, FPL has demonstrated a projected need in 2024 with no new capacity additions under this scenario. No party contested the values for system reliability purposes.

**Table 1-2  
Summer Reserve Margin Calculations**

|             | <b>Reserve Margin</b> | <b>MW Shortage</b> |
|-------------|-----------------------|--------------------|
| <b>2017</b> | 21.3%                 | (295)              |
| <b>2018</b> | 21.4%                 | (313)              |
| <b>2019</b> | 20.3%                 | (69)               |
| <b>2020</b> | 21.3%                 | (299)              |
| <b>2021</b> | 21.7%                 | (378)              |
| <b>2022</b> | 21.7%                 | (379)              |
| <b>2023</b> | 21.0%                 | (233)              |
| <b>2024</b> | 19.8%                 | <b>54</b>          |
| <b>2025</b> | 18.1%                 | <b>459</b>         |
| <b>2026</b> | 16.3%                 | <b>904</b>         |

Source: EXH 3

As discussed below and later in Issue 5, the acceleration of the CSQ transmission line allows for a unique economic opportunity to retire Lauderdale Units 4 and 5, which maximizes the cost savings of no longer operating those units. (TR 85) However, the decision of replacing the older Lauderdale units exposes FPL's system and the Southeastern Florida region to reliability risks. (TR 407, TR 410-411) The Commission must balance these concerns when considering the overall need and cost-effectiveness of the proposed DBEC Unit 7.

### ***Load/Generation Imbalance***

According to FPL witness Sim, the Southeastern Florida region is expected to face a load imbalance at approximately the same time as the 2024 need. (TR 74) FPL witness Sim further elaborates that the Southeastern Florida region constitutes 44 percent of FPL's total load and is continually growing, faces lack of suitable areas for electric generation facilities and geographical constraints prevent further transmission into the region. (TR 74-75) As FPL approaches further imbalance in the region, reliability of the transmission system in the Southeastern Florida region is placed at risk. (TR 76) As discussed further in Issue 5, FPL's 2017 analyses determined that the CSQ line, to be installed by 2019, would increase transmission import capability by 1,200 MW, address a regional need until 2030 and allow a cost-effective retirement of Lauderdale Units 4 and 5 in 2018. Because of the cost-effective retirement of Lauderdale Units 4 and 5, the projected 2030 need is altered. (TR 85) With the retirement of Lauderdale Units 4 and 5 in 2018, the Southeastern Florida region is projected to become imbalanced by 2025 necessitating the replacement of the regional capacity prior to 2025. (TR 85)

As mentioned previously, the CSQ line will provide import capability in the Southeastern Florida region and the construction of DBEC Unit 7 enhances this capability. Specifically, without DBEC Unit 7 the facilities at the 500 kV substations in Broward County are more prone to exceeding their capability. With the placement of DBEC Unit 7 in Broward County, it unloads those facilities and results in an increased import capability of 400 MW for the area. (EXH 53) This would be in addition to the 800 MW of import capability provided by the construction of the CSQ transmission line for a total of approximately 1,200 MW of increased import capability. (TR 410; EXH 53)

### ***Area Reliability Margin***

In FPL witness Sanchez's rebuttal testimony, the topic of load imbalance is addressed by calculating what he terms the area reliability margin. FPL witness Sanchez states the area reliability margin combines aspects of reserve margin and load flow analysis and is different than a planning reserve margin or load flow analysis. (TR 405) The projected area reliability margins of FPL's plans are shown in Table 1-3 below.

**Table 1-3  
 Area Reliability**

| <b>Year</b> | <b>Maintain<br/>Lauderdale 4<br/>and 5</b> | <b>2018 Retire<br/>Lauderdale 4 and<br/>5, DBEC Unit 7 In-<br/>Service 2022</b> | <b>2018 Retire<br/>Lauderdale 4 and<br/>5, DBEC Unit 7<br/>In-Service 2024</b> |
|-------------|--|---|--|
| <b>2018</b> | 1,968                                      | 1,968   | 1,968  |
| <b>2019</b> | 3,157                                      | 1,873   | 1,873  |
| <b>2020</b> | 3,154                                      | 1,870   | 1,870  |
| <b>2021</b> | 3,055                                      | 1,771   | 1,771  |
| <b>2022</b> | 2,975                                      | 3,254   | 1,691  |
| <b>2023</b> | 2,847                                      | 3,126   | 1,563  |
| <b>2024</b> | 2,699                                      | 2,978   | 2,978  |
| <b>2025</b> | 2,566                                      | 2,845   | 2,845  |

Source: EXH 53

As illustrated above, FPL’s decision to retire the Lauderdale units results in a significant impact on the Southeastern Florida area reliability for the years 2019 through 2021. If DBEC Unit 7 is added by 2022, then the Southeastern Florida region area reliability is enhanced. If DBEC Unit 7 is delayed until FPL’s system need in 2024, the Southeastern Florida area reliability would also continue to degrade. As stated by FPL witness Sanchez, maintaining the area reliability margin for the Southeastern Florida region is important because it provides critical support for any combination of unexpected situations. (TR 405) The risk increases as the load continues to increase and the generation resources and import capability stay constant, and lessens the area reliability margin. DBEC Unit 7 being brought in-service as soon as possible after the retirement of the Lauderdale units lessens the risk to customers of firm load shedding that is exacerbated with a delay of DBEC Unit 7 to 2024. (TR 409, EXH 53) Regardless, if DBEC Unit 7 were to be delayed until 2024 due to events beyond FPL’s control, FPL has stated that “FPL would continue to provide service to its customers in the most reliable and efficient manner that it can.” (EXH 53) Staff recommends that there is value in evaluating multiple reliability perspectives in order to maintain reliability and integrity of the grid and expects FPL to maintain reliability as it has stated with the proposed DBEC Unit 7.

**Conclusion**

The record indicates that FPL has demonstrated a need for DBEC Unit 7 in the 2024 to 2026 timeframe to maintain its system reliability and integrity. FPL’s decision to retire the Lauderdale units in 2018 results in a significant impact on the Southeastern Florida region’s reliability and FPL is responsible for ensuring that the reliability and integrity of Southeastern Florida is maintained. Once completed, the proposed DBEC Unit 7 will enhance FPL’s system reliability. Further, as discussed in Issue 5, the primary issue in this proceeding is about the timing of the DBEC Unit 7 and its impact on regional reliability and system economics.



**Issue 2:** Are there any renewable energy sources and technologies or conservation measures taken by or reasonably available to FPL, which might mitigate the need for the proposed Dania Beach Clean Energy Center Unit 7?

**Recommendation:** No. No additional cost-effective renewable resource has been identified in this proceeding that could mitigate the need for new generation. Similarly, no additional cost-effective Demand-Side Management (DSM) has been identified in this proceeding that could mitigate the need for new generation. (Wooten)

**Position of the Parties**

**FPL:** No. FPL took account of all cost-effective renewable energy and conservation measures reasonably available to FPL that might mitigate the need for DBEC Unit 7, including all cost-effective renewable energy generation and energy efficiency programs that might be implemented in the Southeastern Florida region. There is no record evidence supporting additional cost-effective renewable energy generation or DSM that could diminish the unquestionable benefits projected to be provided by DBEC Unit 7 beginning in 2022.

**Sierra Club:** Sierra Club objects to the premise that DBEC is needed in 2022. Renewable energy sources, technologies, and conservation measures are reasonably available to FPL and could be deployed incrementally to delay, or potentially entirely forestall, any need for new gas generation, and would likely reduce financial burdens on customers. FPL has not fairly evaluated these alternatives. FPL’s “Plan 3”, purportedly evaluating solar and storage options, constitutes a single, poorly-conceived alternative rife with artificial, cost-inflating constraints.

**OPC:** FPL has not adequately evaluated whether solar and battery storage might be used to meet its 20 percent margin reserve needs in 2024.

**Parties’ Arguments**

**FPL**

FPL states that nothing in the record supports any additional cost-effective renewable generation available to FPL to mitigate the need for DBEC Unit 7 in 2022. (FPL BR 25) FPL further claims that all DSM conservation measures have been accounted for in its analyses, as well as the cost-effective DSM program approved by the Commission in the 2014 DSM goals set for FPL through the year 2024. FPL further states that cost-effective energy efficiency programs were not considered a viable option because it was determined the cost-effectiveness of these programs has continued to decline. (FPL BR 27)

**Sierra Club**

Sierra Club argues that FPL’s renewable resource plan is arbitrarily and unreasonably constrained by a megawatt to megawatt match of DBEC Unit 7. (Sierra Club BR 29) Sierra Club further argues that FPL unreasonably adds a large amount of solar and storage before a reliability need. (Sierra Club BR 31)

### **OPC**

OPC states that FPL's renewable resource plan was flawed because it did not efficiently consider deployment of clean energy sources when they are needed to meet reliability requirements and purposefully designed to not yield the lowest cost scenario for relying on clean energy resources. (OPC BR 11) OPC further states that FPL did not adequately pursue renewable energy sources and technologies or conservation measures that might have mitigated the need for DBEC Unit 7. (OPC BR 12)

**Staff Analysis:** According to FPL witness Sim, FPL's analyses of renewable generation options included Photovoltaic (PV) facilities of both utility-scale and distributed generation as potential sources for meeting the need. FPL witness Sim further stated that FPL's analyses accounted for all achievable cost-effective DSM programs approved by the Commission. (TR 70)

FPL's renewable evaluation assumes the retirement of Lauderdale Units 4 and 5 in late 2018 with a sufficient amount of PV and batteries to be added in the Southeastern Florida Region by 2022. This plan would approximate the incremental 1,163 MW of firm capacity that would be added by DBEC Unit 7. (TR 87-88) Specifically this evaluation assumes that 1,033 MW of PV and 755 MW of battery storage would be in place by 2022 in the Southeastern Florida region. The 1,033 MW of PV would be comprised of both utility-scale and distributed generation. (TR 88) This evaluation had a Cumulative Present Value Revenue Requirement (CPVRR) cost of \$1,288 million more than the DBEC Unit 7 resource plan making it uneconomic. (EXH 5)

In response to discovery FPL provided a renewable plan that retired Lauderdale Units 4 and 5 in 2018 and would solely meet FPL's system need in 2025 instead of matching the 1,163 MW of firm capacity provided by DBEC Unit 7. This solar evaluation included both PV and batteries and totaled 433 MW. With this revised and conservative approach DBEC Unit 7 still proved to be more cost-effective when compared to the solar evaluation which had a CPVRR cost \$370 million more than DBEC Unit 7. (EXH 52)

Both Sierra Club and OPC state that FPL did not evaluate a scenario that adequately evaluated renewable resources. Namely, both parties believed that FPL's initial solar evaluation did not adequately compare an efficient deployment of renewable resources to the system resource need. Staff believes this was addressed with the additional solar resource evaluation that was provided through discovery, which was shown to be less cost-effective than the DBEC Unit 7 as proposed by FPL.

### **Conclusion**

No additional cost-effective renewable resource has been identified in this proceeding that could mitigate the need for new generation. Similarly, no additional cost-effective DSM has been identified in this proceeding that could mitigate the need for new generation.

**Issue 3:** Is there a need for the proposed Dania Beach Clean Energy Center Unit 7, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519(3), F.S.?

**Recommendation:** Yes. The record indicates that FPL's financial, fuel and environmental cost estimates are reasonable. As discussed in Issue 5, the primary driver of this proposed plan is replacing the old outdated Lauderdale units with the more efficient DBEC Unit 7. (Wooten, Buys, Higgins, Wu)

### **Position of the Parties**

**FPL:** Yes. There is a need for DBEC Unit 7, taking into account the need for adequate electricity at a reasonable cost. DBEC Unit 7 is projected to be approximately \$337 million CPVRR less expensive than continuing to operate the existing Lauderdale units and to result in the lowest system cost of all of the numerous resource options and plans evaluated. The new unit will not require any new gas pipeline, transmission line, or water supply.

**Sierra Club:** No. More cost-effective options exist. Customers will save money if FPL adds capacity commensurate with the timing and size of a projected reserve margin deficit or Southeastern regional imbalance. Locking DBEC in now, nearly a decade before a projected shortfall of so much additional capacity, would rob customers of wide-ranging benefits of investing in alternatives. Florida's Legislature has mandated utilities pursue such alternatives "to the extent reasonably available," § 403.502 Fla. Stat.

**OPC:** No. FPL's own analysis demonstrates that there is no need for a new unit before 2024.

### **Parties' Arguments**

#### **FPL**

FPL asserts that DBEC Unit 7 is projected to result in the lowest system CPVRR cost of all resource options and resource plans evaluated and thus provide the lowest rates for FPL's customers. (FPL BR 28) FPL claims that DBEC Unit 7 is projected to be approximately \$337 million CPVRR less expensive than continuing to operate the existing Lauderdale units. (FPL BR 29)

#### **Sierra Club**

Sierra Club states that delaying DBEC Unit 7 until 2024 and retirement of Lauderdale units in 2018 is a more cost-effective alternative to FPL's proposed plan. (Sierra Club BR 21) Sierra Club claims that FPL reviewed a limited scope of alternative plans that may have been cheaper and more cost-effective than the proposed plan. (Sierra Club BR 23)

#### **OPC**

OPC explains that FPL has not demonstrated a need for a new unit in 2022. OPC further explains that a five-year delay or six-year delay scenario would produce savings when FPL's four-year period between retirement and construction of a new unit is not observed. (OPC BR 13)

**Staff Analysis:** Below is a discussion of the various economic assumptions made by FPL associated with the construction of DBEC Unit 7 and the reasonableness of these assumptions.

### ***Plant Description***

FPL's proposed DBEC Unit 7 is a 1,163 MW power plant located in Broward County, Florida. (TR 285) The proposed plant will consist of two advanced technology Combustion Turbines (CTs), two heat recovery steam generators, and one steam turbine at an existing power generation site. (TR 236) DBEC Unit 7 will be located on approximately 392 acres of FPL-owned land within the cities of Dania Beach and Hollywood. (TR 244) The site is currently supporting the Lauderdale 4 and 5 Units, and a significant amount of infrastructure used in support of Lauderdale Units 4 and 5 will be reused for DBEC Unit 7. (TR 236)

### ***Financial Assumptions***

FPL's CPVRR analysis assumed an overall cost of capital of 7.57 percent on an after-tax basis. The overall cost of capital, or discount rate, is based on a capital structure of 59.6 percent equity at a cost rate of 10.55 percent and 40.4 percent debt at a cost rate of 5.17 percent. (EXH 51 and EXH 59)

In its analysis, FPL used 2.5 percent for the O&M and capital escalation rates, and 2.0 percent for the capital replacement escalation rate. (EXH 51) The escalation rates were based on input from FPL's Engineering & Construction business unit. (EXH 51) These values are consistent with escalation rates for O&M and capital that FPL used for other planning analyses that FPL conducted during 2017 and during the last few years. (EXH 51) The escalation rate of 5.0 percent for the cost of short-term Purchased Power Agreement (PPAs) was based on input from FPL's Energy Management & Trading business unit. (EXH 51) FPL noted that the PPA cost escalation rate was used for all PPAs in all of the resource plans analyzed for this docket in 2017. (EXH 51) FPL indicated that there is little difference in the level and/or timing of PPAs between these resource plans, and therefore, there is little difference in the PPA costs between these resource plans. (EXH 51) There was no evidence presented in the record that disputes the reasonableness of FPL's financial assumptions used in the Company's CPVRR analyses. Based on the record, staff recommends that the financial assumptions used for FPL's CPVRR evaluation are reasonable.

The installed cost of DBEC Unit 7 is projected to be approximately \$888 million. (TR 237) DBEC Unit 7 is projected to have an average heat rate of 6,119 Btu/kWh and is expected to have a capacity factor of 90.0 percent. (EXH 16) Lauderdale Units 4 and 5 have an average heat rate of approximately 7,800 Btu/kWh showing that DBEC Unit 7 is 22 percent more fuel efficient in comparison to Lauderdale Units 4 and 5. (TR 239) The ramp rate of a generating unit is the amount of MW that can be ramped up or down over a given time and a major aspect of its flexibility. Likewise, the ramp rates for Lauderdale Units 4 and 5 are 6 MW/minute which are the slowest on FPL's system. (TR 240) The proposed DBEC Unit 7 has a projected ramp rate of 60 MW/minute, which would make it the fastest ramp rate of FPL's current units. (TR 240) FPL has experience building and operating Combined Cycle (CC) units and is confident of the accuracy of its construction estimates and projected unit estimates. (TR 237) Comparing Lauderdale Units 4 and 5 to DBEC Unit 7 shows the significant upgrade to FPL's system that occurs with the cost-effective replacement of the older Lauderdale units. As discussed in Issue 5,

the primary driver of this proposed plan is replacing the old outdated Lauderdale units with the more efficient DBEC Unit 7. No evidence was presented that challenged FPL's generation construction cost or performance projections.

### ***Fuel Costs***

FPL's fuel price forecast utilized for its economic evaluations in this case was its November 2016 forecast. (TR 262) The Company employed its standard fuel forecasting methodology in preparing its forecast. (TR 262-263) Staff notes that no intervenor presented an alternative fuel price forecast for the purpose of valuing the Company's DBEC Unit 7 proposal or any other potential resource plan scenario. Staff recommends that the fuel price forecast used in the Company's economic evaluations of potential resource options is reasonable.

The Company also performed sensitivities around its long-term fuel price forecast. The sensitivities were based on a statistical measurement of price volatility over the past eight years reflecting one standard deviation from the mean, which equates to approximately 20 percent of the base/medium forecast, both high and low. (EXH 51) However, given that the Company's as-filed cost analyses were formulated using its November 2016 fuel forecast, in discovery the Company was asked to perform the same economic evaluations using a more recent, or November 2017 (unofficial) fuel forecast. (EXH 50) The more recent fuel price forecast places downward cost pressure, in CPVRR terms, on all evaluated potential resource plan options, with DBEC Unit 7 remaining the most cost effective.

### ***Environmental Costs***

FPL asserted that the proposed DBEC Unit 7 will significantly improve the Company's air emission profile through the decrease in CO<sub>2</sub>, NO<sub>x</sub>, and total air emissions compared to the existing Lauderdale Units 4 and 5, and promote the saving in water consumption as well. (TR 248-249) The NO<sub>x</sub> emission rate for DBEC Unit 7, when firing natural gas, is projected to be 95 percent lower than the existing Lauderdale units. (TR 248) The anticipated reduction in the CO<sub>2</sub> emission rate, for the new unit compared to the existing units, is approximately 22 percent. (EXH 50) The reduction of the allocation of process water for power generation is projected to be from 1.69 to 1.0 million gallons per day based on a 12-month rolling average. (TR 249)

FPL's 2017 economic analysis of DBEC Unit 7 used the same updated forecast for environmental compliance costs that were used in analyses that led to FPL's Ten-Year Site Plan filing in 2017. (TR 83) No parties contested the forecast in this proceeding. The projection of CO<sub>2</sub> compliance costs, developed in/around January 2017, was provided by ICF, a consulting firm used by the U.S. Environmental Protection Agency to develop compliance cost projections for its Clean Power Plan, and by FPL for its resource planning work since the year 2007. (EXH 50) Typically, FPL includes a projection of the CO<sub>2</sub> emission compliance costs in its resource planning analyses. In this proceeding, FPL performed scenario analyses in which it analyzed combinations of high, medium, and low cost forecasts for fuel and various projections of environmental compliance costs. (EXH 50) Results show that DBEC Unit 7 is projected to result in significant savings for FPL's customers in comparison to the other resource plans evaluated, regardless of whether a high, medium, or low fuel cost forecast and environmental compliance cost forecasts are assumed. (EXH 58)

**Conclusion**

The record indicates that FPL's financial, fuel and environmental cost estimates are reasonable.

**Issue 4:** Is there a need for the proposed Dania Beach Clean Energy Center Unit 7, taking into account the need for fuel diversity and supply reliability, as this criterion is used in Section 403.519(3), F.S.?

**Recommendation:** While DBEC Unit 7 will not improve FPL's overall fuel diversity, the unit efficiency allows FPL to reduce the total amount of natural gas needed to serve the need of its customers. In addition, overall fuel supply reliability will be maintained because DBEC Unit 7 will use the existing oil backup infrastructure on the site. (Wooten)

### **Position of the Parties**

**FPL:** Yes. There is a need for DBEC Unit 7, taking into account the need for fuel diversity and supply reliability. Because of DBEC Unit 7's high level of fuel efficiency, the unit is projected to lower the total amount of natural gas used by FPL's generating fleet compared to continuing to operate the existing Lauderdale Units 4 & 5 in a status quo scenario.

**Sierra Club:** No. DBEC will prolong potentially until 2061 FPL's dangerous over-reliance on one fuel: gas, which currently represents 71% of FPL's generation. Fuel efficiency does not remedy adding gas burning generation to an already overburdened system, where, despite dual fuel capability, DBEC is designed primarily to burn gas. Conversely, investing in alternatives, especially solar and demand-side energy efficiency, would provide much needed fuel diversity, including protection from gas price and supply risks and pollution abatement costs.

**OPC:** No. The proposed Dania Unit 7 uses natural gas and would replace the Fort Lauderdale Units 4&5 that use natural gas. At best, the replacement with a more efficient natural gas plant has scant impact on FPL's overall reliance on natural gas. However, FPL's own analysis demonstrates that there is no need for a new unit fueled by natural gas or otherwise before 2024.

### **Parties' Arguments**

#### **FPL**

FPL states that because DBEC Unit 7 will be a very fuel efficient unit, with a projected heat rate of 6,119 BTU/kWh, the total usage of natural gas will decrease on a system-wide basis compared to running the Lauderdale units and therefore improves fuel diversity and supply reliability of the system. (FPL BR 30) FPL further adds that while DBEC Unit 7 will be fueled primarily by natural gas, it will have the capability to burn light fuel oil to ensure reliable service. (FPL BR 31)

#### **Sierra Club**

Sierra Club asserts that FPL is currently overly reliant on gas-burning generation and DBEC Unit 7 would negatively affect that reliance. (Sierra Club BR 35) Sierra Club states that FPL should diversify its generation portfolio with non-gas generation resources such as solar. (Sierra Club BR 37)

**OPC**

OPC states that although FPL claims that DBEC Unit 7 will be more fuel efficient than Lauderdale Units 4 and 5 and lower system natural gas usage, the replacing of a natural gas unit with another is not an effective way to enhance FPL's fuel diversity. (OPC BR 14) OPC further states that if the Lauderdale units were retired and renewable resources or DSM were utilized to replace the capacity, then fuel diversity would actually be enhanced. (OPC BR 15)

**Staff Analysis:** The record reflects that FPL's proposed DBEC Unit 7 will be fueled by natural gas, and to enhance fuel supply reliability, it will use ultra-low sulfur distillate light oil as a backup fuel. Because DBEC Unit 7 will be replacing the existing gas-fired Lauderdale Units 4 and 5, FPL will serve DBEC Unit 7 via the existing Florida Gas Transmission Company gas transportation infrastructure currently serving the site. (TR 263) Light fuel oil is currently located onsite to serve the existing units and will continue to be stored in sufficient quantities to allow both the DBEC Unit 7 and existing units operate at the full capacity for approximately 72 hours of continuous operation and can be resupplied with truck deliveries. (TR 263) DBEC Unit 7 will continue FPL's dependence on natural gas however; the efficiency of DBEC Unit 7 allows FPL to reduce the total usage of natural gas on a system-wide basis. (TR 96)

**Conclusion**

While DBEC Unit 7 will not improve FPL's overall fuel diversity, the unit efficiency allows FPL to reduce the total amount of natural gas needed to serve the need of its customers. In addition, overall fuel supply reliability will be maintained because DBEC Unit 7 will use the existing infrastructure on the site.



**Issue 5:** Will the proposed Dania Beach Clean Energy Center Unit 7 provide the most cost-effective alternative available, as this criterion is used in Section 403.519(3), F.S.?

**Recommendation:** Yes. The retirement and replacement of the Lauderdale units with DBEC Unit 7 is estimated to result in a net present value (NPV) savings of approximately \$299 million to \$364 million. Therefore, DBEC Unit 7 is the most cost-effective alternative that maintains FPL's system and Southeastern Florida area reliability compared to other alternatives. (Wooten)

### **Position of the Parties**

**FPL:** Yes. DBEC Unit 7 is the most cost-effective alternative to meet the needs of FPL's customers for both FPL's system and the Southeastern Florida region beginning in 2022. It is projected to save FPL's customers hundreds of millions of dollars CPVRR over status quo and solar and storage resource plan alternatives analyzed. A one year or two year a delay of DBEC Unit 7 would be millions of dollars CPVRR more expensive for FPL's customers.

**Sierra Club:** No. Less costly alternatives include delaying DBEC until 2024-the earliest date when FPL projects a reliability issue. FPL did not adequately consider other potential cost-saving alternatives, such as forestalling the need for DBEC by adding incremental, renewable, or demand-side alternatives. As Dr. Hausman explained, FPL's Plan 3 is unreliable and obscures the cost-effectiveness of alternatives. See Reply to Issues 2. 3.

**OPC:** No. Retiring the Fort Lauderdale Units 4&5 in late 2018 with a delay in replacement power until 2024 is more economical than FPL's proposed Dania Unit 7 replacement into service in 2022.

### **Parties' Arguments**

#### **FPL**

FPL asserts that after analyses of a variety of generation types, DBEC Unit 7 proved to be the most cost-effective alternative available to reliably serve FPL's customers. FPL further asserts that in comparison to continuing to run the Lauderdale units or supplying an equivalent amount via renewable resources there is a CPVRR savings of \$337 million and \$1,288 million, respectively. (FPL BR 32) FPL explains that the 2016 analyses performed determined that the CSQ transmission line was sufficient in meeting the regional need but opened a window of opportunity that could allow for the retirement and replacement of the Lauderdale units. (FPL BR 33) FPL states that the 2017 analyses determined that the retirement of the Lauderdale units in 2018 along with the construction of DBEC Unit 7 with an in-service date of 2022 was the most economic option for FPL's customers. (FPL BR 34) FPL further claims delaying DBEC Unit 7 past the 2022 in-service date would increase costs to customers and if not coupled with a delay of the Lauderdale unit's retirement would compromise the reliability of the region. (FPL BR 35)

**Sierra Club**

Sierra Club states that delaying DBEC Unit 7 until 2024 and retirement of Lauderdale units in 2018 is a more cost-effective alternative to FPL's proposed plan. (Sierra Club BR 21) Sierra Club claims that FPL reviewed a limited scope of alternative plans that may have been cheaper and more cost-effective than the proposed plan. (Sierra Club BR 23) Sierra Club states that FPL's renewable resource plan is arbitrarily and unreasonably constrained by a megawatt to megawatt match of DBEC Unit 7. (Sierra Club BR 28 - 29) Sierra Club further states that FPL adds a large amount of solar and storage in 2018 through 2022 before a reliability need. (Sierra Club BR 30)

**OPC**

OPC claims that retiring the Lauderdale units in late 2018 and delaying replacement power until 2024 is more cost-effective than DBEC Unit 7 being placed into service in 2022. (OPC BR 16) OPC further claims not forcing customers to pay for the resource two years before it is needed will produce savings for customers. (OPC BR 16)

**Staff Analysis:** FPL witness Sim's direct testimony provided an overview of FPL's analyses to determine the best option to meet its projected 2024 need and maintain load balance in the Southeastern Florida region. FPL's evaluation was a multi-staged process over multiple analyses that resulted in the proposed DBEC Unit 7, a 1,163 MW combined cycle power plant located on the existing Lauderdale Units 4 and 5 sites. (TR 64)

FPL's first analyses were performed in mid-2016, when a 2024 system need for a resource addition was identified in FPL's 2016 TYSP. Concurrently, an examination of the load balance in the Southeastern Florida region was performed and had projected an imbalance in the region to occur at approximately the same time. (TR 74) FPL's first stage was conducting analyses that contained various generation and transmission options that could be used to form resource plans that would address the issues. This included resource plans that considered CCs and CTs outside of the Southeastern Florida region, CCs and CTs inside the Southeastern Florida region, PV and/or batteries inside the Southeastern Florida region, and a modernization of existing sites. (TR 78) The conclusion of these analyses was that a new transmission line into Southeastern Florida was needed in all resource plans, which was determined to be the CSQ line. The addition of this line was projected to address the Southeastern Florida region need until 2027. (TR 82) The analyses further highlighted that not retiring Lauderdale Units 4 and 5 would cause FPL to incur significant expenses. (TR 83) With the retirement of Lauderdale Units 4 and 5 in 2018, the Southeastern Florida region is projected to become imbalanced by 2025 necessitating the replacement of the regional capacity prior to 2025. (TR 85) The uncertainty involved in project planning, such as changes in FPL's generating units or higher than projected loads, made FPL look into resource plans that would provide additional capacity at a date earlier than 2025. (TR 85 - 86) Therefore, FPL explored options to replace the Lauderdale units.

FPL's 2017 analyses used updated load, fuel costs, and environmental compliance costs; the same updated forecasts as were used in FPL's 2017 TYSP and 2017 Solar Base Rate Adjustment filings. (TR 83) These new analyses included the additional utility-scale PV capacity that was scheduled to be implemented due to the 2017 TYSP. (TR 83-84) The 2017 analyses established the addition of the CSQ line by mid-2019, which determined it would address regional need until

2030. (TR 85) The results of the new analyses presented FPL with three resource plans to evaluate including the updated forecasts. Plan 1 considered continued operation of Lauderdale Units 4 and 5. Plan 2 is a retirement of Lauderdale Units 4 and 5 in 2018, with DBEC Unit 7 added in 2022. Plan 3 is a retirement of Lauderdale Units 4 and 5 in 2018, with an addition of a combined 1,163 MW of PV and battery storage. (TR 87) These three initial plans formed the basis of FPL's petition in this docket.

As discussed previously in Issue 2, FPL considered a mix of PV facilities and battery storage as generation options in the 2017 analyses, but this resource option proved to be less cost-effective than DBEC Unit 7. While comparing the remaining resource plans, the continued operation of Lauderdale Units 4 and 5 has a CPVRR cost of \$337 million more than DBEC Unit 7. (EXH 5) The result of the evaluation was FPL deciding on a resource plan comprised of a 2018 retirement of the Lauderdale units with DBEC Unit 7 being constructed on the Lauderdale site in 2022, also known as FPL Plan 2. Based on the results of the analyses FPL concluded this was the most cost-effective resource plan. (EXH 5)

FPL also provided sensitivities which showed the impact of delaying the construction of DBEC Unit 7 one and two years. The results showed an estimated CPVRR increase in cost of \$12 million for a one year delay and \$38 million for a two-year delay. (TR 93) These scenarios also delayed the retirement of the Lauderdale units an equivalent amount of time. Therefore, further discovery was conducted, which requested a resource plan that would retire Lauderdale Units 4 and 5 in 2018 and delay the construction of DBEC Unit 7 to 2024. This evaluation showed that when compared to FPL's Plan 2, there was a savings of \$27.4 million. (EXH 52) Although savings occur when delaying the unit to 2024, FPL states there is an operations risk associated with taking a plant out-of-service with no replacement. (EXH 52) Accordingly, delaying the construction to 2024 would negatively impact the Southeastern Florida regional reliability and reduce the import capability provided by the CSQ line. (EXH 52, TR 410-411) FPL states that the delay scenario would also increase both system natural gas usage and system emissions. (EXH 52) FPL deemed the delay scenario unreasonable to pursue as delaying DBEC Unit 7 would result in increased operational challenges and risks to serving customers in the Southeastern Florida region. (TR 411) The potential economic savings compared to increased reliability risk is one that the Commission must balance while evaluating FPL's proposed plan.

Table 5-1 below is a CPVRR analysis of all of the scenarios compared to FPL’s proposed DBEC Unit 7 resource plan.

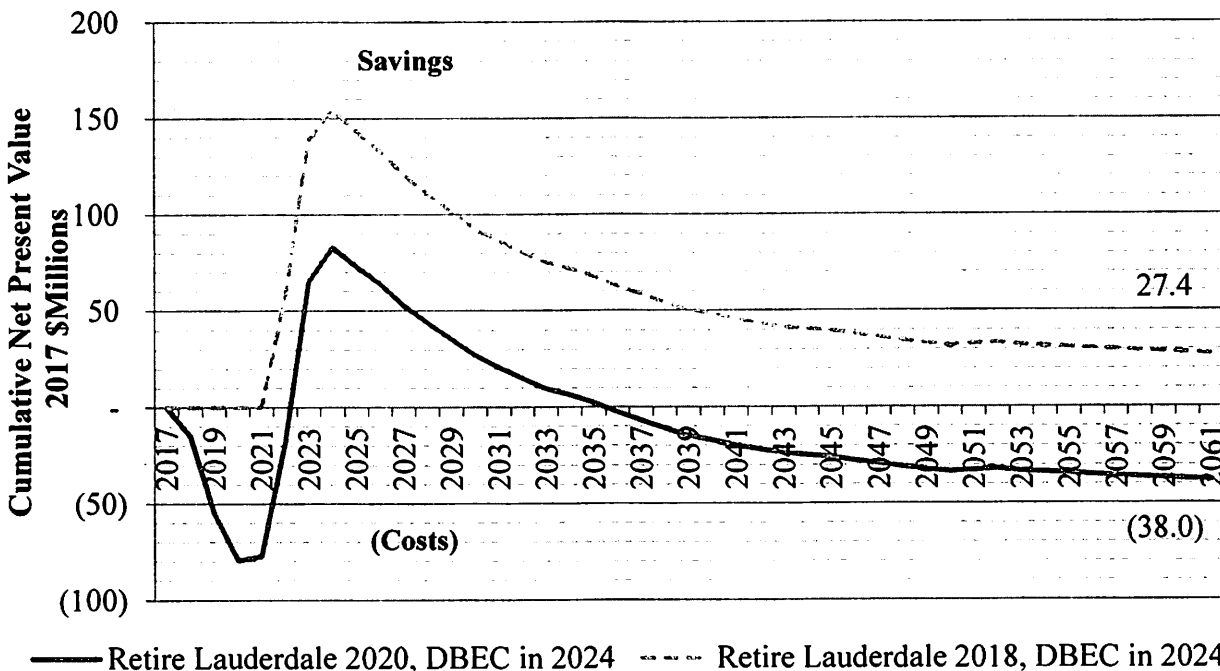
**Table 5-1  
 Cumulative Net Present Value Comparison of Resource Plans to FPL Plan 2**

| Resource Plan                                       | CPVRR<br>2017 \$Millions<br>Savings/(Costs) |
|---|---|
| Lauderdale 4 and 5,<br>Continued Operation          | <b>(337)</b>                                |
| FPL Renewable Evaluation (1,163 MW<br>PV/Batteries) | <b>(1,288)</b>                              |
| Retire Lauderdale 2018,<br>DBEC in-service 2024     | <b>27</b>                                   |
| Retire Lauderdale 2020,<br>DBEC in-service 2024     | <b>(38)</b>                                 |
| Staff Renewable Evaluation<br>(433 MW PV/Batteries) | <b>(370)</b>                                |

Source: EXH 52, EXH 59

As can be seen in the table above, only two resource plans are comparable to FPL’s proposed resource plan while shifting the timing of DBEC Unit 7 to align with FPL’s system generation need. Staff concentrated its efforts on evaluating these prevailing resource plans. Figure 5-1 below shows the annual CPVRR comparison of these resource plans.

**Figure 5-1  
 Annual Comparison to FPL's Proposed Plan 2**



Source: EXH 53, EXH 59

Staff recommends that the resource plans evaluated in Table 5-1 and Figure 5-1, shows that the continued operation of Lauderdale Units 4 and 5 would be uneconomic. Namely, the retirement of the Lauderdale units and replacement with DBEC Unit 7 would present an estimated NPV savings of approximately \$299 million and \$364 million for FPL customers. Both Sierra Club and OPC stated that retiring the Lauderdale units in 2018 and delaying the in-service date of DBEC Unit 7 until 2024 is more economic than FPL's proposed plan. Staff agrees that such a resource plan would result in projected savings for the customers but would ignore the diminished Southeastern Florida area regional reliability. Staff also agrees with witness Sanchez that this increased reliability risk is not worth the potential economic impact to FPL's customers. (TR 410-411) As discussed in Issue 3, FPL's DBEC Unit 7 would be one of the most efficient units on FPL's system. As established in Docket No. 20160021-EI, FPL's current incentive mechanism has a sharing threshold of \$40 million that obliges FPL to pass savings to customers if they occur.<sup>2</sup> The addition of DBEC Unit 7 in 2022 may result in additional opportunities for FPL to make off system sales for the benefit of its customers.

<sup>2</sup>Order No. PSC-16-0560-AS-EI, issued December 15, 2016, in Docket No. 20160021-EI, *In re: Petition for rate increase by Florida Power & Light Company*.

**Conclusion**

The retirement and replacement of the Lauderdale units with DBEC Unit 7 is estimated to result in a NPV savings of approximately \$299 million to \$364 million. Therefore, the proposed DBEC Unit 7 is the most cost-effective alternative that maintains FPL's system and the Southeastern Florida area reliability compared to other alternatives.

**Issue 6:** Based on the resolution of the foregoing issues and other matters within its jurisdiction which it deems relevant, should the Commission grant FPL's petition to determine the need for the proposed Dania Beach Clean Energy Center Unit 7?

**Recommendation:** Yes. (Wooten)

**Position of the Parties**

**FPL:** Yes. DBEC Unit 7 is the best, most cost-effective choice for meeting the needs of FPL's customers beginning June 1, 2022. It is the most cost-effective choice based on extensive analyses, taking into account all reasonably available renewable energy and conservation measures. For the benefit of FPL's customers, it will deliver significant cost savings, enhance system and regional reliability, and reduce system emissions and usage of natural gas as a fuel source for generation.

**Sierra Club:** No. FPL has not met its burden to demonstrate that DBEC is needed. Potential alternatives exist to satisfy future needs at less cost, and with wide-ranging benefits of alternatives, including greater fuel diversity. Moreover, to avoid the material risk of DBEC becoming a stranded asset, the Commission needs more information on the pledges to transition to renewable energy by local governments and customers in FPL's service area well before 2061.

**OPC:** No, not at this time. Delaying Dania Unit 7 by a year or two and retiring the Fort Lauderdale Units 4&5 in late 2018 is the least costly option based on all the circumstances provided in this case.

**Parties' Arguments**

**FPL**

FPL states that as demonstrated in Issues 1 through 5, the DBEC Unit 7 is the most cost-effective alternative with which to maintain and enhance reliable service system-wide and in the Southeastern Florida region. FPL adds that using the existing infrastructure of the retired Lauderdale units for DBEC Unit 7 is consistent with the Commission's policy that before a utility constructs a new generating unit at a greenfield site, it must consider the modernization of existing units. (FPL BR 36)

**Sierra Club**

Sierra Club explains that there is no reliability need for DBEC Unit 7, and the addition of the unit would exceed FPL's reserve margin. (Sierra Club BR 7) Sierra Club further explains that the projected imbalance for the Southeastern Florida region does not support a need for DBEC Unit 7. (Sierra Club BR 10) Sierra Club claims that FPL reviewed a limited scope of alternative plans that may have been cheaper than the proposed plan. (Sierra Club BR 23)

**OPC**

OPC asserts that DBEC Unit 7 is not needed until 2024 and FPL's 20 percent reserve margin criterion will remain sufficiently met with a 2024 in-service date. (OPC BR 16-17) OPC agrees with Sierra Club witness Hausman that DBEC Unit 7 will provide excess capacity available for sale that would be under FPL's asset optimization. (OPC BR 17) OPC asserts that the addition of

resources before the 2024 need is not conducive to meeting a need determination. (OPC BR 17-18)

**Staff Analysis:** Pursuant to Section 403.519, F.S., the Commission is the sole forum for the determination of need for major new power plants. In making its determination, the Commission must take into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the need for fuel diversity and supply reliability, and whether the proposed plant is the most cost-effective alternative available. The Commission must also expressly consider whether renewable generation or conservation measures taken by or reasonably available to the Utility might mitigate the need for the proposed plant. The Commission's decision on a need determination petition must be based on the facts as they exist at the time of the filing with the underlying assumptions tested for reasonableness.

As shown in Issues 1 through 5, the record supports the need for DBEC Unit 7 in 2022. The following summarizes the previous issues:

1. FPL has demonstrated that it has a system need for capacity additions in the 2024 through 2026 timeframe to meet its 20 percent reserve margin criterion.
2. No cost-effective DSM or renewable resources have been identified that could mitigate the need for DBEC Unit 7.
3. DBEC Unit 7 is expected to provide adequate electricity at a reasonable cost to FPL's customers.
4. DBEC Unit 7 is projected to reduce overall natural gas consumption and reduce emissions compared to maintaining the existing Lauderdale units.
5. DBEC Unit 7 is the most cost-effective alternative that maintains FPL's system and Southeastern Florida area reliability compared to other alternatives. The retirement and replacement of the Lauderdale units with DBEC Unit 7 is estimated to result in a NPV savings of approximately \$299 million to \$364 million.

Staff recommends that there is value in evaluating multiple reliability perspectives in order to maintain reliability and integrity of the grid and expects FPL to maintain reliability as it has stated with the proposed DBEC Unit 7. Based on the record above, staff recommends that the Commission grant FPL's requested determination of need.

It is prudent for a utility to continue to evaluate whether it is in the best interests of its ratepayers for a utility to participate in a proposed power plant before, during, and after construction of a generating unit. If conditions change from what was presented at the need determination proceeding, then a prudent utility would be expected to respond appropriately. In addition, the Commission has ongoing authority and an obligation to ensure fair, just, and reasonable rates for Florida's utilities and ratepayers. Pursuant to Rule 25-22.082(15), F.A.C., if the public utility selects a self-build option, costs in addition to those identified in the need determination proceeding shall not be recoverable unless the utility can demonstrate that such costs were prudently incurred and due to extraordinary circumstances.



**Issue 7:** Should this docket be closed?

**Recommendation:** Yes. Upon issuance of an order on FPL's petition to determine the need for the proposed DBEC Unit 7, this docket shall be closed after the time for filing an appeal has run. (Murphy, Cuello)

**Position of the Parties**

**FPL:** Yes. Upon issuance of an order granting FPL's petition to determine the need for DBEC Unit 7, this docket should be closed.

**Sierra Club:** This docket should be closed consistent with the above positions, and with instructions for FPL to undertake the competitive bidding process identified in docket 20170122-EI. Only at the conclusion of such a process, supplemented by a Commission request for information on solar and solar/storage projects, would it have the evidence needed to render the requisite independent, record-based decision under section 403.519, Florida Statutes on what constitutes the "most cost-effective alternative."

**OPC:** Yes.

**Staff Analysis:** Upon issuance of an order on FPL's petition to determine the need for the proposed DBEC Unit 7 this docket should be closed after the time for filing an appeal has run.