

State of Florida



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## Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

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

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**DATE:** September 28, 2018

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

**FROM:** Division of Engineering (Lee) *POE*  
Division of Accounting and Finance (Andrews) *MAM* *ALM*  
Division of Economics (Higgins) *DU*  
Office of the General Counsel (DuVal) *MS* *C. R. L.*

**RE:** Docket No. 20180152-EQ – Petition for approval to terminate qualifying facility power purchase agreement with Ridge Generating Station, L.P., by Duke Energy Florida, LLC.

**AGENDA:** 10/11/18 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Clark

**CRITICAL DATES:** December 31, 2018 (Termination Agreement Closing Date)

**SPECIAL INSTRUCTIONS:** None

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### Case Background

On August 3, 2018, Duke Energy Florida, LLC (DEF or Company) filed a petition for approval of a Termination Agreement (Termination Agreement) and for approval of the regulatory treatment of the termination payment of \$34.5 million to Ridge Generating Station, L.P. (Ridge). DEF and Ridge entered into the Termination Agreement to terminate a power purchase agreement (PPA) between DEF and Ridge on August 1, 2018.

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The PPA was approved by the Florida Public Service Commission (Commission) in 1991.<sup>1</sup> The Ridge facility, located in Auburndale, Florida, is a qualifying facility converting waste, such as scrap tires, into electric power. Since the facility came online in May 1994, DEF has been purchasing firm energy and capacity from Ridge pursuant to the PPA, with a 39.6 megawatt (MW) committed capacity expiring in December 2023.

DEF's proposed regulatory treatment is to establish a regulatory asset for the \$34.5 million termination payment that DEF will recover through the Capacity Cost Recovery Clause (Capacity Clause) by amortizing the regulatory asset through the expiration of the original PPA term. The Termination Agreement has a requirement that the transaction be approved by the Commission as one of the conditions to be satisfied prior to the expected closing date of December 31, 2018.

On August 27, 2018, the Office of Public Counsel (OPC) filed a notice of intervention. Order No. PSC-2018-0436-PCO-EQ acknowledged the intervention by OPC on August 28, 2018.

The Commission has jurisdiction over this matter pursuant to Sections 366.051, 366.81, and 366.91, Florida Statutes (F.S.).

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<sup>1</sup> Order No. 24734, issued July 1, 1991, in Docket No. 19910401-EQ, *In re: Petition for approval of contracts for purchase of firm capacity and energy by Florida Power Corporation.*

## Discussion of Issues

**Issue 1:** Should the Commission approve the Termination Agreement and the requested regulatory treatment of the termination payment?

**Recommendation:** Yes. Based on staff's review, the Termination Agreement is expected to save DEF and its customers between \$30 and \$35 million in net present value (NPV) and should be approved. Recovery of the termination payment as a regulatory asset through the Capacity Clause should also be approved. (Lee, Andrews, Higgins)

**Staff Analysis:** DEF is obligated to purchase firm energy and capacity from Ridge until the expiration of the PPA in December 2023. While the PPA was cost-effective based on the avoided generating unit at the time of approval, it is no longer cost-effective compared to the avoided costs under current and projected market conditions.

DEF negotiated a \$34.5 million payment to Ridge to terminate the PPA. Pursuant to the Termination Agreement, Ridge will terminate its qualifying facility status, permanently shut down the Ridge facility and terminate any interconnection agreements for the facility. By terminating the PPA without acquiring the facility, DEF believes its customers will benefit from lower projected fuel prices and avoid risks associated with the cleanup and dismantlement of the Ridge facility.

DEF argued that the \$34.5 million termination payment is a prudent investment that will result in a reduction of CO<sub>2</sub> emissions as well as economic benefits. Below is a summary of DEF's analysis of the economic benefits, followed by staff's review of key factors underlying the analysis, including the Ridge energy output scenarios, fuel forecasts, production cost comparison, and the regulatory treatment of the termination payment.

### Summary of DEF's Analysis

DEF witness Borsch assessed the economic impact of the Termination Agreement based on his Cumulative Present Value Revenue Requirement (CPVRR) analysis. This is conducted by comparing the revenue requirements under the current PPA structure to those under the Termination Agreement. The analysis is over the remaining five-year term from January 2019 through December 2023 based on the expected closing date of December 31, 2018.

Using the 2018 Ten-Year Site Plan fuel price forecast as the base case for fuel prices, DEF witness Borsch provided a demonstration of projected net benefits. The cost of the Termination Agreement was calculated based on the proposed regulatory treatment of the termination payment as a regulatory asset. The revenue requirements totaled \$41.3 million over the five-year term, with a NPV of \$34 million.<sup>2</sup> This cost is compared with the benefit of a lower production cost without the PPA, estimated to be between \$64 and \$69 million in NPV.<sup>3</sup> The benefit over cost is between \$30 and \$35 million of net savings in NPV.

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<sup>2</sup> Exhibit BMHB-3, pp. 1-3, Row E, direct testimony of DEF witness Borsch.

<sup>3</sup> Exhibit BMHB-3, pp. 1-3, Row H, direct testimony of DEF witness Borsch.

In addition, DEF used a high fuel case scenario to test the sensitivity of the estimated savings to fuel prices. Estimated savings under this high fuel case scenario are between \$23 and \$27 million in NPV, demonstrating the robustness of the economic benefits of the Termination Agreement. DEF assigned no savings attributable to reduced CO<sub>2</sub> emissions. Therefore, no test for carbon pricing sensitivity is needed. Table 1-1 shows the estimated savings under the base case in comparison with those under the high fuel case for three energy output scenarios discussed below.

**Table 1-1  
Estimated Net DEF System Savings \$ Millions NPV (2019)**

	<b>Base Case Fuel</b>	<b>High Fuel</b>
<b>Upper Energy Output Band (260 GWh)</b>	35	27
<b>Middle Energy Output Band (246 GWh)</b>	34	25
<b>Lower Energy Output Band (222 GWh)</b>	30	23

### **Ridge Energy Output Scenarios**

DEF estimated the system impact to fuel cost for three energy output scenarios of the future energy output of the Ridge facility. The three energy output scenarios are based on review of Ridge's performance over the last 24 years with an emphasis on recent generation performance trends. In the lower band scenario, DEF assumed approximately 222 gigawatt hours (GWh) of annual output based on an average 64 percent capacity factor performance. In the middle band scenario, DEF assumed approximately 246 GWh of annual output, or 71 percent capacity factor. In the upper band scenario, DEF assumed approximately 260 GWh of annual output, or 75 percent capacity factor.

To evaluate whether these output assumptions are too high and may result in unrealistic estimated savings, staff reviewed the underlying data for Ridge's capacity factor performance and payment under the PPA. That information appears to support Ridge's ability to meet the minimum requirement of a 12-month rolling average on-peak capacity factor of 85 percent for full capacity payment.<sup>4</sup> In comparison, DEF's energy output assumptions using an average capacity factor range between 64 percent and 75 percent are reasonable considering factors such as planned outages that reduce output. Based on staff's review, this data set supports DEF's energy output assumptions.

### **Production Cost Comparison**

As discussed earlier, DEF's estimated savings due to a lower production cost without the PPA are between \$64 and \$69 million in NPV, depending on the energy output. These lower production costs can be attributed to the PPA energy and capacity payment that can be avoided after terminating the PPA.

Pursuant to the Ridge PPA, the energy payment rate is currently based on the delivered price of coal to DEF's Crystal River Units 1 and 2 until those units are retired later this year; then, the energy payment rate is based on a coal price proxy index and a 1991 avoided coal unit variable operation and maintenance charge. Under the forecasted base fuel price scenario, the PPA energy

<sup>4</sup> Document No. 05683-2018, DEF's response to Staff's Second Data Request, No. 4.

payment is unfavorable to DEF and its customers, compared with DEF's energy production cost without the PPA. The energy savings without the PPA are estimated to be between \$25 million to \$30 million in NPV, depending on the energy output.<sup>5</sup>

In addition, staff reviewed the data underlying DEF's assumption for full capacity payment of \$9.6 million per year. The 12-month rolling average on-peak capacity factor used to set the monthly capacity payment showed an improving performance in 2017 and 2018. The performance has exceeded the minimum requirement of 85 percent for full capacity payment since March 2018.<sup>6</sup> Based on staff's review, DEF's assumption for full capacity payment is reasonable. The avoided capacity payment totals \$48.1 million over the five-year term, with a NPV of approximately \$39 million. Adding this to the \$25 million to \$30 million in energy savings, the total estimated production cost savings are between \$64 and \$69 million in NPV.

### **Fuel Forecast**

DEF's CPVRR evaluations included assumptions related to forecasted fuel prices. However, since the remaining term of DEF's contract with Ridge is relatively limited, running through December 2023, much of the information used to value future fuel costs is observable. Specifically, DEF relied primarily on New York Mercantile Exchange contract pricing to prepare its short term natural gas and oil price forecasts appearing in its base case fuel price scenario. Similarly, DEF relied upon its existing coal contracts to project its coal prices for the early years of its base case fuel price scenario. Further, DEF performed a high (price) case sensitivity analysis around its base forecast. The high case sensitivity analysis reflects forecasted fuel prices approximately 33 percent greater than the base case forecast. DEF stated it did not perform a low case fuel price sensitivity because both base and high case forecasted price levels resulted in positive customer savings, and because a low case fuel price sensitivity would only increase the customer savings.

Staff considers the relevant forecast period (2018-2023) to be on the shorter end of forecast durations that the Commission is generally tasked with reviewing. Typically, a shorter forecast period will result in a greater degree of reliability concerning accuracy. In addition, much of the near-term pricing is based on actual executed contracts. For these reasons, staff believes the forecasted fuel prices used in DEF's economic evaluations of the Termination Agreement are reasonable.

### **Reliability Impact (Reserve Margin)**

If the loss of the Ridge capacity causes a need to replace the capacity or accelerate any generating units, then the cost to replace the Ridge capacity must be evaluated. DEF argued that the 39.6 MW capacity from Ridge is not a material contributor to DEF's reliability reserve margin. In response to Staff's First Data Request, DEF provided an update of its Ten-Year Site Plan schedules for reliability reserve margin. The updated schedules reflect both the termination of the Ridge capacity and the capacity from the termination of the Florida Power Development,

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<sup>5</sup> Exhibit BMHB-3, p. 1, Row F, direct testimony of DEF witness Borsch.

<sup>6</sup> Document No. 05683-2018, DEF's response to Staff's Second Data Request, No. 4.

LLC (FPD) contract approved by the Commission in May 2018.<sup>7</sup> The impact of the loss of the Ridge capacity is less than 1 percent, resulting in a projected range of summer reserve margin during 2019-2023 that is still 8 to 11 percent above the 20 percent reserve margin approved by the Commission. Based on staff's review, the provided information supports a finding that reliability considerations will not cause a need to replace the Ridge capacity or accelerate any generating units.

### **Regulatory Asset Treatment**

Staff has reviewed DEF's proposed regulatory treatment to establish a regulatory asset for the \$34.5 million termination payment and to amortize it over the remaining five-year term for recovery through December 2023. The regulatory asset treatment is consistent with the Commission's decision on a similar regulatory treatment for the termination of the FPD contract in Order No. PSC-2018-0240-PAA-EQ.<sup>8</sup> Staff has calculated the revenue requirement based on the projected capital structure provided by DEF. Based on DEF's projected capital structure and rate of return, staff recommends no adjustments to the proposed revenue requirement for the regulatory asset.

### **Conclusion**

Based on staff's review, the Termination Agreement is expected to save DEF and its customers between \$30 and \$35 million in NPV and should be approved. Recovery of the termination payment as a regulatory asset through the Capacity Clause should also be approved.

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<sup>7</sup> Order No. PSC-2018-0240-PAA-EQ, issued May 8, 2018, in Docket No. 20170274-EQ, *In re: Petition for approval to terminate qualifying facility power purchase agreement with Florida Power Development, LLC, by Duke Energy Florida, LLC.*

<sup>8</sup> *Id.*

**Issue 2:** Should this docket be closed?

**Recommendation:** Yes. This docket should be closed upon issuance of a Consummating Order unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the proposed agency action. (DuVal)

**Staff Analysis:** This docket should be closed upon issuance of a Consummating Order unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the proposed agency action.