State of Florida

Public Service Commission

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

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

DATE: December 23, 2013

TO: Office of Commission Clerk (Stauffer)

FROM: Division of Engineering (Matthews, Mtenga)
Office of the General Counsel (Tan)

RE: Docket No. 130249-EI – Petition for approval of amended standard offer contract and rate schedule (Schedule COG-2), by Duke Energy Florida, Inc.

AGENDA: 01/07/14 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Brown

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

Case Background

Section 366.91(3), Florida Statutes (F.S.), requires that each investor-owned utility (IOU) continuously offer to purchase capacity and energy from renewable energy generators. Commission Rules 25-17.200 through 25-17.310, Florida Administrative Code (F.A.C.), require each IOU to file with the Commission by April 1 of each year a standard offer contract based on the next avoidable generating unit or planned purchase. On March 28, 2013, Duke Energy Florida (DEF) filed two petitions; one for approval of an amended standard offer contract based on a combined cycle (CC) avoided unit,[1] and another for approval of a new standard offer contract based on a combustion turbine (CT) avoided unit.[2] By Order No. PSC-13-0313-PAA-

[1] Docket No. 130068-EI, In re: Petition for approval of amended standard offer contract (Schedule COG-2), by Progress Energy Florida, Inc.
[2] Docket No. 130069-EI, In re: Petition for approval of new standard offer contract (Schedule COG-2A), by Progress Energy Florida, Inc.

EI, issued July 11, 2013, in consolidated Docket Nos. 130068-EI AND 130069-EI, these two standard offer contracts were approved by the Commission.

When a request for proposals (RFP) has been issued for an avoided unit, the standard offer contract must be amended to reflect the change pursuant to Rule 25-17.250(2)(a) and (b), F.A.C. In October 2013, DEF issued a RFP for the previously identified avoided CC unit. On October 8, 2013, DEF filed the instant petition requesting approval of an amended standard offer contract using the next combined cycle avoided unit contained in its Ten-Year Site Plan, which reflects the change in the size and in-service date. The new avoided unit is a 793 megawatt (MW) CC with an in-service date of June 1, 2021.

The Commission has jurisdiction over these standard offer contracts pursuant to Sections 366.04 through 366.06, and 366.91, F.S., and Commission Rules 25-17.200 through 25-17.310, F.A.C.

Discussion of Issues

Issue 1: Should the Commission approve the amended standard offer contract filed by Duke Energy Florida, Inc.?

Recommendation: Yes. The provisions of the amended standard offer contract and associated schedules, as filed October 8, 2013, conform to all requirements of Rules 25-17.200 through 25-17.310, F.A.C. The amended standard offer contract provides flexibility in the arrangements for payments so that a developer of renewable generation may select the payment stream best suited to its financial needs. (Mtenga, Matthews)

Staff Analysis: Because Duke Energy Florida (DEF) is an IOU, Rule 25-17.250, F.A.C., requires that it continuously make available a standard offer contract for the purchase of firm capacity and energy from renewable generating facilities (RF) and small qualifying facilities (QF) with design capacities of 100 kilowatts (kW) or less. Pursuant to Rule 25-17.250, F.A.C., the standard offer contract must provide a term of at least ten years, and separate contracts must be available based on the utility's next avoidable fossil-fueled generating units of each technology type identified in its most recent Ten-Year Site Plan. If no avoided unit is identified, the standard offer contract is based on the utility's next avoidable planned purchase.

On March 28, 2013, DEF filed two petitions for approval of standard offer contracts based on two avoided units of different technology types. In Docket No. 130068-EI, the avoided unit was a 1,189 MW natural gas-fired CC unit with an in-service date of June 1, 2018. In Docket No. 130069-EI, the avoided unit was a 187 MW CT unit with a June 1, 2022 in-service date. In the instant docket, DEF revised its avoided unit for the CC technology type to be a 793 MW natural gas-fired CC unit with a projected in-service date of June 1, 2021. The standard offer contract for the CT unit is not affected and remains in place and unchanged by this docket.

Rule 25-17.250(2) states, in pertinent part:

> (a) In order to ensure that each utility continuously offers a purchase contract to producers of renewable energy, each standard offer contract shall remain open until:
>
> 1. A request for proposals (RFP) pursuant to Rule 25-22.082, F.A.C., is issued for the utility's planned generating unit; . . .
>
> (b) Before a standard contract offering is closed, the utility shall file a petition for approval of a new standard offer contract based on the next unit of the same generating technology, if any, in its Ten-Year Site Plan.

DEF issued an RFP in October 2013 for the CC unit previously identified as the avoided unit. Therefore, it is obligated by Rule 25-17.250 to file an amended standard offer contract based on the next CC unit contained in its Ten-Year Site Plan, which is the 793 MW unit identified in this docket.

Revised Standard Offer Contract

DEF submitted a total of seven revised sheets of the standard offer contract corresponding to Rate Schedule COG-2. The type-and-strike format versions of the revised tariff sheets are included as Appendix A to this recommendation. All the changes made to the tariff sheets are consistent with the updated avoided unit. Revisions include an updated example of monthly capacity payments, updates to calendar dates, as-available energy costs, estimated unit fuel costs, line loss data, and performance security.

The RF/QF operator may elect to make no commitment as to the quantity or timing of its deliveries to DEF, and to have a committed capacity of zero (0) MW. Under such a scenario, the energy is delivered on an as-available basis and only an energy payment is made. Alternatively, the RF/QF operator may elect to commit to certain minimum performance requirements based on the avoided unit, such as being operational and delivering the agreed upon amount of capacity by the in-service date. The operator thereby becomes eligible for capacity payments in addition to those made for energy. If the RF/QF operator wishes to have contract terms that are different from those offered under the standard offer contract, the parties may enter into a negotiated contract instead.

In order to promote renewable generation, the Commission requires the IOU to offer multiple options for capacity payments, including the options to receive early and/or levelized payments. If the RF/QF operator elects to receive capacity payments under the normal or levelized contract options, it will receive as-available energy payments only until the in-service date of the avoided unit (revised in this case to June 1, 2021), and thereafter begin receiving capacity payments in addition to the energy payments. If either the early or early levelized option is selected, the operator will begin receiving capacity payments earlier than the in-service date of the avoided unit. However, payments made under the early capacity payment options tend to be lower in the later years of the contract term because the net present value (NPV) of the total payments must remain equal for all contract options. In addition, any capacity payments made which are greater than those called for under the normal option require additional performance security from the RF/QF operator.

Table 1 shows estimates of the annual payments for all payment options that could be made under the amended standard offer contract, using an RF/QF operator with a 50 MW facility with an in-service date of January 1, 2014, and operating at a capacity factor of 87 percent as an example. The lowest capacity factor required to qualify for a full capacity payment is 87 percent, and the minimum capacity factor required to qualify for any capacity payment is 67 percent. The capacity factor requirements are based on the projected availability of the avoided unit. Table 1 includes the net present values, in 2013 dollars, for each of the contract payment options. The discount rate used for calculating the NPV is 6.46 percent.

Table 1 – Estimated Annual Payments to a 50 MW Renewable Facility (87% Capacity Factor)

Year	Energy Payment	Capacity Payment (By Type)			
		Normal	Levelized	Early	EarlyLevelized
	$(000)	$(000)	$(000)	$(000)	$(000)
2014	15,311	-	-	2,804	3,365
2015	16,323	-	-	2,874	3,370
2016	17,131	-	-	2,946	3,374
2017	18,685	-	-	3,020	3,379
2018	19,528	-	-	3.095	3,384
2019	20,783	-	-	3,173	3,389
2020	21,605	-	-	3,252	3,395
2021	22,115	5,938	6,713	3,333	3,400
2022	23,072	6,086	6,723	3,417	3,405
2023	24,408	6,238	6,733	3,502	3,411
2024	25,425	6,394	6,744	3,590	3,417
2025	26,012	6,554	6,754	3,679	3,423
2026	27,432	6,718	6,765	3,771	3,429
2027	27,922	6,886	6,776	3,866	3,435
2028	28,406	7,058	6,787	3,962	3,441
2029	28,910	7,235	6,799	4,061	3,448
2030	30,170	7,416	6,811	4,163	3,455
2031	31,622	7,601	6,823	4,267	3,462
2032	33,033	7,791	6,836	4,374	3,469
2033	34,344	7,986	6,849	4,483	3,476
Total	**$492,231**	**89,910**	**88,113**	**71,632**	**68,327**
NPV		**37,714**	**37,714**	**37,714**	**37,714**

Conclusion

The provisions of the amended standard offer contract and related schedules conform to all requirements of Rules 25-17.200 through 25-17.310, F.A.C. The amended standard offer contract provides flexibility in the arrangements for payments so that a developer of renewable generation may select the payment stream best suited to its financial needs. As such, staff believes the amended standard offer contract and related schedules as filed on October 8, 2013, should be approved.

2 CM

Issue ~~1~~: 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 Commission's Proposed Agency Action Order. Potential signatories should be aware that, if a timely protest is filed, DEF's standard offer contract may subsequently be revised. (Tan)

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 Commission's Proposed Agency Action Order. Potential signatories should be aware that, if a timely protest is filed, DEF's standard offer contract may subsequently be revised.

APPENDIX A

DUKE ENERGY.

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.415
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.415

3. Term of Contract

Except as otherwise provided herein, this Contract shall become effective immediately upon its execution by the Parties and shall end at 12:01 a.m. on the Termination Date, (the "Term") unless terminated earlier in accordance with the provisions hereof. Notwithstanding the foregoing, if the Capacity Delivery Date of the Facility is not accomplished by the RF/QF before the either the Avoided Unit In-Service Date or an earlier date in Appendix E (or such later date as may be permitted by DEF pursuant to Section 7), this Contract shall be rendered null and void and DEF's shall have no obligations under this Contract.

4. Minimum Specifications and Milestones

As required by FPSC Rule 25-17.0832(4)(e), the minimum specifications pertaining to this Contract and milestone dates are as follows:

Avoided Unit	Undesignated CC
Avoided Unit Capacity	~~1189~~793 MW
Avoided Unit In-Service Date	June 1, ~~2018~~2021
Avoided Unit Heat Rate	6,~~703~~755 BTU/kWh
Avoided Unit Variable O&M	0.~~119~~532¢ per kWh in mid-2013 dollars escalating annually at 2.~~25~~50%
Avoided Unit Life	~~25~~35 years
Capacity Payments begin	Avoided Unit In-Service Date unless Option B, or D is selected or amended in Appendix E
Termination Date	May 31, ~~2028~~2031 (10 years) unless amended in Appendix E
Minimum Performance Standards - On Peak Availability Factor*	87%
Minimum Performance Standards - Off Peak Availability Factor	87%
Minimum Availability Factor Required to qualify for a Capacity payment	67%
Expiration Date	April 1, 2014
Completed Permits Date	June 1, 2016
Exemplary Early Capacity Payment Date	January 1, 2014

* RF/QF performance shall be as measured and/or described in Appendix A.

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE:

DUKE ENERGY.

SECTION No. IX
~~SECOND~~ THIRD REVISED SHEET NO. 9.427
CANCELS ~~FIRST~~ SECOND REVISED SHEET NO. 9.427

14. Default

Notwithstanding the occurrence of any Force Majeure as described in Section 18, each of the following shall constitute an Event of Default:

(a) the RF/QF changes or modifies the Facility from that provided in Section 2 with respect to its type, location, technology or fuel source, without the prior written approval of DEF;

(b) after the Capacity Delivery Date, the Facility fails for twelve (12) consecutive months to maintain an Annual Capacity Billing Factor, as described in Appendix A, of at least ~~seventy-four~~sixty seven percent (~~74~~67%);

(c) the RF/QF fails to satisfy its obligations to maintain sufficient fuel on the site of the Facility to deliver the capacity and energy associated with the Committed Capacity for an uninterrupted seventy-two-(72) hour period under Section 10.5.6 hereof;

(d) the failure to make when due, any payment required pursuant to this Agreement if such failure is not remedied within three (3) Business Days after written notice.

(e) either Party, or the entity which owns or controls either Party, ceases the conduct of active business; or if proceedings under the federal bankruptcy law or insolvency laws shall be instituted by or for or against either Party or the entity which owns or controls either Party; or if a receiver shall be appointed for either Party or any of its assets or properties, or for the entity which owns or controls either Party; or if any part of either Party's assets shall be attached, levied upon, encumbered, pledged, seized or taken under any judicial process, and such proceedings shall not be vacated or fully stayed within thirty (30) calendar days thereof; or if either Party shall make an assignment for the benefit of creditors, or admit in writing its inability to pay its debts as they become due;

(f) the RF/QF fails to give proper assurance of adequate performance as specified under this Contract within thirty (30) calendar days after DEF, with reasonable grounds for insecurity, has requested in writing such assurance;

(g) the RF/QF fails to achieve licensing, certification, and all federal, state and local governmental, environmental, and licensing approvals required to initiate construction of the Facility by no later than the Completed Permits Date;

(h) the RF/QF fails to comply with the provisions of Section 20.3 hereof;

(i) any of the representations or warranties made by either Party in this Contract is false or misleading in any material respect as of the time made;

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE: April 29, 2013

DUKE ENERGY.

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.455
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.455

TABLE 3
EXAMPLE MONTHLY CAPACITY PAYMENT IN $/kW/MONTH
DEF'S June 1, ~~2018~~2021 Undesignated CC
Renewable or Qualifying Facility Standard Offer Contract Avoided Capacity Payments

($/kW/MONTH)

Contract Year	Option A Normal Capacity Payment Starting on the Avoided Unit In-Service Date	Option B Early Capacity Payment Starting on the Exemplary Capacity Payment Date	Option C Levelized Capacity Payment Starting on the Avoided Unit In-Service Date	Option D Early Levelized Capacity Payment Starting on the Exemplary Capacity Payment Date
2014		~~6.64~~1.24		~~7.55~~4.97
2015		~~6.79~~4.35		~~7.56~~4.97
2016		~~6.94~~4.45		~~7.57~~4.98
2017		~~7.10~~4.57		~~7.57~~4.99
2018	~~10.80~~	~~7.26~~4.68	~~11.89~~	~~7.58~~4.99
2019	~~11.05~~	~~7.42~~4.80	~~11.90~~	~~7.59~~5.00
2020	~~11.29~~	~~7.59~~4.92	~~11.91~~	~~7.59~~5.01
2021	~~11.55~~9.90	~~7.76~~5.04	~~11.92~~10.88	~~7.60~~5.02
2022	~~11.81~~10.14	~~7.93~~5.17	~~11.93~~10.89	~~7.61~~5.03
2023	~~12.07~~10.40	~~8.11~~5.30	~~11.94~~10.91	~~7.62~~5.03
2024	~~12.34~~10.66	~~8.29~~5.43	~~11.95~~10.93	~~7.62~~5.04
2025	~~12.62~~10.92	~~8.48~~5.56	~~11.97~~10.95	~~7.63~~5.05
2026	~~12.91~~11.20	~~8.67~~5.70	~~11.98~~10.96	~~7.64~~5.06
2027	~~13.20~~11.48	~~8.86~~5.85	~~11.99~~10.98	~~7.65~~5.07
2028	~~13.49~~11.76	~~9.06~~5.99	~~12~~11.00	~~7.66~~5.08
2029	12.06	6.14	11.02	5.09
2030	12.36	6.29	11.04	5.10

1. The Capacity Payment schedules contained in this Contract assume a term of ten years from the Avoided Unit In-Service Date. In the event the RF/QF requests a term greater than ten years but less than the Avoided Unit Life then DEF shall prepare a schedule of Capacity Payments for the requested term. Such Capacity Payment rates shall be calculated utilizing the value-of-deferral methodology described in FPSC Rule 25-17.0832(6).

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE:

DUKE ENERGY.

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.457
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.457

For any period during which energy is delivered by the RF/QF to DEF, the Firm Energy Rate in cents per kilowatt hour (¢/kWh) shall be the following on an hour-by-hour basis: the lesser of (a) the As-Available Energy Rate and (b) the Avoided Unit Energy Cost. The Avoided Unit Energy Cost, in cents per kilowatt - hour (¢/kWh) shall be defined as the product of (a) the Avoided Unit Fuel Cost and (b) the Avoided Unit Heat Rate; plus (c) the Avoided Unit Variable O&M.

For the purposes of this agreement, the Avoided Unit Fuel Cost shall be determined from gas price published in Platts Inside FERC, Gas Market Report, first of the month posting for Florida Gas Transmission ("FGT") Zone 3, plus other charges, surcharges and percentages that are in effect from time to time.

The Parties may mutually agree to fix a minority portion of the base energy payments associated with the Avoided Unit and amortize that fixed portion, on a present value basis, over the term of the Contract. Such fixed energy payments may, at the option of the RF/QF, start as early as the Avoided Unit In-Service Date. For purposes of this paragraph, "base energy payments associated with the Avoided Unit" means the energy costs of the Avoided Unit to the extent that the Avoided Unit would have been operated. If this option is mutually agreed upon, it will be attached to this Contract in Appendix E.

ESTIMATED AS-AVAILABLE ENERGY COST

For informational purposes only, the estimated incremental avoided energy costs for the next four semi-annual periods are as follows. The following estimates include variable operation and maintenance expenses.

Applicable Period	Average ¢/KWH
April 1, 2013 - September 30, 2013	3.~~9~~8
October 1, 2013 – March 31, 2014	3.5
April 1, 2014– September 30, 2014	4.~~0~~2
October 1, 2014 – March 31, 2015	3.9

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE:

DUKE ENERGY.

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.458
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.458

ESTIMATED UNIT FUEL COST

The estimated unit fuel costs listed below are associated with the Avoided Unit and are based on current estimates of the price of natural gas.

$/MMBTU

2014	2015	2016	2017	2018	2019	2020	2021	2022
4.33	4.~~49~~60	5.03	5.35	5.68	6.03	6.38	6.74	7.12

DELIVERY VOLTAGE ADJUSTMENT

DEF's average system line losses are analyzed annually for the prior calendar year, and delivery efficiencies are developed for the transmission, distribution primary, and distribution secondary voltage levels. This analysis is provided in the DEF's semi-annual fuel cost recovery filing with the FPSC in Exhibit Schedule E1. An adjustment factor, calculated as the reciprocal of the appropriate delivery efficiency factor, is applicable to the above determined energy costs if the RF/QF is within DEF's service territory to reflect the delivery voltage level at which RF/QF energy is received by the DEF.

The current delivery voltage adjustment factors are:

Delivery Voltage	Adjustment Factor
Transmission Voltage Delivery	1.0156
Primary Voltage Delivery	1.0256
Secondary Voltage Delivery	1.0598

PERFORMANCE CRITERIA

Payments for firm Capacity are conditioned on the RF/QF's ability to maintain the following performance criteria:

A. Capacity Delivery Date

The Capacity Delivery Date shall be no later than the Avoided Unit In-Service Date.

B. Availability and Capacity Factor

The Facility's availability and capacity factor are used in the determination of firm Capacity Payments through a performance based calculation as detailed in Appendix A to the Contract.

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE:

DUKE ENERGY.

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.467
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.467

SCHEDULE 2
TO RATE SCHEDULE COG-2CAPACITY OPTION PARAMETERS

FIXED VALUE OF DEFERRAL PAYMENTS - NORMAL CAPACITY OPTION PARAMETERS

Where, for one year deferral:

			Value
VAC_m	=	DEF's value of avoided capacity and O&M, in dollars per kilowatt per month, during month m;	~~10.80~~9.90
K	=	present value of carrying charges for one dollar of investment over L years with carrying charges computed using average annual rate base and assumed to be paid at the middle of each year and present valued to the middle of the first year;	1.~~420~~357
I_n	=	total direct and indirect cost, in mid-year dollars per kilowatt including AFUDC but excluding CWIP, of the Avoided Unit with an in-service date of year n;	~~1403.25~~1613.11
O_n	=	total fixed operation and maintenance expense, for the year n, in mid-year dollars per kilowatt per year, of the Avoided Unit;	~~5.52~~7.85
i_p	=	annual escalation rate associated with the plant cost of the Avoided Unit;	2.~~25~~50%
i_o	=	annual escalation rate associated with the operation and maintenance expense of the Avoided Unit;	2.~~25~~50%
r	=	annual discount rate, defined as DEF's incremental after-tax cost of capital;	6.~~47~~46%
L	=	expected life of the Avoided Unit;	~~25~~35
n	=	year for which the Avoided Unit is deferred starting with the Avoided Unit In-Service Date and ending with the Termination Date.	~~2018~~2021

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE:

DUKE ENERGY

SECTION No. IX
~~SIXTH~~ SEVENTH REVISED SHEET NO. 9.468
CANCELS ~~FIFTH~~ SIXTH REVISED SHEET NO. 9.468

FIXED VALUE OF DEFERRAL PAYMENTS - EARLY CAPACITY OPTION PARAMETERS

A_m	=	monthly avoided capital cost component of Capacity Payments to be made to the RF/QF starting as early as ~~four~~seven years prior to the Avoided Unit In-Service Date, in dollars per kilowatt per month;	~~6.19~~3.96
i_p	=	annual escalation rate associated with the plant cost of the Avoided Unit;	2.~~25~~50%
n	=	year for which early Capacity Payments to a RF/QF are to begin;	2014
F	=	the cumulative present value of the avoided capital cost component of Capacity Payments which would have been made had Capacity Payments commenced with the anticipated in-service date of the Avoided Unit and continued for a period of 10 years;	~~761.51~~569.86
r	=	annual discount rate, defined as DEF's incremental after-tax cost of capital;	6.~~47~~46%
t	=	the Term, in years, of the Contract for the purchase of firm capacity commencing prior to the in-service date of the Avoided Unit;	~~14~~17
G	=	the cumulative present value of the avoided fixed operation and maintenance expense component of Capacity Payments which would have been made had Capacity Payments commenced with the anticipated in-service date of the Avoided Unit and continued until the Termination Date.	40.33~~.87~~

ISSUED BY: Javier Portuondo, Director, Rates & Regulatory Strategy - FL
EFFECTIVE: