



Dianne M. Triplett
ASSOCIATE GENERAL COUNSEL
Duke Energy Florida, LLC

April 1, 2016

via electronic delivery

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

Re: Petition for Approval of Amended Standard Offer Contract (Schedule COG-2); Docket No. _____

Dear Ms. Stauffer:

Pursuant to Rule 25-17.0832(4), F.A.C., enclosed for filing on behalf of Duke Energy Florida, LLC., is a Petition for Approval of Amended Standard Offer Contract (Schedule COG-2) based on a combustion turbine avoided unit.

Thank you for your assistance in this matter. Should have any questions, please feel free to contact me at (727) 820-4692.

Sincerely,

s/ Dianne M. Triplett

Dianne M. Triplett

DMT/at
Enclosures

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition of Duke Energy
Florida for approval of amended
standard offer contract (Schedule
COG-2).

Docket No. _____

Submitted for filing:
April 1, 2016

PETITION

Duke Energy Florida, LLC (“DEF” or “the Company”), pursuant to Sections 366.051 and 366.91(3), F.S., and Rules 25-17.0832(4) and 25-17.250, F.A.C., hereby petitions the Florida Public Service Commission (“the Commission”) for approval of DEF’s Amended Standard Offer Contract. The Amended Standard Offer Contract is attached hereto in standard format as Exhibit A and in legislative format as Exhibit B. In support of this petition, DEF submits the following:

1. DEF is a public utility subject to the regulatory jurisdiction of the Commission pursuant to Chapter 366, F.S. The Company’s principal place of business is located at 299 First Avenue North, St. Petersburg, Florida 33701.

2. All notices, pleadings and correspondence required to be served on the petitioner should be directed to:

Dianne M. Triplett
Post Office Box 14042
St. Petersburg, FL 33733-4692
(727) 820-4692

Matthew R. Bernier
106 East College Avenue, Suite 800
Tallahassee, FL 32301
(850) 521-1428

For express deliveries by private carrier, please use the address in paragraph 1 above.

3. The Amended Standard Offer Contract attached hereto is consistent with Commission Rule 25-17.0832(4)-(6), F.A.C., governing standard offer contracts and tariffs. The avoided unit, on which the proposed standard offer contract is based, is an undesignated 849 MW combustion turbine fueled by

natural gas with a scheduled in-service date of June 1, 2024. The changes from the most recent standard offer are shown in underline and strike-through format in Exhibit B and affects the following sheets: 9.407, 9.410, 9.415, 9.419, 9.425, 9.427, 9.442, 9.445, 9.455, 9.457, 9.458, 9.467 and 9.468. The attached Exhibit C contains the economic and financial assumptions for the cost parameters and the K Factor of the combustion turbine unit on which the amended standard offer contract is based.

4. The proposed Amended Standard Offer Contract is required to be filed pursuant to Section 366.91(3), F.S., which states that “[o]n or before January 1, 2006, each public utility must continuously offer a purchase contract to producers of renewable energy.” Pursuant to Chapter 366.91(3), F.S., DEF hereby submits its Amended Standard Offer Contract attached as Exhibit A for approval. The Amended Standard Offer Contract will be continuously offered, will have a term of 10 to 35 years, and will not have a subscription limit. The Amended Standard Offer Contract meets the requirements set forth in Section 366.91(3), F.S.

WHEREFORE, for the above-stated reasons, DEF respectfully requests that the Commission grant this petition and approve the Amended Standard Offer Contract in Exhibit A, filed with this petition.

Respectfully Submitted,

/s/ Dianne M. Triplett

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Attorneys for
DUKE ENERGY FLORIDA, LLC

**AMENDED STANDARD OFFER CONTRACT
(Clean copy)**

Tariff Sheets:

9.407, 9.410, 9.415, 9.419, 9.425, 9.427, 9.442, 9.445, 9.455, 9.457, 9.458,
9.467 and 9.468



“Creditworthy” with respect to a Party or its Credit Support Provider, as applicable, means a party is rated at least BBB by Standard & Poor’s (S&P), or at least Baa3 by Moody’s Investor Services (Moody’s). Rating shall be the unsecured, senior long-term debt rating, (not supported by third party credit enhancement) or the issuer rating will be used if not available. If a Party or its Credit Support Provider, as applicable, is rated by both S&P and Moody’s, then the lower of the two ratings will apply.

“DEF” has the meaning assigned to it in the opening paragraph of this Contract.

“DEF Entities” has the meaning assigned to it in Section 16.

“Demonstration Period” means a sixty-hour period in which the Committed Capacity Test must be completed.

“Distribution System” means the distribution system consisting of electric lines, electric plant, transformers and switchgear used for conveying electricity to ultimate consumers, but not including any part of the Transmission System.

“Dispute” shall have the meaning assigned to it in Section 20.9.

“Drop Dead Date” means the date which is twelve (12) months following the Execution Date except for the condition defined in Section 5(a)(i). The Parties recognize that firm transmission service agreements can take up to 24 months to obtain so for Section 5(a)(i) only the Drop Dead Date means the date which is twenty four (24) months following the Execution Date..

“Eastern Prevailing Time” or “EPT” means the time in effect in the Eastern Time Zone of the United States of America, whether Eastern Standard Time or Eastern Daylight Savings Time.

“Effective Date” has the meaning assigned to it in Section 5.

“Electrical Interconnection Point” means the physical point at which the Facility is connected with the Transmission System or, if RF/QF interconnects with a Transmission System other than DEF’s, DEF’s interconnection with the Transmission Provider’s Transmission System, or such other physical point on which RF/QF and DEF may agree.

“IEEE” means the Institute of Electrical and Electronics Engineers, Inc.

“Indemnified Party” has the meaning assigned to it in Section 16.

“Indemnifying Party” has the meaning assigned to it in Section 16.

“Initial Reduction Value” has the meaning assigned to it in Appendix B.

“Insurance Services Office” has the meaning assigned to it in Section 17.

“KVA” means one or more kilovolts-amperes of electricity, as the context requires.

“kW” means one or more kilowatts of electricity, as the context requires.

“kWh” means one or more kilowatt-hours of electricity, as the context requires.

“Letter of Credit” means a stand-by letter of credit from a Qualified Institution that is acceptable to DEF whose approval may not be unreasonably withheld. The Letter of Credit must provide that DEF has the right to draw on the Letter of Credit in the event that less than twenty (20) Business Days remain until its expiration and RF/QF has failed to renew the Letter of Credit or provide replacement Eligible Collateral as required under this Agreement.

“LOI” means a letter of intent for fuel supply.

“MCPC” means the Monthly Capacity Payment for Option A.

“Monthly Billing Period” means the period beginning on the first calendar day of each calendar month, except that the initial Monthly Billing Period shall consist of the period beginning 12:01 a.m., on the Capacity Delivery Date and ending with the last calendar day of such month.

“Monthly Availability Factor” or “MAF” means the total energy received during the Monthly Billing Period for which the calculation is made, divided by the product of Committed Capacity and the total hours during the Monthly Billing Period.

“Monthly Capacity Payment” or “MCP” means the payment for Capacity calculated in accordance with Appendix A.

“MW” means one or more megawatts of electricity, as the context requires.

“MWh” means one or more megawatt-hours of electricity, as the context requires.



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 Required Capacity Delivery Date (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 Combustion Turbine |
| Avoided Unit Capacity | 849 MW |
| Avoided Unit In-Service Date | June 1, 2024 |
| Avoided Unit Heat Rate | 10,239 BTU/kWh |
| Avoided Unit Variable O&M | 0.1152¢ per kWh in mid-2016 dollars escalating annually at 2.50% |
| Avoided Unit Life | 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, 2034 (10 years) unless amended in Appendix E |
| Minimum Performance Standards – On Peak Availability Factor* | 95% |
| Minimum Performance Standards – Off Peak Availability Factor | 95% |
| Minimum Availability Factor Required to qualify for a Capacity payment | 75% |
| Expiration Date | April 1, 2017 |
| Completed Permits Date | June 1, 2022 |
| Exemplary Early Capacity Payment Date | January 1, 2023 |

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

- 7.5** Notwithstanding anything contrary to the terms hereof, the Committed Capacity may not exceed the amount set forth in Section 7.2 without the consent of DEF, which consent shall be granted in DEF's sole discretion.
- 7.6** Unless Option B or D as contained in Appendix D or Appendix E is chosen by RF/QF, DEF shall make no Capacity Payments to the RF/QF prior to the Avoided Unit In-Service Date.
- 7.7** The RF/QF shall be entitled to receive Capacity Payments beginning on the Capacity Delivery Date, provided the Capacity Delivery Date occurs before the Required Capacity Delivery Date (or such later date permitted by DEF). If the Capacity Delivery Date does not occur before the Required Capacity Delivery Date, DEF shall immediately be entitled to draw down the Completion/Performance Security in full.

8. Testing Procedures

- 8.1** The Committed Capacity Test must be completed successfully within the Demonstration Period, which period, including the approximate start time of the Committed Capacity Test, shall be selected and scheduled by the RF/QF by means of a written notice to DEF delivered at least thirty (30) calendar days prior to the start of such period. The provisions of the foregoing sentence shall not apply to any Committed Capacity Test ordered by DEF under any of the provisions of this Contract. DEF shall have the right to be present onsite to monitor firsthand any Committed Capacity Test required or permitted under this Contract.
- 8.2** The Committed Capacity Test results shall be based on a test period of twenty-four (24) consecutive hours (the "Committed Capacity Test Period") at the highest sustained net kW rating at which the Facility can operate without exceeding the design operating conditions, temperature, pressures, and other parameters defined by the applicable manufacturer(s) for steady state operations at the Facility. The Committed Capacity Test Period shall commence at the time designated by the RF/QF pursuant to Section 8.1 or at such time requested by DEF pursuant to Section 7.4; provided, however, that the Committed Capacity Test Period may commence earlier than such time in the event that DEF is notified of, and consents to, such earlier time.
- 8.3** Normal station service use of unit auxiliaries, including, without limitation, cooling towers, heat exchangers, and other equipment required by law, shall be in service during the Committed Capacity Test Period.
- 8.4** The Capacity of the Facility shall be the minimum hourly net output in kW (generator output minus auxiliary) measured over the Committed Capacity Test Period.

- 11.4** In the event that the (a) Capacity Delivery Date occurs before the Required Capacity Delivery Date and (b) the ACBF is equal to or greater than 95% for the first twelve (12) months following the Capacity Delivery Date then DEF will return the Completion/Performance Security to the RF/QF within ninety (90) days of the first anniversary of the Capacity Delivery Date. In the event that the Capacity Delivery Date does not occur before the Required Capacity Delivery Date then DEF shall immediately be entitled to draw down the Completion/Performance Security in full. In the event that the ACBF is less than 95% for any of the first twelve (12) months following the Capacity Delivery Date then DEF shall retain the Completion/Security until the ACBF is equal to or greater than 95% for 12 consecutive months. Upon the completion of twelve (12) consecutive months with the ACBF greater than or equal to 95% then DEF will return the Completion/Performance Security within ninety (90) days.
- 11.7** Reporting - RF/QF shall promptly notify DEF of any circumstance that results in RF/QF's failure to be in compliance with the RF/QF Performance Security Requirements of this Section 11. From time to time, at DEF's written request, RF/QF shall provide DEF with such evidence as DEF may reasonably request, that RF/QF Letter of Credit is in full compliance with this Contract.

12. Termination Fee and Security

- 12.1** In the event that the RF/QF receives Capacity Payments pursuant to Option B, Option C, or Option D of Appendix D or any Capacity Payment schedule in Appendix E that differs from a Normal Capacity Payment Rate as calculated in FPSC Rule 25-17.0832(6)(a), then upon the termination of this Contract, the RF/QF shall owe and be liable to DEF for the Termination Fee. The RF/QF's obligation to pay the Termination Fee shall survive the termination of this Contract. DEF shall provide the RF/QF, on a monthly basis, a calculation of the Termination Fee.
- 12.1.1** The Termination Fee shall be secured by the RF/QF by: (i) an unconditional, irrevocable, standby letter(s) of credit issued by a Qualified Institution in form and substance acceptable to DEF (including provisions (a) permitting partial and full draws and (b) permitting DEF to draw upon such Letter of Credit, in full, if such Letter of Credit is not renewed or replaced at least twenty (20) Business Days prior to its expiration date); (ii) a bond issued to DEF by a financially sound company in form and substance acceptable to DEF in its sole discretion; or (iii) a cash deposit with DEF (any of (i), (ii), or (iii), the "Termination Security").

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 five percent (75%);
- (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 Contract 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 11 hereof;
- (i) any of the representations or warranties, including the certification of the completion of the Conditions Precedent, made by either Party in this Contract is false or misleading in any material respect as of the time made;

APPENDIX A
TO
DUKE ENERGY FLORIDA
RENEWABLE OR QUALIFYING FACILITY LESS THAN 100 KW
STANDARD OFFER CONTRACT

MONTHLY CAPACITY PAYMENT CALCULATION

Capitalized terms not otherwise defined herein have the meaning ascribed to them in the Standard Offer Contract for the Purchase of Firm Capacity and Energy from a Renewable Energy Producer or a Qualifying Facility less than 100 kW.

- A. In the event that the ACBF is less than or equal to 75%, then no Monthly Capacity Payment shall be due. That is:

$$\text{MCP} = 0$$

- B. In the event that the ACBF is greater than 75% but less than 95%, then the Monthly Capacity Payment shall be calculated by using the following formula:

$$\text{MCP} = \text{BCP} \times [1 - [5 \times (.95 - \text{ACBF})] \times \text{CC}]$$

- C. In the event that the ACBF is equal to or greater than 95%, then the Monthly Capacity Payment shall be calculated by using the following formula:

$$\text{MCP} = \text{BCP} \times \text{CC}$$

Where:

MCP = Monthly Capacity Payment in dollars.

BCP = Base Capacity Payment in \$/kW/Month as specified in Appendix D or E.

CC = Committed Capacity in kW.

In the event that for any Monthly Billing Period, the computation of the value of the Termination Fee for such Monthly Billing Period (as set forth above) yields a value less than zero, the amount of the Termination Fee shall be decreased by the amount of such value expressed as a positive number (the "Initial Reduction Value"); provided, however, that such Initial Reduction Value shall be subject to the following adjustments (the Initial Reduction Value, as adjusted, the "Reduction Value"):

- a. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor, as defined in Appendix A is less than or equal to 75%, then the Initial Reduction Value shall be adjusted to equal zero (Reduction Value = 0), and the Termination Fee shall not be reduced for the applicable Monthly Billing Period.
- b. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor , as defined in Appendix A, is greater than 75% but less than 95%, then the Reduction Value shall be determined as follows:

$$\text{Reduction Value} = \text{Initial Reduction Value} \times [5 \times (\text{ACBF} - .95)]$$

For the applicable Monthly Billing period, the Termination Fee shall be reduced by the amount of such Reduction Value.

- c. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor, as defined in Appendix A, is equal to or greater than 95%, then the Initial Reduction Value shall not be adjusted (Reduction Value = Initial Reduction Value), and the Termination Fee shall be reduced for the applicable Monthly Billing period by the amount of the Initial Reduction Value.

In no event shall DEF be liable to the RF/QF at any time for any amount by which the Termination Fee, adjusted in accordance with the foregoing, is less than zero (0).



TABLE 3
EXAMPLE MONTHLY CAPACITY PAYMENT IN \$/kW/MONTH
DEF'S June 1, 2024 Undesignated CT
Renewable or Qualifying Facility Standard Offer Contract Avoided Capacity Payments

(\$/kW/MONTH)

| Contract Year | <u>Option A</u> | <u>Option B</u> | <u>Option C</u> | <u>Option D</u> |
|---------------|---|---|--|---|
| | Normal Capacity Payment Starting on the Avoided Unit In-Service Date | Early Capacity Payment Starting on the Exemplary Capacity Payment Date | Levelized Capacity Payment Starting on the Avoided Unit In-Service Date | Early Levelized Capacity Payment Starting on the Exemplary Capacity Payment Date |
| 2021 | | | | |
| 2022 | | 3.71 | | 4.19 |
| 2023 | | 3.80 | | 4.20 |
| 2024 | 4.82 | 3.90 | 5.35 | 4.20 |
| 2025 | 4.94 | 4.00 | 5.36 | 4.21 |
| 2026 | 5.07 | 4.10 | 5.36 | 4.22 |
| 2027 | 5.19 | 4.20 | 5.37 | 4.22 |
| 2028 | 5.32 | 4.30 | 5.38 | 4.23 |
| 2029 | 5.46 | 4.41 | 5.39 | 4.24 |
| 2030 | 5.59 | 4.52 | 5.40 | 4.24 |
| 2031 | 5.73 | 4.63 | 5.41 | 4.25 |
| 2032 | 5.88 | 4.75 | 5.42 | 4.26 |
| 2033 | 6.02 | 4.87 | 5.43 | 4.27 |
| 2034 | 6.17 | 4.99 | 5.44 | 4.28 |

- 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).



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 five years are as follows. The following estimates include variable operation and maintenance expenses.

| <u>Applicable Period</u> | <u>Average ¢/KWH</u> | <u>On-Peak ¢/KWH</u> | <u>Off-Peak ¢/KWH</u> |
|--------------------------|--------------------------|--------------------------|---------------------------|
| 2015 | 3.5 | 3.5 | 3.4 |
| 2016 | 3.6 | 3.7 | 3.5 |
| 2017 | 3.7 | 3.8 | 3.6 |
| 2018 | 3.7 | 3.8 | 3.6 |
| 2019 | 3.9 | 4.0 | 3.8 |



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

| <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> | <u>2025</u> |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 3.41 | 3.49 | 3.84 | 4.64 | 5.34 | 5.96 | 6.19 | 6.43 | 6.67 |

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 Procedures For Changing The Real Power Loss Factor (currently Attachment Q) in its Open Access Transmission Tariff and DEF's fuel cost recovery filing with the FPSC. 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:

| <u>Delivery Voltage</u> | <u>Adjustment Factor</u> |
|-------------------------------|--------------------------|
| Transmission Voltage Delivery | 1.0138 |
| Primary Voltage Delivery | 1.0238 |
| Secondary Voltage Delivery | 1.0533 |

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 Required Capacity Delivery 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.

**SCHEDULE 2
TO RATE SCHEDULE COG-2CAPACITY OPTION PARAMETERS**

**FIXED VALUE OF DEFERRAL PAYMENTS -
NORMAL CAPACITY OPTION PARAMETERS**

Where, for one year deferral:

| | | <u>Value</u> |
|---------|---|--------------|
| VAC_m | = DEF's value of avoided capacity and O&M, in dollars per kilowatt per month, during month m; | 4.82 |
| 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; | 1.309 |
| 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; | 770.85 |
| O_n | = total fixed operation and maintenance expense, for the year n, in mid-year dollars per kilowatt per year, of the Avoided Unit: | 3.87 |
| i_p | = annual escalation rate associated with the plant cost of the Avoided Unit; | 2.50% |
| i_o | = annual escalation rate associated with the operation and maintenance expense of the Avoided Unit; | 2.50% |
| r | = annual discount rate, defined as DEF's incremental after-tax cost of capital; | 6.92% |
| L | = expected life of the Avoided Unit; | 35 |
| n | = year for which the Avoided Unit is deferred starting with the Avoided Unit In-Service Date and ending with the Termination Date. | 2024 |

**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 two years prior to the Avoided Unit In-Service Date, in dollars per kilowatt per month; | 3.51 |
| i_p | = | annual escalation rate associated with the plant cost of the Avoided Unit; | 2.50% |
| n | = | year for which early Capacity Payments to a RF/QF are to begin; | 2022 |
| 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; | 304.22 |
| r | = | annual discount rate, defined as DEF's incremental after-tax cost of capital; | 6.92% |
| 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 |
| 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. | 21.80 |

**AMENDED STANDARD OFFER CONTRACT
(Legislative format)**

Tariff Sheets:

9.407, 9.410, 9.415, 9.419, 9.425, 9.427, 9.442, 9.445, 9.455, 9.457, 9.458,
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“DEF Entities” has the meaning assigned to it in Section 16.

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“Dispute” shall have the meaning assigned to it in Section 20.9.

“Drop Dead Date” means the date which is twelve (12) months following the Execution Date except for the condition defined in Section 5(a)(i). The Parties recognize that firm transmission service agreements can take up to 24 months to obtain so for Section 5(a)(i) only the Drop Dead Date means the date which is twenty four (24) months following the Execution Date..

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“Effective Date” has the meaning assigned to it in Section 5.

“Electrical Interconnection Point” means the physical point at which the Facility is connected with the Transmission System or, if RF/QF interconnects with a Transmission System other than DEF’s, DEF’s interconnection with the Transmission Provider’s Transmission System, or such other physical point on which RF/QF and DEF may agree.

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“kW” means one or more kilowatts of electricity, as the context requires.

“kWh” means one or more kilowatt-hours of electricity, as the context requires.

“Letter of Credit” means a stand-by letter of credit from a Qualified Institution that is acceptable to DEF whose approval may not be unreasonably withheld. The Letter of Credit must provide that DEF has the right to draw on the Letter of Credit in the event that less than twenty (20) Business Days remain until its expiration and RF/QF has failed to renew the Letter of Credit or provide replacement Eligible Collateral as required under this Agreement.

“LOI” means a letter of intent for fuel supply.

~~“Material Adverse Change” means any of the following events; (a) the RF/QF or its Credit Support Provider, if applicable, is no longer Creditworthy or (b) the RF/QF or its Credit Support Provider, if applicable, defaults on an aggregate of fifty million dollars (\$50,000,000) or five percent (5%) of equity, whichever is less.~~

“MCPC” means the Monthly Capacity Payment for Option A.

“Monthly Billing Period” means the period beginning on the first calendar day of each calendar month, except that the initial Monthly Billing Period shall consist of the period beginning 12:01 a.m., on the Capacity Delivery Date and ending with the last calendar day of such month.

“Monthly Availability Factor” or “MAF” means the total energy received during the Monthly Billing Period for which the calculation is made, divided by the product of Committed Capacity and the total hours during the Monthly Billing Period.

“Monthly Capacity Payment” or “MCP” means the payment for Capacity calculated in accordance with Appendix A.

“MW” means one or more megawatts of electricity, as the context requires.

“MWh” means one or more megawatt-hours of electricity, as the context requires.



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 Required Capacity Delivery Date (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 Combustion Turbine |
| Avoided Unit Capacity | 811-849 MW |
| Avoided Unit In-Service Date | June 1, 2024 |
| Avoided Unit Heat Rate | 10, 399-239 BTU/kWh |
| Avoided Unit Variable O&M | 0.09191152 ¢ per kWh in mid- 2015–2016 dollars escalating annually at 2.50% |
| Avoided Unit Life | 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, 2034 (10 years) unless amended in Appendix E |
| Minimum Performance Standards – On Peak Availability Factor* | 9495 % |
| Minimum Performance Standards – Off Peak Availability Factor | 9495 % |
| Minimum Availability Factor Required to qualify for a Capacity payment | 7475 % |
| Expiration Date | April 1, 2016 <u>2017</u> |
| Completed Permits Date | June 1, 2021 <u>2022</u> |
| Exemplary Early Capacity Payment Date | January 1, 2022 <u>2023</u> |

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

- 7.5 Notwithstanding anything contrary to the terms hereof, the Committed Capacity may not exceed the amount set forth in Section 7.2 without the consent of DEF, which consent shall be granted in DEF's sole discretion.
- 7.6 Unless Option B or D as contained in Appendix D or Appendix E is chosen by RF/QF, DEF shall make no Capacity Payments to the RF/QF prior to the Avoided Unit In-Service Date.
- 7.7 The RF/QF shall be entitled to receive Capacity Payments beginning on the Capacity Delivery Date, provided the Capacity Delivery Date occurs before the Required Capacity Delivery Date (or such later date permitted by DEF). If the Capacity Delivery Date does not occur before the Required Capacity Delivery Date, DEF shall immediately be entitled to draw down the Completion/Performance Security in full.

8. Testing Procedures

- 8.1 The Committed Capacity Test must be completed successfully within the Demonstration Period, which period, including the approximate start time of the Committed Capacity Test, shall be selected and scheduled by the RF/QF by means of a written notice to DEF delivered at least thirty (30) calendar days prior to the start of such period. The provisions of the foregoing sentence shall not apply to any Committed Capacity Test ordered by DEF under any of the provisions of this Contract. DEF shall have the right to be present onsite to monitor firsthand any Committed Capacity Test required or permitted under this Contract.
- 8.2 The Committed Capacity Test results shall be based on a test period of twenty-four (24) consecutive hours (the "Committed Capacity Test Period") at the highest sustained net kW rating at which the Facility can operate without exceeding the design operating conditions, temperature, pressures, and other parameters defined by the applicable manufacturer(s) for steady state operations at the Facility. The Committed Capacity Test Period shall commence at the time designated by the RF/QF pursuant to Section 8.1 or at such time requested by DEF pursuant to Section 7.4; provided, however, that the Committed Capacity Test Period may commence earlier than such time in the event that DEF is notified of, and consents to, such earlier time.
- 8.3 Normal station service use of unit auxiliaries, including, without limitation, cooling towers, heat exchangers, and other equipment required by law, shall be in service during the Committed Capacity Test Period.
- 8.4 The Capacity of the Facility shall be the minimum ~~average~~ hourly net output in kW (generator output minus auxiliary) measured over the Committed Capacity Test Period.

- 11.4** In the event that the (a) Capacity Delivery Date occurs before the Required Capacity Delivery Date and (b) the ACBF is equal to or greater than 9495% for the first twelve (12) months following the Capacity Delivery Date then DEF will return the Completion/Performance Security to the RF/QF within ninety (90) days of the first anniversary of the Capacity Delivery Date. In the event that the Capacity Delivery Date does not occur before the Required Capacity Delivery Date then DEF shall immediately be entitled to draw down the Completion/Performance Security in full. In the event that the ACBF is less than 9495% for any of the first twelve (12) months following the Capacity Delivery Date then DEF shall retain the Completion/Security until the ACBF is equal to or greater than 9495% for 12 consecutive months. Upon the completion of twelve (12) consecutive months with the ACBF greater than or equal to 9495% then DEF will return the Completion/Performance Security within ninety (90) days.
- 11.7** Reporting - RF/QF shall promptly notify DEF of any circumstance that results in RF/QF's failure to be in compliance with the RF/QF Performance Security Requirements of this Section 11. From time to time, at DEF's written request, RF/QF shall provide DEF with such evidence as DEF may reasonably request, that RF/QF Letter of Credit is in full compliance with this Contract.

12. Termination Fee and Security

- 12.1** In the event that the RF/QF receives Capacity Payments pursuant to Option B, Option C, or Option D of Appendix D or any Capacity Payment schedule in Appendix E that differs from a Normal Capacity Payment Rate as calculated in FPSC Rule 25-17.0832(6)(a), then upon the termination of this Contract, the RF/QF shall owe and be liable to DEF for the Termination Fee. The RF/QF's obligation to pay the Termination Fee shall survive the termination of this Contract. DEF shall provide the RF/QF, on a monthly basis, a calculation of the Termination Fee.
- 12.1.1** The Termination Fee shall be secured by the RF/QF by: (i) an unconditional, irrevocable, standby letter(s) of credit issued by a Qualified Institution in form and substance acceptable to DEF (including provisions (a) permitting partial and full draws and (b) permitting DEF to draw upon such Letter of Credit, in full, if such Letter of Credit is not renewed or replaced at least twenty (20) Business Days prior to its expiration date); (ii) a bond issued to DEF by a financially sound company in form and substance acceptable to DEF in its sole discretion; or (iii) a cash deposit with DEF (any of (i), (ii), or (iii), the "Termination Security").

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~~ five percent (~~74~~75%);
- (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 Contract 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 11 hereof;
- (i) any of the representations or warranties, including the certification of the completion of the Conditions Precedent, made by either Party in this Contract is false or misleading in any material respect as of the time made;



APPENDIX A
TO
DUKE ENERGY FLORIDA
RENEWABLE OR QUALIFYING FACILITY LESS THAN 100 KW
STANDARD OFFER CONTRACT

MONTHLY CAPACITY PAYMENT CALCULATION

Capitalized terms not otherwise defined herein have the meaning ascribed to them in the Standard Offer Contract for the Purchase of Firm Capacity and Energy from a Renewable Energy Producer or a Qualifying Facility less than 100 kW.

- A. In the event that the ACBF is less than or equal to 7475%, then no Monthly Capacity Payment shall be due. That is:

$$\text{MCP} = 0$$

- B. In the event that the ACBF is greater than 7475% but less than 9495%, then the Monthly Capacity Payment shall be calculated by using the following formula:

$$\text{MCP} = \text{BCP} \times [1 - [5 \times (.9495 - \text{ACBF})] \times \text{CC}]$$

- C. In the event that the ACBF is equal to or greater than 9495%, then the Monthly Capacity Payment shall be calculated by using the following formula:

$$\text{MCP} = \text{BCP} \times \text{CC}$$

Where:

MCP = Monthly Capacity Payment in dollars.

BCP = Base Capacity Payment in \$/kW/Month as specified in Appendix D or E.

CC = Committed Capacity in kW.

In the event that for any Monthly Billing Period, the computation of the value of the Termination Fee for such Monthly Billing Period (as set forth above) yields a value less than zero, the amount of the Termination Fee shall be decreased by the amount of such value expressed as a positive number (the "Initial Reduction Value"); provided, however, that such Initial Reduction Value shall be subject to the following adjustments (the Initial Reduction Value, as adjusted, the "Reduction Value"):

- a. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor, as defined in Appendix A is less than or equal to ~~7475~~%, then the Initial Reduction Value shall be adjusted to equal zero (Reduction Value = 0), and the Termination Fee shall not be reduced for the applicable Monthly Billing Period.
- b. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor , as defined in Appendix A, is greater than ~~7475~~% but less than ~~9495~~%, than the Reduction Value shall be determined as follows:

$$\text{Reduction Value} = \text{Initial Reduction Value} \times [5 \times (\text{ACBF} - \del{.9495})]$$

For the applicable Monthly Billing period, the Termination Fee shall be reduced by the amount of such Reduction Value.

- c. In the event that in the applicable Monthly Billing Period the Annual Capacity Billing Factor, as defined in Appendix A, is equal to or greater than ~~9495~~%, then the Initial Reduction Value shall not be adjusted (Reduction Value = Initial Reduction Value), and the Termination Fee shall be reduced for the applicable Monthly Billing period by the amount of the Initial Reduction Value.

In no event shall DEF be liable to the RF/QF at any time for any amount by which the Termination Fee, adjusted in accordance with the foregoing, is less than zero (0).



TABLE 3
EXAMPLE MONTHLY CAPACITY PAYMENT IN \$/kW/MONTH
DEF'S June 1, 2024 Undesignated CT
Renewable or Qualifying Facility Standard Offer Contract Avoided Capacity Payments
 (\$/kW/MONTH)

| Contract Year | <u>Option A</u> | <u>Option B</u> | <u>Option C</u> | <u>Option D</u> |
|---------------|---|---|--|---|
| | Normal Capacity Payment Starting on the Avoided Unit In-Service Date | Early Capacity Payment Starting on the Exemplary Capacity Payment Date | Levelized Capacity Payment Starting on the Avoided Unit In-Service Date | Early Levelized Capacity Payment Starting on the Exemplary Capacity Payment Date |
| 2021 | | | | |
| 2022 | | <u>3.573.71</u> | | <u>4.014.19</u> |
| 2023 | | <u>3.663.80</u> | | <u>4.024.20</u> |
| 2024 | <u>4.644.82</u> | <u>3.753.90</u> | <u>5.125.35</u> | <u>4.034.20</u> |
| 2025 | <u>4.764.94</u> | <u>3.844.00</u> | <u>5.135.36</u> | <u>4.044.21</u> |
| 2026 | <u>4.875.07</u> | <u>3.944.10</u> | <u>5.155.36</u> | <u>4.054.22</u> |
| 2027 | <u>5.005.19</u> | <u>4.044.20</u> | <u>5.165.37</u> | <u>4.064.22</u> |
| 2028 | <u>5.125.32</u> | <u>4.144.30</u> | <u>5.175.38</u> | <u>4.074.23</u> |
| 2029 | <u>5.255.46</u> | <u>4.244.41</u> | <u>5.195.39</u> | <u>4.084.24</u> |
| 2030 | <u>5.385.59</u> | <u>4.354.52</u> | <u>5.205.40</u> | <u>4.094.24</u> |
| 2031 | <u>5.525.73</u> | <u>4.464.63</u> | <u>5.225.41</u> | <u>4.104.25</u> |
| 2032 | <u>5.655.88</u> | <u>4.574.75</u> | <u>5.235.42</u> | <u>4.124.26</u> |
| 2033 | <u>5.796.02</u> | <u>4.684.87</u> | <u>5.245.43</u> | <u>4.134.27</u> |
| 2034 | <u>5.946.17</u> | <u>4.804.99</u> | <u>5.265.44</u> | <u>4.144.28</u> |

- 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).



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 five years are as follows. The following estimates include variable operation and maintenance expenses.

| <u>Applicable Period</u> | <u>Average ¢/KWH</u> | <u>On-Peak ¢/KWH</u> | <u>Off-Peak ¢/KWH</u> |
|--------------------------|--------------------------|--------------------------|---------------------------|
| 2015 | 3.63.5 | 3.93.5 | 3.4 |
| 2016 | 3.6 | 3.83.7 | 3.5 |
| 2017 | 3.7 | 3.8 | 3.53.6 |
| 2018 | 3.83.7 | 4.03.8 | 3.6 |
| 2019 | 4.13.9 | 4.44.0 | 3.93.8 |



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

| | | | | | | | | |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <u>2016201</u> | <u>2017201</u> | <u>2018201</u> | <u>2019202</u> | <u>2020202</u> | <u>2021202</u> | <u>2022202</u> | <u>2023202</u> | <u>2024202</u> |
| <u>7</u> | <u>8</u> | <u>9</u> | <u>0</u> | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
| <u>4.003.41</u> | <u>4.113.49</u> | <u>4.493.84</u> | <u>5.154.64</u> | <u>6.175.34</u> | <u>6.405.96</u> | <u>6.656.19</u> | <u>6.916.43</u> | <u>7.186.67</u> |

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 Procedures For Changing The Real Power Loss Factor (currently Attachment Q) in its Open Access Transmission Tariff and DEF’s fuel cost recovery filing with the FPSC. 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:

| <u>Delivery Voltage</u> | <u>Adjustment Factor</u> |
|-------------------------------|--------------------------|
| Transmission Voltage Delivery | 1. <u>01340138</u> |
| Primary Voltage Delivery | 1. <u>02340238</u> |
| Secondary Voltage Delivery | 1. <u>05360533</u> |

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 Required Capacity Delivery 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.



**SCHEDULE 2
TO RATE SCHEDULE COG-2CAPACITY OPTION PARAMETERS**

**FIXED VALUE OF DEFERRAL PAYMENTS -
NORMAL CAPACITY OPTION PARAMETERS**

Where, for one year deferral:

| | | <u>Value</u> |
|---------|---|------------------------------------|
| VAC_m | = DEF's value of avoided capacity and O&M, in dollars per kilowatt per month, during month m; | 4.644.82 |
| 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; | 1.2981.309 |
| 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; | 713.38770.8 <u>5</u> |
| O_n | = total fixed operation and maintenance expense, for the year n, in mid-year dollars per kilowatt per year, of the Avoided Unit; | 5.903.87 |
| i_p | = annual escalation rate associated with the plant cost of the Avoided Unit; | 2.50% |
| i_o | = annual escalation rate associated with the operation and maintenance expense of the Avoided Unit; | 2.50% |
| r | = annual discount rate, defined as DEF's incremental after-tax cost of capital; | 6.9592% |
| L | = expected life of the Avoided Unit; | 35 |
| n | = year for which the Avoided Unit is deferred starting with the Avoided Unit In-Service Date and ending with the Termination Date. | 2024 |



**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 two years prior to the Avoided Unit In-Service Date, in dollars per kilowatt per month; | <u>3.193.51</u> |
| i_p | = | annual escalation rate associated with the plant cost of the Avoided Unit; | 2.50% |
| n | = | year for which early Capacity Payments to a RF/QF are to begin; | 2022 |
| 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; | 244.04304. <u>22</u> |
| r | = | annual discount rate, defined as DEF's incremental after-tax cost of capital; | 6.9592% |
| 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; | <u>1314</u> |
| 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. | 28.9321.80 |

**ECONOMIC / FINANCIAL ASSUMPTIONS
and K FACTOR**

**Duke Energy Florida
Renewable Standard Offer Contract
Economic Assumptions**

CAPITALIZATION RATIOS

| | |
|-----------|-------|
| Debt | 47.0% |
| Preferred | 0.0% |
| Equity | 53.0% |

DISCOUNT RATE

6.92%

RATE OF RETURN

| | |
|-----------|--------|
| Debt | 4.44% |
| Preferred | 0.00% |
| Equity | 10.50% |

BOOK DEPRECIATION LIFE

35 Years

INCOME TAX RATE

| | |
|-----------|--------|
| Effective | 35.26% |
|-----------|--------|

TAX DEPRECIATION LIFE

15 Years

OTHER TAXES AND INS.

0.97%

**Duke Energy Florida
Renewable Standard Offer Contract
Unit Information**

PLANT TYPE: Combustion Turbine Facility

NET CAPACITY: 849 MW

BOOK LIFE: 35 Years

INTALLED COST (IN-SERVICE YEAR 2024)

| | |
|--|--------|
| TOTAL INSTALLED COST (\$/KW) | 770.85 |
| DIRECT CONSTRUCTION COST (\$/KW) (2016) | 613.59 |
| AFUDC AMOUNT (\$/KW) | 34.14 |
| ESCALATION | 123.12 |
| FIXED O & M (\$/KW-YR) (2016) | 3.18 |
| VARIABLE O & M (\$/KWH) (2016) | 11.52 |
| K FACTOR | 1.309 |