

**AUSLEY & McMULLEN**

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET  
P.O. BOX 391 (ZIP 32302)  
TALLAHASSEE, FLORIDA 32301  
(850) 224-9115 FAX (850) 222-7560

REC-1

30

11 APR -1 PM 3:06

COMMISSION  
CLERK

April 1, 2011

HAND DELIVERED

110093 -EQ

Ms. Ann Cole, Director  
Division of Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

Re: Tampa Electric Company's Petition for Approval of Revisions to the Standard Offer Contract and Rate Schedules COG-1 and COG-2

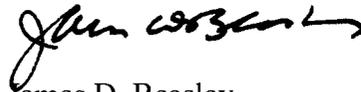
Dear Ms. Cole:

Enclosed for filing in the above-styled matter are the original and fifteen (15) copies of Tampa Electric Company's Petition for Approval of Revisions to the Standard Offer Contract and Rate Schedules COG-1 and COG-2.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,



James D. Beasley

JDB/pp  
Enclosure

- COM \_\_\_\_\_
- APA \_\_\_\_\_
- ECR \_\_\_\_\_
- GCL \_\_\_\_\_
- RAD 13 \_\_\_\_\_
- SSC \_\_\_\_\_
- ADM \_\_\_\_\_
- OPC \_\_\_\_\_
- CLK \_\_\_\_\_

DOCUMENT NUMBER-DATE  
02176 APR-1 =  
FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Tampa Electric Company )  
for Approval of Revisions to Standard Offer )  
Contract and Associated Rate Schedules )  
COG-1 and COG-2. )  
\_\_\_\_\_ )

DOCKET NO. 110093-EQ  
FILED: April 1, 2011

**TAMPA ELECTRIC COMPANY'S PETITION FOR APPROVAL OF  
REVISIONS TO THE STANDARD OFFER CONTRACT AND  
RATE SCHEDULES COG-1 AND COG-2**

Tampa Electric Company ("Tampa Electric" or "the company"), pursuant to Sections 366.051 and 366.91, Florida Statutes, and Rules 25-17.200 through 25-17.310, Florida Administrative Code, petitions the Florida Public Service Commission ("the Commission") to approve revisions to its Standard Offer Contract ("SOC" or "Standard Offer") and associated rate schedules, COG-1 and COG-2. As grounds therefor, the company says:

1. The name, address, telephone number and facsimile number of the petitioner are:

Tampa Electric Company  
Post Office Box 111  
Tampa, FL 33601  
(813) 228-4111  
(813) 228-1770 (fax)

2. Tampa Electric is an investor-owned public utility subject to the jurisdiction of the Commission under Chapter 366, Florida Statutes.

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

James D. Beasley  
J. Jeffry Wahlen  
Ausley & McMullen  
Post Office Box 391  
Tallahassee, FL 32302  
(850) 224-9115  
(850) 222-7560 (fax)

Paul Brown, Administrator  
Regulatory Coordination  
Tampa Electric Company  
Post Office Box 111  
Tampa, FL 33601  
(813) 228-1444  
(813) 228-1770 (fax)

DOCUMENT NUMBER-DATE

02176 APR-1 =

FPSC-COMMISSION CLERK

4 In its petition, Tampa Electric has proposed revisions to its Standard Offer based on the generating unit technology and in-service dates reflected in the company's generation expansion plan contained in its proposed Ten Year Site Plan ("TYSP"), filed concurrently with this Petition. The company is proposing a Standard Offer based on a 2013 aero-derivative combustion turbine, the only fossil fueled technology type identified in the company's TYSP.

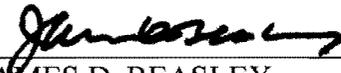
5. The revised tariff sheets containing the proposed revisions to the SOC and Rate Schedule COG-2 are attached hereto in both standard and legislative formats as Exhibits "B", and "C", respectively. Also attached hereto, Exhibit "A" contains a listing of revised tariff sheets and a description of the proposed changes for each tariff sheet.

6. Tampa Electric is not aware of any disputed issues of material fact relative to the subject matter of this petition.

WHEREFORE, Tampa Electric respectfully requests that the Commission grant this Petition for Approval of its revised SOC and COG-2 tariff as reflected in the revised tariff sheets contained in Exhibits "B", and "C".

DATED this 1st day of April 2011.

Respectfully submitted,

  
\_\_\_\_\_  
JAMES D. BEASLEY  
J. JEFFRY WAHLEN  
Ausley & McMullen  
Post Office Box 391  
Tallahassee, FL 32302  
(850) 224-9115

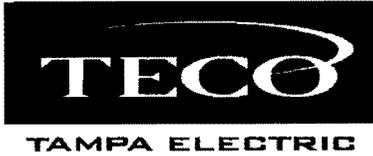
ATTORNEYS FOR TAMPA ELECTRIC COMPANY

Exhibit A

**PROPOSED REVISIONS TO TAMPA ELECTRIC COMPANY'S  
STANDARD OFFER CONTRACT AND RATE SCHEDULES COG-1 AND COG-2**

<b>TARIFF SHEET NO.</b>	<b>REVISIONS/COMMENTS</b>
8.101	(COG-1) Replaced "spinning" with "operating" to be consistent with the language used in the FRCC Contingency (Operating) Reserve Policy.
8.111	(COG-1) Corrected the Step 3 calculation by including parentheses indicating that the <u>sum</u> of the two avoided costs is divided by the megawatt block
8.236	(COG-2) Updated interest rate which is tied to current discount rate
8.344	(COG-2) Replaced "spinning" with "operating" to be consistent with the language used in the FRCC Contingency (Operating) Reserve Policy.
8.396	(COG-2) Added the "C" to "EP" to form correct acronym "CEP" for Capacity and Energy Provider. The "C" had been inadvertently omitted.
8.398	(COG-2) Added the "C" to "EP" to form correct acronym "CEP" for Capacity and Energy Provider. The "C" had been inadvertently omitted.
8.402	(COG-2) Added the "C" to "EP" to form correct acronym "CEP" for Capacity and Energy Provider. The "C" had been inadvertently omitted.
8.422	(COG-2) Updated avoided unit costs and financial assumptions for avoided CT
8.424	(COG-2) Updated avoided unit costs to reflect avoided CT
8.426	(COG-2) Updated table of capacity payments based on avoided CT
8.428	(COG-2) Updated CT heat rate
8.436	(COG-2) Updated CT heat rate and variable O&M costs

Exhibit B



**METHODOLOGY TO BE USED  
IN THE CALCULATION OF  
AVOIDED ENERGY COST  
SCHEDULE COG-1  
APPENDIX A**

The methodology Tampa Electric (TEC) has implemented in order to determine the appropriate avoided energy costs and any payments thereof to be rendered to qualifying facilities (QFs) is consistent with the provisions of Order No. 23625 in Docket No.891049-EU, issued on October 16, 1990, and with the Amendment of Rules 25-17.080 et seq, Florida Administrative Code.

The avoided energy costs methodology used to determine payments to Qualified Facilities (QFs) on an hourly basis is based on the incremental cost of fuel using the average price of replacement fuel purchased in excess of contract minimums and is further described in Exhibit 1. Generally, avoided energy costs are defined to include incremental fuel, identifiable variable operation and maintenance expenses, identifiable variable purchase power cost, and an adjustment for line losses reflecting delivery voltage.

Under normal conditions the Company will have additional generation resources available which can carry its native load and firm interchange sales without the QF's contribution. When this is the case and the QF is present, the incremental fuel portion of the avoided energy cost is equal to the difference between TEC's production cost at two load levels, with and without the QFs' contribution.

In those situations where the Company's available maximum generation resources not including its minimum operating reserves are insufficient to carry its native load and firm interchange sales, in the absence of the QF contribution, TEC's incremental fuel component of the avoided energy cost will be determined by:

- 1) system lambda - if "off-system purchases" are not being made and all available generation has been dispatched; or
- 2) the highest incremental cost of any "off-system purchases" that are being made for native load.

Examples of these situations are found in Exhibits 2-5.

Continued to Sheet No. 8.102



Continued from Sheet No. 8.110

**EXHIBIT 4**

**Example: Off-System Purchases Are Not Being Made to Serve Native Load and Firm Sales. Available Generation Capacity Is Not Fully Dispatched. Without the QF's Contribution, TEC's Native Load and Firm Sales Can Be Carried Only With Additional Power Purchases.**

Given:

Actual QF Energy = 50 MWs  
TEC's Maximum Available Generation = 1530 MWs  
TEC's Actual Generation = 1500 MWs  
Native Load = 1540 MWs  
Firm Sale = 10 MWs

Step 1 (Calculations for First 30 MWs)

First Calculation ("WITHOUT" QF):  
Production Cost at 1530 MWs = \$20,590/Hour  
Second Calculation ("With" QF):  
Production Cost at 1500 MWs = \$20,050/Hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 30 MWs =  
 $(\$20,590/\text{Hour}) - (\$20,050/\text{Hour}) = \$540/\text{Hour}$

Step 2 (Calculations for Remaining 20 MWs)

First Calculation:  
Production Cost at 1530 MWs = \$20,590/Hour  
Second Calculation:  
Production Cost at 1529 MWs = \$20,571.50/Hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 1 MW (System Lambda<sup>1</sup>) for 20 MWs=  
 $(\$20,590/\text{Hour} - \$20,571.50/\text{Hour}) \times (20 \text{ MWs}) = \$370/\text{Hour}$

Step 3 (Calculation of Composite Rate for Total 50 MW Block)

Composite Actual Hourly Avoided Energy Cost of 50 MW Block =  
 $(\$540 + \$370) / 50 \text{ MW}$

or

As-Available Energy Payment Rate (AEPR) = \$18.20/MWH

Note: <sup>1</sup> In this example, System Lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.

Continued to Sheet No. 8.112



Continued from Sheet No. 8.234

Contracted Capacity payment made to the CEP and the "normal" Contracted Capacity payment calculated pursuant to Contracted Capacity payment option 1 (Value of Deferral Payments) in COG-2 will also be added each month to the Repayment Account, so long as the payment made to the CEP is greater than the monthly payment the CEP would have received if it had selected Contracted Capacity Payment Option 1 in Section 6.b.iii. The annual balance in the Repayment Account shall accrue interest at an annual rate of 8.02%.

Also beginning on \_\_\_\_\_, at such time that the Monthly Contracted Capacity Payment made to the CEP, pursuant to the Contracted Capacity Payment Option selected, is less than the "normal" Monthly Contracted Capacity Payment in Capacity Payment Option 1 in COG-2, there shall be debited from the Repayment Account an Early Payment Offset Amount to reduce the balance in the Repayment Account. Such Early Payment Offset Amount shall be equal to the amount which the Company would have paid for capacity in that month if Contracted Capacity payments had been calculated pursuant to Contracted Capacity Payment Option 1 in COG-2 and the CEP had elected to begin receiving Contracted Capacity payments on \_\_\_\_\_, minus the Monthly Contracted Capacity Payment the Company makes to the CEP (assuming the MPS are met or exceeded), pursuant to the Contracted Capacity Payment Option chosen by the CEP in Section 6.b.ii.

The CEP shall owe the Company and be liable for the current balance in the Repayment Account. The Company agrees to notify the CEP monthly as to the current Repayment Account balance.

In the event of default by the CEP, the total Repayment Account balance shall become due and payable within twenty (20) business days of receipt of written notice, as reimbursement for the Early Contracted Capacity Payments made to the CEP by the Company. The CEP's obligation to reimburse the Company in the amount of the balance in the Repayment Account shall survive the termination of the CEP's Contract with the Company. Such reimbursement shall not be construed to constitute liquidated damages and shall in no way limit the right of the Company to pursue all its remedies at law or in equity against the CEP.

Continued to Sheet No. 8.238



**RATE SCHEDULE COG-2  
APPENDIX B  
METHODOLOGY TO BE USED IN THE CALCULATION OF AVOIDED ENERGY COST**

The methodology the Company has implemented in order to determine the appropriate avoided energy costs and any payments thereof to be rendered to CEPs is consistent with the provisions of Order No. 23625 in Docket No. 891049-EU, issued on October 16, 1990; the Amendment of FPSC Rules 25-17.080 et seq, F.A.C.

The avoided energy costs methodology used to determine payments to CEPs on an hourly basis is based on the incremental cost of fuel using the average price of replacement fuel purchased in excess of contract minimums and is further described in Exhibit 1. Generally, avoided energy costs are defined to include incremental fuel, identifiable variable operation and maintenance expenses, identifiable variable purchased power costs and an adjustment for line losses reflecting delivery voltage.

Under normal conditions the Company will have additional generation resources available which can carry its native load and firm interchange sales without the CEP's contribution. When this is the case and the CEP is present, the incremental fuel portion of the avoided energy cost is equal to the difference between the Company's production cost at 2 load levels, with and without the CEP's contribution.

In those situations where the Company's maximum available generation (not including its minimum operating reserves) are insufficient to carry its native load and firm interchange sales, in the absence of the CEP contribution, the Company's incremental fuel component of the avoided energy cost will be determined by:

1. system lambda - if "off-system purchases" are not being made and all available generation has been dispatched; or
2. the highest incremental cost of any "off-system purchases" that are being made for native load.



**EXHIBIT 2**

**Example: Off-system purchases are not being made. The Company's generation is capable of carrying its native load and firm sales.**

Given:

Actual CEP Energy = 50 MWs

The Company's Maximum Available Generation = 1560 MWs

Native Load = 1550 MWs

Firm Sales = 10 MWs

First Calculation (WITHOUT CEP):

Production Cost at 1560 MWs = \$20,275/hour

Second Calculation (WITH CEP):

Production Cost at 1510 MWs = \$19,500/hour

Third Calculation (CEP Rate \$/MWH):

Actual Hourly Avoided Energy Cost =  $(\$20,275/\text{hour} - \$19,500/\text{hour}) / (50 \text{ MW})$

or

As-Available Energy Payment Rate (AEPR) = \$15.50/MWH



**EXHIBIT 3**

**Example:** Off-system purchases are not being made. The Company's generation can carry its native load and firm sales only with the CEP contribution.

Given:

Actual CEP Energy = 50 MWs

The Company's Maximum Available Generation = 1460 MWs

Native Load = 1500 MWs

Firm Sale = 10 MWs

First Calculation:

Production Cost at 1460 MWs = \$18,900/hour

Second Calculation:

Production Cost at 1459 MWs = \$18,882.50/hour

Third Calculation (CEP Rate \$/MWH):

Actual Hourly Avoided Energy Cost at 1 MW (system lambda<sup>1</sup>) =  
(\$18,900/hour - \$18,882.50/hour) / (1 MW)

or

As-Available Energy Payment Rate (AEPR) = \$17.50/MWH

<sup>1</sup> In this example, system lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.



EXHIBIT 4

**Example:** Off-system purchases are not being made to serve native load and firm sales. Available generation capacity is not fully dispatched. Without the CEP's contribution, the Company's native load and firm sales can be carried only with additional power purchases.

Given:

Actual CEP Energy = 50 MWs  
The Company's Maximum Available Generation = 1530 MWs  
The Company's Actual Generation = 1500 MWs  
Native Load = 1540 MWs  
Firm Sale = 10 MWs

Step 1 (Calculations for First 30 MWs)

First Calculation (Without CEP):  
Production Cost at 1530 MWs = \$20,590/hour  
Second Calculation (With CEP):  
Production Cost at 1500 MWs = \$20,050/hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 30 MWs =  
(\$20,590/hour) - (\$20,050/hour) = \$540/hour

Step 2 (Calculations for Remaining 20 MWs)

First Calculation:  
Production Cost at 1530 MWs = \$20,590/hour  
Second Calculation:  
Production Cost at 1529 MWs = \$20,571.50/hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 1 MW (system lambda<sup>1</sup>) for 20 MWs =  
(\$20,590/hour - \$20,571.50/hour) X (20 MWs) = \$370/hour

Step 3 (Calculation of Composite Rate for Total 50 MW Block)

Composite Actual Hourly Avoided Energy Cost of 50 MW Block = (\$540 + \$370) / 50 MW  
or  
As-Available Energy Payment Rate (AEPR) = \$18.20/MWH

<sup>1</sup> In this example, system lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.



Continued from Sheet No. 8.418

**PARAMETERS FOR AVOIDED CAPACITY COSTS**

Beginning with the in-service date (5/1/2013) of the Company's Designated Avoided Unit, a 61 MW (Winter Rating) natural gas-fired Combustion Turbine, for a 1 year deferral:

	<b>VALUE</b>
VAC <sub>m</sub> = Company's monthly value of avoided capacity, \$/kW/month, for each month of year n	8.72
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 value to the middle of the first year	1.5964
I <sub>n</sub> = total direct and indirect cost, in mid-year \$/kW including AFUDC but excluding CWIP, of the Designated Avoided Unit(s) with an in-service date of year n, including all identifiable and quantifiable costs relating to the construction of the Designated Avoided Unit that would have been paid had the Designated Avoided Unit(s) been constructed	714.67
O <sub>n</sub> = total fixed operation and maintenance expense for the year n, in mid-year \$/kW/year, of the Designated Avoided Unit(s);	20.35
i <sub>p</sub> = annual escalation rate associated with the plant cost of the Designated Avoided Unit(s)	1.9%
i <sub>o</sub> = annual escalation rate associated with the operation and maintenance expense of the Designated Avoided Unit(s);	2.2%
r = discount rate, defined as the Company's incremental after tax cost of capital;	8.02%

Continued to Sheet No. 4.424



Continue from Sheet No. 8.122

L	=	expected life of the Designated Avoided Unit(s); and	25
n	=	year for which the Designated Avoided Unit is deferred starting with its original anticipated in-service date and ending with the termination of the contract for the purchase of firm capacity and energy.	2013
A <sub>m</sub>	=	monthly early capacity payments to be made to the CEP for each month of the contract year n, in \$/kW/month, if payments start in 2011;	6.55
m	=	Earliest year in which early capacity payments to the CEP may begin;	2011*
F	=	the cumulative present value, in the year contractual payments will begin, of the avoided capital cost component of capacity payments over the term of the contract which would have been made had capacity payments commenced with the anticipated in-service date of the Designated Avoided Unit(s);	563.12*
t	=	the term, in years, of the contract for the purchase of firm capacity if early capacity payments commence in year m;	12 *

*\* Actual values will be determined based on the capacity payment start date and contract term selected by the CEP.*

Continued to Sheet No. 8.426



Continued from Sheet No. 8.424

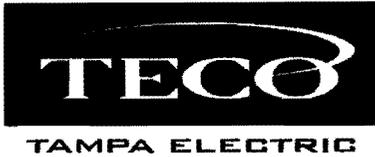
2013 COMBUSTION TURBINE  
 MONTHLY CAPACITY PAYMENT RATE (\$/KW-MONTH)

		OPTION 1 NORMAL PAYMENT	OPTION 2 EARLY PAYMENT		OPTION 3 LEVELIZED NORMAL PAYMENT	OPTION 4 LEVELIZED EARLY PAYMENT	
CONTRACT YEAR		Starting 5/1/13	Starting 5/1/12	Starting 5/1/11	Starting 5/1/13	Starting 5/1/12	Starting 5/1/11
FROM	TO	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.
5/1/11	4/30/12			6.55			7.04
5/1/12	4/30/13		7.53	6.68		8.04	7.07
5/1/13	4/30/14	8.72	7.68	6.81	9.26	8.08	7.10
5/1/14	4/30/15	8.89	7.83	6.95	9.29	8.11	7.13
5/1/15	4/30/16	9.06	7.98	7.08	9.33	8.14	7.16
5/1/16	4/30/17	9.24	8.14	7.22	9.37	8.18	7.19
5/1/17	4/30/18	9.42	8.29	7.36	9.41	8.21	7.22
5/1/18	4/30/19	9.60	8.46	7.51	9.45	8.25	7.25
5/1/19	4/30/20	9.79	8.62	7.66	9.49	8.28	7.29
5/1/20	4/30/21	9.98	8.79	7.81	9.54	8.32	7.32
5/1/21	4/30/22	10.18	8.96	7.96	9.58	8.36	7.35
5/1/22	4/30/23	10.38	9.14	8.11	9.62	8.40	7.39

**BASIS FOR MONTHLY ENERGY PAYMENT CALCULATION:**

1. **Energy Payment Rate:** Prior to the in-service date of the avoided unit, the CEP's Energy Payment Rate shall be the Company's As-Available Energy Payment Rate (AEPR), as described in Appendix B. Starting the in-service date of the avoided unit, the basis for determining the Energy Payment Rate will be whether:
  - a. The Company has dispatched the CEP's unit on AGC; or
  - b. The Company has dispatched the CEP's unit off AGC and the CEP is operating its unit at or below the dispatched level; or
  - c. The Company has dispatched the CEP's unit off AGC but the CEP is operating its unit above the dispatched level; or

Continued to Sheet No. 8.428



Continued from Sheet No. 8.426

d. The Company has not dispatched the CEP's unit but the CEP is providing capacity and energy.

Note: For any given hour the CEP unit must be operating on AGC a minimum of 30 minutes to qualify under case (a).

The CEP's total monthly energy payment shall equal; (1) the sum of the hourly energy at the Unit Energy Payment Rate (UEPR), when the CEP's unit was dispatched by the Company, plus (2) the sum of the hourly energy at the corresponding hourly AEPR when the CEP's unit was operating at times other than when the Company dispatched the unit.

2. **Unit Energy Payment Rate:** Starting the in-service date of the avoided unit, the CEP will be paid at the UEPR for energy provided in Paragraph 1.a, Paragraph 1.b and that portion of the energy provided up to the dispatched level in Paragraph 1.c as defined above. The UEPR, which is based on the Company's Designated Avoided Unit and Heat Rate value of 10,781 Btu/kWh, will be calculated monthly by the following formula:

$$UEPR = FC + O_v$$

where;

$O_v$  = Unit Variable Operation & Maintenance Expense in \$/MWH.

$FC$  = Fuel Component of the Energy Payment in \$/MWH as defined by:

$$FC = \frac{10,781 \text{ Btu/kWh} \times FP}{1,000}$$

where;

$FP$  = Fuel Price in \$/MMBTU determined by:

$$FP = GC / (1 - FRP) + TC$$

Continued to Sheet No. 8.434



Continued from Sheet No. 8.428

**PARAMETERS FOR AVOIDED UNIT ENERGY AND VARIABLE OPERATION AND MAINTENANCE COSTS**

Beginning on May 1, 2013, to the extent that the Designated Avoided Unit(s) would have been operated had it been installed by the Company:

	<b>VALUE</b>
$O_v$ = total variable operating and maintenance expense, in \$/MWH, of the Designated Avoided Unit(s), in year n	4.04
H = The average annual heat rate, in British Thermal Units (Btus) per kilowatt-hour (Btu/kWh), of the Designated Avoided Unit(s)	10,781

Exhibit C



**METHODOLOGY TO BE USED  
IN THE CALCULATION OF  
AVOIDED ENERGY COST  
SCHEDULE COG-1  
APPENDIX A**

The methodology Tampa Electric (TEC) has implemented in order to determine the appropriate avoided energy costs and any payments thereof to be rendered to qualifying facilities (QFs) is consistent with the provisions of Order No. 23625 in Docket No.891049-EU, issued on October 16, 1990, and with the Amendment of Rules 25-17.080 et seq, Florida Administrative Code.

The avoided energy costs methodology used to determine payments to Qualified Facilities (QFs) on an hourly basis is based on the incremental cost of fuel using the average price of replacement fuel purchased in excess of contract minimums and is further described in Exhibit 1. Generally, avoided energy costs are defined to include incremental fuel, identifiable variable operation and maintenance expenses, identifiable variable purchase power cost, and an adjustment for line losses reflecting delivery voltage.

Under normal conditions the Company will have additional generation resources available which can carry its native load and firm interchange sales without the QF's contribution. When this is the case and the QF is present, the incremental fuel portion of the avoided energy cost is equal to the difference between TEC's production cost at two load levels, with and without the QFs' contribution.

In those situations where the Company's available maximum generation resources not including its minimum ~~spinning~~ operating reserves are insufficient to carry its native load and firm interchange sales, in the absence of the QF contribution, TEC's incremental fuel component of the avoided energy cost will be determined by:

- 1) system lambda - if "off-system purchases" are not being made and all available generation has been dispatched; or
- 2) the highest incremental cost of any "off-system purchases" that are being made for native load.

Examples of these situations are found in Exhibits 2-5.

Continued to Sheet No. 8.102

**ISSUED BY:** ~~W. N. Cantrell~~ G. L. Gillette, President

**DATE EFFECTIVE:** ~~March 9, 2004~~



Continued from Sheet No. 8.110

EXHIBIT 4

**Example: Off-System Purchases Are Not Being Made to Serve Native Load and Firm Sales. Available Generation Capacity Is Not Fully Dispatched. Without the QF's Contribution, TEC's Native Load and Firm Sales Can Be Carried Only With Additional Power Purchases.**

Given:

Actual QF Energy = 50 MWs  
TEC's Maximum Available Generation = 1530 MWs  
TEC's Actual Generation = 1500 MWs  
Native Load = 1540 MWs  
Firm Sale = 10 MWs

Step 1 (Calculations for First 30 MWs)

First Calculation ("WITHOUT" QF):  
Production Cost at 1530 MWs = \$20,590/Hour  
Second Calculation ("With" QF):  
Production Cost at 1500 MWs = \$20,050/Hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 30 MWs =  
 $(\$20,590/\text{Hour}) - (\$20,050/\text{Hour}) = \$540/\text{Hour}$

Step 2 (Calculations for Remaining 20 MWs)

First Calculation:  
Production Cost at 1530 MWs = \$20,590/Hour  
Second Calculation:  
Production Cost at 1529 MWs = \$20,571.50/Hour  
Third Calculation:  
Actual Hourly Avoided Energy Cost at 1 MW (System Lambda<sup>1</sup>) for 20 MWs=  
 $(\$20,590/\text{Hour} - \$20,571.50/\text{Hour}) \times (20 \text{ MWs}) = \$370/\text{Hour}$

Step 3 (Calculation of Composite Rate for Total 50 MW Block)

Composite Actual Hourly Avoided Energy Cost of 50 MW Block =  
 $(\$540 + \$370) / 50 \text{ MW}$

or

As-Available Energy Payment Rate (AEPR) = \$18.20/MWH

Note: <sup>1</sup> In this example, System Lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.

Continued to Sheet No. 8.112

ISSUED BY: W. N. Cantrell/G. L. Gillette,  
President

DATE EFFECTIVE: March 9, 2004



Continued from Sheet No. 8.234

Contracted Capacity payment made to the CEP and the "normal" Contracted Capacity payment calculated pursuant to Contracted Capacity payment option 1 (Value of Deferral Payments) in COG-2 will also be added each month to the Repayment Account, so long as the payment made to the CEP is greater than the monthly payment the CEP would have received if it had selected Contracted Capacity Payment Option 1 in Section 6.b.iii. The annual balance in the Repayment Account shall accrue interest at an annual rate of ~~7.998~~.02%.

Also beginning on \_\_\_\_\_, at such time that the Monthly Contracted Capacity Payment made to the CEP, pursuant to the Contracted Capacity Payment Option selected, is less than the "normal" Monthly Contracted Capacity Payment in Capacity Payment Option 1 in COG-2, there shall be debited from the Repayment Account an Early Payment Offset Amount to reduce the balance in the Repayment Account. Such Early Payment Offset Amount shall be equal to the amount which the Company would have paid for capacity in that month if Contracted Capacity payments had been calculated pursuant to Contracted Capacity Payment Option 1 in COG-2 and the CEP had elected to begin receiving Contracted Capacity payments on \_\_\_\_\_, minus the Monthly Contracted Capacity Payment the Company makes to the CEP (assuming the MPS are met or exceeded), pursuant to the Contracted Capacity Payment Option chosen by the CEP in Section 6.b.ii.

The CEP shall owe the Company and be liable for the current balance in the Repayment Account. The Company agrees to notify the CEP monthly as to the current Repayment Account balance.

In the event of default by the CEP, the total Repayment Account balance shall become due and payable within twenty (20) business days of receipt of written notice, as reimbursement for the Early Contracted Capacity Payments made to the CEP by the Company. The CEP's obligation to reimburse the Company in the amount of the balance in the Repayment Account shall survive the termination of the CEP's Contract with the Company. Such reimbursement shall not be construed to constitute liquidated damages and shall in no way limit the right of the Company to pursue all its remedies at law or in equity against the CEP.

Continued to Sheet No. 8.238



**RATE SCHEDULE COG-2**  
**APPENDIX B**  
**METHODOLOGY TO BE USED IN THE CALCULATION OF AVOIDED ENERGY COST**

The methodology the Company has implemented in order to determine the appropriate avoided energy costs and any payments thereof to be rendered to CEPs is consistent with the provisions of Order No. 23625 in Docket No. 891049-EU, issued on October 16, 1990; the Amendment of FPSC Rules 25-17.080 et seq, F.A.C.

The avoided energy costs methodology used to determine payments to CEPs on an hourly basis is based on the incremental cost of fuel using the average price of replacement fuel purchased in excess of contract minimums and is further described in Exhibit 1. Generally, avoided energy costs are defined to include incremental fuel, identifiable variable operation and maintenance expenses, identifiable variable purchased power costs and an adjustment for line losses reflecting delivery voltage.

Under normal conditions the Company will have additional generation resources available which can carry its native load and firm interchange sales without the CEP's contribution. When this is the case and the CEP is present, the incremental fuel portion of the avoided energy cost is equal to the difference between the Company's production cost at 2 load levels, with and without the CEP's contribution.

In those situations where the Company's maximum available generation (not including its minimum ~~spinning~~ operating reserves) are insufficient to carry its native load and firm interchange sales, in the absence of the CEP contribution, the Company's incremental fuel component of the avoided energy cost will be determined by:

1. system lambda - if "off-system purchases" are not being made and all available generation has been dispatched; or
2. the highest incremental cost of any "off-system purchases" that are being made for native load.

**ISSUED BY:** ~~C. R. Black~~ G. L. Gillette,  
President

**DATE EFFECTIVE:** ~~May 22, 2007~~



**EXHIBIT 2**

**Example: Off-system purchases are not being made. The Company's generation is capable of carrying its native load and firm sales.**

Given:

Actual CEP Energy = 50 MWs

The Company's Maximum Available Generation = 1560 MWs

Native Load = 1550 MWs

Firm Sales = 10 MWs

First Calculation (WITHOUT CEP):

Production Cost at 1560 MWs = \$20,275/hour

Second Calculation (WITH CEP):

Production Cost at 1510 MWs = \$19,500/hour

Third Calculation (CEP Rate \$/MWH):

Actual Hourly Avoided Energy Cost =  $(\$20,275/\text{hour} - \$19,500/\text{hour}) / (50 \text{ MW})$

or

As-Available Energy Payment Rate (AEPR) = \$15.50/MWH

**ISSUED BY:** ~~C. R. Black~~ G. L. Gillette,  
President

**DATE EFFECTIVE:** ~~May 22, 2007~~



EXHIBIT 3

**Example:** Off-system purchases are not being made. The Company's generation can carry its native load and firm sales only with the CEP contribution.

Given:

Actual CEP Energy = 50 MWs

The Company's Maximum Available Generation = 1460 MWs

Native Load = 1500 MWs

Firm Sale = 10 MWs

First Calculation:

Production Cost at 1460 MWs = \$18,900/hour

Second Calculation:

Production Cost at 1459 MWs = \$18,882.50/hour

Third Calculation (CEP Rate \$/MWH):

Actual Hourly Avoided Energy Cost at 1 MW (system lambda<sup>1</sup>) =  
 $(\$18,900/\text{hour} - \$18,882.50/\text{hour}) / (1 \text{ MW})$

or

As-Available Energy Payment Rate (AEPR) = \$17.50/MWH

<sup>1</sup> In this example, system lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.

ISSUED BY: ~~C. R. Black~~ G. L. Gillette,  
President

DATE EFFECTIVE: May 22, 2007



**EXHIBIT 4**

**Example:** Off-system purchases are not being made to serve native load and firm sales. Available generation capacity is not fully dispatched. Without the CEP's contribution, the Company's native load and firm sales can be carried only with additional power purchases.

Given:

Actual CEP Energy = 50 MWs  
The Company's Maximum Available Generation = 1530 MWs  
The Company's Actual Generation = 1500 MWs  
Native Load = 1540 MWs  
Firm Sale = 10 MWs

Step 1 (Calculations for First 30 MWs)

First Calculation (Without CEP):

Production Cost at 1530 MWs = \$20,590/hour

Second Calculation (With CEP):

Production Cost at 1500 MWs = \$20,050/hour

Third Calculation:

Actual Hourly Avoided Energy Cost at 30 MWs =  
(\$20,590/hour) - (\$20,050/hour) = \$540/hour

Step 2 (Calculations for Remaining 20 MWs)

First Calculation:

Production Cost at 1530 MWs = \$20,590/hour

Second Calculation:

Production Cost at 1529 MWs = \$20,571.50/hour

Third Calculation:

Actual Hourly Avoided Energy Cost at 1 MW (system lambda<sup>1</sup>) for 20 MWs =  
(\$20,590/hour - \$20,571.50/hour) X (20 MWs) = \$370/hour

Step 3 (Calculation of Composite Rate for Total 50 MW Block)

Composite Actual Hourly Avoided Energy Cost of 50 MW Block = (\$540 + \$370) / 50 MW  
or

As-Available Energy Payment Rate (AEPR) = \$18.20/MWH

<sup>1</sup> In this example, system lambda is the production cost for the last MW segment to meet the load after dispatching all available generation capacity.

**ISSUED BY:** ~~C. R. Black~~ G. L. Gillette,  
President

**DATE EFFECTIVE:** ~~May 22, 2007~~



Continued from Sheet No. 8.418

**PARAMETERS FOR AVOIDED CAPACITY COSTS**

Beginning with the in-service date (5/1/2013) of the Company's Designated Avoided Unit, a 61 MW (Winter Rating) natural gas-fired Combustion Turbine, for a 1 year deferral:

		<b>VALUE</b>
$VAC_m$	= Company's monthly value of avoided capacity, \$/kW/month, for each month of year n	<u>8.729.07</u>
$K$	= 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 value to the middle of the first year	<del>1.5975</del> <u>1.59</u> <u>64</u>
$I_n$	= total direct and indirect cost, in mid-year \$/kW including AFUDC but excluding CWIP, of the Designated Avoided Unit(s) with an in-service date of year n, including all identifiable and quantifiable costs relating to the construction of the Designated Avoided Unit that would have been paid had the Designated Avoided Unit(s) been constructed	<del>727.54</del> <u>714.</u> <u>67</u>
$O_n$	= total fixed operation and maintenance expense for the year n, in mid-year \$/kW/year, of the Designated Avoided Unit(s);	<del>21.66</del> <u>20.35</u>
$i_p$	= annual escalation rate associated with the plant cost of the Designated Avoided Unit(s)	<u>1.71.9%</u>
$i_o$	= annual escalation rate associated with the operation and maintenance expense of the Designated Avoided Unit(s);	<u>2.12.2%</u>
$r$	= discount rate, defined as the Company's incremental after tax cost of capital;	<del>7.998</del> <u>0.02%</u>

Continued to Sheet No. 4.424



Continue from Sheet No. 8.122

L	=	expected life of the Designated Avoided Unit(s); and	25
n	=	year for which the Designated Avoided Unit is deferred starting with its original anticipated in-service date and ending with the termination of the contract for the purchase of firm capacity and energy.	2013
A <sub>m</sub>	=	monthly early capacity payments to be made to the CEP for each month of the contract year n, in \$/kW/month, if payments start in <del>2010</del> 2011;	<del>5.996.55</del>
m	=	Earliest year in which early capacity payments to the CEP may begin;	<del>2010</del> 2011*
F	=	the cumulative present value, in the year contractual payments will begin, of the avoided capital cost component of capacity payments over the term of the contract which would have been made had capacity payments commenced with the anticipated in-service date of the Designated Avoided Unit(s);	<del>536.02563.1</del> 2*
t	=	the term, in years, of the contract for the purchase of firm capacity if early capacity payments commence in year m;	<del>13-12</del> *

*\* Actual values will be determined based on the capacity payment start date and contract term selected by the CEP.*

Continued to Sheet No. 8.426



**THIRD FOURTH REVISED SHEET NO. 8.426  
 CANCELS SECOND THIRD REVISED SHEET NO. 8.426**

Continued from Sheet No. 8.424

2013-COMBUSTION TURBINE  
 MONTHLY CAPACITY PAYMENT RATE (\$/KW-MONTH)

		OPTION 1	OPTION 2				OPTION 3	OPTION 4		
		NORMAL PAYMENT	EARLY PAYMENT				LEVELIZED NORMAL PAYMENT	LEVELIZED EARLY PAYMENT		
CONTRACT YEAR		Starting 5/1/13	Starting 5/1/12	Starting 5/1/11	Starting 5/1/10	Starting 5/1/13	Starting 5/1/12	Starting 5/1/11	Starting 5/1/10	
FROM	TO	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	\$/kw-mo.	
5/1/10	4/30/11	-	-	-	6.99	-	-	-	6.42	
5/1/11	4/30/12	-	-	6.83	6.10	-	-	7.28	6.44	
5/1/12	4/30/13	-	7.84	6.95	6.21	-	8.31	7.31	6.47	
5/1/13	4/30/14	9.07	7.98	7.08	6.32	9.56	8.34	7.34	6.50	
5/1/14	4/30/15	9.23	8.12	7.20	6.43	9.60	8.38	7.37	6.52	
5/1/15	4/30/16	9.39	8.26	7.33	6.54	9.64	8.41	7.40	6.55	
5/1/16	4/30/17	9.56	8.41	7.46	6.66	9.68	8.45	7.43	6.58	
5/1/17	4/30/18	9.73	8.56	7.59	6.78	9.72	8.48	7.46	6.61	
5/1/18	4/30/19	9.90	8.71	7.73	6.90	9.76	8.52	7.49	6.63	
5/1/19	4/30/20	10.08	8.87	7.87	7.02	9.80	8.56	7.53	6.66	
5/1/20	4/30/21	10.26	9.03	8.01	7.15	9.85	8.59	7.56	6.69	
5/1/21	4/30/22	10.44	9.19	8.15	7.28	9.89	8.63	7.59	6.72	
5/1/22	4/30/23	10.63	9.35	8.29	7.41	9.94	8.67	7.63	6.76	

ISSUED BY: G. L. Gillette, President

DATE EFFECTIVE: July 13, 2010



**THIRD-FOURTH REVISED SHEET NO. 8.426  
CANCELS SECOND-THIRD REVISED SHEET NO. 8.426**

2013 COMBUSTION TURBINE  
MONTHLY CAPACITY PAYMENT RATE (\$/KW-MONTH)

		OPTION 1	OPTION 2		OPTION 3	OPTION 4	
		NORMAL PAYMENT	EARLY PAYMENT		LEVELIZED NORMAL PAYMENT	LEVELIZED EARLY PAYMENT	
CONTRACT YEAR		Starting 5/1/13	Starting 5/1/12	Starting 5/1/11	Starting 5/1/13	Starting 5/1/12	Starting 5/1/11
FROM	TO	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.	\$/kw -mo.
5/1/11	4/30/12			6.55			7.04
5/1/12	4/30/13		7.53	6.68		8.04	7.07
5/1/13	4/30/14	8.72	7.68	6.81	9.26	8.08	7.10
5/1/14	4/30/15	8.89	7.83	6.95	9.29	8.11	7.13
5/1/15	4/30/16	9.06	7.98	7.08	9.33	8.14	7.16
5/1/16	4/30/17	9.24	8.14	7.22	9.37	8.18	7.19
5/1/17	4/30/18	9.42	8.29	7.36	9.41	8.21	7.22
5/1/18	4/30/19	9.60	8.46	7.51	9.45	8.25	7.25
5/1/19	4/30/20	9.79	8.62	7.66	9.49	8.28	7.29
5/1/20	4/30/21	9.98	8.79	7.81	9.54	8.32	7.32
5/1/21	4/30/22	10.18	8.96	7.96	9.58	8.36	7.35
5/1/22	4/30/23	10.38	9.14	8.11	9.62	8.40	7.39

**BASIS FOR MONTHLY ENERGY PAYMENT CALCULATION:**

1. **Energy Payment Rate:** Prior to the in-service date of the avoided unit, the CEP's Energy Payment Rate shall be the Company's As-Available Energy Payment Rate (AEPR), as described in Appendix B. Starting the in-service date of the avoided unit, the basis for determining the Energy Payment Rate will be whether:
  - a. The Company has dispatched the CEP's unit on AGC; or
  - b. The Company has dispatched the CEP's unit off AGC and the CEP is operating its unit at or below the dispatched level; or
  - c. The Company has dispatched the CEP's unit off AGC but the CEP is operating its unit above the dispatched level; or

Continued to Sheet No. 8.428



Continued from Sheet No. 8.426

d. The Company has not dispatched the CEP's unit but the CEP is providing capacity and energy.

Note: For any given hour the CEP unit must be operating on AGC a minimum of 30 minutes to qualify under case (a).

The CEP's total monthly energy payment shall equal; (1) the sum of the hourly energy at the Unit Energy Payment Rate (UEPR), when the CEP's unit was dispatched by the Company, plus (2) the sum of the hourly energy at the corresponding hourly AEPR when the CEP's unit was operating at times other than when the Company dispatched the unit.

2. **Unit Energy Payment Rate:** Starting the in-service date of the avoided unit, the CEP will be paid at the UEPR for energy provided in Paragraph 1.a, Paragraph 1.b and that portion of the energy provided up to the dispatched level in Paragraph 1.c as defined above. The UEPR, which is based on the Company's Designated Avoided Unit and Heat Rate value of 11,49610,781 Btu/kWh, will be calculated monthly by the following formula:

$$UEPR = FC + O_v$$

where;

$O_v$  = Unit Variable Operation & Maintenance Expense in \$/MWH.

$FC$  = Fuel Component of the Energy Payment in \$/MWH as defined by:

$$FC = \frac{11,49610,781 \text{ Btu/kWh} \times FP}{1,000}$$

where;

$FP$  = Fuel Price in \$/MMBTU determined by:

$$FP = GC / (1 - FRP) + TC$$

Continued to Sheet No. 8.434



Continued from Sheet No. 8.428

**PARAMETERS FOR AVOIDED UNIT ENERGY AND VARIABLE OPERATION AND MAINTENANCE COSTS**

Beginning on May 1, 2013, to the extent that the Designated Avoided Unit(s) would have been operated had it been installed by the Company:

	VALUE
$O_v$ = total variable operating and maintenance expense, in \$/MWH, of the Designated Avoided Unit(s), in year n	4.034.04
H = The average annual heat rate, in British Thermal Units (Btus) per kilowatt-hour (Btu/kWh), of the Designated Avoided Unit(s)	11,49610,781