AUSLEY MCMULLEN

Attorneys and Counselors at Law
123 South Calhoun Street
P.O. Box 391 32302
Tallahassee, FL 32301
P: (850) 224-9115
F: (850) 222-7560
ausley.com

September 5, 2023

VIA: ELECTRONIC FILING

Mr. Adam J. Teitzman
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Fuel and Purchased Power Cost Recovery Clause with Generating Performance Incentive Factor; FPSC Docket No. 20230001-EI

Dear Mr. Teitzman:

Attached for filing in the above docket is Tampa Electric Company's Projection Testimony for the period January 2024 through December 2024, including:

1. Petition of Tampa Electric Company;
2. Prepared Direct Testimony of Elena B. Vance and Exhibit EBV-2;
3. Prepared Direct Testimony of John C. Heisey; and
4. Prepared Direct Testimony of Benjamin F. Smith II.

Thank you for your assistance in connection with this matter.

Sincerely,

Malcolm N. Means

Malcolm N. Means

MNM/bml
Attachment

cc: All Parties of Record (w/encl.)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Projection Testimony, filed on behalf of Tampa Electric Company, has been furnished by electronic mail on this 5th day of September 2023 to the following:

Ms. Suzanne Brownless
Ryan Sandy
Office of the General Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850
sbrownle@psc.state.fl.us
rsandy@psc.state.fl.us

Walter Trierweiler
Charles Rehwinkel
Mary Wessling
Office of Public Counsel
111 West Madison Street, Room 812
Tallahassee, FL 32399-1400
Trierweiler.Walt@leg.state.fl.us
Rehwinkel.charles@leg.state.fl.us
wessling.mary@leg.state.fl.us

Ms. Dianne M. Triplett
Duke Energy Florida
299 First Avenue North
St. Petersburg, FL 33701
Dianne.triplett@duke-energy.com
FLRegulatoryLegal@duke-energy.com

Mr. Matthew R. Bernier
Mr. Robert Pickles
Stephanie A. Cuello
Duke Energy Florida
106 East College Avenue, Suite 800
Tallahassee, FL 32301-7740
Matthew.bernier@duke-energy.com
Robert.pickles@duke-energy.com
Stephanie.Cuello@duke-energy.com

Ms. Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 S. Monroe St., Suite 601
Tallahassee, FL 32301
bkeating@gunster.com

Maria Moncada
David M. Lee
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
maria.moncada@fpl.com
david.lee@fpl.com

Mr. Kenneth Hoffman
Vice President, Regulatory Relations
Florida Power & Light Company
215 South Monroe Street, Suite 810
Tallahassee, FL 32301-1859
ken.hoffman@fpl.com

Mr. Mike Cassel
Regulatory and Governmental Affairs
Florida Public Utilities Company
Florida Division of Chesapeake Utilities Corp.
1750 SW 14th Street, Suite 200
Fernandina Beach, FL 32034
mcassel@fpuc.com

Mr. James W. Brew
Ms. Laura W. Baker
Stone Mattheis Xenopoulos & Brew, PC
1025 Thomas Jefferson Street, NW
Eighth Floor, West Tower
Washington, D.C. 20007-5201
jbrew@smxblaw.com
lwb@smxblaw.com

Mr. Jon C Moyle, Jr.
Moyle Law Firm
118 North Gadsden Street
Tallahassee, FL 32301
jmoyle@moylelaw.com

Mr. Peter J. Mattheis
Mr. Michael K. Lavanga
Mr. Joseph R. Briscar
Stone Law Firm
1025 Thomas Jefferson St., NW
Suite 800 West
Washington, DC 20007-5201
pjm@smxblaw.com
mkl@smxblaw.com
jrb@smxblaw.com

Robert Scheffel Wright
John T. LaVia III
1300 Thomaswood Drive
Tallahassee FL 32308
schef@gbwlegal.com
jlavia@gbwlegal.com

Michelle D. Napier
1635 Meathe Drive
West Palm Beach, FL 33411
mnapier@fpuc.com

Nucor Steel Florida, Inc.
Corey Allain
22 Nucor Drive
Frostproof FL 33843
corey.allain@nucor.com

George Cavros
Southern Alliance for Clean Energy
120 E. Oakland Park Blvd., Suite 105
Ft. Lauderdale, FL 33334
george@cavros-law.com

Malcolm N. Means

ATTORNEY

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Fuel and Purchased Power Cost Recovery Clause with Generating Performance Incentive Factor.	))))	DOCKET NO. 20230001-EI FILED: September 5, 2023

PETITION OF TAMPA ELECTRIC COMPANY

On August 16, 2023, Tampa Electric Company ("Tampa Electric" or "company") filed its petition for approval of the company's proposal concerning 2024 fuel and purchase power factors, capacity cost factors, and 2022 Optimization Mechanism results. Associated with that filing, Tampa Electric hereby petitions the Commission for approval of the company's proposals concerning 2024 generating performance incentive factor targets and ranges set forth herein, and in support thereof, says:

GPIF

1. The company is proposing GPIF targets and ranges for the period January 1, 2024 through December 31, 2024 with such proposed targets and ranges being detailed in the testimony and exhibits of Tampa Electric witness Elena B. Vance filed herewith.

WHEREFORE, Tampa Electric Company requests that its proposal relative to GPIF targets and ranges for 2024 be approved.

DATED this 5th day of September 2023.

Respectfully submitted,

Malcolm N. Means

J. JEFFRY WAHLEN
MALCOLM N. MEANS
VIRGINIA L. PONDER
Ausley McMullen
Post Office Box 391
Tallahassee, Florida 32302
(850) 224-9115
ATTORNEYS FOR TAMPA ELECTRIC COMPANY

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing Petition, filed on behalf of Tampa Electric Company, has been furnished by electronic mail on this 5th day of September 2023.

Ms. Suzanne Brownless
Ryan Sandy
Office of the General Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850
sbrownle@psc.state.fl.us
rsandy@psc.state.fl.us

Walter Trierweiler
Charles Rehwinkel
Mary Wessling
Office of Public Counsel
111 West Madison Street, Room 812
Tallahassee, FL 32399-1400
Trierweiler.Walt@leg.state.fl.us
Rehwinkel.charles@leg.state.fl.us
wessling.mary@leg.state.fl.us

Ms. Dianne M. Triplett
Duke Energy Florida
299 First Avenue North
St. Petersburg, FL 33701
Dianne.triplett@duke-energy.com
FLRegulatoryLegal@duke-energy.com

Mr. Matthew R. Bernier
Mr. Robert Pickles
Stephanie A. Cuello
Duke Energy Florida
106 East College Avenue, Suite 800
Tallahassee, FL 32301-7740
Matthew.bernier@duke-energy.com
Robert.pickles@duke-energy.com
Stephanie.Cuello@duke-energy.com

Ms. Beth Keating
Gunster, Yoakley & Stewart, P.A.
215 S. Monroe St., Suite 601
Tallahassee, FL 32301
bkeating@gunster.com

Maria Moncada
David M. Lee
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
maria.moncada@fpl.com
david.lee@fpl.com

Mr. Kenneth Hoffman
Vice President, Regulatory Relations
Florida Power & Light Company
215 South Monroe Street, Suite 810
Tallahassee, FL 32301-1859
ken.hoffman@fpl.com

Mr. Mike Cassel
Regulatory and Governmental Affairs
Florida Public Utilities Company
Florida Division of Chesapeake Utilities Corp.
1750 SW 14th Street, Suite 200
Fernandina Beach, FL 32034
mcassel@fpuc.com

Mr. James W. Brew
Ms. Laura W. Baker
Stone Mattheis Xenopoulos & Brew, PC
1025 Thomas Jefferson Street, NW
Eighth Floor, West Tower
Washington, D.C. 20007-5201
jbrew@smxblaw.com
lwb@smxblaw.com

Mr. Jon C Moyle, Jr.
Moyle Law Firm
118 North Gadsden Street
Tallahassee, FL 32301
jmoyle@moylelaw.com

Mr. Peter J. Mattheis
Mr. Michael K. Lavanga
Mr. Joseph R. Briscar
Stone Law Firm
1025 Thomas Jefferson St., NW
Suite 800 West
Washington, DC 20007-5201
pjm@smxblaw.com
mkl@smxblaw.com
jrb@smxblaw.com

Robert Scheffel Wright
John T. LaVia III
1300 Thomaswood Drive
Tallahassee FL 32308
schef@gbwlegal.com
jlavia@gbwlegal.com

Michelle D. Napier
1635 Meathe Drive
West Palm Beach, FL 33411
mnapier@fpuc.com

Nucor Steel Florida, Inc.
Corey Allain
22 Nucor Drive
Frostproof FL 33843
corey.allain@nucor.com

George Cavros
Southern Alliance for Clean Energy
120 E. Oakland Park Blvd., Suite 105
Ft. Lauderdale, FL 33334
george@cavros-law.com

Malcolm N. Means

ATTORNEY

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20230001-EI
FUEL & PURCHASED POWER COST RECOVERY
AND
CAPACITY COST RECOVERY

GENERATING PERFORMANCE INCENTIVE FACTOR
PROJECTIONS
JANUARY 2024 THROUGH DECEMBER 2024

TESTIMONY AND EXHIBIT
OF
ELENA B. VANCE

FILED: SEPTEMBER 5, 2023

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

ELENA B. VANCE

Q. Please state your name, address, occupation, and employer.

A. My name is Elena B. Vance. My business address is 702 N. Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") in the position of Manager, Unit Commitment.

Q. Please provide a brief description of your educational background and work experience.

A. I received a Bachelor of Science degree in Chemical Engineering from the University of South Florida in 1999 and a Master of Business Administration with a concentration in Finance in 2003 from the University of Tampa. I have accumulated 25 years of experience in the electric industry, with experience in the areas of plant operations, unit commitment and economic dispatch, and resource planning. In my current role, I am responsible for long term study analysis and project economic

analysis.

Q. What is the purpose of your testimony?

A. My testimony describes Tampa Electric's methodology for determining the various factors required to compute the Generating Performance Incentive Factor ("GPIF") as ordered by the Commission.

Q. Have you prepared an exhibit to support your direct testimony?

A. Yes. Exhibit No. EBV-2, consisting of two documents, was prepared under my direction and supervision. Document No. 1 contains the GPIF schedules. Document No. 2 is a summary of the GPIF targets for the 2024 period.

Q. Which generating units on Tampa Electric's system are included in the determination of the GPIF?

A. Four natural gas combined cycle ("CC") units are included. These are Polk Unit 2, Bayside Units 1 and 2, and Big Bend Unit 1 CC.

Q. Does your exhibit comply with the Commission's approved

GPIF methodology?

A. Yes. In accordance with the GPIF Manual, the GPIF units selected represent no less than 80 percent of the estimated system net generation. The units Tampa Electric proposes to use for the period January 2024 through December 2024 represent the top 87.3 percent of the total forecasted system net generation for this period. It includes generation from the Big Bend Unit 1 CC, commissioned in December 2022. Tampa Electric included Big Bend Unit 1 CC as it is the most efficient unit and makes up 32 percent of our generation.

To account for the concerns presented in the testimony of Commission Staff witness Sidney W. Matlock during the 2005 fuel hearing, Tampa Electric removes outliers from the calculation of the GPIF targets. The methodology was approved by the Commission in Order No. PSC-2006-1057-FOF-EI issued in Docket No. 20060001-EI on December 22, 2006.

Q. Did Tampa Electric identify any outages as outliers?

A. Yes, a Polk Unit 2 outage was identified as an outlier and was removed.

Q. Did Tampa Electric make any other adjustments?

A. Yes. As allowed per Section 4.3 of the GPIF Implementation Manual, the Forced Outage and Maintenance Outage Factors were adjusted to reflect recent unit performance and known unit modifications or equipment changes.

Q. Please describe how Tampa Electric developed the various factors associated with GPIF.

A. Targets were established for equivalent availability and heat rate for each unit considered for the 2024 period. A range of potential improvements and degradations were determined for each of these metrics.

Q. How were the target values for unit availability determined?

A. The Planned Outage Factor ("POF") and the Equivalent Unplanned Outage Factor ("EUOF") were subtracted from 100 percent to determine the target Equivalent Availability Factor ("EAF"). The factors for each of the four units included within the GPIF are shown on page 5 of Document No. 1.

To give an example for the 2024 period, the projected EUOF for Bayside Unit 1 is 2.9 percent, the POF is 19.1 percent. Therefore, the target EAF for Bayside Unit 1 equals 78.0 percent or:

$$100\% - (2.9\% + 19.1\%) = 78.0\%$$

This is shown on Page 4, column 3 of Document No. 1.

Q. How was the potential for unit availability improvement determined?

A. Maximum equivalent availability is derived using the following formula:

$$EAF_{MAX} = 1 - [0.80\ (EUOF_T) + 0.95\ (POF_T)]$$

The factors included in the above equations are the same factors that determine the target equivalent availability. Calculating the maximum incentive points, a 20 percent reduction in EUOF, plus a five percent reduction in the POF is necessary. Continuing with the Bayside Unit 1 example:

$$EAF_{MAX} = 1 - [0.80\ (2.9\%) + 0.95\ (19.1\%)] = 79.5\%$$

This is shown on page 4, column 4 of Document No. 1.

Q. How was the potential for unit availability degradation determined?

A. The potential for unit availability degradation is significantly greater than the potential for unit availability improvement. This concept was discussed extensively during the development of the incentive. To incorporate this biased effect into the unit availability tables, Tampa Electric uses a potential degradation range equal to twice the potential improvement. Consequently, minimum equivalent availability is calculated using the following formula:

$$EAF_{MIN} = 1 - [1.40\ (EUOF_T) + 1.10\ (POF_T)]$$

Again, continuing using the Bayside Unit 1 example,

$$EAF_{MIN} = 1 - [1.40\ (2.9\%) + 1.10\ (19.1\%)] = 74.9\%$$

The equivalent availability maximum and minimum for the other four units are computed in a similar manner.

Q. How did Tampa Electric determine the Planned Outage, Maintenance Outage, and Forced Outage Factors?

A. The company's planned outages for January 2024 through December 2024 are shown on page 15 of Document No. 1. Two GPIF units have a major planned outage of 28 days or greater in 2024; therefore, two Critical Path Method Diagrams are provided.

Planned Outage Factors are calculated for each unit. For example, Bayside Unit 1 is scheduled for planned outages from September 13, 2024 to November 21, 2024. There are 1,680 planned outage hours scheduled for the 2024 period, with a total of 8,784 hours during this 12-month period. Consequently, the POF for Bayside Unit 1 is 19.1 percent or:

$$\frac{1,680}{8,784} \times 100\% = 19.1\%$$

The factor for each unit is shown on pages 5 and 11 through 14 of Document No. 1. Big Bend CC 1 has a POF of 1.4 percent, Bayside Unit 2 has a POF of 25.1 percent, and Polk Unit 2 has a POF of 6.7 percent.

Q. How did you determine the Forced Outage and Maintenance Outage Factors for each unit?

A. Projected factors are based upon historical unit performance. For each unit, the three most recent July through June annual periods formed the basis of the target development. Historical data and target values are analyzed to assure applicability to current conditions of operation. This provides assurance that any periods of abnormal operations or recent trends having material effect can be taken into consideration. These target factors are additive and result in a EUOF of 2.9 percent for Bayside Unit 1. The EUOF of Bayside Unit 1 is verified by the data shown on page 13, lines 3, 5, 10, and 11 of Document No. 1 and calculated using the following formula:

$$EUOF = \frac{(EFOH + EMOH)}{PH} \times 100\%$$

Or

$$EUOF = \frac{(53 + 204)}{8{,}784} \times 100\% = 2.9\%$$

Relative to Bayside Unit 1, the EUOF of 2.9 percent forms the basis of the equivalent availability target

development as shown on pages 4 and 5 of Document No. 1.

Big Bend CC 1

The projected EUOF for this unit is 27.1 percent. The unit will have one planned outage in 2024, and the POF is 1.4 percent. Therefore, the target equivalent availability for this unit is 71.5 percent.

Polk Unit 2

The projected EUOF for this unit is 5.1 percent. The unit will have two planned outages in 2024, and the POF is 6.7 percent. Therefore, the target equivalent availability for this unit is 88.3 percent.

Bayside Unit 1

The projected EUOF for this unit is 2.9 percent. The unit will have one planned outage in 2024, and the POF is 19.1 percent. Therefore, the target equivalent availability for this unit is 78.0 percent.

Bayside Unit 2

The projected EUOF for this unit is 1.6 percent. The unit will have two planned outages in 2024, and the POF is 25.1 percent. Therefore, the target equivalent availability for this unit is 73.2 percent.

Q. Please summarize your testimony regarding EAF.

A. The GPIF system weighted EAF of 72.3 percent is shown on page 5 of Document No. 1.

Q. Why are Forced and Maintenance Outage Factors adjusted for planned outage hours?

A. The adjustment makes the factors more accurate and comparable. A unit in a planned outage stage or reserve shutdown stage cannot incur a forced or maintenance outage. To demonstrate the effects of a planned outage, note the Equivalent Unplanned Outage Rate and Equivalent Unplanned Outage Factor for Bayside Unit 1 on page 13 of Document No. 1. Except for the months of September and November, the Equivalent Unplanned Outage Rate and Equivalent Unplanned Outage Factor are equal. This is because no planned outages are scheduled for these months. During the months of September and November, the Equivalent Unplanned Outage Rate exceeds the Equivalent Unplanned Outage Factor due to the scheduled planned outages. Therefore, the adjusted factors apply to the period hours after the planned outage hours have been extracted.

Q. Does this mean that both rate and factor data are used in calculated data?

A. Yes. Rates provide a proper and accurate method of determining unit metrics, which are subsequently converted to factors. Therefore,

$$EFOF + EMOF + POF + EAF = 100\%$$

Since factors are additive, they are easier to work with and to understand.

Q. Has Tampa Electric prepared the necessary heat rate data required for the determination of the GPIF?

A. Yes. Target heat rates and ranges of potential operation have been developed as required and have been adjusted to reflect the afore mentioned agreed upon GPIF methodology.

Q. How were the targets determined?

A. Net heat rate data for the three most recent July through June annual periods formed the basis for the target development. The historical data and the target values are analyzed to assure applicability to current

conditions of operation. This provides assurance that any period of abnormal operations or equipment modifications having material effect on heat rate can be taken into consideration.

Q. How were the ranges of heat rate improvement and heat rate degradation determined?

A. The ranges were determined through analysis of historical net heat rate and net output factor data. This is the same data from which the net heat rate versus net output factor curves have been developed for each unit. This information is shown on pages 22 through 25 of Document No. 1.

Q. Please elaborate on the analysis used in the determination of the ranges.

A. The net heat rate versus net output factor curves are the result of a first order curve fit to historical data. The standard error of the estimate of this data was determined, and a factor was applied to produce a band of potential improvement and degradation. Both the curve fit and the standard error of the estimate were performed by the computer program for each unit. These curves are also

used in post-period adjustments to actual heat rates to account for unanticipated changes in unit dispatch and fuel.

Q. Please summarize your heat rate projection (Btu/Net kWh) and the range about each target to allow for potential improvement or degradation for the 2024 period.

A. The heat rate target for Big Bend CC 1 is 6,513 Btu/Net kWh with a range of ±163 Btu/Net kWh. The heat rate target for Polk Unit 2 is 7,186 Btu/Net kWh with a range of ±324 Btu/Net kWh. The heat rate for Bayside Unit 1 is 7,401 Btu/Net kWh with a range of ±263 Btu/Net kWh. The heat rate target for Bayside Unit 2 is 7,505 Btu/Net kWh with a range of ±102 Btu/Net kWh. A zone of tolerance of ±75 Btu/Net kWh is included within a range for each target. This is shown on pages 7 through 10 of Document No. 1.

Q. Do these heat rate targets and ranges meet the Commission’s requirements?

A. Yes.

Q. After determining the target values and ranges for average net operating heat rate and equivalent availability, what

is the next step in determining the GPIF targets?

A. The next step is to calculate the savings and weighting factor to be used for both average net operating heat rate and equivalent availability. This is shown in Document No. 1, pages 7 through 10. The baseline production costing analysis was performed to calculate the total system fuel cost if all units operated at target heat rate and target availability for the period. This total system fuel cost of $678,034,160 is shown on Document No. 1, page 6, column 2. Multiple production cost simulations were performed to calculate total system fuel cost with each unit individually operating at maximum improvement in equivalent availability and each station operating at maximum improvement in average net operating heat rate. The respective savings are shown on page 6, column 4 of Document No. 1.

Column 4 totals $28,024,910 which reflects the savings if all of the units operated at maximum improvement. A weighting factor for each metric is then calculated by dividing unit savings by the total. For Bayside Unit 1, the weighting factor for average net operating heat rate is 3.71 percent as shown in the right-hand column on Document No. 1, page 6. Pages 7 through 10 of Document

No. 1 show the point table, the Fuel Savings/(Loss) and the equivalent availability or heat rate value. The individual weighting factor is also shown. For example, as shown on page 9 of Document No. 1, if Bayside Unit 1, operates at 7,137 average net operating heat rate, fuel savings would equal $1,039,100 and +10 average net operating heat rate points would be awarded.

The GPIF Reward/Penalty table on page 2 of Document No. 1 is a summary of the tables on pages 7 through 10. The left-hand column of this document shows the incentive points for Tampa Electric. The center column shows the total fuel savings and is the same amount as shown on page 6, column 4, or $28,024,910. The right-hand column of page 2 is the estimated reward or penalty based upon performance.

Q. How was the maximum allowed incentive determined?

A. Referring to page 3, line 14, the estimated average common equity for the period January 2024 through December 2024 is $4,972,332,352. This produces the maximum allowed jurisdictional incentive of $16,696,450 shown on line 21.

Q. Are there any constraints set forth by the Commission regarding the magnitude of incentive dollars?

A. Yes. As Order No. PSC-2013-0665-FOF-EI, issued in Docket No. 20130001-EI on December 18, 2013 states, incentive dollars are not to exceed 50 percent of fuel savings. Page 2 of Document No. 1 demonstrates that this constraint is met, limiting total potential reward and penalty incentive dollars to $14,012,453.

Q. Please summarize your direct testimony.

A. Tampa Electric has complied with the Commission's directions, philosophy, and methodology in its determination of the GPIF. The GPIF is determined by the following formula for calculating Generating Performance Incentive Points (GPIP).

$$GPIP = (0.0059\ EAP_{PK2} + 0.0225\ EAP_{BAY1} + 0.0531\ EAP_{BAY2} + 0.3499\ EAP_{BBCC1} + 0.2708\ HRP_{PK2} + 0.0371\ HRP_{BAY1} + 0.1125\ HRP_{BAY2} + 0.1482\ HRP_{BBCC1})$$

Where:

GPIP = Generating Performance Incentive Points

EAP = Equivalent Availability Points awarded/deducted for Polk Unit 2, Bayside Units 1 and 2, and Big Bend CC 1.

HRP = Average Net Heat Rate Points awarded/deducted for Polk Unit 2, Bayside Units 1 and 2, and Big Bend CC 1.

Q. Have you prepared a document summarizing the GPIF targets for the January 2024 through December 2024 period?

A. Yes. Document No. 2 entitled “Summary of GPIF Targets” provides the availability and heat rate targets for each unit.

Q. Does this conclude your direct testimony?

A. Yes, it does.

DOCKET NO. 20230001-EI
GPIF 2024 PROJECTION
FILING EXHIBIT NO. EBV-2
DOCUMENT NO. 1

EXHIBIT TO THE TESTIMONY

OF

ELENA B. VANCE

DOCUMENT NO. 1

GPIF SCHEDULES

JANUARY 2024 – DECEMBER 2024

TAMPA ELECTRIC COMPANY
GENERATING PERFORMANCE INCENTIVE FACTOR
JANUARY 2024 - DECEMBER 2024
TARGETS
TABLE OF CONTENTS

TAMPA ELECTRIC COMPANY
GENERATING PERFORMANCE INCENTIVE FACTOR
REWARD / PENALTY TABLE
JANUARY 2024 - DECEMBER 2024

GENERATING PERFORMANCE INCENTIVE POINTS (GPIP)	FUEL SAVINGS / (LOSS) ($000)	GENERATING PERFORMANCE INCENTIVE FACTOR ($000)
+10	28,024.9	14,012.5
+9	25,222.4	12,611.2
+8	22,419.9	11,210.0
+7	19,617.4	9,808.7
+6	16,814.9	8,407.5
+5	14,012.5	7,006.2
+4	11,210.0	5,605.0
+3	8,407.5	4,203.7
+2	5,605.0	2,802.5
+1	2,802.5	1,401.2
0	0.0	0.0
-1	(4,133.4)	(1,401.2)
-2	(8,266.7)	(2,802.5)
-3	(12,400.1)	(4,203.7)
-4	(16,533.5)	(5,605.0)
-5	(20,666.9)	(7,006.2)
-6	(24,800.2)	(8,407.5)
-7	(28,933.6)	(9,808.7)
-8	(33,067.0)	(11,210.0)
-9	(37,200.3)	(12,611.2)
-10	(41,333.7)	(14,012.5)

TAMPA ELECTRIC COMPANY
GENERATING PERFORMANCE INCENTIVE FACTOR
CALCULATION OF MAXIMUM ALLOWED INCENTIVE DOLLARS
JANUARY 2024 - DECEMBER 2024

Line 1	Beginning of period balance of common equity: End of month common equity:		$	4,738,603,305	
Line 2	Month of January	2024	$	4,645,101,939	
Line 3	Month of February	2024	$	4,834,585,305	
Line 4	Month of March	2024	$	4,875,679,280	
Line 5	Month of April	2024	$	4,780,046,579	
Line 6	Month of May	2024	$	4,970,676,975	
Line 7	Month of June	2024	$	5,012,927,729	
Line 8	Month of July	2024	$	4,918,289,166	
Line 9	Month of August	2024	$	5,110,094,624	
Line 10	Month of September	2024	$	5,153,530,428	
Line 11	Month of October	2024	$	5,056,732,737	
Line 12	Month of November	2024	$	5,249,714,966	
Line 13	Month of December	2024	$	5,294,337,543	
Line 14	(Summation of line 1 through line 13 divided by 13)		$	4,972,332,352	
Line 15	25 Basis points			0.0025	
Line 16	Revenue Expansion Factor			74.45%	
Line 17	Maximum Allowed Incentive Dollars (line 14 times line 15 divided by line 16)		$	16,696,450	
Line 18	Jurisdictional Sales			20,248,466	MWH
Line 19	Total Sales			20,248,466	MWH
Line 20	Jurisdictional Separation Factor (line 18 divided by line 19)			100.00%	
Line 21	Maximum Allowed Jurisdictional Incentive Dollars (line 17 times line 20)		$	16,696,450	
Line 22	Incentive Cap (50% of projected fuel savings at 10 GPIF-point level from Sheet No. 3.515)		$	14,012,453	
Line 23	Maximum Allowed GPIF Reward (at 10 GPIF-point level) (the lesser of line 21 and line 22)		$	14,012,453	

Note: Line 22 and 23 are as approved by Commission order PSC-13-0665-FOF-EI dated 12/18/13 effective 1/1/14.

TAMPA ELECTRIC COMPANY
GPIF TARGET AND RANGE SUMMARY
JANUARY 2024 - DECEMBER 2024

EQUIVALENT AVAILABILITY

PLANT / UNIT	WEIGHTING FACTOR (%)	EAF TARGET (%)	EAF RANGE MAX. (%)	EAF RANGE MIN. (%)	MAX. FUEL SAVINGS ($000)	MAX. FUEL LOSS ($000)
BIG BEND CC 1	34.99%	71.5	77.0	60.5	9,806.2	(17,195.4)
POLK 2	0.59%	88.3	89.6	85.6	165.9	(3,979.2)
BAYSIDE 1	2.25%	78.0	79.5	74.9	631.8	(1,288.1)
BAYSIDE 2	5.31%	73.2	74.8	70.0	1,488.5	(2,938.6)
GPIF SYSTEM	**43.15%**					

AVERAGE NET OPERATING HEAT RATE

PLANT / UNIT	WEIGHTING FACTOR (%)	ANOHR Btu/kwh	TARGET NOF	ANOHR RANGE MIN.	ANOHR RANGE MAX.	MAX. FUEL SAVINGS ($000)	MAX. FUEL LOSS ($000)
BIG BEND CC 1	14.82%	6,513	76.5	6,351	6,676	4,152.1	(4,152.1)
POLK 2	27.08%	7,186	65.2	6,862	7,510	7,588.7	(7,588.7)
BAYSIDE 1	3.71%	7,401	65.2	7,137	7,664	1,039.1	(1,039.1)
BAYSIDE 2	11.25%	7,505	51.5	7,403	7,608	3,152.6	(3,152.6)
GPIF SYSTEM	**56.85%**						

TAMPA ELECTRIC COMPANY
COMPARISON OF GPIF TARGETS VS PRIOR PERIOD ACTUAL PERFORMANCE

EQUIVALENT AVAILABILITY (%)

PLANT / UNIT	WEIGHTING FACTOR (%)	NORMALIZED WEIGHTING FACTOR	TARGET PERIOD JAN 24 - DEC 24 POF	TARGET PERIOD JAN 24 - DEC 24 EUOF	TARGET PERIOD JAN 24 - DEC 24 EUOR	ACTUAL PERFORMANCE JAN 22 - DEC 22 POF	ACTUAL PERFORMANCE JAN 22 - DEC 22 EUOF	ACTUAL PERFORMANCE JAN 22 - DEC 22 EUOR	ACTUAL PERFORMANCE JAN 21 - DEC 21 POF	ACTUAL PERFORMANCE JAN 21 - DEC 21 EUOF	ACTUAL PERFORMANCE JAN 21 - DEC 21 EUOR	ACTUAL PERFORMANCE JAN 20 - DEC 20 POF	ACTUAL PERFORMANCE JAN 20 - DEC 20 EUOF	ACTUAL PERFORMANCE JAN 20 - DEC 20 EUOR
BIG BEND CC 1	34.99%	81.1%	1.4	27.1	27.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
POLK 2	0.59%	1.4%	6.7	5.1	5.4	5.2	3.4	3.6	11.0	3.7	4.1	2.8	7.7	8.0
BAYSIDE 1	2.25%	5.2%	19.1	2.9	3.6	22.3	2.8	3.6	5.4	5.8	6.2	7.7	2.9	3.1
BAYSIDE 2	5.31%	12.3%	25.1	1.6	2.2	6.6	2.5	2.7	5.5	1.9	2.0	4.3	5.0	5.2
GPIF SYSTEM	**43.15%**	**100.0%**	**5.3**	**22.4**	**22.8**	**2.0**	**0.5**	**0.6**	**1.1**	**0.6**	**0.6**	**1.0**	**0.9**	**0.9**
GPIF SYSTEM WEIGHTED EQUIVALENT AVAILABILITY (%)				**72.3**			**97.5**			**98.3**			**98.2**	

3 PERIOD AVERAGE POF	3 PERIOD AVERAGE EUOF	3 PERIOD AVERAGE EUOR	3 PERIOD AVERAGE EAF
1.4	**0.7**	**0.7**	**98.0**

AVERAGE NET OPERATING HEAT RATE (Btu/kWh)

PLANT / UNIT	WEIGHTING FACTOR (%)	NORMALIZED WEIGHTING FACTOR	TARGET HEAT RATE JAN 24 - DEC 24	ADJUSTED ACTUAL PERFORMANCE HEAT RATE JAN 22 - DEC 22	ADJUSTED ACTUAL PERFORMANCE HEAT RATE JAN 21 - DEC 21	ADJUSTED ACTUAL PERFORMANCE HEAT RATE JAN 20 - DEC 20
BIG BEND CC 1	14.82%	26.1%	6,513	NA	NA	NA
POLK 2	27.08%	47.6%	7,186	6,960	7,279	7,197
BAYSIDE 1	3.71%	6.5%	7,401	7,388	7,484	7,467
BAYSIDE 2	11.25%	19.8%	7,505	7,615	8,232	8,212
GPIF SYSTEM	**56.85%**	**100.0%**				
GPIF SYSTEM WEIGHTED AVERAGE HEAT RATE (Btu/kWh)			**7,088**	**5,304**	**5,584**	**5,540**

TAMPA ELECTRIC COMPANY
DERIVATION OF WEIGHTING FACTORS
JANUARY 2024 - DECEMBER 2024
PRODUCTION COSTING SIMULATION
FUEL COST ($000)

UNIT PERFORMANCE INDICATOR	AT TARGET (1)	AT MAXIMUM IMPROVEMENT (2)	SAVINGS (3)	WEIGHTING FACTOR (% OF SAVINGS)
EQUIVALENT AVAILABILITY				
EA_3 BIG BEND CC 1	678,034.16	668,227.94	9,806.22	34.99%
EA_2 POLK 2	678,034.16	677,868.30	165.86	0.59%
EA_3 BAYSIDE 1	678,034.16	677,402.38	631.77	2.25%
EA_4 BAYSIDE 2	678,034.16	676,545.62	1,488.53	5.31%
AVERAGE HEAT RATE				
AHR_3 BIG BEND CC 1	678,034.16	673,882.05	4,152.10	14.82%
AHR_2 POLK 2	678,034.16	670,445.45	7,588.71	27.08%
AHR_3 BAYSIDE 1	678,034.16	676,995.06	1,039.09	3.71%
AHR_4 BAYSIDE 2	678,034.16	674,881.54	3,152.62	11.25%
TOTAL SAVINGS			**28,024.91**	**100.00%**

(1) Fuel Adjustment Base Case - All unit performance indicators at target.
(2) All other units performance indicators at target.
(3) Expressed in replacement energy cost.

GPIF TARGET AND RANGE SUMMARY

JANUARY 2024 - DECEMBER 2024

BIG BEND CC 1

EQUIVALENT AVAILABILITY POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL EQUIVALENT AVAILABILITY	AVERAGE HEAT RATE POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL AVERAGE HEAT RATE
+10	9,806.2	77.0	+10	4,152.1	6,351
+9	8,825.6	76.4	+9	3,736.9	6,360
+8	7,845.0	75.9	+8	3,321.7	6,368
+7	6,864.4	75.4	+7	2,906.5	6,377
+6	5,883.7	74.8	+6	2,491.3	6,386
+5	4,903.1	74.3	+5	2,076.1	6,395
+4	3,922.5	73.7	+4	1,660.8	6,403
+3	2,941.9	73.2	+3	1,245.6	6,412
+2	1,961.2	72.6	+2	830.4	6,421
+1	980.6	72.1	+1	415.2	6,430
					6,438
0	0.0	71.5	0	0.0	6,513
					6,588
-1	(1,719.5)	70.4	-1	(415.2)	6,597
-2	(3,439.1)	69.3	-2	(830.4)	6,606
-3	(5,158.6)	68.2	-3	(1,245.6)	6,615
-4	(6,878.2)	67.1	-4	(1,660.8)	6,623
-5	(8,597.7)	66.0	-5	(2,076.1)	6,632
-6	(10,317.2)	64.9	-6	(2,491.3)	6,641
-7	(12,036.8)	63.8	-7	(2,906.5)	6,650
-8	(13,756.3)	62.7	-8	(3,321.7)	6,659
-9	(15,475.8)	61.6	-9	(3,736.9)	6,667
-10	(17,195.4)	60.5	-10	(4,152.1)	6,676
	Weighting Factor =	34.99%		Weighting Factor =	14.82%

TAMPA ELECTRIC COMPANY

GPIF TARGET AND RANGE SUMMARY

JANUARY 2024 - DECEMBER 2024

POLK 2

EQUIVALENT AVAILABILITY POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL EQUIVALENT AVAILABILITY	AVERAGE HEAT RATE POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL AVERAGE HEAT RATE
+10	165.9	89.6	+10	7,588.7	6,862
+9	149.3	89.5	+9	6,829.8	6,887
+8	132.7	89.4	+8	6,071.0	6,912
+7	116.1	89.2	+7	5,312.1	6,937
+6	99.5	89.1	+6	4,553.2	6,962
+5	82.9	88.9	+5	3,794.4	6,987
+4	66.3	88.8	+4	3,035.5	7,012
+3	49.8	88.7	+3	2,276.6	7,036
+2	33.2	88.5	+2	1,517.7	7,061
+1	16.6	88.4	+1	758.9	7,086
					7,111
0	0.0	88.3	0	0.0	7,186
					7,261
-1	(397.9)	88.0	-1	(758.9)	7,286
-2	(795.8)	87.7	-2	(1,517.7)	7,311
-3	(1,193.8)	87.5	-3	(2,276.6)	7,336
-4	(1,591.7)	87.2	-4	(3,035.5)	7,361
-5	(1,989.6)	86.9	-5	(3,794.4)	7,386
-6	(2,387.5)	86.7	-6	(4,553.2)	7,411
-7	(2,785.4)	86.4	-7	(5,312.1)	7,436
-8	(3,183.3)	86.1	-8	(6,071.0)	7,461
-9	(3,581.3)	85.8	-9	(6,829.8)	7,486
-10	(3,979.2)	85.6	-10	(7,588.7)	7,510
	Weighting Factor =	0.59%		Weighting Factor =	27.08%

TAMPA ELECTRIC COMPANY

GPIF TARGET AND RANGE SUMMARY

JANUARY 2024 - DECEMBER 2024

BAYSIDE 1

EQUIVALENT AVAILABILITY POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL EQUIVALENT AVAILABILITY	AVERAGE HEAT RATE POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL AVERAGE HEAT RATE
+10	631.8	79.5	+10	1,039.1	7,137
+9	568.6	79.3	+9	935.2	7,156
+8	505.4	79.2	+8	831.3	7,175
+7	442.2	79.0	+7	727.4	7,194
+6	379.1	78.9	+6	623.5	7,213
+5	315.9	78.7	+5	519.5	7,231
+4	252.7	78.6	+4	415.6	7,250
+3	189.5	78.4	+3	311.7	7,269
+2	126.4	78.3	+2	207.8	7,288
+1	63.2	78.1	+1	103.9	7,307
					7,326
0	0.0	78.0	0	0.0	7,401
					7,476
-1	(128.8)	77.6	-1	(103.9)	7,495
-2	(257.6)	77.3	-2	(207.8)	7,513
-3	(386.4)	77.0	-3	(311.7)	7,532
-4	(515.2)	76.7	-4	(415.6)	7,551
-5	(644.0)	76.4	-5	(519.5)	7,570
-6	(772.8)	76.1	-6	(623.5)	7,589
-7	(901.7)	75.8	-7	(727.4)	7,608
-8	(1,030.5)	75.5	-8	(831.3)	7,626
-9	(1,159.3)	75.2	-9	(935.2)	7,645
-10	(1,288.1)	74.9	-10	(1,039.1)	7,664
	Weighting Factor =	2.25%		Weighting Factor =	3.71%

TAMPA ELECTRIC COMPANY

GPIF TARGET AND RANGE SUMMARY

JANUARY 2024 - DECEMBER 2024

BAYSIDE 2

EQUIVALENT AVAILABILITY POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL EQUIVALENT AVAILABILITY	AVERAGE HEAT RATE POINTS	FUEL SAVINGS / (LOSS) ($000)	ADJUSTED ACTUAL AVERAGE HEAT RATE
+10	1,488.5	74.8	+10	3,152.6	7,403
+9	1,339.7	74.6	+9	2,837.4	7,405
+8	1,190.8	74.5	+8	2,522.1	7,408
+7	1,042.0	74.3	+7	2,206.8	7,411
+6	893.1	74.2	+6	1,891.6	7,414
+5	744.3	74.0	+5	1,576.3	7,416
+4	595.4	73.9	+4	1,261.0	7,419
+3	446.6	73.7	+3	945.8	7,422
+2	297.7	73.5	+2	630.5	7,425
+1	148.9	73.4	+1	315.3	7,427
					7,430
0	0.0	73.2	0	0.0	7,505
					7,580
-1	(293.9)	72.9	-1	(315.3)	7,583
-2	(587.7)	72.6	-2	(630.5)	7,586
-3	(881.6)	72.3	-3	(945.8)	7,588
-4	(1,175.4)	71.9	-4	(1,261.0)	7,591
-5	(1,469.3)	71.6	-5	(1,576.3)	7,594
-6	(1,763.1)	71.3	-6	(1,891.6)	7,597
-7	(2,057.0)	71.0	-7	(2,206.8)	7,599
-8	(2,350.8)	70.7	-8	(2,522.1)	7,602
-9	(2,644.7)	70.4	-9	(2,837.4)	7,605
-10	(2,938.6)	70.0	-10	(3,152.6)	7,608
	Weighting Factor =	5.31%		Weighting Factor =	11.25%

TAMPA ELECTRIC COMPANY

ESTIMATED UNIT PERFORMANCE DATA

JANUARY 2024 - DECEMBER 2024

PLANT/UNIT	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	PERIOD
BIG BEND CC 1	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024
1. EAF (%)	72.5	72.5	72.5	72.5	60.8	72.5	72.5	72.5	72.5	72.5	72.5	72.5	71.5
2. POF	0.0	0.0	0.0	0.0	16.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
3. EUOF	27.5	27.5	27.5	27.5	23.1	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.1
4. EUOR	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
5. PH	744	696	744	720	744	720	744	744	720	744	720	744	8,784
6. SH	697	587	664	683	576	720	744	681	720	729	720	744	8,265
7. RSH	0	0	0	0	0	0	0	0	0	0	0	0	0
8. UH	47	109	80	37	168	0	0	63	0	15	0	0	519
9. POH	0	0	0	0	120	0	0	0	0	0	0	0	120
10. EFOH	133	124	133	129	111	129	133	133	129	133	129	133	1,546
11. EMOH	72	67	72	70	60	70	72	72	70	72	70	72	837
12. OPER BTU (GBTU)	4,042	3,399	3,695	3,774	3,261	3,152	3,914	3,899	4,185	3,634	3,461	3,878	44,305
13. NET GEN (MWH)	621,417	522,569	567,194	580,322	501,910	481,344	600,997	600,407	644,714	557,037	529,981	594,160	6,802,052
14. ANOHR (Btu/kwh)	6,505	6,505	6,514	6,503	6,497	6,548	6,513	6,495	6,491	6,524	6,531	6,527	6,513
15. NOF (%)	79.7	79.6	76.3	80.5	82.6	63.4	76.6	83.6	84.9	72.4	69.8	71.4	76.5
16. NPC (MW)	1,119	1,119	1,119	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,055	1,119	1,076
17. ANOHR EQUATION	ANOHR = NOF(	-2.640	) +	6,715									

TAMPA ELECTRIC COMPANY

ESTIMATED UNIT PERFORMANCE DATA

JANUARY 2024 - DECEMBER 2024

PLANT/UNIT	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	PERIOD
POLK 2	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024
1. EAF (%)	94.6	94.6	94.6	94.6	47.3	94.6	94.6	94.6	94.6	93.8	76.7	85.4	88.3
2. POF	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.8	18.9	9.7	6.7
3. EUOF	5.4	5.4	5.4	5.4	2.7	5.4	5.4	5.4	5.4	5.4	4.4	4.9	5.1
4. EUOR	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
5. PH	744	696	744	720	744	720	744	744	720	744	720	744	8,784
6. SH	675	614	736	720	624	720	744	744	694	744	599	744	8,358
7. RSH	0	0	0	0	0	0	0	0	0	0	0	0	0
8. UH	69	82	8	0	120	0	0	0	26	0	121	0	426
9. POH	0	0	0	0	372	0	0	0	0	6	136	72	586
10. EFOH	13	12	13	13	7	13	13	13	13	13	10	12	147
11. EMOH	27	25	27	26	13	26	27	27	26	27	21	24	297
12. OPER BTU (GBTU)	3,347	2,671	3,142	3,382	3,118	4,113	4,299	4,271	4,097	4,181	2,960	3,569	43,354
13. NET GEN (MWH)	456,763	358,489	420,663	466,296	434,300	587,796	615,897	610,987	589,855	595,517	411,514	484,813	6,032,890
14. ANOHR (Btu/kwh)	7,328	7,452	7,468	7,253	7,180	6,997	6,980	6,990	6,946	7,021	7,193	7,361	7,186
15. NOF (%)	56.4	48.7	47.6	61.0	65.6	76.9	78.0	77.4	80.1	75.4	64.8	54.3	65.2
16. NPC (MW)	1,200	1,200	1,200	1,061	1,061	1,061	1,061	1,061	1,061	1,061	1,061	1,200	1,107
17. ANOHR EQUATION	ANOHR = NOF(	-16.071	) +	8,234									

TAMPA ELECTRIC COMPANY

ESTIMATED UNIT PERFORMANCE DATA

JANUARY 2024 - DECEMBER 2024

PLANT/UNIT	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	PERIOD
BAYSIDE 1	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024
1. EAF (%)	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	38.6	0.0	28.9	96.4	78.0
2. POF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	100.0	70.0	0.0	19.1
3. EUOF	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	1.4	0.0	1.1	3.6	2.9
4. EUOR	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	0.0	3.6	3.6	3.6
5. PH	744	696	744	720	744	720	744	744	720	744	720	744	8,784
6. SH	364	514	584	670	604	647	569	519	85	0	88	632	5,276
7. RSH	353	157	133	24	113	47	148	198	193	0	120	85	1,571
8. UH	27	25	27	26	27	26	27	27	442	744	512	27	1,937
9. POH	0	0	0	0	0	0	0	0	432	744	504	0	1,680
10. EFOH	6	5	6	5	6	5	6	6	2	0	2	6	53
11. EMOH	21	20	21	21	21	21	21	21	8	0	6	21	204
12. OPER BTU (GBTU)	1,408	1,820	1,908	2,131	2,145	2,602	2,556	2,362	389	0	351	2,184	19,890
13. NET GEN (MWH)	189,523	243,539	254,095	285,455	289,402	354,711	352,004	325,658	53,663	0	47,784	291,729	2,687,563
14. ANOHR (Btu/kwh)	7,430	7,474	7,511	7,467	7,410	7,337	7,261	7,252	7,248	0	7,342	7,486	7,401
15. NOF (%)	61.5	55.9	51.4	56.9	64.0	73.2	82.6	83.8	84.3	0.0	72.5	54.5	65.2
16. NPC (MW)	847	847	847	749	749	749	749	749	749	749	749	847	782
17. ANOHR EQUATION	ANOHR = NOF(	-7.989	) +	7,921									

TAMPA ELECTRIC COMPANY

ESTIMATED UNIT PERFORMANCE DATA

JANUARY 2024 - DECEMBER 2024

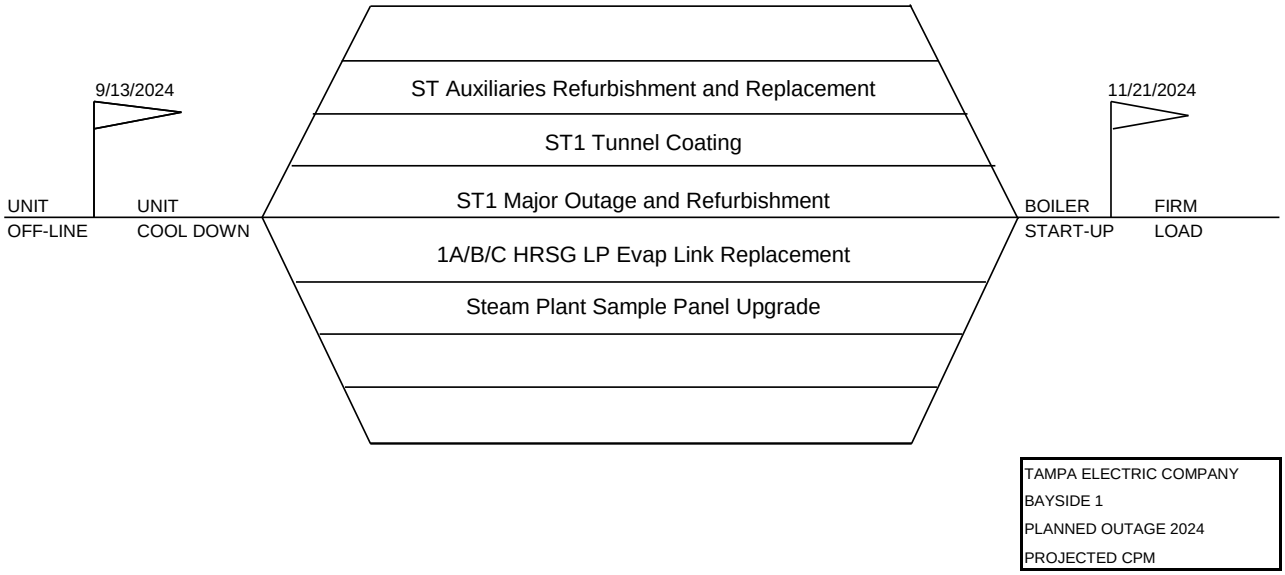
PLANT/UNIT	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	MONTH OF:	PERIOD
BAYSIDE 2	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024
1. EAF (%)	97.8	50.6	0.0	0.0	69.4	97.8	97.8	97.8	97.8	97.8	97.8	72.6	73.2
2. POF	0.0	48.3	100.0	100.0	29.0	0.0	0.0	0.0	0.0	0.0	0.0	25.8	25.1
3. EUOF	2.2	1.1	0.0	0.0	1.6	2.2	2.2	2.2	2.2	2.2	2.2	1.6	1.6
4. EUOR	2.2	2.2	0.0	0.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
5. PH	744	696	744	720	744	720	744	744	720	744	720	744	8,784
6. SH	331	148	0	0	528	677	643	686	663	727	672	76	5,151
7. RSH	397	204	0	0	0	27	85	42	41	1	32	464	1,291
8. UH	16	344	744	720	228	16	16	16	16	16	16	204	2,353
9. POH	0	336	744	720	216	0	0	0	0	0	0	192	2,208
10. EFOH	4	2	0	0	3	4	4	4	4	4	4	3	35
11. EMOH	12	6	0	0	9	12	12	12	12	12	12	9	110
12. OPER BTU (GBTU)	986	440	0	0	1,954	2,512	2,501	2,709	2,755	2,935	2,189	220	19,269
13. NET GEN (MWH)	128,714	57,447	0	0	261,004	335,566	335,559	363,940	371,902	395,173	289,533	28,600	2,567,438
14. ANOHR (Btu/kwh)	7,662	7,663	0	0	7,486	7,485	7,454	7,444	7,408	7,428	7,561	7,675	7,505
15. NOF (%)	37.1	37.1	0.0	0.0	53.2	53.4	56.2	57.1	60.4	58.5	46.4	35.9	51.5
16. NPC (MW)	1,047	1,047	1,047	929	929	929	929	929	929	929	929	1,047	968
17. ANOHR EQUATION	ANOHR = NOF(	-10.936	) +	8,068									

TAMPA ELECTRIC COMPANY
ESTIMATED PLANNED OUTAGE SCHEDULE
GPIF UNITS
JANUARY 2024 - DECEMBER 2024

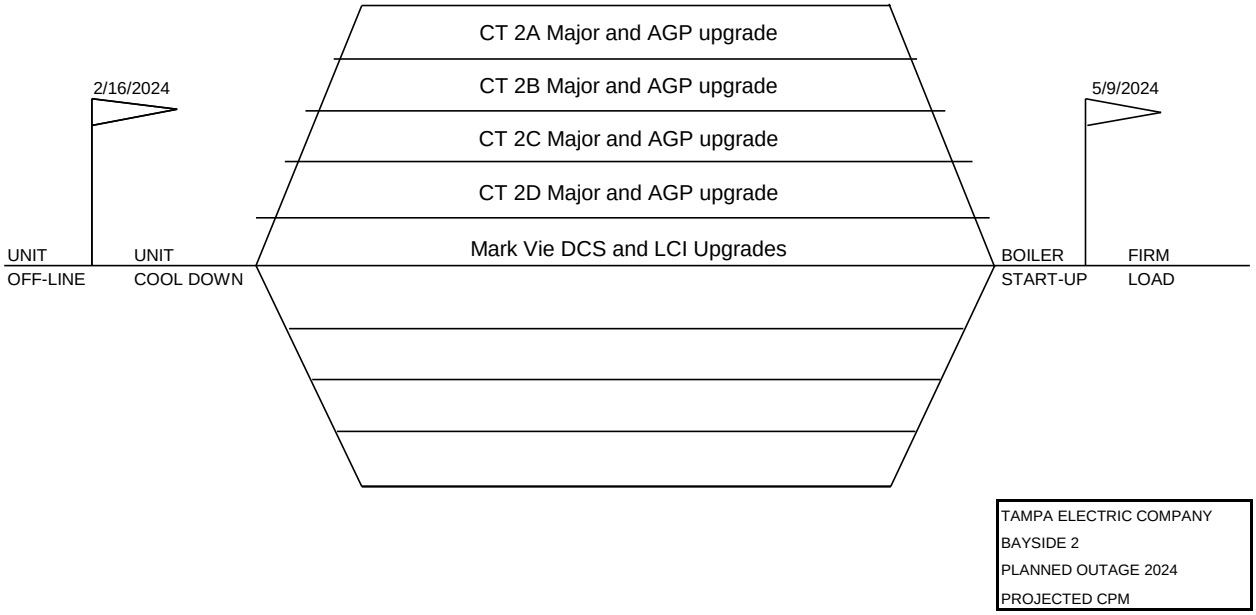
	PLANT / UNIT	PLANNED OUTAGE DATES			OUTAGE DESCRIPTION
	Polk 2 CC	May 10	-	May 14	Combined Cycle Planned Outage
		Nov 22	-	Nov 26	Combined Cycle Planned Outage
+	BAYSIDE 1	Sep 13	-	Nov 21	ST1 Major Outage and Refurbishment ST Auxiliaries Refurbishment and Replacement ST1 Tunnel Coating 1A/B/C HRSG LP Evap Link Replacement Steam Plant Sample Panel Upgrade
+	BAYSIDE 2	Feb 16	-	May 09	CT 2A Major and AGP upgrade CT 2B Major and AGP upgrade CT 2C Major and AGP upgrade CT 2D Major and AGP upgrade Mark Vie DCS and LCI Upgrades
	BAYSIDE 2	Dec 02	-	Dec 09	Combined Cycle Planned Outage
	BB CC1	May 26	-	May 30	Combined Cycle Planned Outage

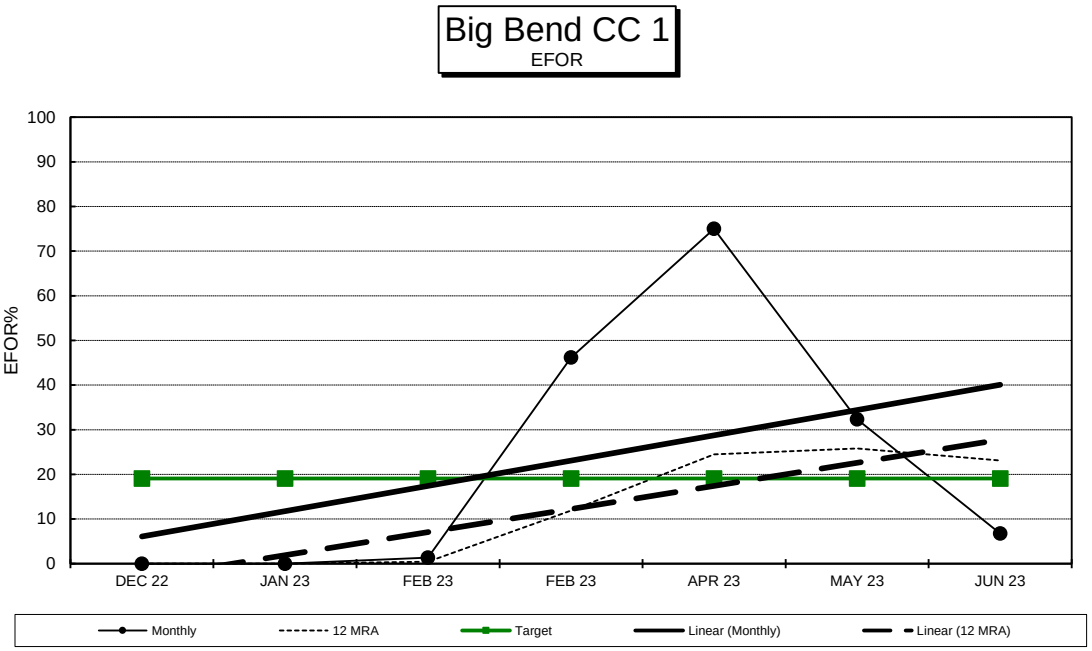
+ These units have CPM included. CPM for units with less than or equal to 4 weeks are not included.

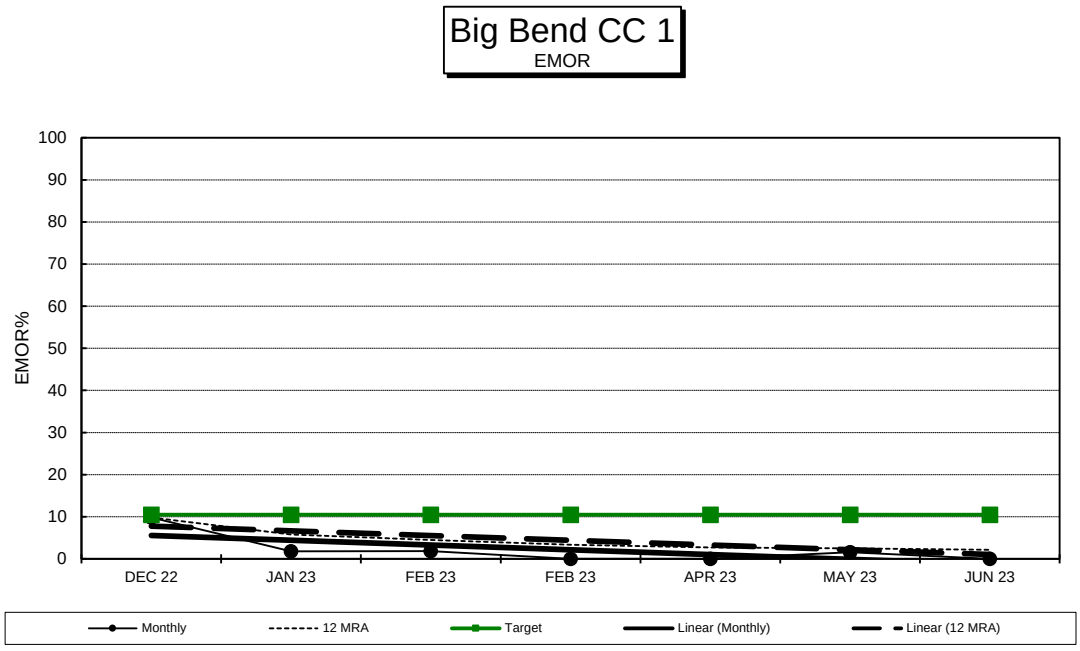
TAMPA ELECTRIC COMPANY
CRITICAL PATH METHOD DIAGRAMS
GPIF UNITS > FOUR WEEKS
JANUARY 2024 - DECEMBER 2024

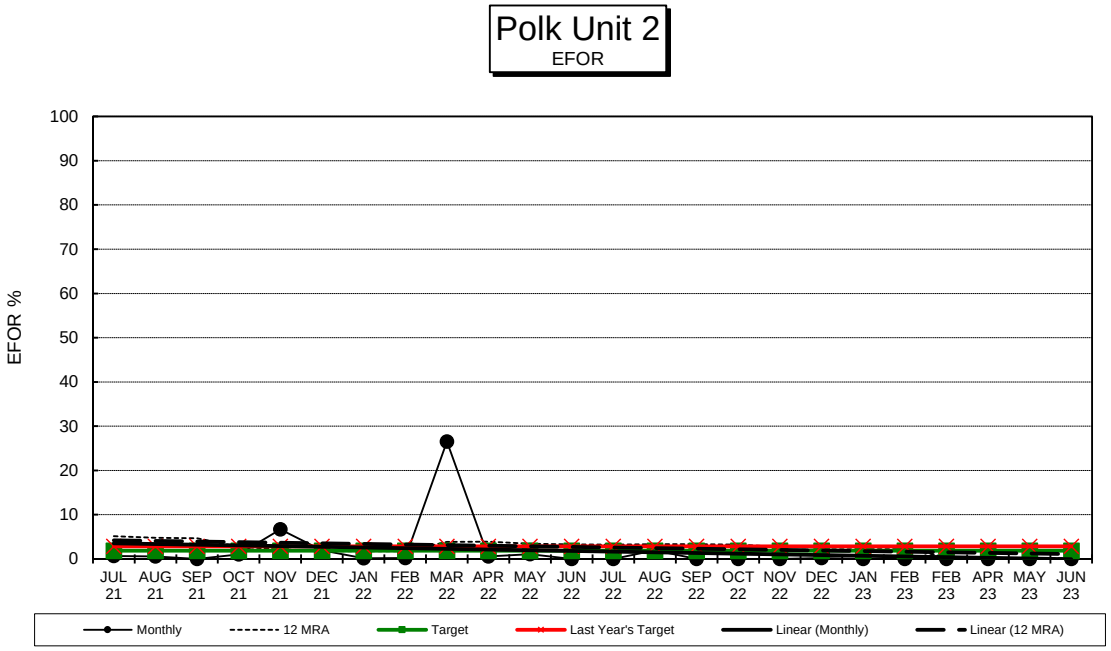


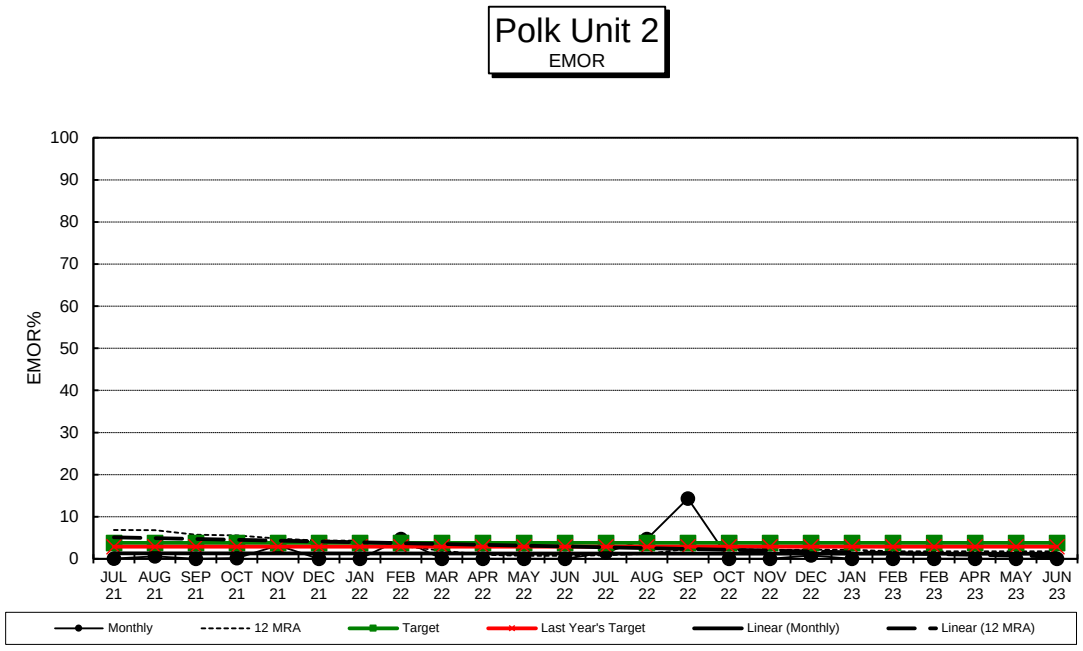
TAMPA ELECTRIC COMPANY
CRITICAL PATH METHOD DIAGRAMS
GPIF UNITS > FOUR WEEKS
JANUARY 2024 - DECEMBER 2024

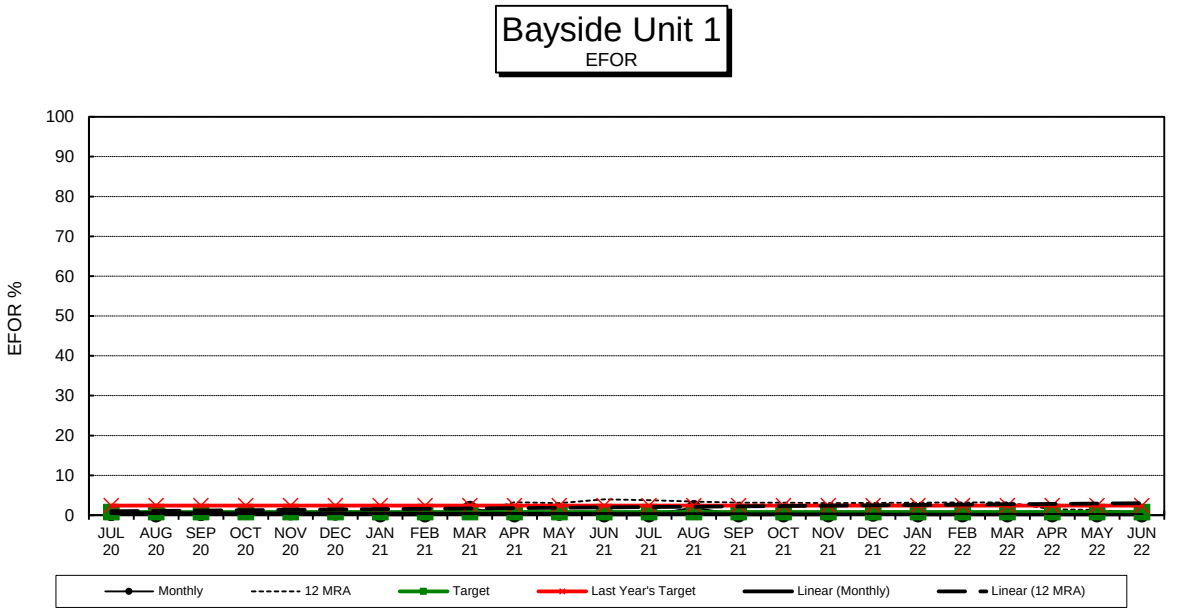


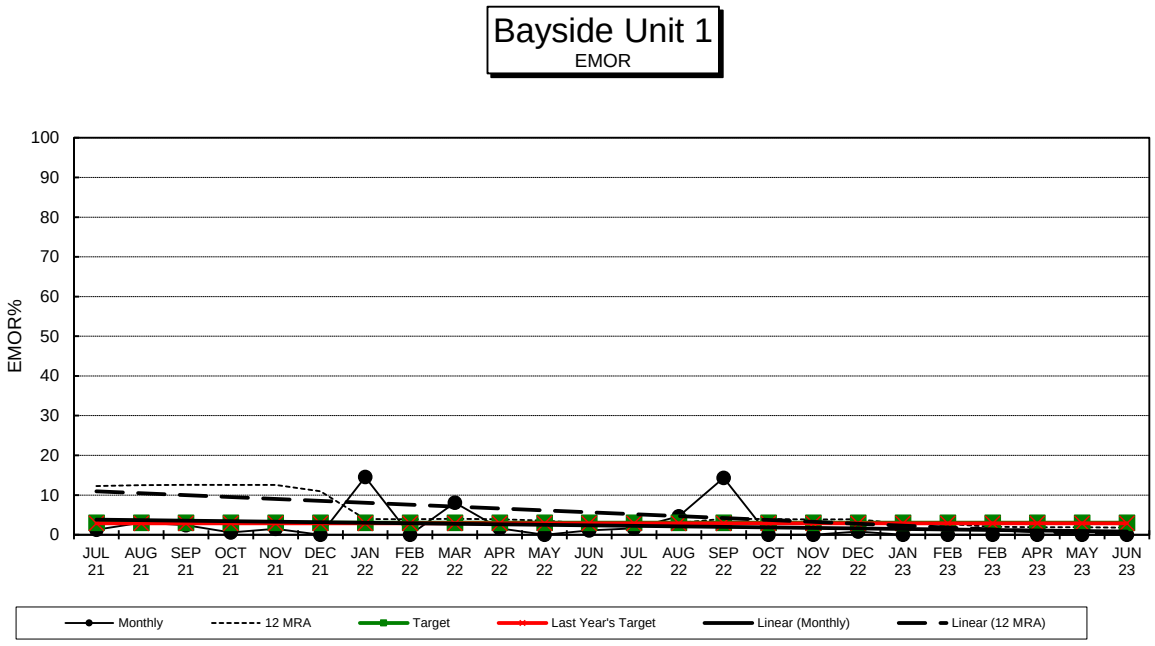

Big Bend CC 1
EFOR
EFOR%
100
90
80
70
60
50
40
30
20
10
0
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Linear (Monthly)
Linear (12 MRA)

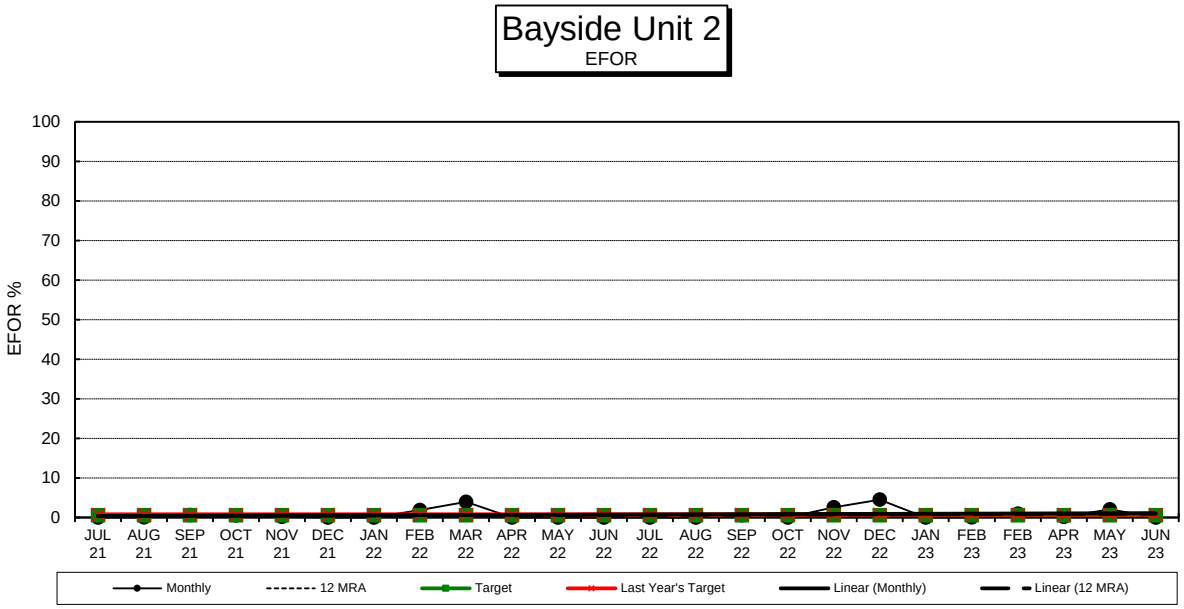

Big Bend CC 1
EMOR
EMOR%
100
90
80
70
60
50
40
30
20
10
0
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Linear (Monthly)
Linear (12 MRA)

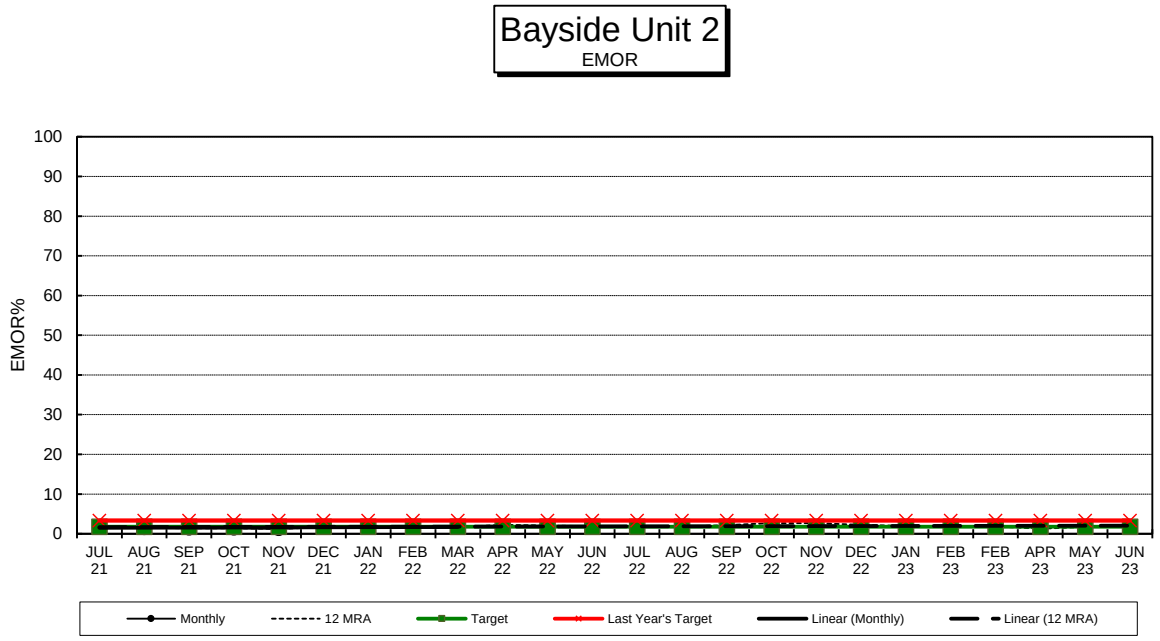

Polk Unit 2
EFOR
EFOR %
100
90
80
70
60
50
40
30
20
10
0
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
JUL 22
AUG 22
SEP 22
OCT 22
NOV 22
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)

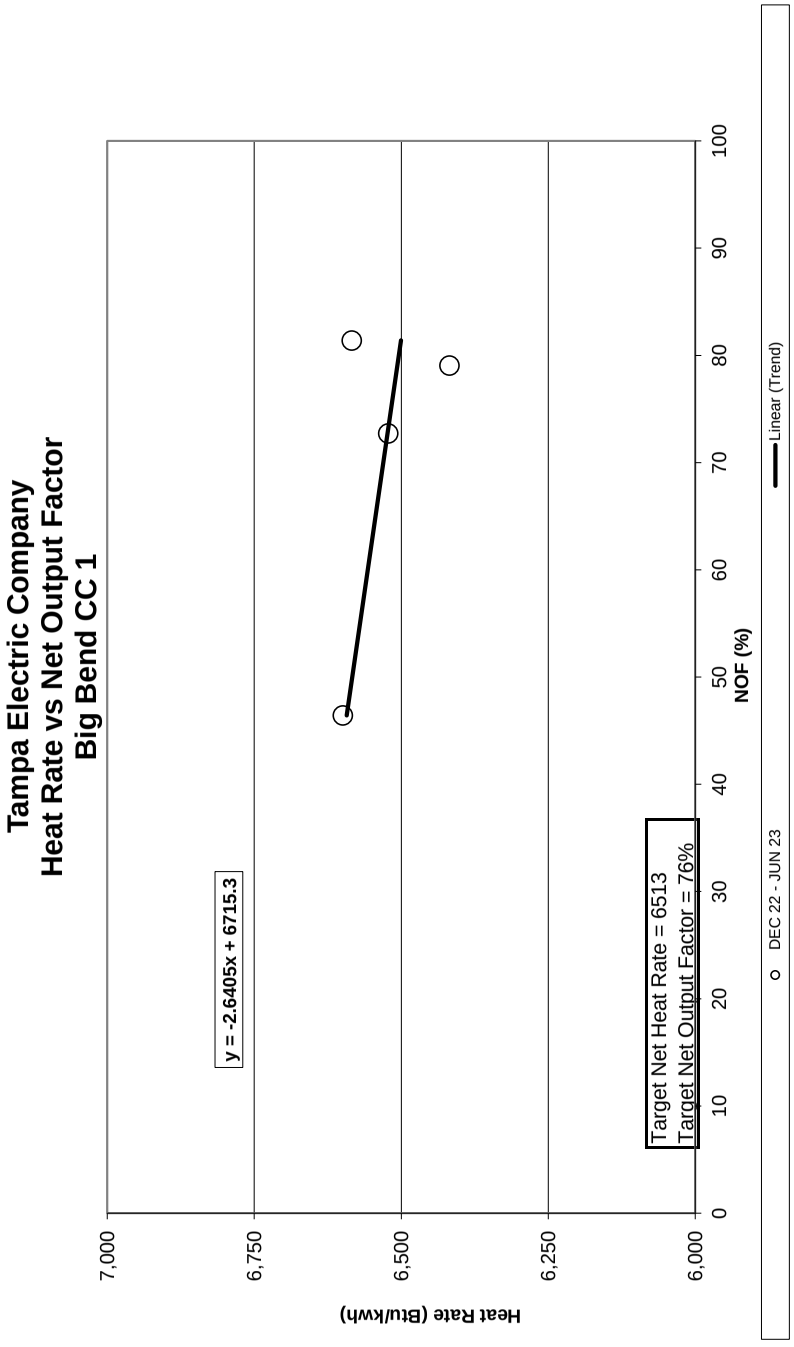

Polk Unit 2
EMOR
EMOR%
100
90
80
70
60
50
40
30
20
10
0
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
JUL 22
AUG 22
SEP 22
OCT 22
NOV 22
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)

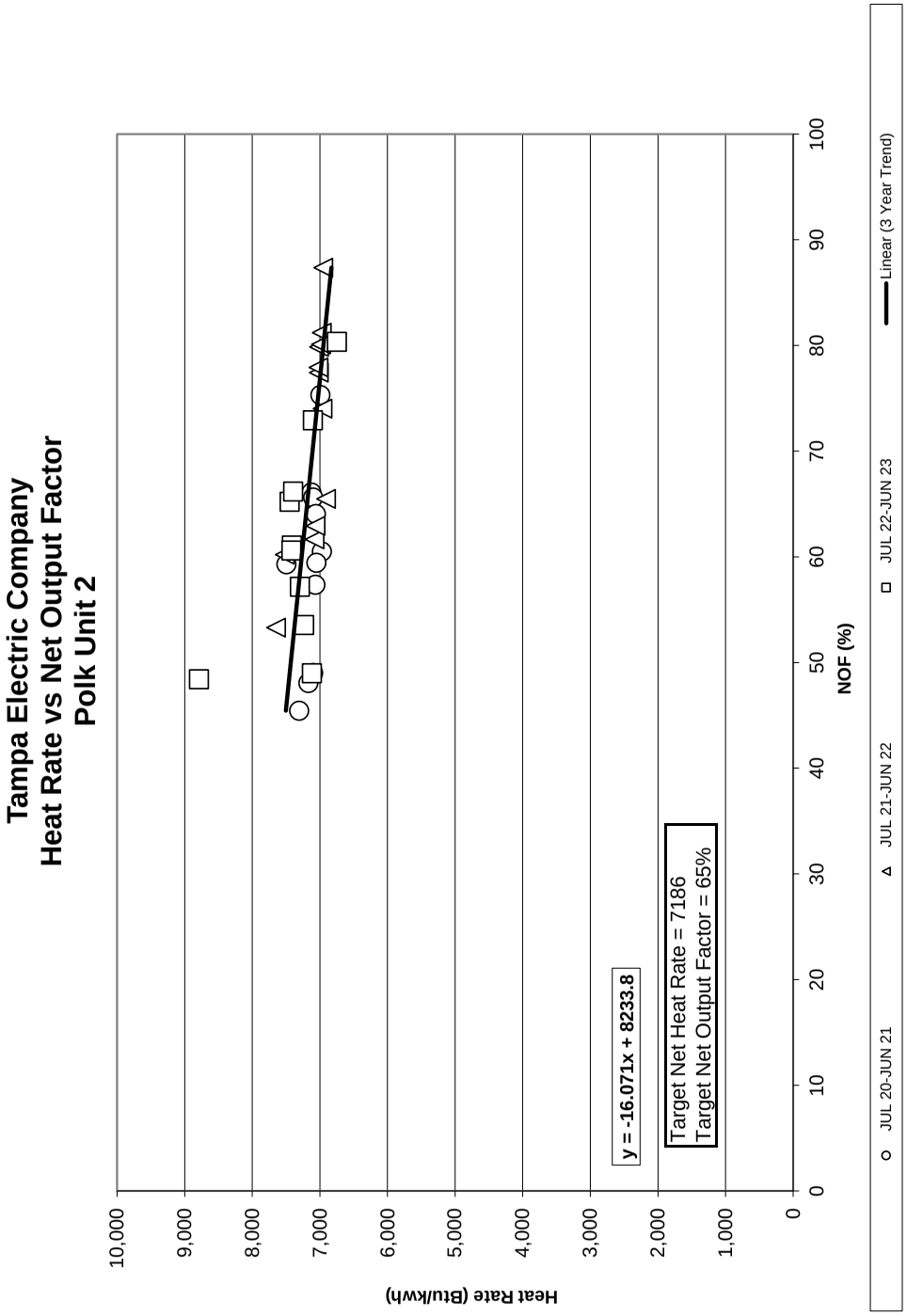

Bayside Unit 1
EFOR
EFOR %
100
90
80
70
60
50
40
30
20
10
0
JUL 20
AUG 20
SEP 20
OCT 20
NOV 20
DEC 20
JAN 21
FEB 21
MAR 21
APR 21
MAY 21
JUN 21
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)

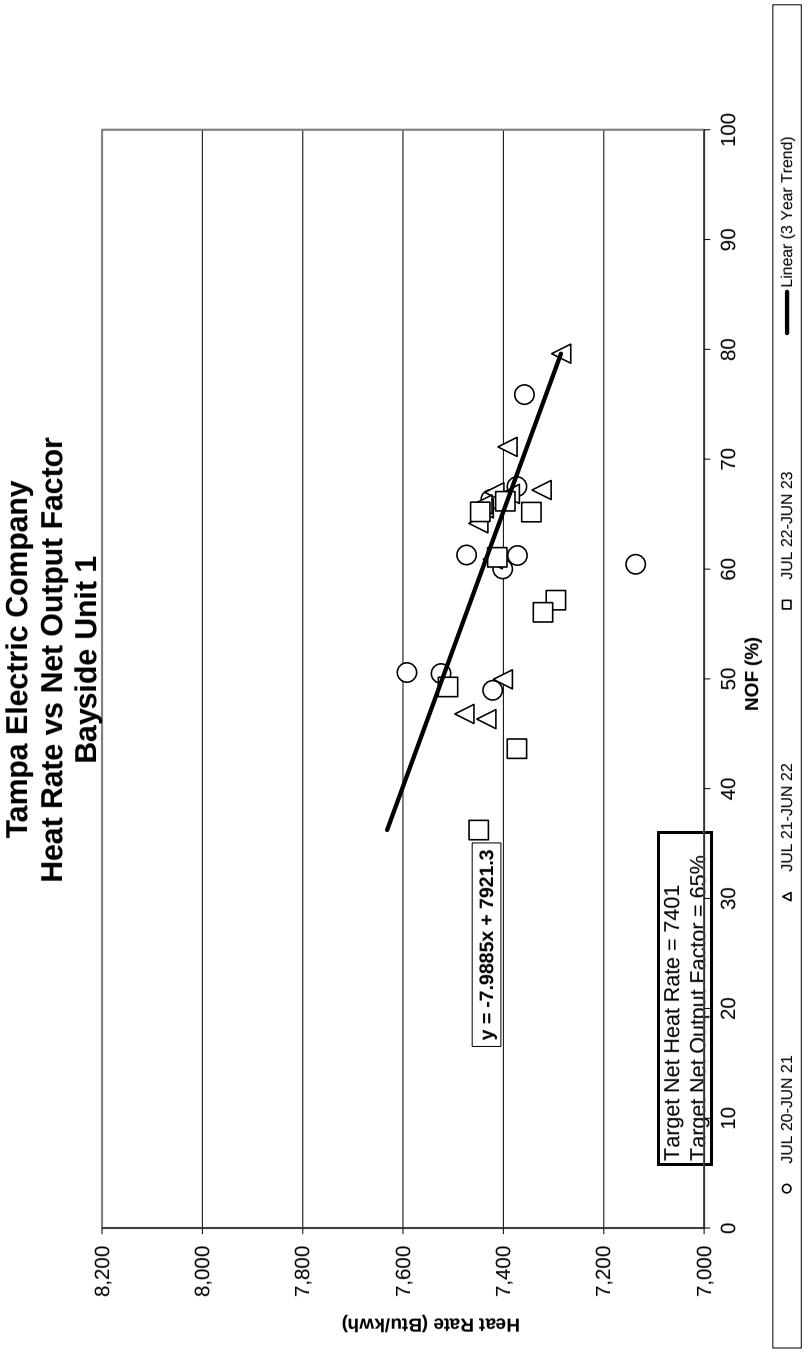

Bayside Unit 1
EMOR
EMOR%
100
90
80
70
60
50
40
30
20
10
0
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
JUL 22
AUG 22
SEP 22
OCT 22
NOV 22
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)

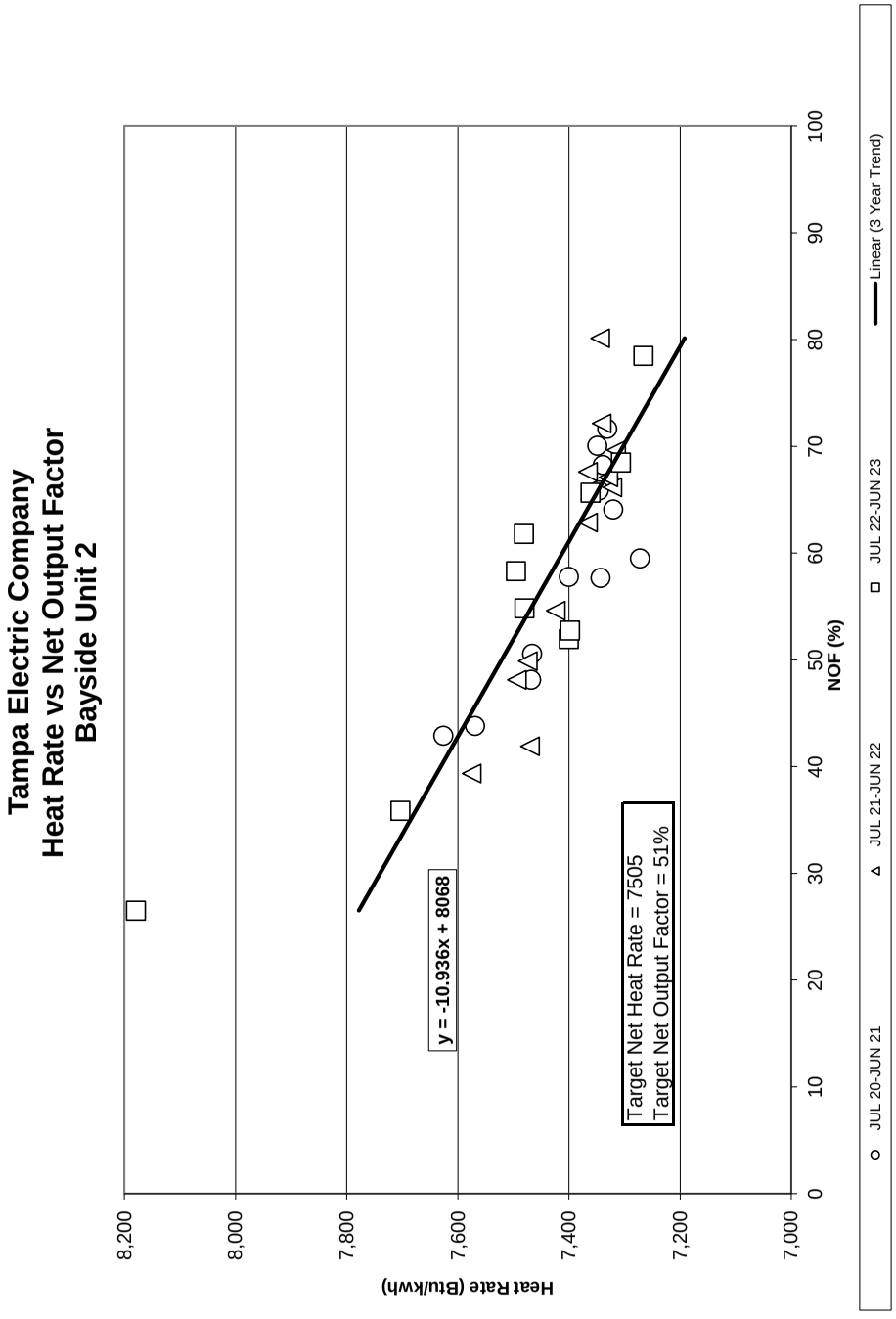

Bayside Unit 2
EFOR
EFOR %
100
90
80
70
60
50
40
30
20
10
0
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
JUL 22
AUG 22
SEP 22
OCT 22
NOV 22
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)


Bayside Unit 2
EMOR
EMOR%
100
90
80
70
60
50
40
30
20
10
0
JUL 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22
APR 22
MAY 22
JUN 22
JUL 22
AUG 22
SEP 22
OCT 22
NOV 22
DEC 22
JAN 23
FEB 23
FEB 23
APR 23
MAY 23
JUN 23
Monthly
12 MRA
Target
Last Year's Target
Linear (Monthly)
Linear (12 MRA)


Tampa Electric Company
Heat Rate vs Net Output Factor
Big Bend CC 1
y = -2.6405x + 6715.3
Target Net Heat Rate = 6513
Target Net Output Factor = 76%
Heat Rate (Btu/kwh)
7,000
6,750
6,500
6,250
6,000
0
10
20
30
40
50
60
70
80
90
100
NOF (%)
DEC 22 - JUN 23
Linear (Trend)


Tampa Electric Company
Heat Rate vs Net Output Factor
Polk Unit 2
Heat Rate (Btu/kwh)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
NOF (%)
0
10
20
30
40
50
60
70
80
90
100
y = -16.071x + 8233.8
Target Net Heat Rate = 7186
Target Net Output Factor = 65%
JUL 20-JUN 21
JUL 21-JUN 22
JUL 22-JUN 23
Linear (3 Year Trend)


Tampa Electric Company
Heat Rate vs Net Output Factor
Bayside Unit 1
Heat Rate (Btu/kwh)
8,200
8,000
7,800
7,600
7,400
7,200
7,000
NOF (%)
0
10
20
30
40
50
60
70
80
90
100
y = -7.9885x + 7921.3
Target Net Heat Rate = 7401
Target Net Output Factor = 65%
JUL 20-JUN 21
JUL 21-JUN 22
JUL 22-JUN 23
Linear (3 Year Trend)


Tampa Electric Company
Heat Rate vs Net Output Factor
Bayside Unit 2
Heat Rate (Btu/kwh)
8,200
8,000
7,800
7,600
7,400
7,200
7,000
NOF (%)
0
10
20
30
40
50
60
70
80
90
100
y = -10.936x + 8068
Target Net Heat Rate = 7505
Target Net Output Factor = 51%
JUL 20-JUN 21
JUL 21-JUN 22
JUL 22-JUN 23
Linear (3 Year Trend)

TAMPA ELECTRIC COMPANY
GENERATING UNITS IN GPIF
TABLE 4.2
JANUARY 2024 - DECEMBER 2024

PLANT / UNIT		ANNUAL GROSS MDC (MW)	ANNUAL NET NDC (MW)
BIG BEND CC 1		1,101	1,076
POLK 2		1,130	1,107
BAYSIDE 1		791	782
BAYSIDE 2		979	968
	GPIF TOTAL	4,001	3,934
	SYSTEM TOTAL	**6,595**	**6,454**
	% OF SYSTEM TOTAL	**60.7%**	**60.9%**

TAMPA ELECTRIC COMPANY
UNIT RATINGS
JANUARY 2024 - DECEMBER 2024

PLANT / UNIT		ANNUAL GROSS MDC (MW)	ANNUAL NET NDC (MW)
BAYSIDE 1		791	782
BAYSIDE 2		979	968
BAYSIDE 3		59	58
BAYSIDE 4		59	58
BAYSIDE 5		59	58
BAYSIDE 6		59	58
	BAYSIDE TOTAL	2,005	1,981
BIG BEND 1		1,101	1,076
BIG BEND 3		368	348
BIG BEND 4		458	425
BIG BEND CT4		59	58
	BIG BEND TOTAL	1,987	1,908
POLK 1		225	210
POLK 2		1,130	1,107
	POLK TOTAL	1,355	1,317
SOLAR		1,249	1,249
	SOLAR TOTAL	1,249	1,249
	SYSTEM TOTAL	**6,595**	**6,454**

TAMPA ELECTRIC COMPANY
PERCENT GENERATION BY UNIT
JANUARY 2024 - DECEMBER 2024

PLANT	UNIT	NET OUTPUT MWH	PERCENT OF PROJECTED OUTPUT	PERCENT CUMULATIVE PROJECTED OUTPUT
BIG BEND	1	6,802,052	31.95%	31.95%
POLK	2	6,032,890	28.34%	60.29%
BAYSIDE	1	2,687,563	12.62%	72.91%
SOLAR		2,501,569	11.75%	84.66%
BIG BEND	4	491,029	2.31%	86.97%
BAYSIDE	2	2,567,438	12.06%	99.03%
POLK	1	95,134	0.45%	99.47%
BAYSIDE	6	25,113	0.12%	99.59%
BAYSIDE	5	24,634	0.12%	99.71%
BAYSIDE	3	25,500	0.12%	99.83%
BIG BEND CT	4	15,282	0.07%	99.90%
BAYSIDE	4	21,796	0.10%	100.00%
TOTAL GENERATION		21,290,000	100.00%	

GENERATION BY COAL UNITS: 491,029 MWH
% GENERATION BY COAL UNITS 2.31%
GENERATION BY NATURAL GAS UNITS: 18,297,402 MWH
% GENERATION BY NATURAL GAS UNITS: 85.94%

GENERATION BY SOLAR UNITS: 2,501,569 MWH
% GENERATION BY SOLAR UNIT 11.75%
GENERATION BY GPIF UNITS: 18,580,972 MWH
% GENERATION BY GPIF UNITS: 87.28%

DOCKET NO. 20230001-EI
GPIF 2024 PROJECTION
FILING EXHIBIT NO. EBV-2
DOCUMENT NO. 2

EXHIBIT TO THE TESTIMONY

OF

ELENA B. VANCE

DOCUMENT NO. 2

SUMMARY OF GPIF TARGETS

JANUARY 2024 – DECEMBER 2024

TAMPA ELECTRIC COMPANY
SUMMARY OF GPIF TARGETS
JANUARY 2024 - DECEMBER 2024

Unit	Availability			Net
	EAF	POF	EUOF	Heat Rate
Big Bend CC 1[1]	71.5	1.4	27.1	6,513
Polk 2[2]	88.3	6.7	5.1	7,186
Bayside 1[3]	78.0	19.1	2.9	7,401
Bayside 2[4]	73.2	25.1	1.6	7,505

1 Original Sheet 8.401.20E, Page 11

2 Original Sheet 8.401.20E, Page 12

3 Original Sheet 8.401.20E, Page 13

4 Original Sheet 8.401.20E, Page 14

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20230001-EI
FUEL & PURCHASED POWER COST RECOVERY
AND
CAPACITY COST RECOVERY

PROJECTIONS
JANUARY 2024 THROUGH DECEMBER 2024

TESTIMONY
OF
JOHN C. HEISEY

FILED: SEPTEMBER 5, 2023

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

JOHN C. HEISEY

Q. Please state your name, address, occupation, and employer.

A. My name is John C. Heisey. My business address is 702 N. Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director, Origination and Trading.

Q. Have you previously filed testimony in Docket No. 20230001-EI?

A. Yes, I submitted direct testimony on April 3, 2023 and July 27, 2023.

Q. Has your job description, education, or professional experience changed since your most recent testimony?

A. No, they have not.

Q. Please describe your duties and responsibilities in that position.

A. I am responsible for directing all activities associated with the procurement and delivery of energy commodities for Tampa Electric's generation fleet. Such activities include the trading, optimization, strategy, planning, origination, compliance and regulatory oversight of natural gas, power, coal, oil, byproducts, and associated delivery. I am also responsible for all aspects of the Optimization Mechanism.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss Tampa Electric's fuel mix, fuel price forecasts, potential impacts to fuel prices, and the company's fuel procurement strategies.

Fuel Mix and Procurement Strategies

Q. What fuels do Tampa Electric's generating stations use?

A. Tampa Electric's generation portfolio includes natural gas, solar, coal, and, as a backup fuel, oil powered units. Big Bend Unit 1 combined cycle operates on natural gas, and Big Bend Unit 4 can operate on coal or natural

gas. Polk Unit 1 can operate on natural gas or a blend of petroleum coke and coal. Currently, the company is operating Polk Unit 1 on natural gas and Big Bend Unit 4 on natural gas and coal. Polk Unit 2 combined cycle uses natural gas as a primary fuel and oil as a secondary fuel; and Bayside Station combined cycle units and the company's collection of peakers (*i.e.,* aero-derivative combustion turbines) all utilize natural gas. Since it serves as a backup fuel, oil consumption is primarily for testing, and oil is a negligible percentage of system generation. Based upon the 2023 actual-estimate projections, the company expects 2023 total system generation, excluding purchased power, to be 88 percent natural gas, 9 percent solar, and 3 percent coal.

Likewise, in 2024, natural gas-fired and solar generation are expected to be 86 percent and 12 percent of total generation, respectively, with coal-fired generation making up 2 percent of total generation.

Q. Please describe Tampa Electric's fuel supply procurement strategy.

A. Tampa Electric emphasizes flexibility and options in its fuel procurement strategy for all its fuel needs. The

company strives to maintain many creditworthy and viable suppliers. Similarly, the company endeavors to maintain multiple delivery path options. Tampa Electric also attempts to diversify the locations from which its supply is sourced. Having a greater number of fuel supply and delivery options provides increased reliability and flexibility to pursue lower cost options for Tampa Electric customers.

Natural Gas Supply Strategy

Q. How does Tampa Electric's natural gas procurement and transportation strategy achieve competitive natural gas purchase prices for long- and short-term deliveries?

A. Tampa Electric uses a portfolio approach to natural gas procurement. This approach consists of a blend of pre-arranged base, intermediate, and swing natural gas supply contracts complemented with shorter term spot and seasonal purchases. The contracts have various time lengths to help secure needed supply at competitive prices while maintaining the flexibility to adapt to any changing fuel needs. In 2023, Tampa Electric will utilize an online auction process, in addition to a traditional RFP process, to procure annual gas supply requirements for the portfolio. The objective of the auction is to increase

competition and lower natural gas expense for the benefit of Tampa Electric customers. Tampa Electric purchases its physical natural gas supply from creditworthy counterparties, enhancing the liquidity and diversification of its natural gas supply portfolio. Tampa Electric targets natural gas supply that is reliable and resistant to the impacts of extreme weather. The natural gas prices are based on monthly and daily price indices, further increasing price diversification.

Tampa Electric diversifies its pipeline transportation assets, including receipt points. The company also utilizes pipeline and storage services to enhance access to natural gas supply during hurricanes, extreme weather or other events that constrain supply. Such actions improve the reliability and cost-effectiveness of the physical delivery of natural gas to the company's power plants. Furthermore, Tampa Electric strives daily to obtain reliable supplies of natural gas at favorable prices to mitigate costs for its customers.

Q. Please describe Tampa Electric's diversified natural gas transportation agreements.

A. Tampa Electric currently receives natural gas directly

via the Florida Gas Transmission ("FGT") and Gulfstream Natural Gas System, LLC ("Gulfstream") pipelines. The ability to deliver natural gas from two pipelines increases the fuel delivery reliability for Bayside Power Station, which is composed of two large natural gas combined-cycle units and four aero-derivative combustion turbines, and Big Bend Station, which is comprised of one combined cycle unit, one steam generating unit, and one aero-derivative combustion turbine. Polk Station receives natural gas from FGT to support natural gas consumption in Polk Units 1 and 2.

Q. Are there any significant changes to Tampa Electric's expected natural gas usage?

A. Tampa Electric's natural gas usage is expected to slightly increase in 2024 when compared to 2023. Less planned maintenance in the fall of 2024 will result in an increase in natural gas usage in the period.

Q. What actions does Tampa Electric take to enhance the reliability of its natural gas supply?

A. Tampa Electric maintains natural gas storage capacity with Bay Gas Storage near Mobile, Alabama to provide

operational flexibility and reliability of natural gas supply. The company reserves 2,000,000 MMBtu of long-term storage capacity at this location. This storage was used during Storm Uri in February 2021 and Storm Elliott in December of 2022 to replace interrupted supply and to mitigate costs for our customers.

In addition to storage, Tampa Electric maintains diversified natural gas supply receipt points in FGT Zones 1, 2, and 3. Diverse receipt points reduce the company's vulnerability to hurricane impacts and provide access to potentially lower priced gas supply.

Tampa Electric also reserves capacity on the Southeast Supply Header ("SESH"), Gulf South pipeline ("Gulf South"), and Transco's Mobile Bay Lateral ("Transco"). SESH, Gulf South, and Transco are upstream pipelines that connect the receipt points of FGT, Gulfstream, and other Mobile Bay area pipelines with natural gas supply in the mid-continent and northeast. Mid-continent and northeast natural gas production, specifically shale production, has grown and continues to increase. Thus, SESH, Gulf South, and Transco capacity give Tampa Electric access to secure, competitively priced onshore gas supply for a portion of its portfolio. Tampa Electric continuously

evaluates its gas transportation portfolio based on changing market conditions to ensure access to reliable natural gas supply. All receipt points in the portfolio are reviewed annually to ensure access to reliable supply basins.

Q. Has Tampa Electric acquired additional natural gas transportation for 2023 and 2024 due to greater use of natural gas?

A. Yes. For January and February 2023, Tampa Electric acquired short-term capacity on Sabal Trail and Gulf Stream to increase the reliability of the portfolio for its projected winter peak. In addition, power purchases were executed for January and February as a lower cost solution compared to acquiring additional short-term pipeline capacity. These power purchases are mentioned in the testimony of Tampa Electric witness Benjamin F. Smith, II. In the fall of 2022 and spring of 2023, Tampa Electric acquired additional long-term pipeline capacity on SESH. This capacity provides additional upstream transportation for the portfolio to mitigate Mobile Bay supply risk, as well as provides access to abundant Haynesville shale gas supply. For 2024, Tampa Electric has not acquired additional capacity but is continuously monitoring market

conditions and opportunities to improve portfolio reliability.

Coal Supply Strategy

Q. Please describe Tampa Electric's solid fuel usage and procurement strategy.

A. As with its natural gas strategy, Tampa Electric uses a portfolio approach to coal procurement. Big Bend Unit 4 is designed to burn high-sulfur Illinois Basin coal and is fully scrubbed for sulfur dioxide and nitrogen oxides, and the unit has been upgraded to operate on natural gas. Polk Unit 1 can burn a blend of petroleum coke and low sulfur coal, or natural gas. Each plant has varying operational and environmental restrictions and requires solid fuel with custom quality characteristics such as ash content, fusion temperature, sulfur content, heat content, and chlorine content.

Coal is not a homogenous product. The fuel's chemistry and contents vary based on many factors, including geography. The variability of the product dictates that Tampa Electric select its fuel based on multiple parameters. Those parameters include unique coal quality characteristics, price, availability, deliverability, and

creditworthiness of the supplier.

To minimize costs, maintain operational flexibility, and ensure reliable supply, Tampa Electric typically maintains a portfolio of bilateral coal supply contracts with varying term lengths. Tampa Electric monitors the market to obtain the most favorable prices from sources that meet the needs of the generation stations. The use of daily and weekly publications, independent research analyses from industry experts, discussions with suppliers, and coal solicitations aid the company in monitoring the coal market. This market intelligence also helps shape the company's coal procurement strategy to reflect short- and long-term market conditions. Tampa Electric's strategy provides a stable supply of reliable fuel sources. In addition, this strategy allows the company the flexibility to take advantage of favorable spot market opportunities and address operational needs.

Q. Please summarize how Tampa Electric will manage its solid fuel supply contracts through 2024.

A. After a challenging year in 2022, coal supply, rail transportation and inventory levels have improved dramatically in 2023. Tampa Electric will supply the Big

Bend and Polk Stations with solid fuel through a combination of existing inventory, short-term contracts, and, as necessary, spot purchases in support of the most economic commitment and dispatch for the generation fleet. Short-term and spot purchases allow the company to adjust supply to reflect changing coal quality and quantity needs, operational changes, and pricing opportunities. Currently, the company is operating Polk Unit 1 on natural gas and Big Bend Unit 4 on natural gas and coal.

Coal Transportation

Q. Please describe Tampa Electric's solid fuel transportation arrangements.

A. Tampa Electric can receive coal at its Big Bend Station via waterborne or rail delivery. Once delivered to Big Bend Station, solid fuel is consumed onsite, or blended and trucked to Polk Station for consumption in Polk Unit 1. As a result of declining solid fuel burns over the last few years, Tampa Electric now purchases delivered coal, where waterborne coal supply and transportation are arranged by the supplier. Procuring delivered waterborne coal continues to provide customers with competitive coal prices through a simplified process. Commodity and

transportation of coal by rail is still being arranged separately, as necessary.

Q. Why does the company maintain multiple coal transportation options in its portfolio?

A. Bimodal solid fuel transportation to Big Bend Station affords the company and its customers various benefits. Those benefits include 1) access to more potential coal suppliers, which results in a more competitively priced, and diverse, delivered coal portfolio; 2) the opportunity to switch to either water or rail in the event of a transportation breakdown or interruption on the other mode; and 3) competition among transporters for future solid fuel transportation contracts. The benefits of bimodal solid fuel transportation were apparent in 2022 as coal deliveries by rail were not reliable due to labor shortages in the rail industry.

Q. Will Tampa Electric continue to receive coal deliveries via rail in 2023 and 2024?

A. Yes. Although we experienced supply and transport challenges this year, Tampa Electric expects to receive coal for use at Big Bend Station through the Big Bend

rail facility during 2023 and 2024.

Q. Please describe Tampa Electric's expectations regarding waterborne coal deliveries.

A. Tampa Electric expects to receive the majority of its solid fuel supply in 2024 from waterborne deliveries to its unloading facilities at Big Bend Station. These deliveries come via the Mississippi River System or from foreign sources. The ultimate supply source is dependent upon quality, operational needs, and lowest overall delivered cost.

Q. Do you have any other updates to provide regarding Tampa Electric's solid fuel transportation portfolio?

A. Yes. Tampa Electric continues to burn natural gas as the economic fuel in Polk Unit 1. Big Bend Unit 4 is projected to burn coal and gas in 2024. Although coal consumption has decreased relative to previous years, the expected coal burn in 2024 will be similar to 2023.

Q. Has Tampa Electric reasonably managed its fuel procurement practices for the benefit of its retail customers?

A. Yes. Tampa Electric diligently manages its mix of long-term, intermediate, and short-term purchases of fuel in a manner designed to reduce overall fuel costs while maintaining electric service reliability. The company's fuel activities and transactions are reviewed and audited on a recurring basis by the Commission. In addition, the company monitors its rights under contracts with fuel suppliers to detect and prevent any breach of those rights. Tampa Electric continually strives to improve its knowledge of fuel markets and take advantage of opportunities to minimize the costs of fuel.

Q. Are there any other pertinent aspects of how Tampa Electric manages its fuel supply portfolio?

A. Yes. As part of Tampa Electric's 2017 Amended and Restated Stipulation and Settlement Agreement approved by Commission Order No. PSC-2017-0456-S-EI, issued on November 27, 2017 in Docket No. 20170210-EI, and extended by the 2021 Stipulation and Settlement Agreement approved by Order No. PSC-2021-0423-S-EI issued on November 10, 2021 in Docket No. 20210034-EI, Tampa Electric has been operating under an Asset Optimization Mechanism since January 1, 2018. This Optimization Mechanism encourages Tampa Electric to market temporarily unused fuel supply

assets to capture cost mitigation benefits for customers. These benefits have come through economic power purchases, economic power sales, participation in the Southeast Energy Exchange Market ("SEEM"), resale of unneeded fuel supply, an asset management agreement for natural gas storage, and utilization of natural gas and solid fuel storage and transportation assets.

Projected 2024 Fuel Prices

Q. How does Tampa Electric project fuel prices?

A. Tampa Electric reviews fuel price forecasts from sources widely used in the industry, including the New York Mercantile Exchange ("NYMEX"), S&P Global Future Energy Outlooks, S&P Global Market Intelligence, the Energy Information Administration, and other energy market information sources. Future prices for energy commodities as traded on NYMEX, averaged over five consecutive business days ending June 23, 2023, form the basis of the natural gas and No. 2 oil market commodity price forecasts. The price projections for these two commodities are then adjusted to incorporate expected transportation costs and location differences.

Coal commodity and transportation prices are projected

using contracted prices and information from industry recognized consultants and published indices, such as Coaldesk, LLC and Argus coal and petcoke publications. Also, the price projections are specific to the quality and mined location of coal utilized by Tampa Electric's Big Bend Unit 4 and Polk Unit 1. Final as-burned prices are derived using expected commodity prices and associated transportation costs.

Q. How do the 2024 projected fuel prices compare to the fuel prices projected for 2023 in the company's mid-course correction filing?

A. After the mild winter earlier this year, natural gas storage inventory levels are back above the 5-year average and production has been strong through the first half of the year causing prices to fall from elevated levels in 2022. Year-to-date gas prices have been lower than the company's mid-course correction fuel filing in January 2023 but are expected to increase in 2024 as current lower prices will prompt a decline in production growth, resulting in an increase in prices. For coal, the 2024 projected prices are lower than those in 2023.

The commodity price for natural gas during 2024 is

projected to be lower ($3.53 per MMBtu) than the 2023 price ($4.38 per MMBtu) projected in the company's mid-course correction fuel filing. The 2024 delivered coal price projection is lower ($93.15 per ton) than the price projected for 2023 ($102.08 per ton) during preparation of the 2023 mid-course correction fuel clause factors.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20230001-EI
FUEL & PURCHASED POWER COST RECOVERY
AND
CAPACITY COST RECOVERY

PROJECTIONS
JANUARY 2024 THROUGH DECEMBER 2024

TESTIMONY
OF
BENJAMIN F. SMITH II

FILED: SEPTEMBER 5, 2023

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

BENJAMIN F. SMITH II

Q. Please state your name, address, occupation, and employer.

A. My name is Benjamin F. Smith II. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Manager, Gas and Power Origination within the Origination and Trading Department.

Q. Please provide a brief outline of your educational background and business experience.

A. I received a Bachelor of Science degree in Electric Engineering in 1991 from the University of South Florida in Tampa, Florida, and a Master of Business Administration degree in 2015 from Saint Leo University in Saint Leo, Florida. I am also a registered Professional Engineer within the State of Florida and a Certified Energy Manager through the Association of Energy Engineers. I joined Tampa Electric in 1990 as a cooperative education student.

During my years with the company, I have worked in the areas of transmission engineering, distribution engineering, resource planning, retail marketing, and wholesale power marketing. I am currently the Manager, Gas and Power Origination within the Origination and Trading Department. My responsibilities are to evaluate short and long-term power purchase and sale opportunities within the wholesale power market, assist in wholesale power and gas transportation origination and contract structures, and assist in combustion byproduct contract administration and market opportunities. In this capacity, I interact with wholesale power market participants such as utilities, municipalities, electric cooperatives, power marketers, other wholesale developers and independent power producers, as well as with natural gas pipeline owners and transporters.

Q. Have you previously testified before the Florida Public Service Commission ("Commission")?

A. Yes. I have submitted written testimony in the annual fuel docket since 2003, and I have testified before this Commission in Docket Nos. 20030001-EI, 20040001-EI, and 20080001-EI regarding the appropriateness and prudence of Tampa Electric's wholesale purchases and sales.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to provide a description of Tampa Electric's purchased power agreements that the company has entered and for which it is seeking cost recovery through the Fuel and Purchased Power Cost Recovery Clause ("fuel clause") and the Capacity Cost Recovery Clause. I also describe Tampa Electric's purchased power strategy for mitigating price and supply-side risk, while providing customers with a reliable supply of economically priced purchased power.

Q. Please describe the efforts Tampa Electric makes to ensure that its wholesale purchases and sales activities are conducted in a reasonable and prudent manner.

A. Tampa Electric evaluates potential purchase and sale opportunities by analyzing the expected available amounts of generation and power required to meet the projected demand and energy of its customers. Purchases are made to achieve reserve margin requirements, meet customers' demand and energy needs, meet operating reserve requirements, supplement generation during unit outages, and for economical purposes. When Tampa Electric considers making a power purchase, the company diligently

searches for available supplies of wholesale capacity or energy from creditworthy counterparties. The objective is to secure reliable quantities of purchased power for customers at the best possible price.

Conversely, when there is a sales opportunity, the company offers profitable wholesale capacity or energy products to creditworthy counterparties. The company has wholesale power purchase and sale transaction enabling agreements with numerous counterparties. This process helps to ensure that the company's wholesale purchase and sale activities are conducted in a reasonable and prudent manner.

Q. Has Tampa Electric reasonably managed its wholesale power purchases and sales for the benefit of its retail customers?

A. Yes, it has. Tampa Electric has fully complied with, and continues to fully comply with, the Commission's Order No. PSC-1997-0262-FOF-EI, approved on March 11, 1997 and issued in Docket No. 19970001-EI, which governs the treatment of separated and non-separated wholesale sales. The company's wholesale purchase and sale activities and transactions are also reviewed and audited on a recurring

basis by the Commission.

In addition, Tampa Electric actively manages its wholesale purchases and sales with the goal of capitalizing on opportunities to reduce customer costs and improve reliability. The company monitors its contractual rights with purchased power suppliers, as well as with entities to which wholesale power is sold, to detect and prevent any breach of the company's contractual rights. Tampa Electric continually strives to improve its knowledge of wholesale power markets and available opportunities within the marketplace. The company uses this knowledge to minimize the costs of purchased power and to maximize the savings the company provides retail customers by making wholesale sales when excess power is available on Tampa Electric's system and market conditions allow.

Q. Please describe Tampa Electric's 2023 wholesale power purchases.

A. Tampa Electric assessed the wholesale power market and entered into short- and long-term purchases based on price and availability of supply. Approximately 7 percent of the company's expected needs for 2023 will be met using

purchased power. This includes economy energy purchases, reliability purchases, as-available purchases from qualifying facilities, and forward purchases from Duke Energy Florida ("DEF"), the Florida Municipal Power Agency ("FMPA"), Florida Power & Light ("FPL"), and the Orlando Utilities Commission ("OUC").

Presently, Tampa Electric has six forward purchases applicable to the year 2023, and those purchases are summarized below.

- A purchase from DEF, which was an extension of Tampa Electric's previous contract to purchase non-firm energy from DEF, was set to conclude at the end of October 2022. The parties have extended the contract twice, and neither the first nor second extension have must-take obligations, providing Tampa Electric the flexibility to schedule the energy when beneficial to customers. In October 2022, Tampa Electric and DEF extended this contract to cover the period November 2022 through February 2023. This first extension made available to Tampa Electric a maximum of 250 MW. The 250 MW was non-firm for November and December 2022; however, during the months of January through February 2023, 250 MW were converted to a firm call option. The firm portion of the purchase was for reliability to

ensure energy service to customers in the event Tampa Electric experienced cold weather. The purchase supported the company's plan to lower exposure to natural gas risk during its winter peak. The company's plan to minimize its natural gas risk is addressed in the testimony of witness John Heisey.

The second extension occurred February 2023 when Tampa Electric and DEF extended the agreement to purchase 250 MW, non-firm, for the term March through December 2023. In addition, the parties further amended the second extension in May 2023 to provide an incremental 265 MW, non-firm, during the months of June through August 2023, making the following amounts available to Tampa Electric: (i) 250 MW March through May and Sept through December 2023 and (ii) 515 June through August 2023.

For 2023, the purchases associated with this agreement have provided about $1.8 million in savings to customers. These savings to customers include only the utilization of the purchase as non-firm, economy (i.e., excludes any firm call option portion). These savings flow through the company's optimization mechanism and benefit customers in accordance with the methodology approved by the Commission in Order No. 2017-0456-S-

EI, issued on November 27, 2017 and extended through December 31, 2024 as approved by the Commission in Order No. PSC-2021-0423-S-EI issued on November 10, 2021, in Docket No. 20210034-EI.

- A 50 MW firm peaking call option from FMPA executed November 2022 for the period January through February 2023. The firm purchase from FMPA was for reliability to ensure energy service to customers in the event Tampa Electric experienced unusually cold weather.
- A 100 MW firm peaking call option from OUC, executed in November 2022 for the period January through February 2023. The firm purchase from OUC was for reliability to ensure energy service to customers in the event Tampa Electric experienced unusually cold weather.

The company's remaining forward purchases are from FPL. All were executed in 2023 and are non-firm, economy, must-take energy purchases. The agreements with FPL are for the purchase of:

- Up to 200 MW for May 2023
- 150 MW for September 2023
- Up to 200 MW for October 2023

The FPL purchases provide a projected $640

thousand in savings to customers, which flow through the optimization mechanism.

Tampa Electric has not secured other forward purchases for 2023 at this time. However, the company constantly searches for purchase opportunities that benefit customers. As other purchase opportunities materialize, the company evaluates each product to determine the viability of making it part of the supply portfolio Tampa Electric uses to serve customers.

At the time of the 2023 Projection filing, Tampa Electric projected capacity costs for power purchase activities, to be recovered through the 2023 Capacity Cost Recovery Clause, to be about $1.7 million. On an actual basis through June 2023, the capacity costs are $6 million, which includes the cost of the three previously described firm purchases and transmission associated with short-term purchases and sales.

Q. Does Tampa Electric anticipate entering into new wholesale power purchases for 2024 and beyond?

A. Tampa Electric currently has no forward purchases for 2024 and, at this time, projects approximately 1 percent of

the company's expected needs for 2024 will be met using purchased power. However, similar to the current year, the company will search for forward purchase opportunities that benefit customers, which could result in capacity costs being incurred. Tampa Electric has projected a forecast of $4 million in its 2024 Capacity Cost Recovery Clause.

Q. How does Tampa Electric mitigate the risk of disruptions to its purchased power supplies during major weather-related events, such as hurricanes?

A. During hurricane season, Tampa Electric continues to utilize a purchased power risk management strategy to minimize potential power supply disruptions. The strategy includes monitoring storm activity; evaluating the impact of storms on existing forward purchases and the rest of the wholesale power market; communicating with suppliers about their storm preparations and potential impacts to existing transactions; purchasing additional power on the forward market, if appropriate, for reliability and economics; evaluating transmission availability and the geographic location of electric resources; reviewing sellers' fuel sources and dual-fuel capabilities; and focusing on fuel-diversified purchases. Absent the threat

of a hurricane, and for all other months of the year, the company evaluates economic combinations of short- and long-term purchase opportunities in the marketplace.

Q. Please describe Tampa Electric's wholesale energy sales for 2023 and 2024.

A. Tampa Electric entered into various non-separated (*e.g.,* next-hour and next-day sales) wholesale sales in 2023, and the company anticipates making additional non-separated sales during the balance of 2023 and 2024. The gains from these sales are shared between Tampa Electric and its customers through the company's optimization mechanism.

Q. Please summarize your direct testimony.

A. Tampa Electric constantly monitors and assesses the wholesale power market to identify purchase and sales opportunities that benefit the company's customers. By taking advantage of these opportunities, Tampa Electric reduces costs to and improves service reliability for customers. The company's energy supply strategy includes self-generation and physical short-term (e.g., hourly, next-day, weekly) and longer term (e.g., monthly,

seasonal) power purchases. The company also makes wholesale sales that benefit customers when market conditions allow. Tampa Electric's approach to the wholesale power market provides customers with a reliable supply at the lowest possible cost.

Q. Does this conclude your direct testimony?

A. Yes.