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August 22, 2006

HAND DELIVERED

Ms. Blanca S. Bayo, Director
Division of Commission Clerk
and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

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Re: Fuel and Purchased Power Cost Recovery Clause with Generating Performance
Incentive Factor; FPSC Docket No. 060001-EI


Dear Ms. Bayo:

Enclosed for filing in the above docket are the original and fifteen (15) copies of Tampa
Electric Company's Prepared Rebuttal Testimony of William A. Smotherman.

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

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

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Prepared Rebuttal Testimony of William A. Smotherman has been furnished by U. S. Mail or hand delivery (*) on this 22nd day of August 2006 to the following:

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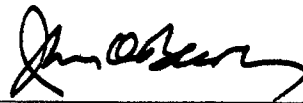
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TAMPA ELECTRIC

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060001-EI

IN RE: FUEL & PURCHASED POWER COST RECOVERY

AND

CAPACITY COST RECOVERY

DIRECT TESTIMONY

OF

WILLIAM A. SMOTHERMAN

DOCUMENT NUMBER DATE

07612 AUG 22 8

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **PREPARED REBUTTAL TESTIMONY**

3 **OF**

4 **WILLIAM A. SMOTHERMAN**

5
6 **Q.** Please state your name, address, occupation and employer.

7
8 **A.** My name is William A. Smotherman. My business address is
9 702 North Franklin Street, Tampa, Florida 33602. I am
10 employed by Tampa Electric Company ("Tampa Electric" or
11 "Company") as Director of the Resource Planning
12 Department.

13
14 **Q.** What is the purpose of your direct testimony?

15
16 **A.** The purpose of my direct testimony is to address the
17 "deadband" proposal in the direct testimony of Mr. James
18 A. Ross, testifying on behalf of the Office of Public
19 Counsel.

20
21 **Q.** Do you agree with the current Generating Performance
22 Incentive Factor ("GPIF") methodology?

23
24 **A.** Yes, I do. The existing GPIF methodology was established
25 in 1980 by Commission Order No. 9558 in Docket No.

1 800400-CI, issued September 19, 1980. The GPIF program
2 was designed to "encourage the improvement of the
3 productivity of base load generating units by focusing
4 upon the areas of thermal efficiency (heat rate) and unit
5 availability." The GPIF methodology provides for the
6 utility to earn a reward or incur a penalty based on unit
7 performance compared to historical performance and is
8 limited to a portion of the associated projected fuel
9 savings or losses. The GPIF program has a history of
10 benefiting both the ratepayers and the utilities by
11 providing a fair and symmetrical sharing of improvements
12 or declines in unit performance.

13
14 **Q.** Has the existing GPIF program been effective in improving
15 equivalent availability and operating efficiency of each
16 GPIF generating unit thereby reducing total system fuel
17 expense?

18
19 **A.** In 1980, in response to Commission Order No. 9558, Tampa
20 Electric adopted the GPIF methodology, which provides
21 incentives to improve heat rates and unit availability.
22 For example, during the 1980's and early 1990's improved
23 heat rates and unit availabilities were achieved by Tampa
24 Electric; therefore, incentives were received. The
25 efficient operation of the larger generating units has

1 resulted in lower fuel and purchased power expense were
2 lower for customers. Similarly, during more recent
3 periods where operating performance declined on some of
4 the GPIF units, penalties were incurred. The fundamental
5 concept behind the methodology is to provide an incentive
6 for further improvements. As a company improves its
7 operating efficiency, the targets become increasingly
8 more difficult to achieve in future periods.

9
10 **Q.** What factors contributed to the decreased operating
11 efficiencies of Tampa Electric's GPIF units, Big Bend
12 Station and Gannon 5 and 6, from 2001 through 2004?

13
14 **A.** The key factors for decreased operating efficiencies of
15 Tampa Electric's operating units, primarily Big Bend
16 Station, are impacted by operating and equipment
17 constraints resulting from increased environmental
18 regulatory requirements. From 1995 through 2005, Tampa
19 Electric added a flue-gas desulfurization system ("FGD"),
20 completed nitrogen oxide ("NO_x") combustion tuning and
21 optimization projects and changed coal blends at Big Bend
22 Station, in addition fuel blends at Gannon station were
23 also modified during this period. These modifications
24 were made to comply with the Clean Air Act as well as the
25 Consent Decree ("CD") and Consent Final Judgment ("CFJ")

1 which were entered into with the U.S. Environmental
2 Protection Agency and the Florida Department of
3 Environmental Protection. The environmental improvements
4 have reduced Tampa Electric's sulfur dioxide ("SO₂"), NO_x,
5 and particulate matter emissions by approximately 89, 89
6 and 72 percent, respectively, below their 1998 levels.
7

8 **Q.** How have the Clean Air Act, CD and CFJ adversely impacted
9 the performance of Big Bend station and Gannon units 5
10 and 6?
11

12 **A.** Tampa Electric's most cost-effective method of complying
13 with the Clean Air Act was to decrease the sulfur content
14 in the coal burned at Big Bend and Gannon Stations. In
15 1996 Big Bend unit 3 was integrated into unit 4's FGD and
16 in 1999, a separate FGD system was constructed for units
17 1 and 2. The sulfur in the coal burned at Big Bend
18 Station was lowered by blending higher sulfur coals,
19 which the units were designed to burn, with lower sulfur
20 coal. The lower sulfur coal tends to increase the heat
21 rate of the units due to the physical and chemical
22 differences in coal quality. These differences include
23 moisture content, ash fusion temperature as well as heat
24 content and sulfur content. Additionally, these
25 differences cause operational problems such as fuel

1 handling, slag tapping, fouling, opacity, ash
2 resistivity, increased NO_x emissions and increased the
3 wear rate of boiler tubes in certain parts of the
4 furnace. These operating issues increased the forced
5 outages, thereby reducing unit availability and
6 increasing unit heat rate. The incremental energy
7 required to operate the FGD equipment plus the additional
8 planned outages during installation and ongoing
9 maintenance increased the overall heat rate for Big Bend
10 units 1, 2 and 3.

11
12 The CD and CFJ required Tampa Electric to increase the
13 efficiency of the Big Bend FGD systems and further
14 reduced the sulfur content of fuel burned without the use
15 of the FGD system on Big Bend units 1, 2 and 3, and
16 required the installation of projects to reduce NO_x
17 emissions. The impact of the FGD and lower sulfur coal
18 requirements increased heat rate and decreased
19 availability of Big Bend Station. The initial NO_x
20 reductions were achieved by reducing the amount of oxygen
21 used during fuel combustion. This resulted in a loss of
22 combustion efficiency and an increase in unit heat rate.
23 The change in fuel combustion also increased the wear
24 rate of certain boiler tubes, further reducing unit
25 availability.

1 Q. Did Tampa Electric incur any reward or penalty associated
2 with the decline in operating performance of its
3 generating units between 2001 and 2005?

4
5 A. Yes, the decline in performance resulted in a \$7.1
6 million in GPIF penalties that Tampa Electric paid over
7 the period of 2001 to 2005.

8
9 Q. Will the CD and CFJ result in improve operating
10 efficiency?

11
12 A. Yes, as a result of the CD and CFJ, Gannon units 5 and 6
13 were repowered to Bayside units 1 and 2 in 2003 and 2004,
14 respectively. The repowering resulted in significant
15 improvements in capacity, availability and heat rate.
16 Because three years of historical data is required for
17 each unit in the GPIF calculation, the Bayside units will
18 not be reflected until the 2006 and 2007 GPIF filings at
19 which time the 2007 and 2008 targets will be established.

20
21 Q. Do you agree with Mr. Ross's proposal to impose a
22 "deadband?"

23
24 A. No, Mr. Ross's proposed dead band approach would modify
25 the GPIF methodology in an asymmetrical way that favors

1 penalties. In order to gain a reward a utility would
2 have to attain over five points above the target but will
3 be penalized if it fell more than two and one half points
4 below the target. This approach inappropriately skews the
5 GPIF methodology to produce more penalties.

6
7 When the Commission approved the final Staff recommended
8 version of the GPIF in 1980, it concluded that the
9 version selected contained the best elements of the
10 various proposals put forth by Staff and all of the
11 parties. In 1987, the parties stipulated to modify the
12 GPIF program to place caps on rewards and penalties so
13 they would not exceed 50 percent of the fuel savings or
14 loss. This stipulation is discussed in Commission Order
15 No. 18136, issued September 10, 1987 in Docket No.
16 870001-EI (87 FPSC 9:145). Mr. Ross's proposal would
17 arbitrarily undo the fairness with which the Commission
18 has administered the GPIF since its inception and tilt
19 the board in favor of penalties.

20
21 **Q.** Has the actual availability of Tampa Electric's system
22 declined since 1989 as described by Mr. Ross?

23
24 **A.** No. Mr. Ross's assertion that the actual availability of
25 Tampa Electric's system has declined since 1989 is

1 incorrect for two reasons. First, using the GPIF filings
2 for the period of 1989 through 2004, Tampa Electric's
3 calculation of the GPIF unit availability increases
4 approximately five percent, from 68 to 73 percent. This
5 demonstrates Tampa Electric's actual system availability
6 has improved since 1989.

7
8 Secondly, Mr. Ross assumes that the GPIF units are a good
9 representation of Tampa Electric's total system
10 availability for the same period. This is true in the
11 early part of his analysis but incorrect in the later
12 years. Specifically, as previously stated, Tampa Electric
13 repowered Gannon units 5 and 6 in 2003 and 2004 to
14 Bayside units 1 and 2. The repowering significantly
15 improved the heat rate as well as the availability of the
16 units and increased the overall output capability by 700
17 megawatts. In the last full year of operation of Gannon
18 units 5 and 6, the availabilities were 61 and 59.8
19 percent, respectively. These availabilities improved to
20 86.3 and 92.1 percent when the units were repowered to
21 Bayside units 1 and 2, respectively. The Bayside units
22 now represent almost half of Tampa Electric's generating
23 capability. Inclusion of the Bayside units in the GPIF
24 calculation would increase the availability of Tampa
25 Electric's overall system calculation, which would be a

1 more accurate representation of the Tampa Electric's
2 system availability.

3
4 **Q.** Do you agree with Mr. Ross's adjustments to the
5 Equivalent Availability Factor ("EAF") and heat rate data
6 he received in order to establish trends?

7
8 **A.** No, I do not agree with Mr. Ross's adjustments to the EAF
9 and heat rate data. Mr. Ross's adjustments to the EAF and
10 heat rate data do not take the Bayside units into
11 account. In addition, Mr. Ross assumes that the actual
12 data adjustments are based on the normalized weighting
13 factors from each period's GPIF filing. These weighting
14 factors are then used to aggregate total availability and
15 heat rate for the target units. This method is not valid
16 for aggregating the actual performance for all the GPIF
17 data units. The unit availabilities and heat rates should
18 be aggregated based on unit capability for availability
19 and based on generation for heat rate.

20
21 **Q.** Is Mr. Ross's comparison of 2001 and 2004 Tampa Electric
22 unit performance correct?

23
24 **A.** No, it is not correct. Mr. Ross overlooks both 2002 and
25 2003 where Tampa Electric incurred \$2.5 million and \$3.7

1 million, respectively, in penalties as a result of the
2 decline in EAF and heat rate from the units. Comparing
3 2004 to 2001 does not take into account the repowering of
4 the Gannon units 5 and 6 to Bayside 1 and 2 that occurred
5 in 2003 and 2004, respectively.
6

7 Q. Please summarize your direct testimony.
8

9 A. The existing GPIF methodology operates in a fair and
10 symmetrical manner. The adjustment to the methodology
11 proposed by Mr. Ross is not appropriate because it is
12 inconsistent with the primary objective of the GPIF
13 program which is to encourage improved performance
14 through a fair and balanced application of the GPIF
15 incentive/penalty mechanism. In addition, Mr. Ross has
16 not demonstrated that the existing methodology has not
17 resulted in improved operating performance through its
18 reward and incentive provisions. Tampa Electric believes
19 that the GPIF should continue to operate in accordance
20 with the approved methodology.
21

22 Q. Does this conclude your direct testimony?
23

24 A. Yes, it does.