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ORIGINAL

August 15, 2007

HAND DELIVERED

RECEIVED-FPSC
07 AUG 15 PM 3:00
COMMISSION
CLERK

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

Re: Petition to determine need for Polk Unit 6 electrical power plant by Tampa Electric Company; FPSC Docket No. 070467-EI

Dear Ms. Cole:

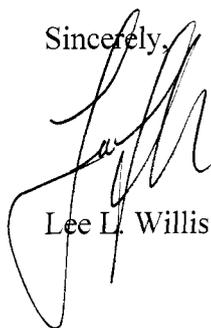
Enclosed for filing in the above docket on behalf of Tampa Electric Company are the original and fifteen (15) copies of Prepared Supplemental Direct Testimony of Thomas J. Szelistowski.

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.

CMP _____
COM 5
CTR 1 original
ECR _____
GCL 3
OPC _____ LLW/pp
RCA _____ Enclosure
SCR _____ cc: All Parties of Record (w/enc.)
SGA _____
SEC _____
OTH _____

Sincerely,



Lee L. Willis

DOCUMENT NUMBER-DATE

07184 AUG 15 07

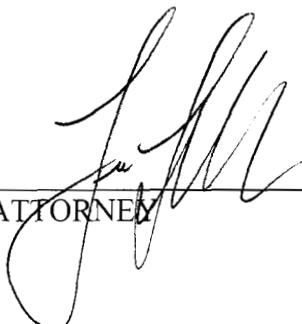
FPSC-COMMISSION CLERK

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing Prepared Supplemental Direct Testimony of Thomas J. Szelistowski, filed on behalf of Tampa Electric Company, has been served by hand delivery(*) or U. S. Mail on this 15th day of August, 2007 on each of the following:

Ms. Jennifer S. Brubaker*
Staff Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

George Cavros, Esq.
120 E. Oakland Park Blvd., Ste. 105
Fort Lauderdale, FL 33334



ATTORNEY



ORIGINAL

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 070467-EI

IN RE: TAMPA ELECTRIC'S
PETITION TO DETERMINE NEED FOR
POLK POWER PLANT UNIT 6

SUPPLEMENTAL TESTIMONY AND EXHIBIT

OF

THOMAS J. SZELISTOWSKI

DOCUMENT NUMBER-DATE

07184 AUG 15 8

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **PREPARED SUPPLEMENTAL DIRECT TESTIMONY**

3 **OF**

4 **THOMAS J. SZELISTOWSKI**

5

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

8

9 **A.** My name is Thomas J. Szelistowski. My business address
10 is 702 N. Franklin Street, Tampa, Florida 33602. I am
11 employed by Tampa Electric Company ("Tampa Electric" or
12 "company") as Director, Energy Control Center.

13

14 **Q.** Are you the same Thomas J. Szelistowski who submitted
15 Prepared Direct Testimony in this proceeding?

16

17 **A.** Yes, I am. I filed my direct testimony in this docket on
18 July 20, 2007.

19

20 **Q.** What is the purpose of your testimony?

21

22 **A.** The purpose of my testimony is to provide updated
23 information about Tampa Electric's transmission plan for
24 the interconnection and integration of Tampa Electric's
25 proposed Polk Unit 6 that meets both North American

1 Electric Reliability Corporation ("NERC") and Florida
2 Reliability Coordinating Council ("FRCC") reliability
3 standards.
4
5 **Q.** Have you prepared an exhibit to support your testimony?
6
7 **A.** Yes. I sponsor Exhibit No. ____ (TJS-2) that consists of
8 two documents:
9 Document No. 1 FRCC Review Letter
10 Document No. 2 Updated Summary of Required
11 Facilities, Ratings and Cost
12
13 **Q.** Has the FRCC completed its reliability review of Tampa
14 Electric's proposed Polk Unit 6 transmission plan?
15
16 **A.** Yes, the FRCC review was completed, and their findings
17 were issued in a letter dated August 9, 2007. A copy of
18 the letter is provided as Document No. 1 of Exhibit No.
19 ____ (TJS-2).
20
21 **Q.** Please describe any differences between the results of
22 the FRCC's review and Tampa Electric's interconnection
23 and integration plan for Polk Unit 6, as described in
24 your testimony filed on July 20, 2007.
25

1 **A.** Following the completion of the Tampa Electric study,
2 changes were made to the state generation dispatch,
3 proposed generation location and transmission system
4 characteristics used in the FRCC models. Seminole
5 Electric identified an issue with their economic dispatch
6 in the FRCC models which resulted in a generation
7 dispatch level in the Polk/Hardee/DeSoto/Charlotte County
8 ("Polk area") that was too low. The Commission decision
9 regarding the Glades Power Park project resulted in
10 Florida Power & Light's ("FPL") removal of planned
11 transmission improvements to support the project as well
12 as FPL relocating the required capacity to locations that
13 do not provide equivalent transmission system support.
14 These changes had an adverse impact on the Polk area
15 transmission system and increased the expected impact of
16 Polk Unit 6 on the local bulk electric system. Based on
17 these changes, Tampa Electric modified its proposed
18 system improvements to address the additional
19 transmission overloads in the revised study and submitted
20 them to the FRCC. The modifications are described below.

21
22 **Q.** Please provide a general description of the additional
23 transmission facilities proposed by Tampa Electric to
24 mitigate the impact resulting from changes to the
25 generation dispatch, generation location and transmission

1 system in Florida.

2

3 **A.** As a result of these changes, Tampa Electric proposed and
4 the FRCC studied an additional transmission line
5 consisting of two segments to address transmission line
6 loadings. This additional 28 mile, 230 kV line provides
7 a fifth circuit from Polk Station that ties directly to
8 the FishHawk Substation in one of Tampa Electric's more
9 heavily loaded areas.

10

11 As a result of this new path Tampa Electric will not need
12 to upgrade one of the two circuits discussed in my direct
13 testimony submitted on July 20, 2007. The company will
14 need to replace up to 11 circuit breakers at Polk Station
15 to provide sufficient system protection for the new line.

16

17 **Q.** Please describe the physical characteristics of the two-
18 segment transmission line.

19

20 **A.** The first 11 mile long line segment from Polk Station to
21 Mines Substation will be a single 1,195 MVA capacity, 230
22 kV circuit. The second 17 mile long segment from Mines
23 to FishHawk Substation will be a single 1,013 MVA
24 capacity, 230 kV circuit.

25

1 Q. Would these additional transmission facilities still be
2 required if Tampa Electric added baseload capacity
3 utilizing a technology other than IGCC?

4

5 A. Yes, the additional transmission facilities are required
6 regardless of the generating technology selected.

7

8 Q. Has a route been selected for the new two-segment line?

9

10 A. No. While the endpoints of the line have been
11 determined, the route selection for the line has not been
12 completed.

13

14 Q. What were the FRCC conclusions about Tampa Electric's
15 modified Polk Unit 6 transmission plan?

16

17 A. Based on the review and analysis conducted by the
18 Transmission Working Group, the FRCC Planning Committee
19 has determined that the proposed interconnection and
20 integration plan will be reliable, adequate and will not
21 adversely impact the reliability of the FRCC transmission
22 system.

23

24 Q. How did Tampa Electric estimate the transmission related
25 costs associated with the new transmission line?

1 **A.** An estimating team made up of members from Substation
2 Engineering, Transmission Engineering, Real Estate,
3 System Security, Telecommunications and Environmental
4 Health and Safety reviewed the transmission
5 interconnection and integration requirements to develop a
6 scope of work. This included the review of existing
7 drawings and site visits. Each member then estimated the
8 costs to complete their scope of work. Additional
9 detailed engineering must be completed to provide
10 construction level cost estimates.

11
12 **Q.** What is the projected new total cost of the transmission
13 interconnection and integration costs for Polk Unit 6?

14
15 **A.** As previously stated, detailed engineering work must be
16 completed to provide the construction level cost
17 estimates. The final transmission line route has not yet
18 been selected; therefore, the transmission line costs
19 have been based on average costs per mile. The total
20 estimated project cost is approximately \$75 million. A
21 summary of the facilities required and associated costs
22 is provided in Document No. 2 of my Exhibit No. ____
23 (TJS-2).

24
25 **Q.** Does this change to the proposed transmission facilities

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affect the construction schedule?

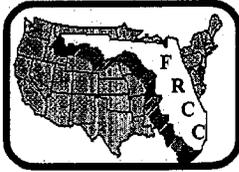
A. No, the requirement for the additional line is not expected to materially affect the construction schedule.

Q. Please summarize your testimony.

A. The FRCC Planning Committee has determined that the proposed interconnection and integration plan, developed by Tampa Electric and reviewed by the member utilities, will be reliable, adequate and will not adversely impact the reliability of the FRCC transmission system. This plan is the most cost-effective way to fully integrate the capacity of Polk Unit 6.

Q. Does this conclude your testimony?

A. Yes, it does.



FLORIDA RELIABILITY COORDINATING COUNCIL, INC.

1408 N. WESTSHORE BLVD., SUITE 1002 • TAMPA, FL. 33607-4512
(813) 289-5644 • FAX (813) 289-5646
WWW.FRCC.COM

August 9, 2007

Mr. Ron Donahey
Managing Director, Grid Operations
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601-0111

Re: FRCC review of Tampa Electric Company's Polk Unit 6
Interconnection and Integration Request

Dear Ron:

The Florida Reliability Coordinating Council's (FRCC) Transmission Working Group (TWG) has reviewed the study conducted by Tampa Electric Company (TECO) for the interconnection and integration of TECO's Polk Unit 6 (TPU6) based on the 2007 FRCC databank.

TPU6 is a coal-based Integrated Gasification Combined Cycle (IGCC) unit with a summer net output of 605 MW and a winter net output of 630 MW located at the existing Polk Power Station in Polk County, Florida. TPU6 has a scheduled in-service date of January 1, 2013.

In order to reliably integrate TPU6 to the transmission network, the following projects are projected to be in-service by 1/1/2013:

- 1) Build a new 1195 MVA 230 kV circuit from Polk to Mines.
- 2) Build a new 1013 MVA 230 kV circuit from Mines to FishHawk.
- 3) Disconnect from Mines the existing 230 kV line from Polk to Bradley Tap to Mines to Big Bend, resulting in a 230 kV line from Polk to Bradley Tap directly to Big Bend.
- 4) Upgrade one of the two existing 230 kV lines from Polk to Pebbledale from 749 MVA to 1013 MVA.
- 5) Upgrade one of the two existing 230 kV lines from Polk to Pebbledale from 617 MVA to 749 MVA.

The TWG reviewed the results of the steady state single contingency analysis. The results identified single contingency overloads on the Seminole Electric Cooperative, Inc. (SECI) system in the analysis and these issues were addressed in the report with corrective action plans provided by TECO.

Mr. Ron Donahey
Page Two
August 9, 2007

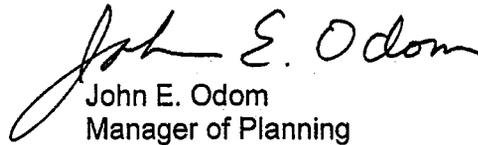
In addition to analyzing the single contingency analysis, the TWG conducted an evaluation of the effect of the proposed interconnection under double contingencies (category C3). The results identified overloads with TPU6 which TECO addressed with corrective action plans.

In addition to the steady state analysis, the dynamic simulations showed a stable response at peak load levels for normally cleared three-phase faults as well as for delayed clearing, Category D events, in the vicinity of the Polk Power Station. The results indicate that there are no grid stability concerns with the addition of the TPU6.

A review of the short circuit analysis has shown that there are no short circuit concerns from the TPU6.

Based on the above review and analysis conducted by the TWG, the FRCC Planning Committee has determined that the proposed interconnection and integration plan will be reliable, adequate and will not adversely impact the reliability of the FRCC transmission system.

Sincerely,


John E. Odom
Manager of Planning

JEO

Updated Summary of Required Facilities, Ratings and Costs

New Facilities	Required Rating		Estimated Cost
	(MVA)	(Amps)	(\$ 000)
Two double circuit lines to interconnect steam unit and CT1 and associated substation equipment (0.7 miles)	749	1,880	6,000
Single circuit line to connect CT2 and associated substation equipment (0.7 mile)	749	1,880	4,000
Circuit 230635 Polk to Mines (11 miles)	1,013	2,543	27,000
Circuit 230402 Mines to FishHawk (17 miles)	1,013	2,543	27,000
New Facility Total			64,000

Upgraded Facilities	Existing Rating		Required Rating		Estimated Cost
	(MVA)	(Amps)	(MVA)	(Amps)	(\$ 000)
Circuit 230606 Polk to Pebbledale (13.46 miles)	617	1,600	749	1,880	2,000
Circuit 230605 Polk to Pebbledale (11 miles)	749	1,880	1,013	2,543	6,000
Polk 230 kV Circuit Breaker Upgrades				63 kA	3,000
Upgraded Facility Total					11,000
Total Cost					75,000

Note: The new facilities must be in service by September 1, 2011, and the upgraded facilities must be in service by March 1, 2012 for testing purposes.