



BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 010001-EI
IN RE: FUEL & PURCHASED POWER COST RECOVERY
AND
CAPACITY COST RECOVERY
PROJECTIONS
JANUARY 2002 THROUGH DECEMBER 2002
TESTIMONY
OF
MARK J. HORNICK

DOCUMENT NUMBER-DATE
11812 SEP 20 05
FPSC-COMPLIANCE CLERK

1 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

2 PREPARED DIRECT TESTIMONY

3 OF

4 MARK J. HORNICK

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

7
8 A. My name is Mark J. Hornick. My business address is 702
9 North Franklin Street, Tampa, Florida 33602. I am
10 employed by Tampa Electric Company ("Tampa Electric" or
11 "company") in the position of General Manager - Polk and
12 Phillips Power Stations.

13
14 Q. Please provide a brief outline of your educational
15 background and business experience.

16
17 A. I received a Bachelor of Science Degree in Mechanical
18 Engineering in 1981 from the University of South Florida.
19 I began my career with Tampa Electric in 1981 as an
20 Engineer Associate in the Production Department. I have
21 held a number of engineering and management positions at
22 Tampa Electric's power generating stations. In July
23 1998, I was promoted to Director - Fuels where I was
24 responsible for managing Tampa Electric's fuel-related
25 activities. In March 2000, I transferred to my current

1 role of General Manager - Polk and Phillips Power
2 Stations. I am responsible for the overall operation of
3 these two generating facilities.

4
5 Q. Please state the purpose of your testimony.

6
7 A. The purpose of my testimony is to provide an overview of
8 Tampa Electric's generating facilities, a general
9 description of the company's operation and maintenance
10 practices and procedures and to address operating events
11 that have impacted the fuel, purchased power and capacity
12 costs in recent years.

13
14 Q. Please briefly describe the generating facilities Tampa
15 Electric has in place.

16
17 A. Tampa Electric has six generating plants consisting of
18 fossil steam units, combustion turbine peaking units,
19 diesel units and an integrated gasification combined
20 cycle unit. The six generating plants include Big Bend,
21 Gannon, Hookers Point, Dinner Lake, Phillips, and Polk.

22
23 Tampa Electric currently has 11 coal-fired units. Ten of
24 these units are fired with pulverized coal. Starting in
25 2003, Tampa Electric will increase the diversity of its

1 generation mix with the repowering of Gannon Station.
2 The station will be repowered with natural gas and
3 renamed Bayside Power Station.
4

5 Generating units at Hookers Point and Phillips are
6 residual oil fired. Dinner Lake is fueled by natural gas
7 and oil and is currently on long term reserve standby.
8 The four combustion turbines at Big Bend and Gannon
9 Stations use distillate oil as the primary fuel. Total
10 net system generation in 2000 was 17,283 GWh.
11

12 Q. Please provide an overview of the practices and
13 procedures Tampa Electric utilizes in maintaining and
14 operating its generating units?
15

16 A. Tampa Electric uses a variety of both "industry standard"
17 and "state of the art" practices to ensure that its
18 generating units are properly maintained and operated.
19 Standard industry practices for generating unit
20 maintenance include job planning and scheduling, work
21 task analysis, preventative maintenance and critical
22 spare part inventory management. Tampa Electric has also
23 implemented numerous advanced maintenance practices.
24 These include vibration analysis, lube oil analysis,
25 thermography, reliability-centered maintenance, root

1 cause failure analysis, computerized maintenance
2 management, employee continuous improvement programs and
3 craftsman multi-skilling.
4

5 To ensure the proper operation of its generating units,
6 Tampa Electric utilizes systems and practices including
7 operator training, task analysis, competency testing,
8 operating procedures and checklists, unusual incident
9 reporting and analysis, engineering and technical
10 evaluation of equipment performance and routine testing
11 of critical safety devices. In addition, Tampa Electric
12 uses numerous automated systems to ensure proper unit
13 operation. These include analog and digital control
14 systems, alarm condition annunciators, comprehensive
15 monitoring and diagnostic systems and automatic safety
16 shutdown systems. These comprehensive programs and
17 practices have allowed Tampa Electric to achieve
18 reasonable levels of unit performance with well managed
19 costs, while utilizing some older generating equipment
20 portfolio and coping with significant environmental
21 requirements.
22

23 Q. What operating conditions have impacted Tampa Electric's
24 fuel and purchased power costs in recent years?
25

1 A. In recent years, Tampa Electric has experienced increased
2 needs for purchased power due to several key operational
3 events which include the Gannon Station accident in 1999,
4 the failure of the Gannon Unit 6 generator in 2000,
5 extended outages due to environmental constraints at Big
6 Bend Station and other operating issues.

7

8 Q. Please provide a brief summary of the occurrences at
9 Gannon Station in 1999 and 2000?

10

11 A. On April 8, 1999, Gannon Unit 6 was in the early phase of
12 a planned maintenance outage. During the initial phase
13 of work a generator access cover was removed while
14 hydrogen was still inside the generator casing under
15 pressure. The escaping hydrogen ignited, causing a flash
16 fire and structural damage.

17

18 The explosion damaged Units 5 and 6 and caused an
19 emergency shutdown of all five Gannon Station units that
20 were operating. While Gannon Units 1, 2, 3 and 4
21 returned to service within a few days of the explosion,
22 Gannon Units 5 and 6 were out of service until May 16,
23 1999 and June 22, 1999, respectively. The recoverable
24 incremental fuel and purchased power costs that resulted
25 from the explosion totaled \$5.1 million, as discussed by

1 Tampa Electric's witness Mark D. Ward in his direct
2 testimony filed October 1, 1999 in Docket No. 990001-EI.

3
4 An unrelated and extended unplanned outage at Gannon Unit
5 6 began on July 18, 2000. The cause of the outage was an
6 in-service failure of the generator stator winding. Upon
7 disassembly, the stator windings were severely damaged by
8 a high current fault. The generator required a complete
9 stator and field rewind. Tampa Electric was able to
10 complete this extensive repair work and return the unit
11 to service on December 12, 2000. Replacement power was
12 purchased during this period, and the company estimated a
13 net impact to fuel and purchased power costs of \$20.3
14 million as a result of the outage, as discussed in the
15 company's witness W. Lynn Brown's direct testimony filed
16 on September 21, 2000 in Docket No. 000001-EI.

17
18 **Q.** Please provide a brief summary of the outages at Big Bend
19 Station?

20
21 **A.** In addition to the typical planned and forced outages at
22 Big Bend Station, the company has also faced additional
23 environmental requirements. In 2000 Tampa Electric entered
24 into a Consent Decree with the U.S. Environmental
25 Protection Agency and Department of Justice. A key

1 requirement involved the optimization and utilization of
2 Big Bend Station's sulfur dioxide removal systems. The
3 scrubbers for Big Bend Unit 1, 2 and 3 were originally
4 designed to meet Clean Air Act requirements that allowed
5 the scrubbers to be shut down for periodic maintenance
6 while the generating units continued to operate. The
7 Consent Decree essentially requires that the scrubbers be
8 in service whenever the generating unit is operating.

9
10 To meet these more stringent operating requirements,
11 Tampa Electric performed extensive scrubber maintenance
12 during planned outages, and, in some instances, extended
13 planned outages to ensure that the reliability of the
14 generating units would not be jeopardized by scrubber
15 problems. This included an outage in 2001 at Big Bend
16 Station that was extended for 16 days. The company also
17 performed maintenance work on the oxidation air header in
18 the Big Bend scrubber towers to help ensure availability
19 during peak periods. During these outage periods, the
20 company purchased power to meet its retail load
21 requirements.

22
23 Q. What other issues have impacted Tampa Electric generation
24 operations in recent years?

25

1 **A.** Environmental regulations have also reduced the allowable
2 nitrogen oxide emissions from the company's generating
3 units. Tampa Electric has been able to comply with these
4 rules with a series of innovative, cost effective
5 modifications to the boilers and fuel burning equipment.
6 While these modifications impact unit operation much less
7 than other alternatives, the company still has
8 experienced some capacity derations from changes in the
9 combustion process.

10

11 In 2001, operations at Gannon Station have been impacted
12 by an infestation of non-indigenous green lip mussels in
13 Tampa Bay. These fast growing shellfish obstruct the
14 tubes in the steam condensing equipment resulting in the
15 units being restricted in capacity as sections of the
16 condensers are taken out of service for cleaning. Tampa
17 Electric is working with Mote Marine Laboratory and local
18 officials to understand the extent of this problem and
19 how to control the infestation.

20

21 **Q.** What significant operational items will affect Tampa
22 Electric's fuel, purchased power and capacity costs for
23 2002?

24

25 **A.** Tampa Electric will continue to experience some capacity

1 derations and availability losses due to the impacts of
2 stricter environmental regulations. The company is
3 working hard to minimize these impacts and to also find
4 solutions to the mussel infestation problem.

5
6 The repowering of Gannon Station is clearly a significant
7 undertaking. Construction work on Bayside is now in
8 progress and we will perform a portion of the required
9 conversion work during scheduled outage periods in 2002.
10 However, this will impact the duration, timing and extent
11 of the outages.

12
13 These factors have influenced the decision to negotiate
14 several new firm capacity and energy purchases to meet
15 desired operating reserves, as described in the direct
16 testimony of Tampa Electric's witness W. Lynn Brown.

17
18 In addition, the company expects to bring Polk Unit 3, a
19 180 MW combustion turbine, which will use natural gas,
20 in-service by May 2002. The addition of this unit will
21 impact fuel costs in 2002.

22

23 Q. Does this conclude your testimony?

24

25 A. Yes.