ORIGINAL

TAMPA ELECTRIC COMPANY
DOCKET NO. 990001-EI
FILED: 10/1/99

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

MARK D. WARD

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

A. My name is Mark D. Ward. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Manager, Resource Planning.

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

A. I received a Bachelor of Science Degree in Mechanical Engineering in 1984 from the University of Alabama in Huntsville. Prior to my employment with Tampa Electric, I held a number of engineering positions with various aerospace companies and the Department of Defense. In 1996, I began my employment as a Consulting Engineer with Tampa Electric's Generation Planning department. In February 1997, I was promoted to Manager - Resource Planning. I am responsible for managing Tampa Electric's resource planning activities that include energy resource utilization studies, production cost studies, system

reliability studies, and the company's integrated resource planning process. As manager of Resource Planning, I also represent Tampa Electric on the Florida Reliability Coordinating Council's Resource Working Group.

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

A. The purpose of my testimony is to support, for Commission review and approval, replacement fuel and purchased power costs associated with the April 8, 1999 Gannon Unit 6 accident.

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

A. Yes I have. My Exhibit No. ____ (MDW-1) was prepared under my direction and supervision and consists of two documents.

Q. What was the total cost of replacement fuel and purchased power associate with the Gannon Unit 6 accident?

A. The total cost of replacement fuel and purchased power was $5,073,526.

Q. How do the costs compare to the costs presented to the Commission in Staff's Second Set of Interrogatories No. 26 in this docket?

A. The costs are higher than what was provided in response to Interrogatory No. 26 as submitted on August 19, 1999. The company provided a preliminary estimate of $4,524,640 for the total fuel and purchased power costs associated with the Gannon Unit 6 accident. The company indicated that at that time, it had initiated a detailed study that would benchmark its system for the months of April, May and June of 1999. The company stated that the detailed study would provide more precise results of the incremental costs of fuel and purchased power. The company's response to Staff's Interrogatory No. 26 is provided as Document No. 1 of my exhibit.

Q. Please describe, in detail, how you determined and calculated the cost of replacement fuel and purchased power.

A. Gannon Unit 6 was off-line for scheduled spring maintenance at the time of the accident. Unit 6 was originally scheduled to return to service on May 23, 1999. The six Gannon units were returned to service as

follows:

Unit 1	April 10, 1999
Unit 2	April 10, 1999
Unit 3	April 10, 1999
Unit 4	April 12, 1999
Unit 5	May 16, 1999
Unit 6	June 22, 1999

Tampa Electric's Resource Planning department, under my direction and supervision, calculated the total cost of replacement fuel and purchased power due to the April 8, 1999 Gannon accident by comparing two production cost scenarios. One represented the actual accident conditions and the other represented conditions that would have existed had the accident not occurred. I will refer to these as "recovery case" and "business plan case," respectively. The study period covered from April 8, 1999, the date of the accident, through June 22, 1999, the date Gannon Unit 6 was returned to service.

For each scenario, actual system performance data was used to model Tampa Electric's demand and energy requirements and its average cost for purchased power on an hourly basis for the study period. In the recovery case, the availability of Tampa Electric's generating

units was based on actual unit performance and in the business plan case, the availability of the generating units was based on each unit's planned outage schedule and historical forced and maintenance outage rates. Production costs for system generating units in both scenarios were based on each unit's average fuel and variable operating cost.

Using the information described above and a model developed in-house for this purpose, the cost to serve Tampa Electric's firm load was calculated for each case. For the business plan case, the scenarios consisted of Tampa Electric resources serving the company's firm load requirements in the most cost-effective dispatch on an hourly basis. For those hours when a capacity deficiency existed, a power purchase was made at the average price of actual purchased power for that hour. For each case, the total production cost of the simulation was calculated and the differential production costs of the business plan case and the recovery case was determined to be $5,073,526. This represents the total replacement fuel and purchased power costs associated with the accident. Document 2 of my exhibit shows the results of the production cost determination.

Q. Does this conclude your testimony?

A. Yes, it does.

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26. Please indicate for each unit the incremental fuel costs associated with replacing the unavailable energy from Gannon Units 1 through 6 with other TECO generating units.

A. An estimated of the incremental fuel and purchased power expense is provided in the attached table. This estimate compared actual fuel and purchased power expenses to that estimated using actual hourly load data and outage data for non-Gannon Units. For the estimated case in which the Gannon accident did not occur, the Gannon Unit outages were assumed to be what was planned prior to the Gannon Unit 6 accident. The analysis was conducted for the period of April through June of 1999. Other planning assumptions used in the analysis were identical to those used in Tampa Electric's 1999 fuel adjustment filing and were not adjusted to reflect actual conditions.

Tampa Electric has initiated a study that will benchmark its system for the months of April, May and June of 1999. This study will use actual hourly load data, unit outage data, actual fuel and purchase power data and actual unit operating data for the study period. The results of this study will provide more precise results of the incremental fuel and purchase power expense that occurred as a result Gannon explosion. These results will be provided to the Commission and Staff.

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INTERROGATORY NO. 26

April - June 1999

	(A) Estimated Replacement Energy (GWH)	(B) Estimated Capacity (MW)	(C) Estimated Fuel or Purchase Power Expense ($/MWH)	(D) Estimated Gannon Station Fuel Expense ($/MWH)	(E) Estimated Fuel Expense Differential ($/MWH)	(F) Estimated Incremental Fuel Expense ($000)
BIG BEND & GANNON CTS TOTAL	7.9	138	52.68	23.16	29.52	232.94
HOOKERS POINT STATION TOTAL	13.2	204	35.59	23.16	12.43	164.27
GANNON STATION TOTAL	143.9	1095	24.13	23.16	0.97	139.58
BIG BEND STATION TOTAL	0.0	1712	19.35	23.16	(3.81)	0.00
PHILLIPS STATION TOTAL	4.2	34	30.70	23.16	7.54	31.94
POLK UNIT 1 TOTAL	0.0	250	25.51	23.16	2.35	0.00
				Total Incremental Fuel Expense of Energy Replaced by Non-Gannon Generating Units		568.74
PURCHASES TOTAL	159.0		48.04	23.16	24.88	3,955.90
				Total Incremental Purchase Power Expense of Energy and Capacity Replaced by Purchase Power and Non-Gannon Generating Units		4,524.64
ESTIMATED UNAVAILABLE ENERGY DUE TO GANNON 6 ACCIDENT	(328.2)					
TOTAL FIRM ENERGY UNSERVED	0.0					

Note: Estimated purchase power expense cost includes energy and capacity costs.
Note: Incremental fuel expense is the product of estimated replacement energy and estimated fuel differential.
Note: The estimated Gannon fuel expense in col (C) reflects the weighted average of the Gannon units based on actual generation.
Note: The estimated Gannon fuel expense in col (D) reflects the weighted average of the units based on projected generation of the units.

EXHIBIT NO. _____
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DOCUMENT NO. 2

Total Fuel & Purchased Power Cost Due to the Gannon 6 Accident

	April	May	June	Total Cost
Incremental Fuel	(740,341)	(276,336)	(364,073)	(1,380,750)
Incremental Purchased Power	4,131,880	776,695	1,545,701	6,454,276
Total Cost	3,391,539	500,359	1,181,628	5,073,526

() denotes the cost of the non-accident case was higher than the accident case.