

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

In re: Fuel and Purchased Power)	DOCKET NO. 030001-EI
Cost Recovery Clause with)	FILED: March 14, 2002
Generating Performance Incentive)	
Factor)	

REDACTED VERSION

**TAMPA ELECTRIC COMPANY'S
ANSWERS TO FIRST SET OF INTERROGATORIES (NOS. 1-7)
OF
FLORIDA PUBLIC SERVICE COMMISSION STAFF**

Tampa Electric files this its Answers to Interrogatories (Nos.1-7) propounded and served on February 12, 2003, by the Florida Public Service Commission Staff.

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TAMPA ELECTRIC COMPANY
DOCKET NO. 030001-EI
STAFF'S 1ST SET OF
INTERROGATORIES
INTERROGATORY NO. 1
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1. Please provide the following data regarding Tampa Electric's 2002 non-separated wholesale energy sales, excluding emergency sales: total revenues; fuel expenses; O&M expenses; transmission expenses; SO₂ emission allowance costs; and gains on these sales.
 - A. Total revenues, fuel expenses, O&M expenses, transmission expenses, SO₂ emission allowance costs and gains for Tampa Electric's 2002 non-separated wholesale energy sales excluding emergency sales are shown in the following table.

2002 Non-Separated Wholesale Energy Sales	
MWH	96,434
Total Revenue	\$3,475,878
<i>Less</i>	
Fuel	\$2,286,938
O&M	\$260,338
Transmission	\$49,363
SO ₂ Allowances	\$40,938
Total Net Gains	\$838,302

**TAMPA ELECTRIC COMPANY
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INTERROGATORIES
INTERROGATORY NO. 2
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2. For each of the ten highest firm demand hours that Tampa Electric experienced on its system during 2002, please provide the following information:

- a. Date;
- b. Day of week;
- c. Hour ending;
- d. Firm retail load;
- e. Non-firm retail load;
- f. Firm wholesale load; and
- g. Non-firm wholesale load.

A. The information requested for the ten highest firm demand hours that Tampa Electric experienced on its system during 2002 is provided in the following table. Subparts (d) through (g) are shown in MWH.

a. Date	b. Week Day	c. Hour Ending	d. Firm Retail Load	e. Non-Firm Retail Load	f. Firm Wholesale Load	g. Non-Firm Wholesale Load
01/09/02	Wednesday	0800	3,258	355	265	3
01/09/02	Wednesday	0700	3,205	356	264	3
07/17/02	Wednesday	1500	3,257	277	155	3
01/09/02	Wednesday	0900	3,091	341	265	4
07/17/02	Wednesday	1700	3,318	311	10	8
07/17/02	Wednesday	1400	3,164	277	156	6
07/17/02	Wednesday	1800	3,310	325	10	7
07/18/02	Thursday	1600	3,309	324	11	10
07/18/02	Thursday	1500	3,305	322	11	10
07/17/02	Wednesday	1600	3,293	304	10	6

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- 3.** For each hour referenced in Tampa Electric's response to Interrogatory No. 2, above, how much of its non-firm wholesale energy sales did Tampa Electric recall to serve retail load, firm wholesale load, or both?
 - A.** Tampa Electric did not make non-firm sales during its top ten firm demand hours in 2002, with the exception of its non-firm sale to Seminole. The wholesale sale to Seminole is an interruptible transaction. Seminole paid a portion of the optional provision buy-through power purchased during those hours, as did the interruptible retail customers per the interruptible tariff. Therefore, Tampa Electric did not recall any non-firm wholesale sales.

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4. For each hour referenced in Tampa Electric's response to Interrogatory No. 2, above, how much of its non-firm retail load did Tampa Electric:
- a. interrupt;
 - b. curtail;
 - c. serve by one or more buy-through purchases;
 - d. dispatch residential load management; and
 - e. dispatch commercial or industrial load management not contemplated in response to subparts a-c of this interrogatory?
- A. The information requested about non-firm retail load during the ten highest firm demand hours that Tampa Electric experienced on its system during 2002 is provided in the following table, shown in MWH.

Date	Week Day	Hour Ending	a.	b.	c.	d.	e.
			Non-Firm Retail Load Interrupted	Non-Firm Retail Load Curtailed *	Buy-Through for Non-Firm Retail Load	Residential Load Management Exercised	Commercial & Industrial Load Management Exercised
01/09/02	Wednesday	0800	0	NA	301	0	0
01/09/02	Wednesday	0700	0	NA	302	0	0
07/17/02	Wednesday	1500	0	NA	494	0	0
01/09/02	Wednesday	0900	0	NA	252	0	0
07/17/02	Wednesday	1700	0	NA	459	0	0
07/17/02	Wednesday	1400	0	NA	424	0	0
07/17/02	Wednesday	1800	0	NA	467	0	0
07/18/02	Thursday	1600	0	NA	435	0	0
07/18/02	Thursday	1500	0	NA	205	0	0
07/17/02	Wednesday	1600	0	NA	569	0	0

* Tampa Electric does not have a curtailable rate.

** Commercial & Industrial Load Management includes the Standby Generator program.

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5. For each hour referenced in Tampa Electric's response to Interrogatory No. 2, above, please provide the following information for each resource in ascending order of marginal cost that Tampa Electric dispatched to meet its total load:
- a. Name of system resource;
 - b. Output of system; and
 - c. Marginal cost of system resource.

For purposes of this interrogatory, a system resource can include, but is not limited to: Tampa Electric's generating units; a wholesale energy purchase; interruptible or curtailable load; and dispatchable load management.

- A. The requested information about Tampa Electric's top ten firm demand hours in 2002 is provided in the table below. The company does not have a marginal cost estimate for interruptible or DSM.

a.	b.	c.
January 9, 2002, Hour Ending 0700		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 3		
Big Bend Unit 4		
Hardee Unit 1		
Gannon Unit 5		
Gannon Unit 2		
Gannon Unit 4		
Gannon Unit 1		
Gannon Unit 6		
Gannon Unit 3		
Polk CT 2		
City of Tampa		
Phillips Unit 1		
Hardee CT 2A		
Phillips Unit 2		
Hardee CT 2B		
Distributed Generation		
Big Bend CT 3		
Big Bend CT 2		
Big Bend CT 1		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
DETM		
OKE		
EKT		
PLK		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co Firm		
As-available		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
January 9, 2002, Hour Ending 0800		

Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 3		
Big Bend Unit 2		
Big Bend Unit 4		
Hardee Unit 1		
Gannon Unit 5		
Gannon Unit 6		
Gannon Unit 2		
Gannon Unit 1		
Gannon Unit 4		
Gannon Unit 3		
Polk CT 2		
City of Tampa		
Phillips Unit 2		
Phillips Unit 1		
Hardee CT 2A		
Hardee CT 2B		
Distributed Generation		
Big Bend CT 3		
Big Bend CT 2		
Big Bend CT 1		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
CARG		
APP		
FPC		
FPC		
DETM		
OKE		
EKT		
EKT		
PLK		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
Firm		
As-available		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
January 9, 2002, Hour Ending 0900		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 4		
Big Bend Unit 3		
Big Bend Unit 2		
Hardee Unit 1		
Gannon Unit 5		
Gannon Unit 1		
Gannon Unit 6		
Gannon Unit 3		
Polk CT 2		
Gannon Unit 4		
Gannon Unit 2		
City of Tampa		
Phillips Unit 1		
Phillips Unit 2		
Hardee CT 2A		
Hardee CT 2B		
Big Bend CT 3		
Distributed Generation		
Big Bend CT 2		
Big Bend CT 1		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
CARG		
APP		
FPC		
FPC		
DETM		
OKE		
EKT		
EKT		
PLK		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
Firm		
As-available		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 17, 2002, Hour Ending 1400		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Big Bend Unit 1		
Gannon Unit 6		
Gannon Unit 4		
Gannon Unit 1		
Gannon Unit 3		
Gannon Unit 2		
Polk CT 2		
Polk CT 3		
Hardee Unit 1		
Hardee CT 2B		
Big Bend CT 2		
Phillips Unit 1		
Phillips Unit 2		
Hardee CT 2A		
City of Tampa		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
OKE		
POU		
POU		
DETM		
DETM		
DETM		
RES		
CRGL		
RES		
RES		
APC		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
As-available		
Firm		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 17, 2002, Hour Ending 1500		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Big Bend Unit 1		
Gannon Unit 6		
Gannon Unit 4		
Gannon Unit 1		
Gannon Unit 3		
Gannon Unit 2		
Polk CT 2		
Polk CT 3		
Hardee Unit 1		
Hardee CT 2B		
Hardee CT 2A		
Phillips Unit 1		
Phillips Unit 2		
City of Tampa		
Big Bend CT 2		
Big Bend CT 1		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
RES		
DETM		
CRGL		
POU		
DETM		
RES		
RES		
PLK		
POU		
OKE		
APC		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
As-available		
Firm		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 17, 2002, Hour Ending 1600		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 1		
Big Bend Unit 4		
Gannon Unit 4		
Gannon Unit 1		
Gannon Unit 3		
Gannon Unit 2		
Gannon Unit 6		
Polk CT 2		
Polk CT 3		
Hardee Unit 1		
Hardee CT 2B		
Hardee CT 2A		
Phillips Unit 1		
Phillips Unit 2		
City of Tampa		
Big Bend CT 2		
Big Bend CT 1		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
OKE		
POU		
POU		
RES		
DETM		
DETM		
PLK		
FPC		
TEA		
RES		
CRGL		
RES		
RES		
APC		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co Firm		
As-available		
	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 17, 2002, Hour Ending 1700		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Big Bend Unit 1		
Gannon Unit 4		
Gannon Unit 3		
Gannon Unit 1		
Gannon Unit 2		
Gannon Unit 6		
Polk CT 2		
Polk CT 3		
Hardee Unit 1		
Hardee CT 2B		
Hardee CT 2A		
Phillips Unit 1		
Phillips Unit 2		
City of Tampa		
Big Bend CT 2		
Big Bend CT 1		
Distributed Generation		
Wholesale Energy Purchases		
Sell Co.	MW	Marginal Cost
FPC		
OKE		
POU		
POU		
RES		
DETM		
DETM		
PLK		
RES		
CRGL		
RES		
RES		
APC		
Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
Firm		
As-available		
	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 17, 2002, Hour Ending 1800		
Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Big Bend Unit 1		
Gannon Unit 4		
Gannon Unit 3		
Gannon Unit 1		
Gannon Unit 2		
Gannon Unit 6		
Polk CT 2		
Polk CT 3		
Hardee Unit 1		
Hardee CT 2B		
Hardee CT 2A		
Phillips Unit 1		
Phillips Unit 2		
City of Tampa		
Big Bend CT 2		
Big Bend CT 1		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
OKE		
POU		
POU		
PLK		
DETM		
DETM		
RES		
CRGL		
RES		
RES		
APC		

Cogeneration		
	MW	Marginal Cost
Wheeled		
As-available		
Firm		
Orange Co		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

a.	b.	c.
July 18, 2002, Hour Ending 1500		

Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Gannon Unit 6		
Big Bend Unit 1		
Gannon Unit 5		
Gannon Unit 3		
Gannon Unit 1		
Gannon Unit 4		
Polk CT 2		
Gannon Unit 2		
Hardee Unit 1		
Polk CT 3		
Hardee CT 2B		
Phillips Unit 2		
Phillips Unit 1		
City of Tampa		
Big Bend CT 2		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
CARG		
APP		
FPC		
FPC		
OKE		
FPL		
RES		
POU		
DETM		
RES		
RES		
DETM		
SEC		
PLK		
APC		

Cogeneration		
MW	Marginal Cost	
Wheeled		
Orange Co		
Firm		
As-available		

MW	Marginal Cost	
Interruptible		NA
DSM		NA

a.	b.	c.
July 18, 2002, Hour Ending 1600		

Unit Generation		
Unit	Output (MWH)	Marginal Cost
Polk Unit 1		
Big Bend Unit 2		
Big Bend Unit 4		
Big Bend Unit 1		
Gannon Unit 6		
Gannon Unit 5		
Gannon Unit 1		
Gannon Unit 3		
Hardee Unit 1		
Gannon Unit 4		
Gannon Unit 2		
Polk CT 3		
Hardee CT 2B		
Phillips Unit 1		
Phillips Unit 2		
Big Bend CT 2		
City of Tampa		
Distributed Generation		

Wholesale Energy Purchases		
Seller	MW	Marginal Cost
FPC		
RES		
DETM		
PLK		
OKE		
POU		
DETM		
RES		
APC		
FPL		
CARG		
APP		
FPC		
FPC		

Cogeneration		
	MW	Marginal Cost
Wheeled		
Orange Co		
Firm		
As-available		

	MW	Marginal Cost
Interruptible		NA
DSM		NA

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6. For each hour referenced in Tampa Electric's response to Interrogatory No. 2, above, please provide the following information:
- a. The amount of generating capacity that was unavailable to Tampa Electric because of forced outages; and
 - b. The amount of generating capacity that was unavailable to Tampa Electric because of maintenance outages.
- A. The requested information about Tampa Electric's top ten firm demand hours in 2002 is provided in the table below.

Date	Hour Ending	a.	b.
		Capacity in Forced Outage (MW)	Capacity in Maintenance Outage (MW)
1/9/2002	0700	426	0
1/9/2002	0800	426	0
1/9/2002	0900	426	0
7/17/2002	1400	650	66
7/17/2002	1500	650	66
7/17/2002	1600	650	66
7/17/2002	1700	650	66
7/17/2002	1800	650	66
7/18/2002	1500	753	66
7/18/2002	1600	753	66

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7. Please describe how Tampa Electric measures "line losses" as shown on its monthly Schedule A-1? Please show an example.
- A. The company's line losses are described in MWH and dollars in the Schedule A-1. Line number 29 on the December 2002 schedule shows MWH line losses, calculated from the company's meter information as shown in the table below.

MWH Line Loss Calculation
Period-to-Date December 2002

Line No.	Description	Amount
26	Total Fuel and Net Power Transactions	19,176,716
	<i>Less</i>	
30	System kWh Sales	18,213,721
27	Net Unbilled	(50,224)
28	Company Use	49,084
29	T & D Losses	964,135

The dollar amount of the line losses is calculated using the transmission and distribution line loss multiplier. Tampa Electric conducts a loss study to develop the appropriate multiplier. In the study, the transmission portion of the losses is calculated using a load flow system model and actual historical data to calculate demand and energy losses at each load level. Distribution losses are derived for primary lines, line transformers, secondary lines and the distribution network using power flow models and information provided by manufacturers.

The line loss multiplier is adjusted to account for jurisdictional separation. In 2002, the value of the line loss multiplier was 1.00066, as shown on line number 33 of Tampa Electric's Schedule A-1. The dollar amount of the sales adjusted for line losses is calculated as shown in the following table.

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Jurisdictional KWH Sales Adjusted for Line Losses Calculation
Period-to-Date December 2002

Line No.	Description	Amount
32	Jurisdictional kWh Sales	\$508,468,091
	<i>Multiplied by</i>	
33	Jurisdictional Loss Multiplier	1.00066
34	Jurisdictional kWh Sales Adjusted for Line Losses	\$508,803,680