Docket No. 031033-EI
Date: August 26, 2004

CONFIDENTIAL

Appendix 1 – CONFIDENTIAL

Summary of Issue 2

Parties' Positions and Staff Recommendations

ISSUE 2: Are Tampa Electric's projected coal transportation costs for 2004 through 2008 under the winning bid to its June 27, 2003 request for proposals for coal transportation reasonable for cost recovery purposes?

	Average of River Terminals[1]				
	River $/ton	Terminal $/ton	Ocean $/ton	Total $/ton	Annual $ Million
Prior Contract	$8.13	$2.22	$8.32	$18.67	$3.7
Tampa Electric	$7.35	$2.45	$7.98	$17.78	($0)
CSXT	NA	NA	NA	[2]	($11.3)
OPC/FIPUG	$4.88	$1.97	$5.76	$12.61	($22.3)
Residential Customers	$4.88	$1.97	$2.30	$9.15	($38.6)
Primary Staff	Competitive rate based on Commission review of TECO Transport's rates charged to non-affiliate companies.				
First Alternate Staff	$7.01	$2.45	$5.29	$14.75	($13.8)[3]
Second Alternate Staff	$6.35	$2.22	$5.57	$14.14	($16.3)[3]
Third Alternate Staff :					
(a) Rail Component	NA	NA	NA	[2]	($11.3)
(b) Waterborne Component (1st Alt.)	$7.01	$2.45	$5.29	$14.75	($8.0)
Total (a+b)					($19.3)
(a) Rail Component	NA	NA	NA	[2]	($11.3)
(b) Waterborne Component (2nd Alt.)	$6.35	$2.22	$5.57	$14.14	($ 9.0)
Total (a+b)					($20.3)
Fourth Alternate Staff	$7.35	$2.45	$7.98	$17.78	($0)

(EXH 3)

[1] All Waterborne Rates are FOB Barge (from upriver dock)

[2] Prices are FOB mine and not directly comparable to FOB Barge rates; Comparison details are given in Confidential Appendix 5 assuming 1 million tons in 2004 and 2 million tons annually thereafter.

[3] Difference between annual savings for first and second alternate staff is attributed to different rates for the three segments.

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Appendix 2 - CONFIDENTIAL

TECO Transport's Inland River Barge Transportation Rates by River Terminal

River Terminal	Prior Contract 1999 Price	Prior Contract 2003 Price	Current Contract 2004 Price	First Alternate Staff 2004 Price	Second Alternate Staff 2004 Price
Green 11	NA	NA	$8.01	$7.22	$6.92
Patriot	$7.29	$9.53	$8.24	$7.60	$7.12
Sebree	$7.29	$9.53	$8.37	$7.87	$7.23
Pyramid	$7.81	$10.21	$8.95	$8.85	$7.73
Ken Mine	$7.81	NA	$8.99	$8.89	$7.77
Powhatan Point	$7.29	$10.59	$10.65	$10.48	$9.20
TTI	$7.14	$9.34	$9.20	$9.20	$7.95
Jefferson River Port	$6.52	$8.52	$8.13	$8.13	$7.02
New Hope	$6.41	$8.38	$7.53	$7.53	$6.51
Owensboro	$6.41	$8.38	$7.45	$7.45	$6.44
Yankeetown	$6.26	$8.18	$7.34	$7.08	$6.34
Southern Indiana	$6.16	$8.06	$7.21	$7.05	$6.23
Mt. Vernon	$6.00	$7.85	$7.04	$6.84	$6.08
Overland	$6.00	$7.85	$6.97	$6.74	$6.02
Hamilton	$6.21	$8.12	$6.90	$6.70	$5.96
Shawneetown	$6.00	$7.85	$6.81	$6.76	$5.88
DeKoven	$5.74	$7.51	$6.75	$6.75	$5.83
Caseyville	$5.74	$7.51	$6.74	$6.74	$5.82
Rigsby & Barnard	$5.74	$7.51	$6.69	$6.49	$5.78
Empire	$5.74	$7.51	$6.65	$6.64	$5.75
Cook	$4.38	$5.72	$5.98	$5.69	$5.17
Mound City	$5.23	$6.84	$5.96	$5.28	$5.15
GRT	$6.00	$7.85	$7.16	$6.66	$6.19
Kentucky Lakes Dock	$6.00	$7.85	$7.16	$6.66	$6.19
Cora	$6.19	$8.10	$7.12	$6.50	$6.15

(EXH 3, 4, 69)

Appendix 3 – CONFIDENTIAL

TECO Transport's Terminal and Ocean Barge Transportation Rates ($/ton)

	Prior Contract 1999 Price	Prior Contract 2003 Price	Current Contract 2004 Price	First Alternate Staff 2004 Price	Second Alternate Staff 2004 Price
Terminal – Domestic Coal	$1.75 - $2.69	$2.22	$2.45	$2.45	$2.22
Terminal – Offshore Coal	$4.25	$4.25	$4.00	$4.00	$3.62
Ocean – Davant, Louisiana to Big Bend	$7.00	$8.32	$7.98	$5.29	$5.57
Ocean – Texas to Big Bend	NA	NA	$10.88	$7.21	$6.80

(EXH 3, 4, 69)

Appendix 4 – CONFIDENTIAL

Derivation of First Alternate Staff's Rate for Ocean Barge Service

Barge	Capacity (1000 tons)	Tons/yr (1000)	Cumulative Tons/yr (1000)	Rate ($/ton)	Average Rate ($/ton)
Peggy Palmer	1,111	1,111	1,111	$4.51	$4.51
D Ludwig	756	756	1,867	$4.62	$4.55
Doris Guenther	877	877	2,744	$5.06	$4.72
Mary Turner	1,024	1,024	3,768	$5.59	$4.95
Gayle Eustace	1,447	1,232	5,000	$6.32	$5.29
Barbara Vaught	585	0	-	$7.19	
Diana T	560	0	-	$7.42	

(EXH 2, 4, 72, 74)

Assumptions:

1. Eliminate impact of preference trade voyages;
2. Reflect backhaul opportunities that occur in a competitive market;
3. Adjust debt ratio to 62 percent in consideration of industry conditions;
4. Adjust annual throughput to five million tons in consideration of Tampa Electric's 2003 Ten Year Site Plan's forecast of solid fuel consumption during contract period; and
5. All other aspects of Witness Dibner's ocean barge model remain unchanged.

Appendix 5

Projected CSXT Rail Transportation Cost Savings Versus Prior TECO Transport Waterborne Rates

CSXT Based Savings	Tons	*2004* Differential $/Ton	Savings	Tons	*2005-2009* Differential $/Ton	Savings	Total Savings
Pitt-8 Coal	400,000	$6.51	$2,604,000	400,000	$6.51	$10,416,000	
Illinois Basin Coal	600,000	$5.10	$3,060,000	1,600,000	$5.10	$32,640,000	
Volume Discount				1,000,000	$2.00	$8,000,000	
Total			$5,664,000			$51,056,000	$56,720,000

(EXH 4, 7, 24, 25, 28, TR 1059, 1394)

Appendix 6 – Confidential

Comparison of Delivery of Polk Fuel Directly to Tampa, Florida
Versus Delivery to Davant, Louisiana

	Tons	Direct to Tampa, Florida	Delivered to Davant, Louisiana	Savings	
		$/ton	$/ton	$/ton	Dollars
Foreign Coal Transloading Cross-Gulf	214,000	$41.35 0 0	39.32 4.25 7.98		
Total Foreign	214,000	$41.35	51.55	$10.20	$2,182,800
Domestic Coal	183,000			$5.98	$1,094,340
Petcoke	270,000			$2.69	$726,300
TOTAL	667,000			$5.97	$4,003,440

(TR 772, 1067, 1211-1213, EXH 60, EXH 88)

Appendix 7 - Confidential

Development of Cross-Gulf Shipping Market Rates
Based on JEA, Progress Energy Florida, and Gulf Power Company Rates

JEA

Second alternate staff used the data and methodology from Witness Hochstein's ocean transportation model to allocate the 2003 JEA-TECO Transport shipping rate to transport petroleum coke from Port Arthur, Texas to Jacksonville, Florida to comparable rates from Port Arthur, Texas and Davant, Louisiana to Big Bend in Tampa, Florida. Dr. Hochstein's model was used rather than Witness Dibner's model because the two models are comparable in structure but Dr. Hochstein's model is not confidential. (EXH 56, TR 316,EXH 4,72)

During the period of 2001 to 2003, the highest price paid by JEA to TECO Transport to transport petroleum coke from Port Arthur, Texas to Jacksonville was $11.00 per ton. (JEA was charged $9.00 in 2003) The following table illustrates the basic data for distance, port days, and average trip speed used to allocate the maximum rate of $11.00 per ton to comparable rates for Tampa Electric. (EXH 17, EXH 97, Late file 15)

Shipment Round Trip	Davant to Big Bend	Port Arthur to Big Bend(4)	Port Arthur to Jacksonville(4)
One way Nautical Miles(1)	456	624	1202
Days at Sea(2)	3.84	5.26	10.12
Days in Port(2)	3.00	3.00	3.00
Delay days(3)	0.58	.79	1.53
Total Trip Days	7.42	9.05	14.65
2003 Market rate	**$5.57/ton**	**$6.80ton**	$11/ton

(1) EXH 4, TR813
(2) EXH 56 - using average vessel speed of 9.9 knots based on Dibner testimony. Days in Port for loading and unloading are assumed to be the same for each of these trips.
(3) Assumes delay days for unforeseen delays = 15% of days at sea
(4) Days at Sea and Delay Days augmented by multiplying the days for Davant to Big Bend by the ratio of nautical miles for this trip divided by the nautical miles from Davant to Big Bend.

Progress Energy Florida (PEF)

According to the 2003 FERC 423 forms, PEF obtains all of its domestic coal shipped by water to the IMT terminal across from Davant. On cross-examination, OPC counsel provided Witness Dibner the redacted version of PEF's response to a Commission audit, conducted in Docket No. 013057-EI, of the waterborne transportation operations of Progress Fuels Corporation which manages coal procurement and transportation for PEF. The text of the document points out that the Commission auditor erroneously calculated the rate Dixie Fuels charged PEF as $6.05/ton, because the auditor divided total waterborne transportation cost for 2003 by the number of tons purchased at IMT in 2003, instead of dividing by the number of tons transported by ocean barge in 2003. After correcting for the auditor's error, first and Second alternate staff recalculated the ocean barge rate as being $4.88 per ton. (EXH 60, EXH 66)

In PEF's response to the Commission audit, PEF states that they believe that the costs that the auditor considered do not include non-contractual costs, such as a normal return on investment in barge equipment and additional capital and recurring costs for major maintenance projects. However, Witness Dibner indicated that the cost per ton for barges, similar in size to Dixie Fuels', would be more than $2 per ton higher than the rate that he estimated for TECO Transport's tug/barge units. Witness Hochstein supported the same conclusion by providing data from the U.S. Corps of Engineers showing that daily capital and operating costs of vessels of the size of the Dixie units are 30% higher than units of the size used by TECO Transport.. Although additional non-contractual costs are not included in the redacted version, both first and second alternate staff believe that these two factors would approximately offset each other allowing a valid comparison between the tow carriers' tug/barge units. (EXH 65, EXH 66, EXH 97, TR 729, Late file 12)

Gulf Power Company

Both Gulf Power and Tampa Electric purchase and transport domestic coal from the Illinois Basin region. Both utilities transport coal down the Ohio and Mississippi Rivers to New Orleans by inland river barge. However, whereas Tampa Electric utilizes TECO Transport to transport the coal, Gulf Power utilizes a non-affiliated carrier. According to Tampa Electric Witness Dibner, river barge tugs on the Mississippi River push tows of 30 river barges carrying approximately 1500 tons each for a total of 45,000 tons. (EXH 4, EXH 92).

Second alternate staff compared the speed, efficiency and economy of scale of the tug/barge equipment that TECO Transport uses to transport coal to Tampa, FL with the tug/barge equipment that a non-affiliated carrier, Ingram Barge Company, uses to transport coal for Gulf Power to Pensacola. For the reasons set forth below, second alternate staff believes that the cost of shipping from Davant, La to the Tampa Electric Big Bend facility is no more than the rate that Gulf Power incurs to transport coal from the International Marine Terminal near Davant to the Crist Plant in Pensacola, FL.

Gulf Power's carrier moves the coal from the Mississippi River to the Gulf Intracoastal through an antiquated lock system at the Inner Harbor Lock which adds substantial delays and costs to the transit trip according to Witness Dibner. Frequently, a carrier will experience delays

on the Gulf Intracoastal due to traffic and weather which increases shipping costs. Moreover, due to maritime conditions, a tug can push no more than four river barges with a capacity of 6,000 tons at any given time. (EXH 4)

By comparison, the average TECO Transport ocean barge can transport more than 30,000 tons at any given time. Thus, Gulf Power's carrier requires five trips to transport the same amount of coal to Pensacola through the Gulf Intracoastal. According to vessel operating data supplied by the U.S. Corps of Engineers, the daily capital and variable operating cost for a vessel that hauls 5 times more bulk cargo than a smaller one is no more than twice that of the smaller vessel, due to economies of scale. Conservatively, Second alternate staff assumes that the total daily operating cost of a TECO Transport tug/barge unit is twice that of a tug/barge tow taking coal to Crist Plant. (EXH 4, EXH 97, Hochstein Late file 12)

Witness Dibner states that the distance to Big Bend Station in Tampa, FL from TECO Bulk Terminal in Davant, LA is 456 nautical miles, and he estimates the average speed of a typical TECO Transport tug/barge unit is **10 knots.** Witness Dibner calculated the days at sea from TECO Bulk Terminal to Big Bend Station as being approximately **two days.** According to Witness Dibner, an inland river barge would take four to six days to transport coal from IMT to Pensacola through the Gulf Intracoastal. Second alternate staff estimates the days at sea to transport 30,000 tons by inland river barge for Gulf Power would be at least 20 days (*i.e.*, 5 separate tug/barge trips), or approximately 10 times longer than TECO Transport requires to transport the same amount. Thus, it is appears that the cost of shipping to the Crist Plant from Davant using the Intracoastal waterway is at least as much in dollars per ton as the cost of shipping from Davant to Big Bend using the larger and more efficient TECO Transport tug/barge units. (EXH 4) (TR 315-316) (TR 320)

In 2001 Gulf Power Company began bringing foreign coal to Mobile rather than to a New Orleans area terminal, thus the cost of shipping from Davant to the Gulf Crist plant will be updated from their 2001 cost data. From the January 2001 FPSC 423 form, the cost of shipping coal from the IMT terminal which is across from the TECO Transport Davant terminal to the Gulf Power Crist Power Plant in January 2001 was $5.17 per ton. From the same January 2001 FPSC 423 form and the corresponding January 2004 FPSC 423 form, the cost of shipping coal to the Crist Plant from the Cook Terminal in Illinois was $9.24 per ton in 2004 and $8.77 in January 2001. Using the same cost ratio of 1.053, the corresponding price for shipping from IMT to the Crist plant in Jan 2004 would be approximately **$5.45** per ton in 2004. As previously explained this could also be taken as a market rate for shipping from Davant to Big Bend using the more efficient TECO Transport vessels. (Composite EXH 92)

For a market rate for shipping from Port Arthur Texas to Big Bend, Second Alternative Staff would use the ratio of "the total trip days from Texas to Big Bend" to "the total trip days from Davant to Big Bend" in the table on the first page of this appendix to prorate the previously derived **$5.45** to a price for the trip from Texas to Big Bend. This results in a market price of **$6.65** per ton.

Appendix 8 – Confidential

Comparison of Witness Dibner and Witness Hochstein Ocean Transportation Models

Witness Hochstein's ocean transportation cost model used for his estimate of the total capital and operating cost of shipping coal from the Davant Louisiana terminal to Big Bend has a similar structure and similar assumptions for total capital and variable cost to the model of Witness Dibner. Both models estimate the per ton revenue requirement based on costs for a round trip between the 2 facilities. Witness Hochstein used the preference trade cost provided by Witness Dibner as the basic capital and variable cost input. Like Witness Dibner's model, the Hochstein model is also consistent with the Tampa Electric RFP requiring a minimum(i.e. three) number of demurrage free days in port for loading and unloading. The Hochstein model also assumes that the 2 days allotted to unloading in Tampa has sufficient slack time to allow for a buffer to account for delays that can occur in operations. The record supports this assumption since the Tampa Port Authority trip log data for TECO Transport vessels shows that both unloading of coal and loading of backhaul cargo is usually accomplished within 2 days For fuel cost at sea the Hochstein model used survey data from the U.S. Corps of Engineers for comparably sized ships, but assumed that the TECO Transport vessels were 25% less efficient than the ships. (EXH 4, EXH 56, EXH 111, EXH15)

While the Dibner model daily capital and operating cost appear to be less than those used in the Hochstein model, the Dibner model produces a significantly higher total revenue requirement estimate than the $3.67 per ton without backhaul of the Hochstein model and the $2.30 per ton estimate including backhaul. The additional cost added to the Hochstein model for backhaul appear to be generous. The Dibner model produced a higher cost estimate due mainly to three factors: 1) **Witness Dibner assumed more days at sea and in port;** 2)Witness Dibner did **not allocate any common round trip costs to backhaul customers;** and 3) **Witness Dibner assumed higher financial costs.** Witness Hochstein supported his testimony that backhaul should be taken into account in market based transportation contract rates with statements by 2 potential shippers in the Gulf and one on the river that stated that backhaul makes a difference in bids for such contracts. (EXH 97, Late file 15, (EXH 4, 56)

Witness Hochstein calculated days at sea using the distance between facilities and average operating speed of the TECO Transport vessels based on Witness Dibner's testimony. Witness Hochstein assumed that the average operating speed was **90%** of the vessels maximum speed provided by Witness Dibner. This is consistent with Witness Dibner's testimony regarding the vessels average operational speeds. However Witness Dibner assumed a trip operating speed significantly less than the average operating speed given in his testimony. Additionally Witness Dibner assumed additional delay days of **15%** of the number of days at sea, plus an additional **½ day** in port for maneuvering and docking. Witness Dibner's additional days at sea appear to account for the large percentage difference in the 2 models cost estimates, along with the fact that the Hochstein model takes backhauls into account and the Dibner model doesn't. (TR 316, EXH 4, p53, EXH 72)

Although Witness Dibner had several criticisms of the Hochstein model in his rebuttal testimony he did not appear to understand that Witness Hochstein used the Dibner preference trade data for TECO Transport vessels. The criticisms were related to the Hochstein model applied to ships rather than the model for the TECO Transport vessels and do not appear to be relevant in this case. Also although the grade of diesel fuel is not specified, the first page of the U.S. Corps of Engineers data used by Hochstein in his model for fuel cost notes that the ships whose operating cost were surveyed were diesel ships.. The only criticism and suggested adjustment that appears to have some relevancy for this case is regarding port cost. While it does not appear that the Hochstein model included cost for port fees in Tampa, the entire **29 cents** per ton adjustment suggested by Witness Dibner is likely too much since there was agreement among witnesses in the record that pilot tugs and pilots are usually not required on these trips. (EXH 97, Late file 12, TR 145-146, TR305)