07046 7-EI

TECO
TAMPA ELECTRIC

ORIGINAL

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 07_____-EI

IN RE: TAMPA ELECTRIC'S

PETITION TO DETERMINE NEED FOR

POLK POWER PLANT UNIT 6

TESTIMONY AND EXHIBIT

OF

JOANN T. WEHLE

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

JOANN T. WEHLE

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

A. My name is Joann T. Wehle. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as the Director of Wholesale Marketing & Fuels.

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

A. I received a Bachelor of Business Administration in Accounting in 1985 from St. Mary's College, South Bend, Indiana. I am a CPA in the state of Florida and worked in several accounting positions prior to joining Tampa Electric. I began my career with Tampa Electric in 1990 as an auditor in the Audit Services Department. I became Senior Contracts Administrator, Fuels in 1995. In 1999, I was promoted to Director, Audit Services and subsequently rejoined the Fuels Department as Director in April 2001. I became Director, Wholesale Marketing and Fuels in August 2002. I am responsible for managing Tampa Electric's wholesale energy marketing and fuel-related activities.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide Tampa Electric's fuel procurement and delivery strategy for Polk Power Plant Unit 6 ("Polk Unit 6"). I sponsor the fuel forecast that supports the need for Polk Unit 6, and I describe how the addition of this integrated gasification combined cycle ("IGCC") unit establishes a more diversified fuel portfolio that in turn will enhance the reliability of Tampa Electric's power supply and help reduce fuel price volatility in customers' bills.

I will also describe Tampa Electric's efforts to assess opportunities to purchase reliable, cost-effective wholesale power in lieu of building Polk Unit 6. I will describe the Request for Proposals ("RFP") Tampa Electric issued seeking bids for wholesale power that could meet Tampa Electric's need while providing similar fuel diversity and reliability benefits. Finally, I will describe the results of the RFP.

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

A. Yes, Exhibit No. _____ (JTW-1) was prepared under my direction and supervision. It consists of the following documents:

Document No. 1	Fuels Burned at Polk Unit 1
Document No. 2	Eastern U.S. Coal Sources
Document No. 3	Generation and Fuel Source Mix
Document No. 4	Comparison of Historical Fuel Prices
Document No. 5	Interstate Pipelines Serving Florida
Document No. 6	Coal Reserves by World Region
Document No. 7	Cost Differential of Delivered Solid Fuel and Natural Gas
Document No. 8	High and Low Fuel Price Variation

Q. Are you sponsoring any sections of Tampa Electric's Determination of Need Study for Electrical Power: Polk Unit 6 ("Need Study")?

A. Yes. I sponsor sections of the Need Study regarding the fuel price forecasts. Specifically, I sponsor sections III.A.5. "Tampa Electric's Current Energy Mix by Fuel

Type," III.C "Fuel Forecast," IV.A.1. "Firm Purchased Power Agreements," VIII.A. "Approach," and VIII.B.1. "Fuel Sensitivity".

Fuel Supply for Polk Unit 6

Q. What type of fuel will be utilized to supply Polk Unit 6?

A. One of the many advantages of Polk Unit 6 is its fuel flexibility. The unit's solid fuel design specifications are shown in Table 9, Fuel Specifications, in the Need Study. Polk Unit 6 will operate effectively on a wide variety of coals, petroleum coke ("pet coke"), natural gas and biomass. Polk Unit 6 is expected to burn high or low sulfur coals from many regions, including Illinois Basin, Central Appalachia, Northern Appalachia and international sources. It will utilize natural gas as its backup fuel. Polk Unit 6 will also be capable of gasifying renewable biomass as a portion of the fuel feedstock.

Q. Does Tampa Electric have experience supplying fuel for an IGCC unit similar to Polk Unit 6?

A. Yes, Tampa Electric has been supplying fuel to Polk Unit

1, the company's existing IGCC unit, since 1996.

Q. What types of solid fuel has Tampa Electric been able to utilize effectively in Polk Unit 1?

A. Over its ten years of operation, Polk Unit 1 has burned over 20 types of coal and pet coke in various combinations. Tampa Electric also has experience with gasifying biomass in Polk Unit 1. Polk Unit 1 illustrates the fuel flexibility of an IGCC unit. Document No. 1 of my Exhibit No. ____ (JTW-1) lists the coals that have been successfully burned in Polk Unit 1. The only substantive difference in fuel supply between Polk Unit 1 and Polk Unit 6 are the backup fuels. Polk Unit 1 uses No. 2 oil as its backup fuel, while Polk Unit 6 will use natural gas as the backup fuel.

Q. From where do you expect Polk Unit 6's fuel to be sourced?

A. Polk Unit 6 fuel will come from a variety of locations. Document No. 2 of my Exhibit No. ____ (JTW-1) is a map showing the primary coal regions of the eastern United States. As seen from the map, Illinois Basin and Central and Northern Appalachian coals have natural waterborne delivery paths to the Tampa Electric area and rail access.

In order to qualify for the federal tax credits described in the testimony of witness Chrys A. Remmers, the gasifiers at Polk Unit 6 must burn more than 50 percent bituminous coal and at least 75 percent coal for the first five years of operations. However, after the first five years, pet coke is likely to be a primary fuel for Polk Unit 6 due to its typically low cost and high Btu/lb content. Many refineries that produce pet coke are located along the U.S. Gulf Coast and in the Caribbean, so it is likely that most of the pet coke will be transported via waterborne methods.

In summary, Tampa Electric expects to have a variety of solid fuel sources and transportation methods available for use in Polk Unit 6. Ultimately, the solid fuels chosen for Polk Unit 6 will be based on the lowest delivered cost for reliable supply that meet the plant's operating specifications.

Q. How will solid fuel be transported to Polk Unit 6?

A. As mentioned above, Polk Unit 6 will have several solid fuel transportation delivery options. Most solid fuel will be delivered via rail, or a combination of rail and water. The facility design includes a rail unloading facility and on-site solid fuel storage. The company will also maintain the trucking delivery system for Polk Unit 1. The diversity of these choices will provide cost-effective transportation options for Polk Unit 6.

Fuel Diversity

Q. Please describe any relevant state policies regarding fuel diversity.

A. There are several policy actions that encourage fuel diversity in Florida. Most recently, House Bill 549 was signed into law by Governor Crist on June 12, 2007. The bill provides for advanced cost recovery of certain costs incurred to build a nuclear or IGCC power plant. The bill was designed to promote utility investment in such plants because they enhance the reliability of electric power production in Florida by improving fuel diversity and reducing Florida's dependence on fuel oil and natural gas.

In 2006, the Florida legislature required the Commission to explicitly consider "the need for fuel diversity and supply reliability" when making a determination of need for new electric generating capacity by amending the Florida Power Plant Siting Act, Section 403.519, Florida Statutes. Also, Florida's Energy Plan issued on January 17, 2006, addresses the importance of fuel diversity and avoidance of a reliance on any single fuel.

Q. Please describe Tampa Electric's strategy for fuel supply and fuel diversity.

A. Tampa Electric's strategy for fuel procurement considers two key elements: cost-effectiveness and reliability. Tampa Electric tries to maximize fuel diversity, delivery options and reliability enhancements that are consistent with the respective fuel specifications of each unit. A recent example of fuel diversification is the company's expansion of interstate pipeline receipt points and qualified suppliers to diversify natural gas supply. Similarly, coal delivery options were enhanced by the addition of coal blending facilities at Big Bend Station. Tampa Electric's utilization of coal stored at the power plants combined with coal stored in Davant, Louisiana continues to provide enhanced coal supply reliability since a hurricane in any one location should not materially interfere with access to coal stored at another location.

Q. How does Polk Unit 6 fit into Tampa Electric's fuel supply strategy?

A. Polk Unit 6 enhances Tampa Electric's overall fuel strategy. The unit will improve the company's fuel diversity, and has attractive fuel flexibility and delivery options. The unit's combination of solid fuel flexibility with natural gas backup makes Polk Unit 6 very reliable from a fuel standpoint.

Tampa Electric's purchased power is typically supplied from natural gas fired units. With the addition of Polk Unit 6, the percentage of solid fuel as a fuel source to meet system energy requirements will increase from 49 percent in 2007 to 64 percent in 2013. In contrast, if the next baseload unit was a natural gas fired unit, the solid fuel percentage in 2013 would drop to an estimated 47 percent. Document No. 3 of my Exhibit No. ____ (JTW-1) illustrates Tampa Electric's expected energy mix by fuel type to meet system energy requirements.

Q. What other fuel-related benefits will Polk Unit 6 add as a new generating resource on Tampa Electric's system?

A. Polk Unit 6 adds four primary fuel-related benefits to Tampa Electric's system. Those benefits are 1) ability to burn lower cost, solid fuel with stable pricing; 2) flexibility in types of fuel stock, including biomass, for the unit; 3) ability to use natural gas as backup fuel and 4) diversity of energy mix by fuel type for the company's system.

As a solid fuel fired unit, Polk Unit 6 will burn historically lower cost, less volatile priced fuels such as coal and pet coke. Coal and pet coke are both readily available fuels, domestically and internationally.

The fuel flexibility of IGCC technology will allow Polk Unit 6 to utilize a variety of solid fuels in varying blends to maximize the economic benefit of the unit. Polk Unit 6 will also have the capability of gasifying renewable biomass as a portion of the fuel feedstock. Additionally, Polk Unit 6 will have the capability to burn natural gas as a backup fuel, which improves reliability for Tampa Electric's customers. As a component of Tampa Electric's generation fleet, Polk Unit 6 will improve system wide fuel diversity.

As previously stated Tampa Electric is leveraging its fuel and operating experiences of Polk Unit 1 for Polk Unit 6. Polk Unit 1 has successfully burned over 20 different types of fuel since 1996. Tampa Electric expects to achieve similar fuel flexibility success at Polk Unit 6.

Q. Has the company tested the use of renewable biomass at Polk Unit 1?

A. Yes. Tampa Electric conducted two test burns of biomass materials at Polk Unit 1, utilizing eucalyptus and Bahia grass. The tests demonstrated that, although relatively expensive, gasification of biomass is technically feasible in an IGCC unit, and they showed that the biomass did not adversely affect emissions from Polk Unit 1. Therefore, Tampa Electric expects Polk Unit 6 to be able to gasify biomass. The company will continue to evaluate fuel handling requirements and biomass availability for Polk Unit 6. The testimony of witness Mark J. Hornick provides additional information about the biomass test burns and potential use at Polk Unit 6.

Q. Please explain the relationship between fuel diversity and reliability.

A. Fuel diversity helps to mitigate the effects of delivery disruptions or price spikes of any one fuel whether due to geopolitical disturbances, acts of terrorism, natural disasters or simply long-term market forces. In the unlikely event that a fuel disruption lasted for many months, Polk Unit 6's fuel flexibility would allow Tampa Electric to secure and deliver alternate fuel supplies such as alternate solid fuel or natural gas. The ability to store solid fuels, in large quantities, makes fuel supply less susceptible to potential supply disruptions and thus enhances the reliability of the electrical system. The ability to store fuel on-site is a significant reliability advantage of coal and pet coke as compared to natural gas. Storage will not only exist on-site but will also be available at Big Bend Station or other terminal locations. Similarly, if solid fuel delivery becomes temporarily constrained, then Polk Unit 6 can utilize natural gas. Thus the fuel flexibility of Polk Unit 6 enhances its reliability of fuel supply and ultimately, generation to meet customers' energy needs. Witness Hornick's testimony elaborates on Polk Unit 6's expected reliability and unit availability.

Q. If Tampa Electric were to build a natural gas fired combined cycle unit instead of Polk Unit 6, what additional issues would have to be considered?

A. Unlike coal, on-site storage of natural gas at Polk Power Station is impractical. However, securing natural gas storage in the gas supply area would be prudent. For a baseload natural gas unit, Tampa Electric would contract for approximately 30 days of storage, and the reservation cost for the storage capacity would be approximately $5.3 million annually. Although this would help address natural gas storage concerns, it would not relieve the concern of adequate gas pipeline capacity or other potential transportation disruptions. So, while receipt area storage in or around Mobile Bay would improve reliability of natural gas supply, it is not equivalent to the reliability benefits of on-site inventory of solid fuel.

Q. How does fuel diversity reduce price volatility?

A. Fuel diversity helps reduce price volatility by diluting the impact of price spikes that occur in a single fuel source. For example, natural gas prices have been significantly more volatile over the past decade than coal prices. As shown in Document No. 4 of my Exhibit No. ____ (JTW-1), during the past five years, the monthly price of natural gas has varied by as much as $11.27 per MMBtu while the monthly price of spot coal has varied by only $0.80 per MMBtu. A generation fleet that relies primarily on natural gas will be affected by its price volatility.

In 2004 and 2005, Hurricanes Ivan, Katrina, and Rita significantly disrupted natural gas and oil production, and some oil refining facilities along the Gulf Coast. These events significantly impacted both fuel supply and raised the price of natural gas and oil on a short-term basis. Polk Unit 6 will provide fuel diversity, improve reliability, and reduce fuel price volatility, since an event that disrupts oil and natural gas production may not impact solid fuel to the same degree.

Fuel Price Forecast

Q. How did Tampa Electric prepare fuel price forecasts for the analysis of Polk Unit 6?

A. Tampa Electric utilized fuel price forecasts prepared by well respected, independent energy consultants. These forecasts are thorough and unbiased. Market analysis and projections from PIRA Energy Consultants are the basis of the forecasts for oil and natural gas. Tampa

Electric utilized Hill & Associates' projections as the basis of the solid fuel price forecasts, including domestic coal, imported coal and pet coke. Where necessary, appropriate refinements were made to align these forecasts to the specific physical delivery requirements of Tampa Electric. For example, most natural gas forecasts are based on the Henry Hub, a recognized market center for trading natural gas. Since Tampa Electric purchases much of its natural gas delivered into Zone 3 of the Florida Gas Transmission ("FGT") pipeline, Tampa Electric's natural gas price reflects the typical price difference between Henry Hub and FGT Zone 3.

Q. Please describe the drivers and assumptions that you believe will influence coal commodity prices during the next 30 years.

A. The dynamics of coal pricing have changed recently and are expected to continue to evolve. Between 2003 and 2005, three issues pushed low sulfur coal and, to a lesser extent, all coals to unusually high historic prices. The first influence was a seemingly insatiable appetite for cement, steel, coal and oil by China and India which directly affected mining costs, coal supply and the price of coal. The second influence was transportation delays due to joint line infrastructure issues on western railroads. This forced many utilities that burned Powder River Basin coal to search for other low sulfur coals. Finally, high energy prices "pulled" coal prices higher through the interaction between power prices, emission costs, oil prices and natural gas prices. Demand for coal-fired power grew, driving the price up of the underlying commodity.

Potential future carbon capture and sequestration requirements and increased foreign coal production may mitigate or even result in reduced future coal prices. Natural gas resource development may also favorably affect coal prices. Environmental legislation such as the Clean Air Interstate Rule is causing utilities to review compliance strategies. Many existing plants plan to install flue gas desulphurization or other pollution control equipment. Some experts suggest that as more plants install this type of technology the margin between low sulfur coal and high sulfur coal will diminish. Columbia, Venezuela and other countries are producing increased quantities of coal for export. Thus, demand for coal is increasing while supply is also increasing. These events will continue to influence coal pricing in the future.

Q. Please describe the drivers and assumptions that you believe will influence natural gas commodity prices during the next 30 years.

A. Natural gas has experienced dramatic swings in pricing since 1999. This volatility is indicative of the tightening balance between supply and usage of natural gas. Since 2000, U.S. utilities have predominantly built natural gas fired generation to meet customer needs. This has placed a significant demand on natural gas resources, and over time, production of natural gas from the Gulf of Mexico is expected to diminish. To meet the growing demand for natural gas and offset the diminishing supply from existing production areas, producers are using more expensive sources. From a supply perspective, the large incremental increases of liquefied natural gas ("LNG") expected to be delivered to the U.S. will influence natural gas prices over the next 30 years. On a shorter term basis, natural gas prices react immediately to weather events such as hurricanes and geopolitical instability. As utilities continue to add significant amounts of natural gas generation to their fleets, this will continue to put pressure on natural gas supply and price. In the longer term, CO_2 regulations could increase demand for natural gas and increase prices.

Q. What major factors did Tampa Electric consider regarding transportation needs for Polk Unit 6?

A. Consistent with Polk Unit 6's varied fuel sourcing options are its varied transportation methods, including direct rail, or waterborne with truck or short haul rail. Tampa Electric expects its transportation options to yield competitive transportation pricing for Polk Unit 6. Polk Station is located approximately 35 miles east of Tampa Bay. Currently Tampa Electric stores and blends coal for Polk Station at Big Bend Station and trucks the fuel to Polk Station. The design of Polk Unit 6 includes rail facilities and a yard to hold solid fuel inventory.

For all solid fuels, transportation costs were modeled consistent with current transportation costs. Tampa Electric expects that sufficient waterborne transportation carriers, rail carriers and trucking carriers will exist to meet the fuel delivery needs of Polk Unit 6 at costs similar to the current market.

With respect to natural gas, Tampa Electric and the entire state of Florida are dependent upon the FGT, Gulfstream Natural Gas Company ("Gulfstream") and SONAT interstate pipelines to deliver gas to Florida utilities, with FGT and Gulfstream being the two primary pipelines serving the state. Document No. 5 of my Exhibit No. ____ (JTW-1) is a map of the interstate natural gas pipelines that serve the Florida market. Despite the maturing of the interstate pipeline system in Florida, it is still a constrained system. FGT and Gulfstream are expected to be fully subscribed by 2009. Therefore, any additional natural gas demand will require pipeline expansions. If Tampa Electric's proposed unit were a natural gas combined cycle unit, the company would have to acquire incremental pipeline capacity to serve its additional natural gas demand.

Q. Do you believe sufficient fuel supply will be available to support Polk Unit 6 during the units expected life?

A. Yes. Polk Unit 6 is expected to burn over 1.8 million tons of solid fuel per year. The Energy Information Administration indicates there are well over 200 years of coal reserves in the United States alone. Beyond the U.S., Russia, Australia, Columbia, Indonesia, China and

Canada all have large coal reserves. Document No. 6 of my Exhibit No. ____ (JTW-1) provides a summary of coal reserves by major geographic areas of the world.

With respect to pet coke, many refiners are adding cokers. Cokers are added to the oil refining process to allow refineries to process a lower grade of crude oil and to increase production of the lighter, higher margin products such as gasoline and diesel. Several new coking projects in the Gulf coast and Caribbean have been announced. Thus, the supply of pet coke is expected to increase over the next decade and beyond.

Similarly, significant amounts of natural gas are expected to be available to the U.S. energy market. Based on statistics from the Energy Information Administration on proven reserves and current demand, as much as 40 to 50 years of natural gas reserves exist in the U.S. Beyond the U.S., significant quantities of natural gas exist in Russia, Australia, North Africa, the Middle East and Indonesia. The quickly evolving LNG supply chain will make these natural gas volumes available to the world market.

Q. How did Tampa Electric develop the fuel price forecasts used in the analysis that demonstrates the need for Polk Unit 6?

A. As previously described, Tampa Electric's fuel price forecasts are based on sound, industry-respected forecasts. The best available forecasts were used in 2006 for the Polk Unit 6 screening analysis as described in the testimony of witness William A. Smotherman, and an updated forecast that reflects current market conditions was used to form the 2007 analysis to verify continued feasibility of the project.

Q. Please describe the expected differential between solid fuel prices and natural gas prices.

A. In 2013, Tampa Electric's average cost of delivered natural gas is projected to be approximately $5.50 per MMBtu more than the price of delivered imported coal. This differential is projected to increase to about $13.02 per MMBtu by 2037. Over the 30 year period, the average natural gas to coal price differential is estimated to be $8.27 per MMBtu. Document No. 7 of my Exhibit No. ____ (JTW-1) provides a summary of the differential between the prices for delivered natural gas and delivered solid fuels.

Q. Are Tampa Electric's fuel price forecasts reasonable for planning purposes and as a basis for committing to proceed with Polk Unit 6?

A. Yes. Tampa Electric's approach of using commercially available forecasts from well-respected industry experts is a very reasonable approach. These industry consultants utilize robust models that simulate demand, supply and market dynamics to project prices based on power demand, existing and future generation facilities, production, cash costs, productivity growth and environmental rules. Tampa Electric believes that the price forecasts are reasonable for planning purposes and as a basis for committing to proceed with Polk Unit 6.

Q. Did Tampa Electric consider fuel price uncertainty in its fuel price forecasts?

A. Yes. To evaluate price fluctuations, Tampa Electric prepared high and low price forecasts for natural gas, oil and coal. The price ranges for the high and low price scenarios are derived from the level of change in annualized prices of each commodity during the past five years. In the case of solid fuel, the same percentage change was utilized for all solid fuel types. Document

No. 8 of my exhibit describes the high and low price variations used for each commodity and the historic pricing from which those percentages were derived. The high case for natural gas commodity is 42 percent higher than the base case and the low case is 49 percent lower than the base case. The price for No. 2 oil commodity is 56 percent higher and 46 percent lower than the base case for the high and low scenarios, respectively. Coal commodity is 17 percent higher and 22 percent lower than the base case, respectively.

Request for Proposals

Q. Did Tampa Electric test the power market for other baseload power opportunities in lieu of building Polk Unit 6?

A. Yes. As required, Tampa Electricpublished an RFP on February 7, 2007. The company hired Alan S. Taylor of Sedway Consulting to assist with the drafting of the RFP document. Mr. Taylor has a vast amount of experience with need determinations and in conducting power RFP in the United States, including Florida. He provided guidance to Tampa Electric so that the RFP was as open and inviting to potential bidders as possible. Mr. Taylor has filed testimony on behalf of Tampa Electric in the current docket, which describes his role in the RFP process.

Q. What information did the RFP include?

A. Tampa Electric provided information about its self build option. The RFP provided a detailed description of the Polk Unit 6 site, fuel types and costs, estimated costs of the proposed project and other major financial assumptions. The minimum requirements, such as the requirement for firm capacity and firm energy, were clearly listed in the document. The RFP also described the company's intention to maintain a balanced generation and energy mix by fuel type.

Q. How did Tampa Electric solicit responses to the RFP?

A. In order to alert the market to this RFP, the company published notices in the Wall Street Journal, the Tampa Tribune and other energy industry publications. Two informational meetings were held at our headquarters in Tampa to describe the RFP and its process and to encourage offers and proposals in response to the RFP. The first meeting was held on January 31, 2007 prior to the release of the RFP to discuss the process including how potential bidders could obtain a copy of the RFP and its attachments and how questions would be responded to by the company. The second meeting was held two weeks after the RFP was released on February 21, 2007 to provide a more in-depth review of the RFP and to answer questions. Both meetings allowed potential bidders to participate either in person or via telephone conference call. Lastly, Tampa Electric established a web site that granted access to the RFP documents and allowed potential bidders to ask questions and see responses to other questions asked. The questions and answers were posted on the web site in a timely manner.

Q. Did Tampa Electric receive any bids in response to the RFP?

A. No. Although there were inquires about the RFP during the process, Tampa Electric did not receive any bids in response to the RFP.

Q. Did Tampa Electric discuss with any electric utilities ownership of a portion of Polk Unit 6 or wholesale transaction opportunities related to the unit?

A. Yes. Tampa Electric discussed the project with several entities who have expressed informal interest in a partial interest in the ownership or the output of Polk Unit 6.

Q. Please summarize your testimony.

A. Tampa Electric seeks to maintain a balance of fuel types for the generating sources on its system as a way to manage fuel price stability and maintain fuel supply reliability. The company determined that additional baseload coal generation is needed and will accomplish these goals. To test the market for other baseload alternatives, Tampa Electric issued a comprehensive RFP. Although there was interest in the RFP, no bids were received. Tampa Electric selected an IGCC unit which will help leverage the potential fuel flexibility of the technology for fuel savings. The company will utilize its operational experience gained in operating Polk Unit 1 for the successful, reliable and fuel diverse operation of Polk Unit 6.

Polk Unit 6 adds four primary fuel-related benefits to Tampa Electric's system. Those benefits are 1) ability to burn lower cost, solid fuel with stable pricing; 2) flexibility in types of fuel stock, including biomass, for the unit; 3) ability to use natural gas as backup fuel and 4) diversity of energy mix by fuel type for the company's system. The company has utilized high-quality, independent, publicly available price forecasts as the basis of the Polk Unit 6 need determination analysis. The forecasts demonstrate that solid fuels are low cost, reliable and abundant fuel resources with stable pricing. Polk Unit 6 will provide Tampa Electric with fuel flexibility and system fuel diversity that results in reliability and cost advantages that benefit customers.

Q. Does this conclude your testimony?

A. Yes, it does.

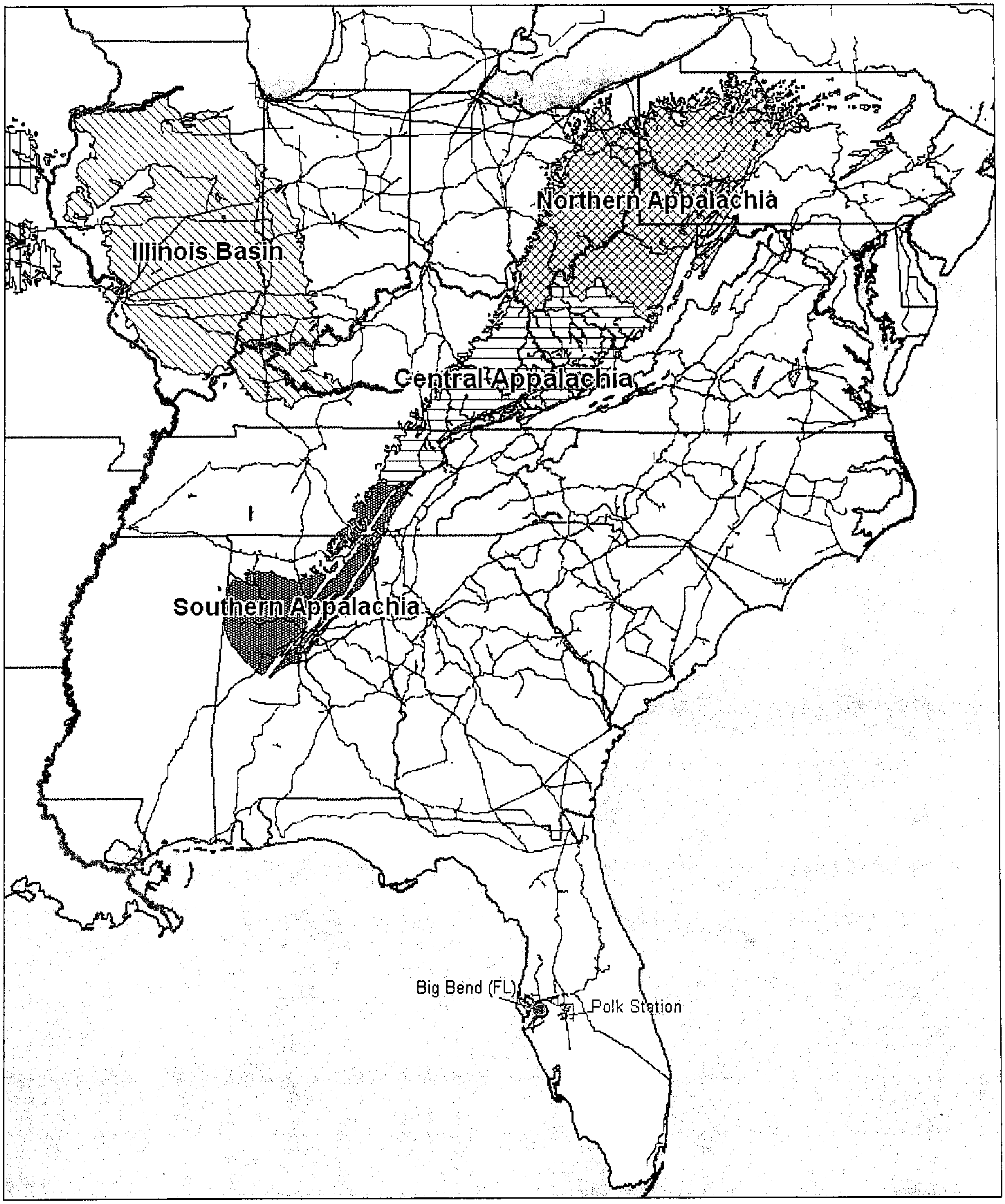
Fuels Burned at Polk Unit 1

Coal		
Supplier	**Mine**	**Coal Seam**
American Coal Company	Powhatan #6	Pittsburgh #8
Bell Mining Company Inc.	Williams #4	Pittsburgh #8
Consolidation Coal Company	Humphrey	Pittsburgh #8
Consolidation Coal Company	Loveridge	Pittsburgh #8
Consolidation Coal Company	Blacksville	Pittsburgh #8
RAG Cumberland Resources, LP	Cumberland	Pittsburgh #8
American Coal Company	Maple Creek	Pittsburgh #8
AEI Resources, Inc.	Old Ben No. 11	Illinois #6
Sugar Camp Coal, LLC	Wildcat	Illinois #6
Consolidation Coal Company	Ohio No. 11	West Kentucky #11
Peabody CoalSales, Inc.	Camp	Kentucky #9
Peabody CoalSales, Inc.	Patriot	Kentucky #9
Black Beauty Coal Company	Somerville	Indiana #5 & #6
American Coal Company	Galatia	Herrin #5
Alliance Coal Company	Gibson County	Indiana #5
PT Adaro Indonesia	Paringin/Tutpan	Indonesian
Peabody CoalTrade, Inc.	Mina Norte	Guasare Basin
Glencore Ltd.	La Jagua	Columbian
Coal Marketing Co (CMC)	El Cerrjeon	Columbian

Petroleum Coke	
Supplier	**Refinery**
Exxon/Mobil	Chalmette
Exxon/Mobil	Baton Rouge
Orion/Valero	St. Charles
Marathon	Garyville

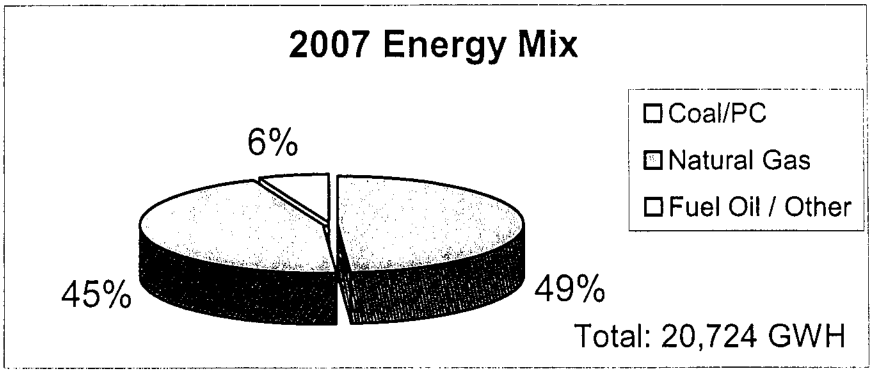
Other Fuel
Biomass (Eucalyptus)
Biomass (Bahia grass)

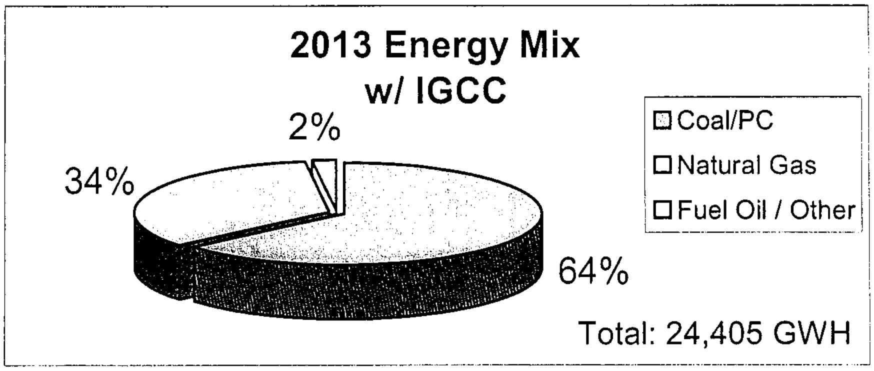
Eastern U.S. Coal Sources

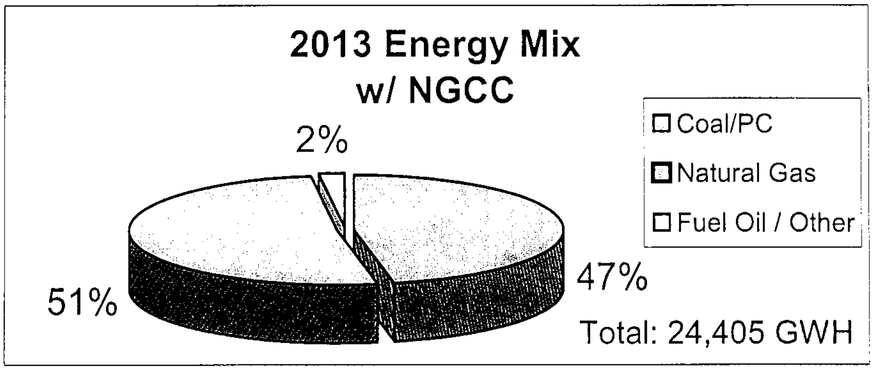


DOCKET NO. 07____-EI
ENERGY MIX BY FUEL TYPE
EXHIBIT NO. ______ (JTW-1)
DOCUMENT NO. 3
PAGE 1 OF 1

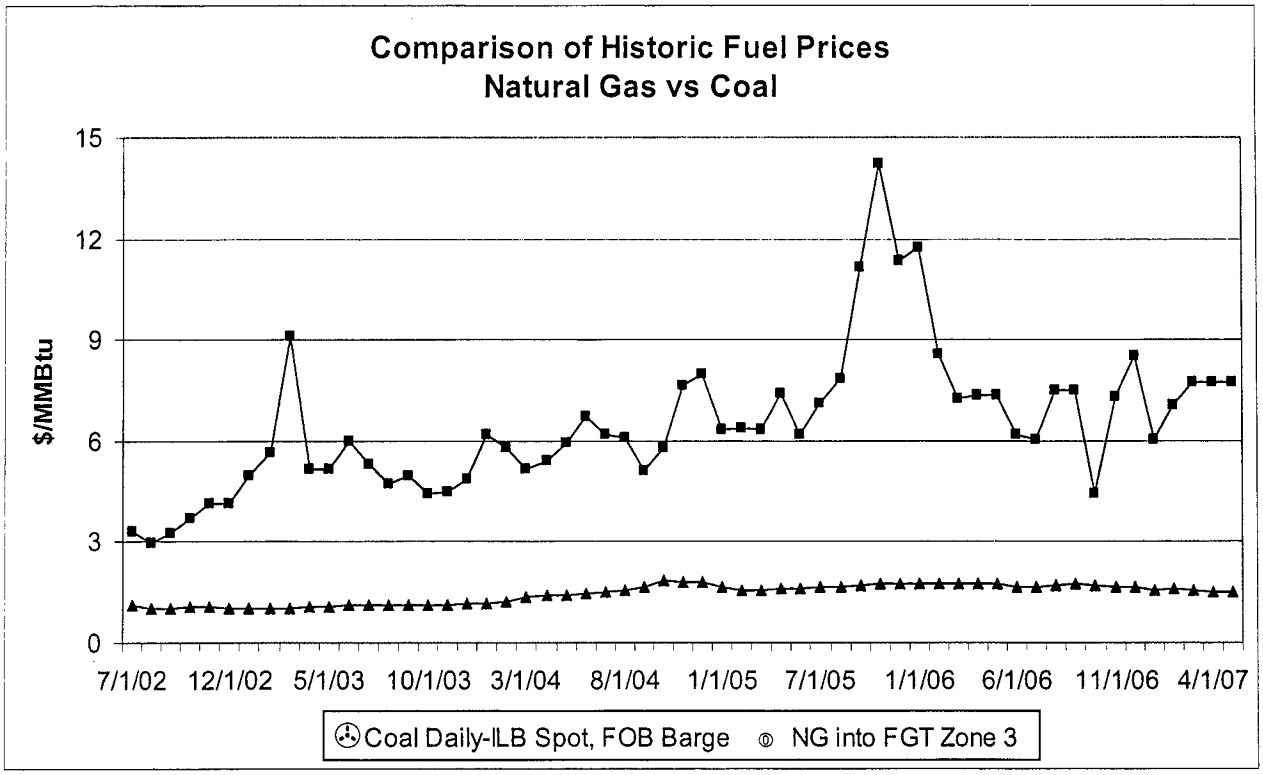
Energy Mix by Fuel Type





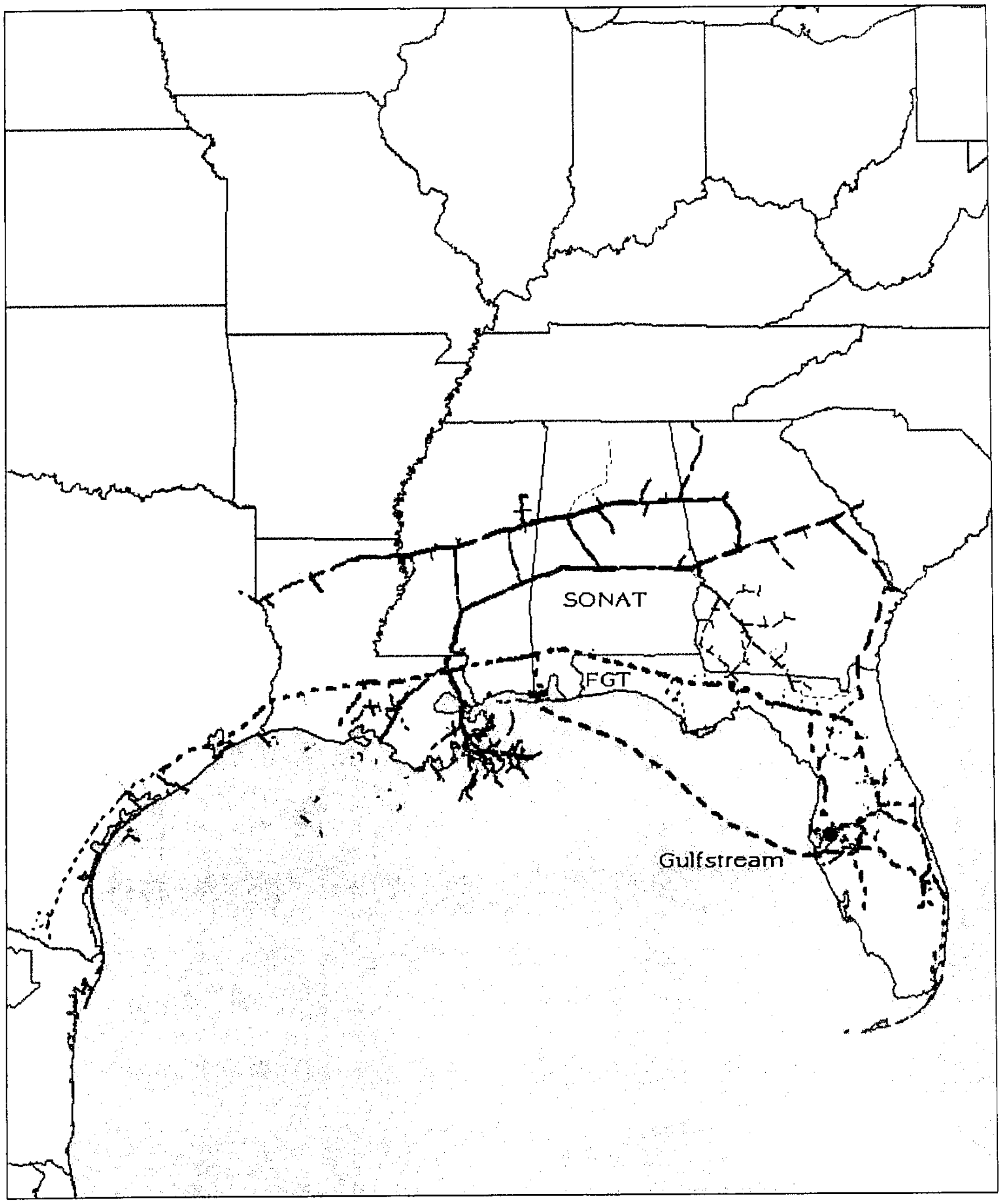


DOCKET NO. 07____-EI
HISTORICAL FUEL PRICES
EXHIBIT NO. ______ (JTW-1)
DOCUMENT NO. 4
PAGE 1 OF 1



DOCKET NO. 07____-EI
FL. INTERSTATE PIPELINES
EXHIBIT NO. ______ (JTW-1)
DOCUMENT NO. 5
PAGE 1 OF 1

Interstate Pipelines Serving Florida



Coal Reserves by World Region

	World Estimated Recoverable Coal (Million Short Tons)			
Region/Country	Recoverable Anthracite and Bituminous	Recoverable Lignite and Subbituminous	Total Recoverable Coal	
North America	130,186	149,320	279,506	28%
Central & South America	8,489	13,439	21,928	2%
Western Europe	1,571	34,918	36,489	4%
Eastern Europe & Former U.S.S.R.	122,170	157,607	279,778	28%
Middle East	462	0	462	0%
Africa	55,294	192	55,486	6%
Asia & Oceania	212,265	114,999	327,264	33%
World Total	530,438	470,475	1,000,912	100%

Source: Energy Information Administration, June 13, 2005

Cost Differential of Delivered Solid Fuel vs. Natural Gas

Differential in cost between Natural Gas and Coal			
	NG - ILB	NG - Import	NG - Blend[1]
2007	$ 5.62	$ 5.87	$ 5.83
2008	$ 6.06	$ 6.42	$ 6.48
2009	$ 5.66	$ 6.19	$ 6.19
2010	$ 5.39	$ 5.89	$ 5.94
2011	$ 4.76	$ 5.43	$ 5.46
2012	$ 4.72	$ 5.39	$ 5.42
2013	$ 4.89	$ 5.50	$ 5.54
2014	$ 5.14	$ 5.86	$ 5.90
2015	$ 5.50	$ 6.26	$ 6.29
2016	$ 5.65	$ 6.46	$ 6.49
2017	$ 5.77	$ 6.59	$ 6.62
2018	$ 5.89	$ 6.69	$ 6.83
2019	$ 6.21	$ 7.02	$ 7.18
2020	$ 6.52	$ 7.36	$ 7.54
2021	$ 6.72	$ 7.56	$ 7.77
2022	$ 6.91	$ 7.75	$ 7.97
2023	$ 7.08	$ 7.90	$ 8.22
2024	$ 7.21	$ 8.10	$ 8.51
2025	$ 7.48	$ 8.50	$ 8.84
2026	$ 7.75	$ 8.82	$ 9.17
2027	$ 8.04	$ 9.12	$ 9.47
2028	$ 8.33	$ 9.46	$ 9.82
2029	$ 8.62	$ 9.80	$ 10.17
2030	$ 8.92	$ 10.17	$ 10.54
2031	$ 9.24	$ 10.54	$ 10.93
2032	$ 9.58	$ 10.89	$ 11.30
2033	$ 9.93	$ 11.30	$ 11.71
2034	$ 10.28	$ 11.73	$ 12.15
2035	$ 10.65	$ 12.16	$ 12.60
2036	$ 11.03	$ 12.62	$ 13.06
2037	$ 11.42	$ 13.02	$ 13.48
Average	**$ 7.32**	**$ 8.27**	**$ 8.50**

[1] Note: 2007 through 2017: 80 percent import coal / 20 percent pet coke.
2018 through 2037: 20 percent import coal / 80 percent pet coke.

High and Low Fuel Price Variation

	Coal $/Ton (1)	No. 2 Oil ¢/Gallon (2)	Natural Gas $/MMBtu (3)
2002	$ 23.23	67.65	$ 3.21
2003	$ 22.50	81.98	$ 5.41
2004	$ 30.79	111.73	$ 6.17
2005	$ 33.71	168.58	$ 8.86
2006	$ 33.78	194.10	$ 7.48
Average 2002 - 2006	$ 28.80	124.81	$ 6.23
Maximum 2002 - 2006	$ 33.78	194.10	$ 8.86
% Over Average	**17%**	**56%**	**42%**
Minimum 2002 - 2006	$ 22.50	67.65	$ 3.21
% Under Average	**-22%**	**-46%**	**-49%**

Notes:
1) Illinois Basin Coal, 11,200 Btu/lb, 4.5% Sulfur
2) U.S. Gulf Coast No 2 Diesel Low Sulfur Spot Price FOB (Cents per Gallon) from EIA
3) Average of monthly prices for natural gas posted in Inside FERC Gas Market Report for Florida Gas Transmission, Zone 3