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Florida Power
CORPORATION

R. ALEXANDER GLENN
CORPORATE COUNSEL

September 12, 1997

Ms. Blanca S. Bayó, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 971059-EI

Dear Ms. Bayó:

Enclosed for filing in the subject docket are an original and fifteen (15) copies of the prepared testimony of Lee G. Schuster on behalf of Florida Power Corporation.

Please acknowledge your receipt of the above filing on the enclosed copy of this letter and return to the undersigned. Also enclosed is a 3.5 inch diskette containing the above-referenced testimony in WordPerfect 5.1 format. Thank you for your assistance in this matter.

Very truly yours,

R. Alexander Glenn

RAG/mgc

Enclosure

cc: Buck Oven - Dept. of Environmental Protection
Steve Burgess - Office of Public Counsel

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FPSC-RECORDS/REPORTING

Florida Power
CORPORATION

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 971059-EI

Petition To Determine Need For Existing Tiger Bay Electrical Power Plant and Nominal Electrical Capacity Increase To That Plant

DIRECT TESTIMONY AND EXHIBIT OF

LEE G. SCHUSTER

For Filing September 12, 1997

BEFORE THE PUBLIC SERVICE COMMISSION
Docket No. 971059-EI

DIRECT TESTIMONY OF
LEE G. SCHUSTER

Q. Please state your name and business address.

A. My name is Lee G. Schuster. My business address is Post Office Box 14042, St. Petersburg, Florida, 33733.

Q. By whom are you employed and in what capacity?

A. I am employed by Florida Power Corporation (FPC) in the capacity of Manager, Purchased Power Resources.

Q. Would you please describe your educational background and work experience?

A. I graduated with a Masters Degree in Industrial Administration from Purdue University in 1975 and I received a Bachelor's Degree in Chemical Engineering from the University of South Florida in 1973. I began my employment with FPC in 1980. Since then, I have held the following positions: Corporate Planning Analyst, Corporate Budget Analyst, Director of Corporate Budgets (Florida Progress), Director of Investor Relations (Florida Progress), Corporate Planning Analyst, Principal Business Planning Analyst, Senior Planning Analyst (Florida Progress) and Manager, Purchased Power Resources. In my position as the Director of Corporate Budgets, I was responsible for coordinating the development of subsidiary

budgets and financial plans as well as for the preparation of budgets and financial plans for the holding company and on a consolidated basis for Florida Progress. In my position as the Director of Corporate Relations, I was responsible for investor relations and communications, stockholder records, production of the annual report and relations with brokerage and institutional analysts. In my various analyst positions, I have worked on a wide variety of special projects at both FPC and Florida Progress.

Q. What are the responsibilities of your present position as Manager of Purchased Power Resources?

A. As Manager of Purchased Power Resources, my job responsibilities are to administer FPC's cogeneration contracts in compliance with state and federal laws and regulations, and performing activities such as negotiation and financial analysis of contract changes, management of requests for proposals, technical and financial analysis of proposed projects, and providing information to and maintaining coordination with Florida Public Service Commission ("FPSC") staff, FPC internal departments and cogenerators.

Q. What is the purpose of your testimony and how is it organized?

A. The purpose of my testimony is to (1) generally describe the Tiger Bay cogeneration facility, (2) outline FPC's involvement with the Tiger Bay facility, (3) explain FPC's position that the FPSC has, for all practical purposes, already determined the need for the Tiger Bay facility, and (4)

explain FPC's position that a need exists for the nominal 10 - 12 megawatt capacity increase at the Tiger Bay facility.

My testimony is divided into the following sections:

I. Description of the Tiger Bay Project and Proposed Capacity Increase

II. Need for the Facility and the Nominal Capacity Increase

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes. I am sponsoring Exhibit No. ___ (LGS-1), which is FPC's estimated cost savings associated with the nominal 10 - 12 megawatt capacity increase and was attached as Exhibit 4 to FPC's August 18, 1997 Petition.

Q. Please summarize your testimony.

A. Because FPC proposes to increase the electrical output from the existing steam turbine over 75 megawatts, the Florida Department of Environmental Protection (DEP) pursuant to Section 403.507, F.S., is requiring that the facility be certified in accordance with the applicable provisions of the Power Plant Siting Act (PPSA) -- including Section 403.519, which requires a need determination by the FPSC. To satisfy this literal reading of the PPSA, FPC has submitted its August 18, 1997 Petition ("Petition").

As discussed more fully below, the FPSC has, as a practical matter, previously determined the need for the Tiger Bay cogeneration facility's electrical capacity in other dockets. Additionally, FPC's proposed use of

a nominal 10-12 megawatts of additional steam electric capacity (simply by using steam currently vented and increasing steam pressure) at the facility constitutes a de minimis increase in FPC's approximate 7,000 megawatt statewide capacity. The nominal capacity increase also would impose no additional costs on the ratepayer, involve no additional equipment or operational changes to the facility, and produce no increased emissions or other environmental impact. FPC further estimates that the fuel savings ratepayers will receive from this capacity increase will exceed $14.2 million over the next ten years. For these reasons, FPC believes that the Commission should grant the Petition.

I. DESCRIPTION OF THE TIGER BAY PROJECT AND PROPOSED CAPACITY INCREASE

Q. Where is the Tiger Bay facility located?

A. The Tiger Bay facility is located near Fort Meade in Polk County, Florida. It is a cogeneration facility which supplies electricity to Florida Power and thermal energy in the form of steam to US Agri-Chemicals Corporation ("US Ag") for use in producing fertilizer products.

Q. When did the Tiger Bay plant become commercially operational?

A. The plant began delivering test energy to Florida Power in August 1994, and had a commercial in-service date of January 1, 1995.

Q. Please describe the equipment configuration at Tiger Bay.

A. The combined cycle facility consists of a GE Frame 7001FA gas turbine generator with a Deltak heat recovery steam generator and a condensing GE steam turbine. The plant has an overall capacity of approximately 236 MW. Tiger Bay's facilities also include 230 kV step-up transformers and circuit breakers which, technically, are treated as transmission equipment.

Q. How is the Tiger Bay project currently owned?

A. Tiger Bay is currently owned by FPC. FPC acquired the Tiger Bay cogeneration facility on July 15, 1997.

Q. Please describe how Florida Power became involved in the Tiger Bay facility?

A. Between 1988 and 1991, Florida Power entered into five purchased power agreements with cogeneration developers, which were ultimately served by the Tiger Bay facility. The Commission reviewed and approved those contracts and, in so doing, essentially determined that such capacity was needed. These Orders were provided with FPC's Petition as Exhibit 1. Tiger Bay Limited Partnership acquired the interests in these five purchased power contracts by assignment from each of the original qualifying facility entities. Consequently, Florida Power received the electrical output of the Tiger Bay cogeneration facility.

On January 20, 1997, Florida Power agreed to purchase the Tiger Bay facility from the Tiger Bay Limited Partnership and terminate the five

related purchased power agreements. Florida Power sought the Commission's approval of the agreement, requested recovery of the purchase price, and requested that the fuel expense associated with the operation of the Tiger Bay facility be approved for recovery through the Fuel Clause. Florida Power and two intervenors executed a stipulation, which resolved all disputed issues. On June 9, 1997, the Commission approved the stipulation providing for Florida Power's purchase of the Tiger Bay facility and termination of the five purchased power contracts stating that "the Stipulation reduces FPC's ratepayers' liability throughout the remaining term of the [purchased power agreements and] . . . represents a reasonable balance between potential ratepayer neutrality to the transaction and encouragement of company contributions." See Petition, Exhibit 3.

Q. **What changes to the facility does Florida Power intend to make to increase the plant's capacity?**

A. As I noted above, the Tiger Bay cogeneration facility consists of a combustion turbine and a steam turbine. Because the steam turbine was specifically operated to not produce more than 75 megawatts, the plant was not subject to the PPSA. Florida Power believes, however, that the steam turbine is capable of producing an additional, nominal 10 - 12 megawatts. FPC, if allowed, will achieve this increase simply by changing a computer program to alter the control set points on the steam turbine and operate the system at a five percent (5%) increased pressure level.

II. NEED FOR THE TIGER BAY FACILITY AND THE NOMINAL CAPACITY INCREASE

Q. Will Florida Power's Tiger Bay facility and the nominal 10 - 12 megawatt steam electric capacity increase contribute to the electric system reliability and integrity of Florida Power and Peninsular Florida?

A. Yes. The Commission, on several occasions, has acknowledged the need for the capacity (and therefore the contribution to electric system reliability and integrity) provided by the Tiger Bay cogeneration facility.

First, in its approval of Florida Power's five cogeneration contracts (which were subsequently served by the Tiger Bay facility), the FPSC, for all practical purposes determined the need for the capacity provided under these contracts. See Petition, Exhibit 1. For example, in In re: Joint petition for approval of cogeneration contract between Florida Power Corporation and General Peat Resources, L.P., Docket No. 890915-EQ, Order No. 22473 (Jan. 1, 1990), the FPSC approved FPC's cogeneration contract stating that "there are indicated capacity needs from both a utility and a statewide perspective in 1995." Implicit in this determination was the Commission's confirmation that these contracts contributed to the electric system reliability and integrity of FPC and peninsular Florida.

Similarly, in its August 29, 1991, Order, the Commission approved FPC's statewide generation expansion plans consisting of, among other things, "500 MW of purchased power in 1995 . . . ." In re: Planning Hearings

on Load Forecasts Generation Expansion Plans, and Cogeneration Prices for Florida's Electric Utilities, Docket No. 910004-EU, Order No. 24989 (Aug. 29, 1991), a copy of which was appended to FPC's Petition as Exhibit 2. This 500 megawatts included the purchased power from the Tiger Bay cogeneration facility through the assignment of the purchased power agreements from the individual cogeneration developers to Tiger Bay Limited Partnership. Again, implicit in this determination, was the FPSC's confirmation that the 500 megawatts contributed to FPC's and the state's electric system reliability and integrity.

In its recent approval of Florida Power's purchase of the Tiger Bay facility, the Commission, for all intents and purposes, again confirmed the need for the facility, and -- as a practical matter -- that the facility contributes to electric system reliability and integrity. In this regard, removing Tiger Bay's 236 megawatts of generation from service would immediately reduce reserve margins and therefore adversely affect system reliability and integrity. Similarly, by adding 10 - 12 megawatts of additional capacity, FPC will enhance reserve margins and contribute to system reliability and integrity.

Q. Will Florida Power's Tiger Bay facility and the nominal 10 - 12 megawatt steam electric capacity increase contribute to the provision of adequate electricity to Florida Power and Peninsular Florida at a reasonable cost?

A. Yes. As discussed above, the Commission has, as a practical matter, already addressed this issues in prior proceedings. The Commission's

prior approval of Florida Power's cogeneration contracts and subsequent purchase of the Tiger Bay facility and recovery of fuel costs through the Fuel Clause, necessarily implies that the facility contributes to the provision of electricity at a reasonable cost. See Petition, Exhibits 1, 2 and 3.

The nominal 10 - 12 megawatt increase also will be at no cost to the ratepayer. Florida Power proposes to increase the capacity a nominal 10-12 megawatts simply by changing a computer program to alter the set points on the steam turbine. This will result in capturing steam that is currently being vented and increase steam pressure by 5%, will not involve any material operational changes or equipment expansions to the plant, and will be accomplished at no additional cost to the ratepayer. This enhancement will bring more benefits, in the form of additional, reliable generating capacity, to Florida Power's customers at no additional cost. Additionally, Florida Power will be able to substitute the low cost energy associated with this capacity for the more expensive power generated from its other generation sources, thus passing on these fuel savings to its ratepayers. LGS-1 outlines an analysis of the expected savings over ten years with an additional 10 - 12 megawatts of capacity at the Tiger Bay facility. The savings are based on a blend of 7 months at 10 additional megawatts and 5 months at 6 megawatts. This nominal increase in the megawatts produces approximately $14,256,000.00 in cumulative savings to ratepayers over ten years.

Q. Is the Tiger Bay facility and the additional, nominal 10 - 12 megawatt steam electric capacity increase the most cost-effective alternative available?

A. Yes. With respect to the facility as a whole, as discussed above, the Commission in its previous orders has essentially confirmed that the Tiger Bay facility was the most cost-effective alternative. Similarly, the nominal 10-12 megawatt increase represents the most cost-effective alternative to new construction or purchase of power from all feasible and prudent alternatives. As I explained above, the additional capacity increase is essentially free to the ratepayers and will, in fact, reduce their costs. There can be no more cost-effective alternative than the one now proposed by FPC.

Q. Are there any conservation measures taken by or reasonably available to Florida Power, which might mitigate the need for the Tiger Bay facility and the additional, nominal 10 - 12 megawatts of steam electric capacity?

A. No. The PPSA requires consideration of conservation measures available to mitigate the need for a proposed plant. The Tiger Bay facility constitutes a conservation measure by statutory definition. Obtaining capacity from cogeneration facilities is a recognized conservation measure pursuant to §366.82, F.S. Specifically, §366.82(2) provides that goals to be adopted by the Commission include those designed to "[increase] the development of cogeneration ...." Moreover, §366.82(3) provides that "Utility programs may include variations in rate design, load control,

cogeneration, residential energy conservation subsidy, or any other measure within the jurisdiction of the commission which the commission finds likely to be effective ...." The Tiger Bay facility, by its very nature, satisfies this goal because it is a conservation measure and the added nominal megawatts is an enhancement of that conservation measure.

Even were the Tiger Bay facility not viewed to be a conservation measure, at the present time, the Tiger Bay facility is the most efficient fossil steam unit on the FPC system and consequently is operated as a base load unit. There are no known or reasonably available conservation measures which could reduce FPC's system load by approximately 220 megawatts on a continuous, sustained basis. Furthermore, if such conservation measures existed to reduce FPC's load, the reduction would displace other marginal resources on the FPC system and not the Tiger Bay facility. Similarly, the nominal 10 - 12 megawatt increase in capacity will provide energy savings averaging $1.4 million per year to customers with no corresponding cost. Because there is no cost associated with the nominal 10 - 12 megawatt capacity increase, there is no need to consider mitigation measures.

Q. How will the additional, nominal 10 - 12 megawatt steam electric capacity increase affect the stipulation between Florida Power, the Office of Public Counsel, and the Florida Industrial Power User's Group in Docket No. 970096-EQ?

A. Generation from the Tiger Bay facility related to the 10 - 12 megawatt capacity increase will have no material effect on the above referenced stipulation. The stipulation provides that, following closing of the transaction, FPC shall continue to recover costs from FPC's ratepayers as if the Tiger Bay purchased power agreements were still in effect. Any incremental increase in generation will be treated in the same manner as all other generation from the Tiger Bay facility.

Q. Should Florida Power's petition for determination of need for the Tiger Bay facility and the nominal 10 - 12 megawatt steam electric capacity increase be granted?

A. Yes.

Q. Does this conclude your testimony?

A. Yes.

EXHIBIT TO THE TESTIMONY OF
LEE G. SCHUSTER

EXHIBIT NO. 1 (LGS-1)
PROMOD CASE COMPARISON

PROMOD CASE COMPARISON

BASE CASE - PH-970158
CHANGE - PH-970164

(DELTAS = CHANGE CASE - BASE CASE)

($000)

	FPC UNITS				PURCHASE POWER						SALES					
		O&M			COGENERATION			OTHER								
YEAR	FUEL	FIXED	VAR.	TOTAL	FUEL	FIXED	TOTAL	FUEL	FIXED	TOTAL	FUEL	FIXED	TOTAL	DELTA SYSTEM COST	PRESENT WORTH	PWF
1997	-1,084	0	0	-1,084	-22	0	-22	-98	0	-98	0	0	0	-1,203	-1,203	1.00
1998	-1,306	0	0	-1,306	-153	0	-153	-242	0	-242	0	0	0	-1,701	-1,565	.920
1999	2,515	0	0	2,515	93	0	93	-2,990	0	-2,990	0	0	0	-382	-323	.846
2000	-1,149	0	0	-1,149	-242	0	-242	-47	0	-47	0	0	0	-1,438	-1,120	.779
2001	-1,345	0	0	-1,345	-222	0	-222	-43	0	-43	0	0	0	-1,610	-1,154	.717
2002	-1,214	0	0	-1,214	-222	0	-222	-28	0	-28	0	0	0	-1,464	-966	.659
2003	-1,313	0	0	-1,313	-192	0	-192	-34	0	-34	0	0	0	-1,539	-935	.607
2004	-1,390	0	0	-1,390	-181	0	-181	-44	0	-44	0	0	0	-1,615	-902	.558
2005	-1,395	0	0	-1,395	-158	0	-158	22	0	22	0	0	0	-1,531	-787	.514
2006	-1,531	0	0	-1,531	-143	0	-143	-45	0	-45	0	0	0	* -1,719	-813	.473
															-9,769	
															8.95%	

* Sum = 14,256,000

Savings for 10 MW load increase at Tiger Bay:

10MW for 7 months/year (October - April)

6 MW for 5 months/year (May - September)

07/22/97

PROMOD PRODUCTION COST

BASE CASE - PM-970158
CHANGE - PM-970164

($000)

	FPC UNITS				PURCHASE POWER						SALES			
BASE CASE		O&M			COGENERATION			OTHER						TOTAL SYSTEM
YEAR	FUEL	FIXED	VAR.	TOTAL	FUEL	FIXED	TOTAL	FUEL	FIXED	TOTAL	FUEL	FIXED	TOTAL	COST
1997	571,215	12,534	0	583,749	119,575	217,517	337,092	61,145	64,463	125,607	0	0	0	1,046,449
1998	470,304	29,312	0	499,616	126,173	228,758	354,931	32,047	56,923	88,971	0	0	0	943,517
1999	505,694	34,700	0	540,395	134,571	240,420	374,991	31,823	58,160	89,983	0	0	0	1,005,369
2000	486,486	34,697	0	521,182	136,192	250,404	386,596	43,747	56,356	100,103	1,000	4,800	5,800	1,002,081
2001	531,378	34,901	0	566,279	140,129	256,368	396,497	44,339	56,550	100,889	1,000	4,800	5,800	1,057,865
2002	510,873	34,670	0	545,543	138,541	250,583	389,123	44,061	56,745	100,806	1,000	4,800	5,800	1,029,672
2003	547,733	34,628	0	582,361	142,882	260,323	403,206	46,893	57,358	104,251	1,000	4,800	5,800	1,084,017
2004	565,384	36,946	0	602,329	145,101	272,113	417,213	50,330	57,552	107,881	1,000	4,800	5,800	1,121,624
2005	581,129	46,649	0	627,778	143,510	285,038	428,548	53,216	59,123	112,339	0	0	0	1,168,665
2006	607,955	47,102	0	655,056	149,202	297,816	447,019	56,304	59,888	116,192	0	0	0	1,218,266
CHANGE CASE														
1997	570,132	12,534	0	582,666	119,554	217,517	337,070	61,047	64,463	125,510	0	0	0	1,045,246
1998	468,998	29,312	0	498,309	126,020	228,758	354,778	31,805	56,923	88,729	0	0	0	941,816
1999	508,210	34,700	0	542,910	134,664	240,420	375,084	28,834	58,160	86,993	0	0	0	1,004,987
2000	485,337	34,697	0	520,034	135,950	250,404	386,354	43,699	56,356	100,055	1,000	4,800	5,800	1,000,643
2001	530,033	34,901	0	564,934	139,906	256,368	396,275	44,296	56,550	100,846	1,000	4,800	5,800	1,056,255
2002	509,659	34,670	0	544,329	138,319	250,583	388,902	44,033	56,745	100,778	1,000	4,800	5,800	1,028,208
2003	546,420	34,628	0	581,048	142,691	260,323	403,014	46,859	57,358	104,217	1,000	4,800	5,800	1,082,478
2004	563,994	36,946	0	600,939	144,919	272,113	417,032	50,286	57,552	107,838	1,000	4,800	5,800	1,120,009
2005	579,734	46,649	0	626,383	143,352	285,038	428,390	53,238	59,123	112,361	0	0	0	1,167,134
2006	606,424	47,102	0	653,526	149,060	297,816	446,876	56,259	59,888	116,146	0	0	0	1,216,548

BASE DESCRIPTION : TIGER BAY BASE

CASE DESCRIPTION : TIGER BAY CAPACITY INCREASE AND HR IMPROVEMENT

BASE	CHANGE CASE		HRDF
236/206 MW	246/212	&	.9537