ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 990325-EI

PETITION FOR NEED DETERMINATION

PREPARED DIRECT TESTIMONY

OF

WILLIAM F. POPE

APRIL 5, 1999

GULF POWER

A SOUTHERN COMPANY

GULF POWER COMPANY

Before the Florida Public Service Commission
Direct Testimony of
William F. Pope
Docket No. 990325-EI
Date of Filing: April 5, 1999

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

A. My name is William F. Pope, and my business address is One Energy Place, Pensacola, Florida 32520. I am the Coordinator of Bulk Power Planning for Gulf Power Company.

Q. Have you previously testified before this Commission?

A. Yes. I have testified in various proceedings including cogeneration rule hearings, a territorial dispute, planning hearings, proposed rulemakings, and tariff dockets.

Q. Please summarize your educational and professional background.

A. I graduated from the University of Florida in March, 1975 with a Bachelor of Science in Electrical Engineering; and in May, 1985, I graduated with a Masters of Business Administration from the University of West Florida. After graduation in 1975, I was

employed with the Gainesville-Alachua County Regional Utilities, which is a unit of the City of Gainesville, Florida as a System Planning Engineer.

In October of 1978, I joined Gulf Power Company and spent the next eight years in various engineering and supervisory positions at two of the Company's electric generating plants.

In April of 1987, I became Supervisor of System Planning which made me responsible for the Company's long range distribution, transmission, and generation planning. On May 1, 1993, I assumed my current position of Coordinator of Bulk Power Planning at the Corporate Office in Pensacola. In this position, I am responsible for supervising the Company's activities for capacity resource and transmission planning for Gulf Power's long-range needs, along with other bulk power operational and planning issues. The activities of System and Bulk Power Planning are deeply integrated with the marketing, load forecasting, financial, power delivery, distribution, and regulatory areas within Gulf Power Company.

Q. Have you prepared an exhibit that contains information to which you will refer in your testimony?

A. Yes. I have an exhibit consisting of 2 schedules to which I will refer. This exhibit was prepared under my supervision and direction. I am also sponsoring Sections 3, 5, 6, and 7, as well as Appendices C and D of the Need Study filed in this docket.

Counsel: We ask that Mr. Pope's Schedules 1 and 2 be marked for identification as Exhibit _____ (WFP-1).

Q. What is the purpose of your testimony?

A. My testimony will describe the Southern electric system Integrated Resource Planning (IRP) process in which Gulf Power Company participates, the current capacity needs as determined by this process, the specifics of the self-build alternative evaluation process, and how the results of these evaluations led up to the Request for Proposal (RFP) process.

Q. In your position as Coordinator of Bulk Power Planning, what part did you play in the process leading up to the ultimate decision to pursue the construction of Smith Unit 3?

A. My responsibility in this process was to direct the generation and transmission planning for Gulf in its role in the Southern electric system (SES) planning

process. As such, I ensure that the interests of Gulf's customers are met when considering the future generation and transmission needs as they are integrated into the planning process of the Southern operating companies.

Q. Could you briefly describe the Company's planning process?

A. Gulf Power is one of the five electric utility operating companies of Southern Company. Together, all of the operating companies - Alabama Power, Georgia Power, Gulf Power Company, Mississippi Power and Savannah Electric & Power - comprise a centrally dispatched resource pool. As such, the companies coordinate their planning for the entire system. Individually, we provide input regarding our customers' load and energy needs in the future. These are in turn used as input into a generation mix analysis in order to formulate overall capacity resource needs for the Southern electric system. A more detailed explanation of Southern's IRP process is contained in Section 3 of the Need Study.

A very important portion of this input is Gulf's Load and Energy Forecast, which incorporates reductions due to cost-effective demand-side measures.

The summer peak demand is the driver for determining the need for future capacity resources. Gulf's information is combined with the other operating companies' forecasts in order to determine the overall Southern system summer and winter peak demands that must be met in a reliable manner. The details of the forecasting process are covered in the Need Study as well as the testimonies of Margaret D. Neyman and Michael J. Marler.

Q. Please describe what started the process that ultimately led to Gulf's decision to seek certification for Smith Unit 3?

A. Throughout the subsections of Section 3.4 of the Need Study there is a chronology of the SES resource planning and procurement activities for 1995 through 1998. For a number of years, Gulf's reserves are low, even with the firm purchases that expire at the end of 2001. As mentioned in Section 3, Gulf is able to rely on temporary surpluses on the Southern system to supplement its own capacity resources. However, as those surpluses decline, Gulf must provide resources that contribute a reasonable share to the Southern system's reserve requirements.

The 1995 IRP and the subsequent updates in 1996 and 1997 indicated that the Company had capacity resource needs ranging between 300 MW and 350 MW by the year 2002. Gulf's corresponding Ten-Year Site Plans contained the Company's plans to satisfy these needs with short-term purchases until the time came to make new capacity resource decisions. Gulf's choice of short-term purchases was primarily aimed at providing the Company time and flexibility before having to consider making an investment in new capacity.

The Company did, in fact, participate in a solicitation for short-term capacity and energy issued by Southern Company Services in March 1997. This RFP solicited offers for Gulf's short-term resource needs beginning in 1999. As mentioned in Section 3.4.4 of the Need Study, the offers received in this solicitation confirmed that not only were the amounts of firm capacity getting scarce, but expensive as well. The Company did secure firm capacity as a result of the 1997 solicitation that will expire at the end of 2001. Because of the response to this solicitation, Gulf knew that it needed to look seriously at its capacity resource alternatives to meet the Company's needs for 2002 and beyond.

Q. How did the Company begin its investigation of capacity resource alternatives?

A. As a first step, Gulf started considering its self-build options. In late 1997, the Company launched an investigation of self-build alternatives for its 2002 capacity needs. At the time this evaluation was started, the Company's capacity shortfall in 2002 was estimated to be 352 MW according to the newly completed 1998 IRP. This IRP also indicated that Gulf needed a combination of combustion turbine and combined cycle capacity.

Q. Please describe Gulf's self-build evaluation.

A. As outlined in more detail in Section 7 of the Need Study, the Company began looking at a variety of site-specific options. Initially, the Company considered units in the 250 MW range, but quickly changed its focus to a larger unit in the 500 MW range, which more closely matched the Company's capacity need and provided significant economies of scale.

Based on the technology screening process already performed as a part of the Southern IRP process, Gulf knew that either a combined cycle (CC) or a combustion turbine (CT) technology would be the most appropriate

self-build alternative. Also, because of capacity planning activities of other Southern operating companies for resources in the same time period, the Company had a unit sharing-opportunity to consider as well. The following is a listing of the self-build alternatives that were ultimately considered in this evaluation process:

- Participation in Mississippi Power's Daniel Combined Cycle unit scheduled for a 2001 in-service date
- Construction of Combustion Turbines at Smith Plant
- Construction of a Combined Cycle unit at Smith Plant
- Participation in a Cogeneration unit in the Pensacola area

Q. Briefly describe how the self-build analysis was conducted.

A. The self-build evaluation was conducted on a total cost basis, considering all costs or benefits associated with any particular option. Two of the major factors in the analysis were the cost of the fuel supply and transmission system impacts. Sections 7.3.1, 7.3.2, and 7.3.3 of the need study cover these factors and their consideration in more detail.

It is important to note that the natural gas supply pricing assumptions were a major uncertainty during the self-build analysis. The Southern system develops a generic natural gas price forecast for the planning process, whose components are a well-established regional commodity price and an average SES transportation cost. When it comes to site-specific evaluations, the only major factor that dramatically affects the natural gas supply price is the pipeline transportation costs. This is particularly significant for a site like Smith Plant where no gas supply currently exist.

Q. How was the natural gas supply addressed for the Smith site in the self-build analysis?

A. As mentioned above, the regional commodity price (or wellhead cost) is well-established and competitive within a region. Therefore, all natural gas commodity suppliers will react in the same manner to price changes by others in the region. On the other hand, gas transportation costs vary quite considerably in different areas in the region. The different gas transportation alternatives that were investigated for the Smith site in the self-build analysis ranged from interconnecting with the closest pipeline, Florida Gas

Transmission, to constructing a new pipeline to the plant from Atmore, Alabama.

This range of alternative gas supply options was necessary for Gulf to determine if a unit installed at Smith Plant was competitive with the other options. Gulf recognized that the transportation cost assumptions provided by SCS Fuel Department were the best available at the time, but the actual costs could be significantly different once the Company were to actually receive offers from pipeline companies. It was not until after the conclusion of the self-build evaluation that the Company received offers from a number of pipeline companies with more attractive natural gas transportation alternatives. This is covered in more detail in Section 7.3.1 of the Need Study.

Q. Other than natural gas transportation, does the Company have any other fuel supply concerns?

A. Yes. Another major concern to the Company of any natural gas supply alternative is the reliability and firmness of the supply. This is one of the reasons that the construction of a pipeline from Alabama was preferred over non-firm gas service from the FGT pipeline in the self-build evaluation process.

Reliability of supply is still a major factor being considered in the current negotiations with those that have subsequently provided the Company with gas transportation offers. Based on what Gulf has already been able to determine in these negotiations, the Company is convinced that a reliable natural gas supply can easily be secured with at least three of the potential suppliers. Gulf expects that by the time the hearings in this docket occur, the Company will have nearly completed its negotiations and secured a reliable and cost-effective natural gas supply for Smith Unit 3.

Q. Please describe how the self-build alternatives were economically evaluated.

A. The self-build process analyzed the cumulative net present value (NPV) for the various alternatives in this evaluation. The analysis included capital costs, fixed and variable O & M costs, fuel costs, and other financial impacts over a twenty-year time frame. These costs were present valued back to 1998 dollars to allow the site-specific alternatives to be evaluated on an equal basis. The total incremental costs of each option, including any required transmission system improvements, were considered when

reaching the final results of this evaluation. The combined cycle cost figures that were used in this process were considered preliminary engineering cost figures.

Q. What were the results of the self-build analysis?

A. Considering all of the cost factors, including construction costs, fuel supply costs, transmission impacts, and system energy costs and savings, the self-build analysis revealed that a 500 MW class CC unit at the Company's existing Smith Plant was the best self-build alternative. Schedule 1 shows the results of the self-build analysis. These results are based on a common megawatt block size to keep all alternatives on equal footing during the analysis.

Q. Are there any transmission system improvements required in connection with Smith Unit 3?

A. No. The output of Smith Unit 3 can be reliably integrated into the Northwest Florida grid with no major transmission improvements.

Q. How does the addition of a 500 MW class combined cycle unit affect Gulf's resource needs and reserves for 2002 and beyond?

A. As mentioned earlier, the 1998 IRP identified a capacity shortage of 352 MW for the Company in 2002. However, Gulf's latest demand and energy forecast and Southern's IRP update for 1999 indicate that Gulf will need 427 MW of capacity resources in 2002 in order to achieve its share of the SES 13.5% summer reserve margin criterion. This further highlights the appropriateness of the installation of a 500 MW class unit in 2002.

Q. Are there any additional, cost-effective conservation measures that could avoid or defer this unit?

A. No. Smith Unit 3 can neither be avoided nor deferred by additional conservation measures. As mentioned in the testimonies of Gulf's witnesses Neyman and Marler, all reasonably available cost-effective conservation measures have already been factored into Gulf's Load and Energy Forecast. With a need by the Company of 427 MW in 2002, or approximately 80% of the peaking rating of Smith Unit 3, it would take the cumulative effect of many years' worth of additional conservation measures to have any impact on the timing of this unit. Stated another way, if Smith Unit 3 were not constructed, cost-effective conservation measures

would still leave Gulf and its customers seriously short of capacity resources.

Likewise, the temporary surplus in capacity of Smith Unit 3 will be fully needed for Gulf's territorial customers and its reserve requirements by the year 2006. Schedule 2 shows the Company's demand, capacity resources, and reserves for the period 1999 through 2008 assuming the installation of Smith Unit 3. As Table 3-5 in the Need Study shows, the Company's reserves would become negative in 2002 without the installation of any resource additions.

Q. Did the self-build analysis lead to a decision to build Smith Unit 3?

A. No. As mentioned before, at this point the Company had fairly evaluated its self-build or participation options. However, Gulf still needed to determine whether the competitive market could provide a more cost-effective alternative to the Company's own construction.

Q How did Gulf proceed to identify other alternatives?

A. Gulf coordinated with SCS and drafted an RFP that was issued on August 21, 1998. The testimony presented by Maria J. Burke details the RFP process and the

analyses that were performed on the offers received. It was this evaluation process that led to the final decision to seek certification for Smith Unit 3.

Q. Does this conclude your testimony?

A. Yes.

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Exhibit No. _____ (WFP-1)
Schedule 1

SUMMARY OF ECONOMIC ANALYSIS

SELF-BUILD ALTERNATIVE	NET PRESENT VALUE OF COSTS (98$ MIL)
Smith Unit 3	117.1
Smith Combustion Turbine	158.5
Daniel Combined Cycle	236.7
Mulat Tower (cogeneration)	239.0

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Schedule 2

GULF'S FUTURE RESERVES BEGINNING IN 2002 WITH THE ADDITION OF SMITH UNIT 3

YEAR	PEAK DEMAND (MW)	STARTING CAPACITY (MW)[1]	CAPACITY ADDITION (MW)	ENDING CAPACITY (MW)	PERCENT RESERVES
2002	2,265	2,123	540	2,663	17.6%
2003	2,280	2,663	0	2,663	16.8%
2004	2,309	2,663	0	2,663	15.3%
2005	2,347	2,663	-19	2,644	12.7%
2006	2,383	2,644	0	2,644	11.0%
2007	2,425	2,640	148	2,788	15.0%
2008	2,466	2,784	0	2,784	12.9%

Footnotes: [1] The beginning capacity figures have interruptible load embedded into them in the amounts of: 34 MW for 1999 - 2006, 30 MW for 2007, and 26 MW for 2008.

AFFIDAVIT

STATE OF FLORIDA)
)
COUNTY OF ESCAMBIA)

Docket No. 990325-EI

Before me the undersigned authority, personally appeared William F. Pope, who being first duly sworn, deposes, and says that he is the System Planning Coordinator of Gulf Power Company, a Maine corporation, that the foregoing is true and correct to the best of his knowledge, information, and belief. He is personally known to me.

William F. Pope
System Planning Coordinator

Sworn to and subscribed before me this 1st day of April, 1999.

Jackie Whipple
Notary Public, State of Florida at Large

Jackie L Whipple
My Commission CC662984
Expires August 23, 2001