ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Determination of Need for the Osprey Energy Center in Polk County by Seminole Electric Cooperative, Inc. and Calpine Construction Finance Company, L.P.	)	**DOCKET NO. 001748-EC**
	)	**FILED: December 4, 2000**

DIRECT TESTIMONY AND EXHIBITS

OF

GARL S. ZIMMERMAN

ON BEHALF OF

SEMINOLE ELECTRIC COOPERATIVE, INC.

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DIRECT TESTIMONY AND EXHIBITS OF GARL S. ZIMMERMAN
ON BEHALF OF SEMINOLE ELECTRIC COOPERATIVE, INC.
DOCKET NO. _____-EC
DECEMBER 4, 2000

Q. Please state your name and business address.

A. My name is Garl S. Zimmerman. My business address is 16313 North Dale Mabry Highway, Tampa, Florida 33618.

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

A. I am employed by Seminole Electric Cooperative, Inc. ("Seminole"), as Manager of System Planning.

Q. Please describe your duties with Seminole.

A. In my capacity as Manager of System Planning, I am responsible for generation and transmission planning. My duties include coordination of our generation and transmission planning with other departments within Seminole and with other utilities. My responsibilities include evaluating various power supply proposals that Seminole receives and making recommendations to Seminole's management on the subjects of entering purchase contracts and/or building Seminole's own generating units.

QUALIFICATIONS AND EXPERIENCE

Q. Please summarize your educational background.

A. I received a Bachelors degree in Electrical Engineering from the University of Florida in 1964.

Q. Please summarize your employment history and work experience.

A. I have 32 years of experience in the electric power industry. In 1965, I worked for Tampa Electric Company as a distribution engineer. From 1966 through 1969, I served as a communications officer in the U.S. Air Force and returned to Tampa Electric in 1970 where I worked as an engineer and senior engineer in power plant engineering, substation engineering and power plant construction. In 1981, I joined Seminole Electric Cooperative as System Protection Engineer. I assumed my present position as Manager of System Planning approximately 10 years ago.

In addition to my duties at Seminole, I am active in a number of industry activities. Within the Florida Reliability Coordinating Council ("FRCC"), I serve as the Chair of the Compliance Working Group and as Seminole's alternate member of the Engineering Committee. I also serve as the FRCC representative on the North American Electric Reliability Council's Compliance Review Working Group.

Q. Do you hold any professional certifications or memberships in any professional organizations?

A. I am a registered Professional Engineer in the State of Florida and a Senior Member of the Institute of Electrical and Electronic Engineers ("IEEE") Power Engineering Society.

SUMMARY AND PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. In my testimony I will provide an overview of Seminole's generation planning process; identify Seminole's next need for capacity; describe Seminole's all source

bidding process; provide a summary of the economic analysis performed in the evaluation of the proposals; and discuss the consequences that would attend a delay in the plan to meet the identified need. In doing so, I will discuss the overall methodology that Seminole uses for planning, including our reliability criteria and our review of generating technologies. I will provide information on the detailed analysis that Seminole performed to determine that the Calpine proposal is the best alternative to meet our identified need.

Q Are you sponsoring any exhibits to your testimony?

A. Yes. Attached are my Exhibit Nos. ___ - _____(GSZ-1 - GSZ- 5). In addition, I am sponsoring the following portions of Volume I of Exhibits to the Joint Petition: Subparts 1 through 5 of Section C, including the tables and figures therein, and Appendix I-B (the RFP).

Q. Please summarize Seminole's resource planning process.

A. As Seminole witness Tim Woodbury describes in his testimony, Seminole provides electrical power to ten Member cooperatives. Seminole's primary long-range planning goal is to develop the most cost-effective way to meet its Members' load requirements while maintaining high system reliability. Seminole's process for optimizating the selection of resources is based primarily on a measurement of total revenue requirements. For a not-for-profit cooperative, revenue requirements translate directly into rates to our Member distribution cooperatives. The plan with the lowest revenue requirements is generally selected, assuming that other factors, such as impact on reliability, initial rate impact, and strategic considerations, do not

warrant a departure from an analysis based strictly on economics. Seminole also recognizes that planning assumptions change over time. Planning decisions must be robust and are, therefore, tested over a variety of sensitivities.

Q. Please summarize Seminole's reliability criteria.

A. Seminole presently uses a minimum 15% system peak reserve margin as its primary reliability criterion. To meet this criterion, supply plans include adequate firm resources having a total capacity at least 15% greater than Seminole's projected maximum annual peak load obligations in each year of the planning period. (Occasionally, Seminole's share of operating reserves allocated by the FRCC requires Seminole to maintain total reserves which exceed the 15% figure; in that event, the higher figure becomes the minimum criterion.) Since the mid-1980s, Seminole has also used a 1% Expected Unserved Energy ("EUE") criterion, which historically resulted in a reserve margin greater than the 15% criterion. As Seminole's system and resources have grown and diversified, the capacity values associated with meeting each of the two criteria have approached each other and have in fact crossed over, such that the 15% reserve margin criterion presently drives Seminole's need to add capacity resources.

Q. Why does Seminole use two different reliability criteria?

A. Each criterion views the reliability of the system from a different, but needed, perspective. The reserve margin views the system at a point in time. It measures reliability on the basis of data that is given or assumed as of the time the measurement is made. The EUE, by contrast, is a probablistic technique. It gauges

the probability that certain events will occur during a given annual period and measures the extent to which the utility conducting the analysis will likely be unable to meet end users' requirements during that period. Because of the different focus of each, there are circumstances in which the use of a single criterion may not provide a complete picture of the reliability of the system.

Q. Can you provide an example?

A. Yes. For instance, Mr. Woodbury mentioned in his testimony that our contractual first call right to the Hardee Power Station capacity pursuant to our contract with TECO Power Services is limited to certain factual circumstances. This contract purchase makes a significant contribution to the reliability of Seminole's system that cannot be ignored. Accordingly, Seminole's practice is to include the Hardee Power Station capacity in the calculation of Seminole's installed reserves. The alternative, given the fact that with the 295 MW of first call capacity Seminole has addressed its most critical supply contingency, would be to adopt a lower reserve margin standard. The need to make this choice illustrates the limitations on the ability of an instantaneous, deterministic calculation such as reserve margin to portray and measure the effect on the system of a first call resource that is subject to certain contingencies. On the other hand, as I mentioned earlier, the measurement of EUE is a probablistic calculation. As the term implies, the methodology deals in terms of the probability that contingencies–such as the outages or deratings that would trigger Seminole's contract rights to Hardee Power Station capacity–will occur in the future. As such, it is better suited to quantifying the contribution of a first call resource.

Inasmuch as Seminole has reached the point at which it has an extremely low EUE, the reserve margin criterion will likely continue to be the first to be violated. However, the EUE calculation continues to provide a different and useful perspective.

Q. Please elaborate on the analysis that led Seminole to conclude it should add capacity.

A. Utilizing the load forecasts that we developed in conjunction with the Members, we compared the available resources with the projected loads over time. We identified the point in time when, according to the comparison, the system would not be able to meet the peak load and provide a reserve margin of 15%. Our study indicated that would first occur -- absent action on Seminole's part -- in 2004. Our projections indicated that the reserve margin would fall to 11.6% in that year and decline thereafter. The situation is portrayed in Exhibit No. _____ (GSZ-1). This table is also included in Volume I of the Exhibits to the Joint Petition.

Q. What factors are projected to contribute to the impact on reserve margin in 2004?

A. Principally, load growth in Seminole's Direct Service Area and in the portion of the service area that lies within FPL's transmission control area will cause the reserve margin to decrease over time. In addition, two of our power purchase agreements will terminate in 2004: a contract with OUC for 75 MW; and a contract with JEA for 53 MW. (See Tim Woodbury's Exhibit No. ____ (TSW-2).

Q. Having determined the year in which capacity would be needed to maintain a

minimum 15% reserve margin, what was the next step in the planning effort?

A. Using the PROMOD IV and PROSCREEN computer models, in which we placed unit-specific operating data and fuel costs derived from our in-house fuel forecast, we added hypothetical increments of capacity, simulated the operation of the system over time, and calculated the net present value of revenue requirements ("NPRR") associated with adding each such increment of capacity to the system.

Q. What, if any, non-generating alternatives did Seminole consider in the processes that led it to select the Osprey Energy Center?

A. Seminole's projections of its power supply needs include and reflect the effects of the energy conservation and demand-side management programs and activities of Seminole's Member cooperatives. In the simplest terms, our generation planning process assumes that our Member systems achieve their projected capacity and energy reductions through those programs and activities, such that the need shown is net of these conservation measures. The addition of the most desirable, cost-effective source of generation to satisfy the need that results from such a calculation becomes, by definition, cost-effective relative to other conservation measures. Nevertheless, as I will describe, we solicited demand-side proposals prior to deciding that Calpine's proposal is the solution of choice.

Q. What types of generating capacity additions did you study?

A. On a continuing basis, Seminole stays abreast of the cost and capabilities of proven, commercially viable technologies available to provide base, intermediate, or peaking capacity. These would include pulverized coal units (base); combustion turbines, oil-

or-gas-fired (peaking); and combined cycle units, in which a combustion turbine generator supplies exhaust heat to a heat recovery steam generator, which is coupled to a steam turbine (intermediate/base load).

Q. Why do you categorize the technologies as base, intermediate, and peaking?

A. Each technology is characterized by a mix of fixed costs and variable costs. As a rule, one incurs higher fixed costs only if by doing so one also reduces variable costs, such that total (fixed and variable) costs are minimized. The easy example - and one which is pertinent here - is the pulverized coal unit. The technology is proven and reliable. Coal is in ample supply and is one of the cheapest fuels available. However, the cost of installing a pulverized coal unit is very high relative to other available generating technologies. As a consequence, a coal unit would be a poor choice if indications were that it would not operate often enough to generate fuel savings sufficient to offset the high fixed costs.

The peaking unit is at the other end of the fixed/variable spectrum. It is comparatively inexpensive to install, but the operating costs are so high that at a relatively low level of usage another technology - the combined cycle unit - becomes more cost-effective.

As the term implies, the fixed costs of the intermediate technology are lower than a base load unit, but higher than a peaking unit. The efficiency of the combined cycle unit makes it attractive over a relatively wide range of capacity factors, including some that would be regarded as virtually "base-loaded" in nature.

Q. Currently, what does Seminole regard to be the breakpoint capacity factors for

base loaded coal plants, intermediate combined cycle units, and combustion turbines used in a peaking mode?

A. As shown in my Exhibit No. _____ (GSZ-2), the breakpoint we currently use to screen the applicable technologies between peaking (combustion turbines) and intermediate (combined cycle) types of capacity is between 15% and 17%. This means that if a unit dispatches at a capacity factor greater than 15% to 17%, it should be an intermediate type of capacity rather than peaking. The screening curves for base (pulverized scrubbed coal) and intermediate (combined cycle) cross over at a capacity factor of approximately 87%, indicating that, with current capacity and fuel pricing assumptions, the combined cycle unit is the preferred technology for all applications with a capacity factor between 17% and 87%.

Q. Which types of generators did you model during the initial production costing simulations?

A. The simulations provided the amount of energy that would be associated with the reserve margin shortfall and the hours in which usage would occur. The economics of a pulverized coal unit are such that a much higher energy usage across more hours would be needed to overcome the high fixed costs of such a unit. Accordingly, we ruled out the pulverized coal-fired unit at an early stage. We modeled the impact of gas-fired combined cycle units and gas-fired simple cycle turbines on the system.

Q. How much generating capacity was shown to be needed by these exercises?

A. The original analysis, based on the load forecast in our 2000 Ten Year Site Plan, showed that 160 MW would be needed in 2004 to satisfy the minimum criterion of

a 15% reserve margin. (This amount was adjusted upward during the course of the procurement process, as I will explain.)

Q. Once the need in 2004 and subsequent years had been identified, what happened next?

A. We prepared and issued a Request for Proposals ("RFP") for purchased power and demand side offers. Simultaneously, we asked Black and Veatch to fully characterize and price a combined cycle unit and a peaking unit of the type it would build for Seminole on a turnkey basis.

Q. Please describe the RFP.

A. I have attached a copy of the RFP as Exhibit No. ___ (GSZ-3). Basically, we invited the full universe of interested providers–IPPs, utilities, and marketers–to present proposals designed to meet our need. As I mentioned, the RFP was an "all source" request, meaning that we would entertain demand-side proposals as well as supply-side proposals. We indicated that we would consider proposals for combined cycle and/or peaking capacity, in the range of 160 to 600 MW. The RFP specified that Seminole had a minimum need of 160 MW of intermediate type capacity, beginning May 1, 2004 and, in addition, would evaluate an additional 440 MW of capacity to displace existing power supply arrangements, beginning January 1, 2004. The RFP was posted on Seminole's website and appeared there until the conclusion of the designated response period.

Q. How many proposals did Seminole receive?

A. We received a total of 14 responses, all of which were supply-side proposals.

Q. Please describe how you evaluated the responses to the RFP.

A. First, we determined that to meet our minimum reserve criterion (given the existing inventory of resources and our recently updated load forecast) that we needed to add 201 MW of capacity by January1, 2004.

Q. What was the next step in the evaluation process?

A. We evaluated the peaking and intermediate categories separately. The evaluation occurred in several steps. After we identified the most cost-effective peaking proposal, we compared it to the cost of additional Partial Requirement ("PR") power from FPC, then compared it to the most economical of the combined cycle proposals, which were studied separately.

Q. How did you compare the peaking proposals?

A. Our production costing simulation, in which we modeled the generic parameters of a GE 7 FA combustion turbine, provided utilization characteristics that we could expect from a peaking unit. The demand costs proposed by the respondents, hours of service, the number of unit starts, and a fixed value for energy enabled us to calculate an average annual cost in dollars per megawatt hour that would be associated with each proposal. The results are shown in my Exhibit No. __(GSZ-4), which also appears in Volume I, Section C, of the Exhibits to the Joint Petition.

Q. Why did you compare the lowest costing peaking proposal with the cost of additional PR purchases, and what was the result of the comparison?

A. Simply put, there would be no reason to contract for the peaking capacity if we could save money by buying more PR power. And, in fact a comparison showed that the

peaking proposal would be more costly than additional PR power.

Q. How did you determine which of the combined cycle proposals was the most economical?

A. The initial step was similar to the first step in the comparison of peaking alternatives. Choosing a GE 7FA 2x1 combined cycle configuration as the proxy, we simulated the manner in which a generic combined cycle unit would operate in our system and developed utilization characteristics. Because the respondents had proposed differing amounts of capacity, it was necessary to calculate an average annual cost in $/MWH so that an apples-to-apples comparison could be made. We then performed additional production costing simulations for the purpose of a more rigorous comparison of the top four combined cycle proposals.

Q. How did the second phase of the evaluation of intermediate capacity proposals differ from the first?

A. The first phase amounted to a rough first cut designed to produce a short list of the top proposals. The production costing simulation was performed with a generic proxy, and the operating characteristics were use to calculate the stand-alone contract costs for each proposal. This approach is less detailed and refined than a full-blown calculation of system costs, but serves well to screen the proposals for further study.

Q. Did the results of this preliminary analysis affect the parameters of the overall study?

A. Yes. I mentioned earlier that we had initially concluded that Seminole needed to add 201 MW to existing resources. Our analysis revealed at this point that the combined

cycle bids were more economical than an existing 150 MW power purchase contract with FPC. In addition, this particular contract gives Seminole the right to adjust or terminate the arrangement by giving FPC advance notice of three years. To reflect the opportunity to substitute a more economical source for this contract, we revised the needed capacity from 201 to 350MW.

Q. Does the fact that Seminole revised the capacity addition to 350 MW mean that Seminole had decided at that point to terminate the FPC contract?

A. No. While that is an option that Seminole may consider in the future, the upward revision to the amount of capacity to be added did not signify a decision to terminate the FPC contract. In fact, there are reasons why Seminole could very well choose to retain the contract. Including the Calpine purchase and the 150 MW purchase from FPC, the resulting reserve margin is 23.2%, which is not excessive in any event. Seminole could decide to retain the FPC contract to provide a higher-than-minimum level of reserves, or as a hedge against future contingencies. All in all, the ability to keep or terminate the FPC contract constitutes a component of the strategic flexibility that Mr. Woodbury discusses in his testimony.

Q. Please continue with your description of the second phase of the evaluation of intermediate proposals.

In the second phase we mathematically "inserted" each specific proposal into the system individually, and performed production costing simulations to measure the overall system revenue requirements associated with each bid.

Q. What were the results of this more rigorous analysis?

A. The Calpine Osprey proposal, which was ranked No. 1 in the preliminary analysis, retained its position as the most cost-effective submittal. The more detailed simulation indicated that Seminole would employ its 350 MW commitment of Osprey capacity at an initial capacity factor of 60% and that it would increase to 70% over the period 2004-2008. Compared to the second, third, and fourth best proposals, the Calpine Osprey bid will save Seminole $_____, $_____, and $_____ in total revenue requirements, (net present value) over the period 2004-2008 respectively. The results are shown on Exhibit No. _____ (GSZ-5). In Exhibit No. _____(GSZ-5) we compared the bids after expressing each in terms of the equivalent 350 MW offer. The results are also shown in Volume I, Section C of the Exhibit to the Joint Petition.

Q. What did Seminole do next?

A. We compared the Calpine proposal with the self-build option.

Q. How did you develop the cost of the self-build option?

A. We began with the direct construction costs provided to us by Black and Veatch. We developed the revenue requirements by making certain assumptions regarding loan amounts, interest rates, and term of the loan. Because we have not firmed up fuel or fuel transportation arrangements for a self-build option, we assumed the fuel and fuel transportation costs would be equivalent to those of the Calpine facility, thereby enabling us to compare the self-build to Calpine on a fixed cost basis only.

Q. Please elaborate on the financial assumptions you employed.

A. Seminole traditionally has evaluated financing assuming a 30-year loan guaranteed by the Rural Utilities Services ("RUS"). Seminole developed the costs using this method, but also looked at an RUS-guaranteed 6% loan having a payback period of 17 years. This will be the amount of time remaining on the Seminole - Member Wholesale Power Contract in 2004. As a sensitivity, Seminole also, looked at a non-RUS guaranteed loan with 7 % interest.

Q. Did you make any assumptions regarding the proposed power purchase transaction on Seminole's cost of capital?

A. We assumed there would be no impact.

Q. Please explain.

A. RUS is the primary source of our funding. The criterion that RUS applies to gauge risk relates to interest coverage ratings. In our experience, RUS does not regard a power purchase agreement as more risky financially than construction and ownership.

Q. Once you fully developed the revenue requirements of the self-build option, how did it compare with the Calpine proposal?

A. When viewed on a five-year basis, the Calpine proposal was more cost-effective, saving Seminole $_____ over the initial term. This is the pertinent time frame for the analysis, in view of the reopener provision to which Calpine and Seminole have agreed.

Q. What happened after Seminole determined that the Calpine proposal is its best alternative to meet its 2004 need for capacity?

A. Seminole and Calpine successfully negotiated basic commercial terms, presently incorporated in a Memorandum of Understanding, which Seminole witness Tim Woodbury will describe.

Q. What, if any, adverse effects would Seminole experience if the Osprey Project were not brought into service as proposed by Calpine and Seminole?

A Seminole requires capacity in the 2004 time frame. If the Calpine project is delayed, Seminole would either expose its members to an unacceptably lower level of reliability or incur increased costs -- possibly including the very high cost of short-term contractual arrangements -- to provide the same measure of reliability. During the period of the delay, Seminole would also be denied the flexibility and the strategic advantages that help make the Calpine Osprey proposal Seminole's superior choice.

Q. Does this conclude your direct testimony?

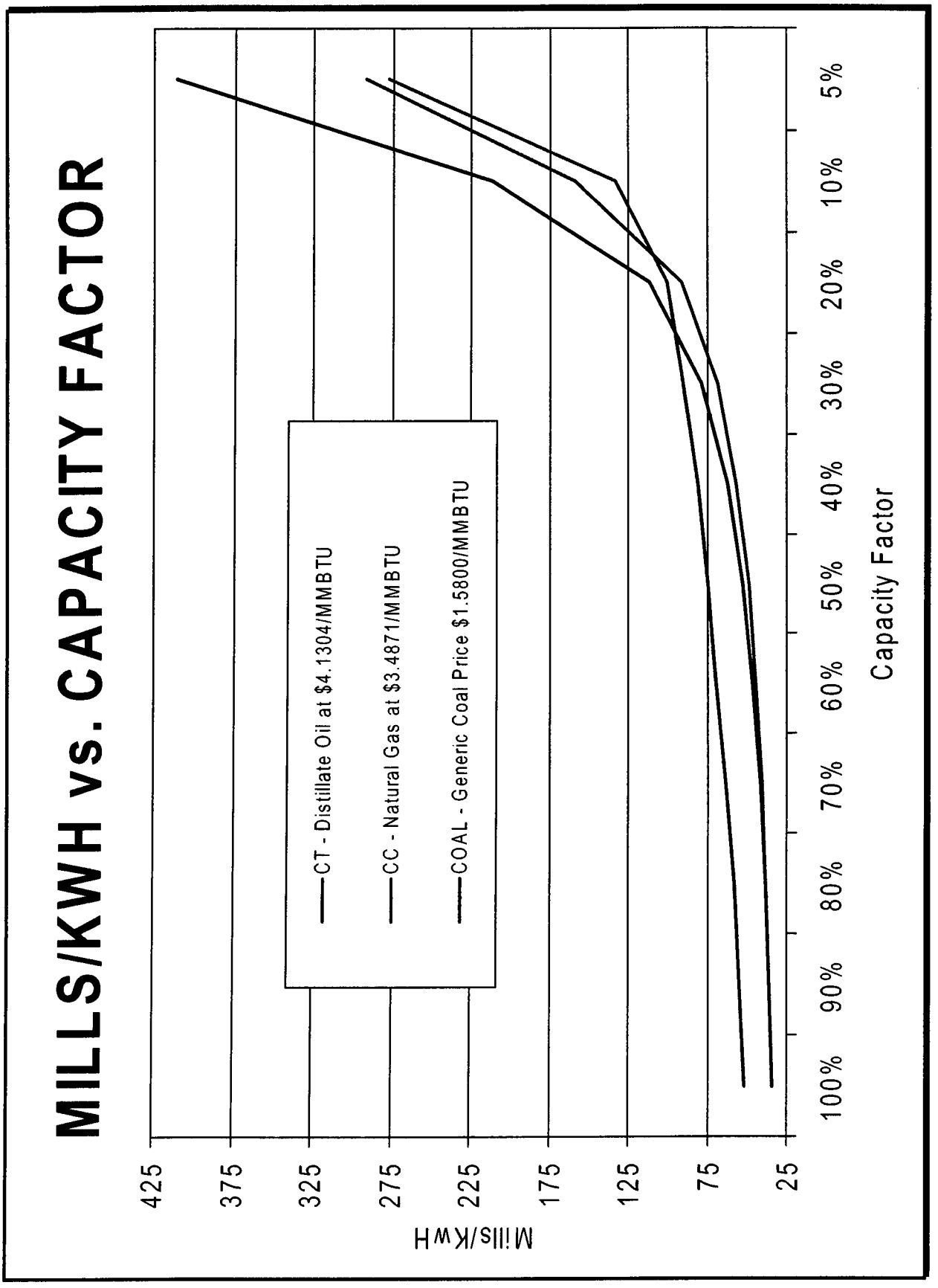
A. Yes.

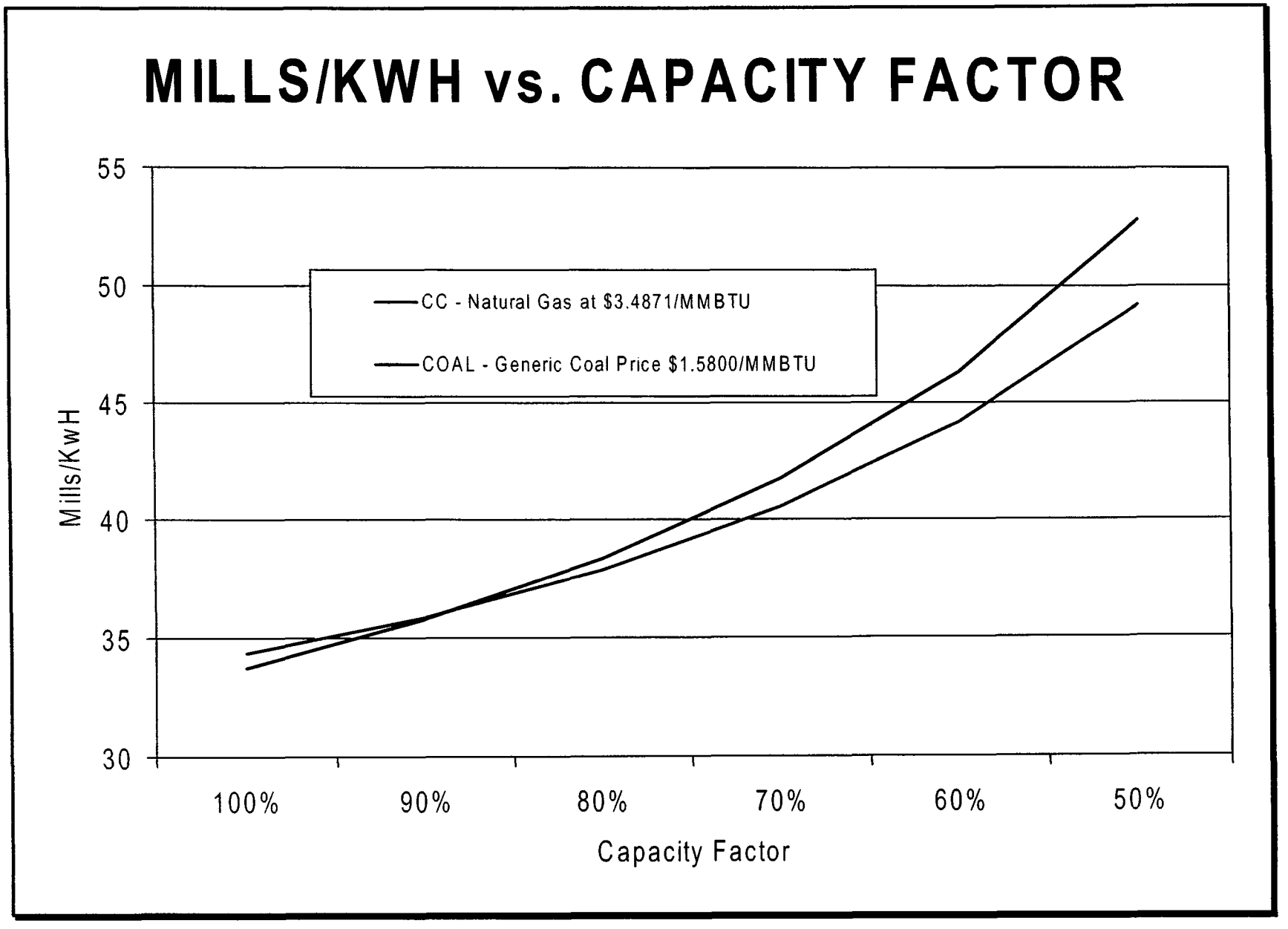
Docket No. _____
Witness: Garl S. Zimmerman
Exhibit No. ___ (GSZ-1)

Table 2

Summer Reserve Margin (No Addition)

Year	Capacity (MW)	Demand (MW)	Reserve Margin (%)
2004	2897	2596	11.6
2005	2897	2682	8.0
2006	2897	2738	5.8
2007	2591	2838	-8.7
2008	2591	2942	-11.9
2009	2591	3045	-14.9


MILLS/KWH vs. CAPACITY FACTOR
Mills/KWH
425
375
325
275
225
175
125
75
25
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
5%
Capacity Factor
CT - Distillate Oil at $4.1304/MMBTU
CC - Natural Gas at $3.4871/MMBTU
COAL - Generic Coal Price $1.5800/MMBTU


MILLS/KWH vs. CAPACITY FACTOR
55
50
45
40
35
30
Mills/KwH
CC - Natural Gas at $3.4871/MMBTU
COAL - Generic Coal Price $1.5800/MMBTU
100%
90%
80%
70%
60%
50%
Capacity Factor

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

July 6, 2000

RFP No. IP 2004 - Request for Firm Year-Round Intermediate and Peaking Capacity

Purpose

Seminole Electric Cooperative, Inc. is seeking proposals from qualified and eligible bidders to meet portions of its power supply requirements, beginning in **2004.** Proposals for intermediate and peaking capacity will be considered. Proposals providing demand side options will also be considered for evaluation. Seminole favors short-term proposals in the range of two (2) to five (5) years' duration but will consider attractive longer-term proposals. Joint ownership proposals will also be considered. Seminole is primarily interested in proposals that will allow maximum control and the flexibility to use resources for any purpose.

Proposals must offer "firm" capacity from identified generating resources. This RFP is open to all parties, including, but not limited to: independent power producers, exempt wholesale generators, qualifying facilities (under PURPA), power marketers, and utilities.

Description of Capacity Requirements

Seminole has a **minimum** need of 160 MW of intermediate type capacity, beginning May 1, 2004. In addition, Seminole will evaluate an **additional** 440 MW of capacity to potentially displace existing power supply arrangements, beginning January 1, 2004. In total, Seminole is seeking proposals for intermediate and peaking capacity needs, in the following amounts, not to exceed a total of 600 MW:

Between 160 and 400 MW of intermediate type capacity
Up to 350 MW of peaking type capacity.

Proposals may be for less than the amounts shown above. Offers of capacity and energy may be from one or more resources. Such resources must be suitable to meet Seminole's firm load and/or reserve obligations (i.e., Seminole must have first-call priority for shared resources).

Seminole will **not** consider proposals that describe non-firm capacity.

Scheduling

Preference will be given to proposals that maximize scheduling flexibility, including real-time control capability, such as automatic generation control (AGC).

Delivery to the Seminole System

Seminole currently serves portions of its load directly through its own transmission system or through the transmission systems of Florida Power Corporation (FPC) or Florida Power and Light Company (FPL). Therefore, Seminole will consider offers that deliver capacity and energy to the Seminole, FPC or FPL transmission systems. Wheeling and interconnection arrangements and costs to deliver the capacity and energy to the Seminole, FPC or FPL transmission system delivery points are the responsibility of the bidder. Prices quoted must be based upon net capacity delivered to the transmission tie. All proposals must identify any wheeling and interconnection agreements with third parties that are required to deliver the power and energy to Seminole. Seminole would expect transmission arrangements to deliver the offered capacity to be firm. If the bidder desires to achieve the equivalence of firm delivered capacity by other means, (e.g., alternative generating resources), then a thorough explanation of such alternative arrangements should be provided.

Pricing

All price quotes must be communicated on the attached forms. Capacity prices should be quoted in the form of a flat amount per month or nominal dollars per kilowatt-month ($/kW-month). If capacity price is quoted on the basis of $/kW-month, the kW to which the capacity price is applied must be stated. Non-fuel energy pricing should be bid in nominal dollars or mills per kilowatt-hour. The proposal shall specify the methodology for determining fuel billings.

Prices quoted must include all costs that Seminole would be expected to pay for the capacity and energy proposed.

Other Terms and Conditions

Each proposal must comply with all applicable federal and state laws. All permits, licenses, fees, emissions allowances, and environmental requirements are the responsibility of the bidder for the entire term of each proposal. Proposals must include detailed descriptions of guarantees and related remedies for failure to perform. Each proposal must provide guarantees for in-service dates, contract capacity, heat rates and availability. Operational characteristics such as (but not limited to) capacity limitations, ramp limitations, maximum or minimum run-times, maximum or minimum down-times, fuel limitations, etc., should also be specified. If a resource included in a proposal is not yet in service, a detailed milestone schedule describing major project activities leading up to the commencement date for commercial service should also be provided.

Seminole is currently engaged in negotiations relating to all or a portion of the needs identified in this RFP. Parties involved in those negotiations are not required to submit bids under this RFP and will receive written confirmation of such status. Those negotiations may continue on a parallel path with this bid solicitation.

Reservation of Rights

Seminole reserves the right, without qualification and at its sole discretion, to amend or withdraw this request for offers and to reject any or all proposals or portion of proposals received. Those who submit proposals to Seminole do so without recourse against Seminole for either rejections by Seminole or failure to execute a purchased power agreement for any reason. Seminole also reserves the right to request further information, as necessary, to complete its evaluation of the proposals received.

Procedures for Application

1. A copy of this Request for Proposals, together with supporting application forms, is on the Seminole Electric Cooperative, Inc. web site, "**www.seminole-electric.com**". The link to the Request for Proposals appears on the Seminole home page. The link to the application forms is in the **"Pricing"** section of this RFP.

2. Seminole requires that each bidder pay a non-refundable application fee of five hundred dollars ($500.00) for each proposal submitted. Respondents are requested to submit their proposals via e-mail to the e-mail address below. In addition, an **original proposal, signed by an authorized officer**, plus **four (4) copies** must be mailed. The mailing addresses are:

   By Courier:

   Seminole Electric Cooperative, Inc.
   Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
   16313 North Dale Mabry Highway
   Tampa, FL 33618

   By U.S. Mail:

   Seminole Electric Cooperative, Inc.
   Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
   P.O.Box 272000
   Tampa, FL 33688-2000

   By E-Mail:

   "rfpresponse@seminole-electric.com".

3. All proposals must arrive via e-mail by **August 31, 2000**. Paper copies must arrive at Seminole's Tampa offices by the same date. Seminole is not obliged to contact bidders concerning missing or incomplete forms. Only versions of the forms attached to this Request for Proposals may be used to submit proposals.

4. The bidder must designate a contact person with whom Seminole can communicate with questions about the proposal.

5. All offer packages should include any additional information required to support evaluation of the proposal, including a completed Credit Application, which form is included in the attached forms accompanying this RFP. Documents requested in support of the Credit Application must accompany the mailed versions of the proposals.

Confidentiality

Seminole recognizes that certain information contained in proposals submitted may be confidential and, as permitted by applicable law, will treat each proposal in its entirety as confidential. If Seminole is formally requested by any regulatory or judicial authority, including the Rural Utilities Service (RUS), to disclose information with regard to a proposal, Seminole may disclose such information.

Seminole also reserves the right to disclose any or all of the information submitted in response to this request to any consultant(s) retained by Seminole to assist with the various aspects of this process. Seminole will take reasonable steps to ensure that its consultant(s) will also treat information received from bidders as confidential; however, Seminole will not be liable for any failure of any consultants(s) to do so.

Communication

Seminole expects to identify a short list by **October 30, 2000**. Negotiations with those bidders on the short list are expected to be completed by **February 28, 2001**. Contracts detailing the terms and conditions of the completed capacity power purchase agreements are expected to be executed by **May 31, 2001**.

This RFP is available either on the Internet at **http://www.seminole-electric.com**, or by e-mail, fax or U.S. mail.

If interested parties have any questions or desire any additional information related to this request for offers, **such questions or requests should be made in writing and directed via fax at (813) 264-7906 or via e-mail (to the e-mail address above) to** Ms. Trudy S. Novak, Director of Pricing and Bulk Power Contracts.

GENERAL INFORMATION

The undersigned submits this proposal in response to Seminole's Request for Proposals for power supply in the Year 2004 (Submit separate forms for each proposal offered):

On Forms Provided Herein, Add Additional Rows As Needed

Guaranteed Capacity (MW) Delivered to the Transmission Tie:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Commencement Date (mo/da/yr): [ ] **Termination Date (mo/da/yr):** [ ]

Please describe remedies for failure to deliver committed capacity and/or failure to attain in-service dates:

_____

_____

Complete Company Name of Bidder _____

Address _____

Telephone No. _____

Contact Person(s) _____

E-mail Address(es) _____

Fax Machine No. _____

Authorized Signature _____

Bidder's Business Classification (IOU, QF, Power Marketer, Merchant Plant, etc):

_____

Type of Resource Offered:

System Purchase(1); Unit Purchase, Existing(2); Unit Purchase, Proposed(3); Portfolio (4): [ ]

Please indicate here whether this proposal is for Seminole's Intermediate or Peaking need: _____

Please Identify the Company Responsible for Operating the Resource: _____

_____

For System Purchases:

Resources Included _____ (Entire System or Group of Units?)

Number of Units _____

Type (Base(1), Intermediate(2), Peaking(3), Combination(4)) [ ]

For Unit Purchases or Joint Ownership Proposals:

Current Status (In Operation (1), Under Construction (2), Proposed (3)): [ ]

In-service Date (mo/da/yr) under construction/proposed: [ ]

Generating Technology:

_____

Primary and Secondary Fuel Types:

_____

For Power Marketers:

Please attach a summary to describe your portfolio.

_____

_____

The following information is requested for proposals describing UNIT purchases or JOINT OWNERSHIP Proposals:

Facility Description and Geographic Location of Each Resource in Proposal:

Expected In-service Date(s) and Milestone Schedule for Units Under Construction:

Proximity of Each Resource (Miles) to Nearest Currently Existing Transmission Facilities: _____

Describe Transmission Facilities: _____

Identify Control Area They Are In: _____

If Transmission Facilities do not Currently Exist, Please Discuss Interconnection Plans:

The following information for proposals describing SYSTEM purchases:

Characteristics of System Purchase Proposed (i.e., describes Firm Capacity, Equivalent to Native Load, etc.):

Unit Purchases or Joint Ownership Proposals: Guaranteed Capacity Delivered to the Transmission Tie:

Please provide information requested below for each resource offered.

Unit/Resource Name _____

Proposed Unit: with or without evaporative cooler? _____

Capacity (MW):

	At 32 degrees:	At ISO:	At 95 degrees:
By Fuel Type: **OIL:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			
By Fuel Type: **GAS:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			
By Fuel Type: **OTHER:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			

Unit Purchases or Joint Ownership Proposals: Guaranteed Net Heat Rate (Btu/kWh HHV):

If heat rate curves and degradation data are available, please enclose.

Provide information requested below for each resource offered.

Unit/Resource Name _____

	At 32 degrees:	At ISO:	At 95 degrees:
By Fuel Type: **OIL:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			
By Fuel Type: **GAS:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			
By Fuel Type: **OTHER:**			
Minimum Load			
First Intermediate Load			
Second Intermediate Load			
Full Load			
Emergency			
Power Augmentation			

Discuss remedies for non-performance of heat rate guarantees:

_____

_____

Fixed Costs (Capacity-Related), Flat Monthly Amount or Nominal $/kW-month:
Please provide a full description of the capacity to which the fixed rate will be applied. For example, is this a guaranteed capacity rating? Nameplate rating? Does the capacity vary by season?

Discuss remedies for non-performance of guaranteed capacity commitments.

Provide information requested below for SYSTEM proposed or EACH UNIT offered.
For information dimensioned annually, add additional rows as needed.

System OR Unit/Resource _____

Capacity Charge (Indicate Monthly Amount or $/kW-month):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Describe Escalation: _____

If proposal is for joint ownership, indicate all-in installed cost (2004 $): _____
Would Seminole share in the cost of the entire facility or some portion? Please describe.

Seminole ownership share (%): _____

Fixed O&M (Indicate Monthly Amount or $/kW-month):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Describe Escalation: _____

If proposal is for joint ownership, describe sharing of fixed O&M costs:

Other Charges (Indicate Monthly Amount or $/kW-month):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Describe Escalation: _____

If proposal is for joint ownership, describe sharing of other charges:

Total Fixed Costs (Indicate Monthly Amount or $/kW-month):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Non-Fuel Variable Costs:

Provide information requested below for SYSTEM proposed or EACH UNIT offered. For information dimensioned annually, add additional rows as needed.

System OR Unit/Resource _____

Variable O & M (Nominal $/MWh or Nominal $ per Machine-Hour) :

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Describe Escalation _____

Other Variable Charges (i.e., Start Charges. Please Describe. Enter as Nominal $/MWh or $000):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Describe Escalation _____
Description of Cost Item _____

Please separately identify estimated costs (in nominal $000) and intervals of major maintenance items, such as hot gas path inspections and other major overhauls: _____

If proposal is for joint ownership, describe sharing of variable O&M costs:

_____
_____

Fuel Information (For Unit Purchases):

Describe fuel delivery logistics and on-site fuel storage facilities:

_____

Published fuel pricing index used, if applicable:

_____

If fuel is gas, please provide the following information:

Fuel supply arrangement (firm, relinquished, interruptible) _____
Name of supplier _____
Existing contract? _____
If applicable, describe firm gas transportation charges _____

_____

Fuel supply constraints that might prevent the resource from dispatching fully?

_____

If facility burns oil, are there environmental restrictions on the quantity of oil consumption?

_____

How many hours of full load operation of the facility will be supported with planned on-site fuel storage / inventory?

_____

Fuel Information (For SYSTEM purchases):

Describe billing procedures and reimbursement of fuel cost:

_____
_____
_____
_____
_____

Availability, Forced Outage, Planned Outage:

Please provide information requested below for EACH UNIT offered.
For information dimensioned annually, add additional rows as needed.

Unit/Resource Name _____

Guaranteed Availability (%):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
On-peak												
Off-peak												

Forced Outage (%):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
On-peak												
Off-peak												

Planned Outage (Hours or Days):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
On-peak												
Off-peak												

For purposes of clarification, define on and off-peak hours or days:

_____

_____

Please provide availability for the whole term of the proposal to capture major maintenance (hot gas path inspections, etc.)

Discuss remedies for non-performance of unit availability guarantees:

_____

_____

Information requested below for SYSTEM CAPACITY offered.

Guaranteed Availability (%):

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Discuss remedies for non-performance of system availability guarantees:

_____

_____

Operational Parameters:

Unit Name _____

	Input Here	
Minimum Run Time per Dispatch		Hours
Minimum Down Time Between Calls		Hours
Startup Energy, on peak		MMBtu
Startup Energy, off peak		MMBtu
Ramp Rate		MW / minute
Ramp Rate		minutes to full load
Number of Hot Starts per Year		Maximum
Number of Hot Starts per Year		Included in Bid Price
Cost of Additional Hot Starts		Dollars per Start
Number of Cold Starts per Year		Maximum
Number of Cold Starts per Year		Included in Bid Price
Cost of Additional Cold Starts		Dollars per Start
Quick Start Capability to First MW		Minutes
Quick Start Capability, # MW in Ten Minutes		MW
Start up Time from Cold Start		Minutes
Start up Cost from Cold Start		Dollars
Start up Time from Hot Start		Minutes
Start up Cost from Hot Start		Dollars
Automatic Generation Control (AGC) Capability?		Yes/No
Minimum sustained operating level (MW) of the facility (unit) when operating on each applicable fuel?		MW

SEMINOLE ELECTRIC COOPERATIVE, INC.
CREDIT APPLICATION

Name of Firm _____

Contact Name _____

Street Address _____

_____

Mailing Address _____

_____

Federal Tax ID No. _____

YEARS firm has been in active, full time business under present business name? _____

Is your firm currently involved in any litigation, the outcome of which could adversely affect your company's financial position? If so, please describe:

_____

_____

_____

Primary Bank Name _____
Contact Name _____
Address _____

_____

Phone No. _____ Fax No. _____

Account Numbers and Type of Account _____ , _____

_____ , _____

Name of Authorized Signer of Bank Account _____

CREDIT REFERENCES (Please provide the most recent credit information requested):

Company Name _____ Contact _____
Address _____ Fax _____
Phone _____

Company Name _____ Contact _____
Address _____ Fax _____
Phone _____

Company Name _____ Contact _____
Address _____ Fax _____
Phone _____

Company Name _____ Contact _____
Address _____ Fax _____
Phone _____

Please clarify relationships of any associated companies (Parent, subsidiaries, etc.) that relate to the financial position of your firm or your firm's capabilities to complete the proposed contracts/agreements.

Please provide a copy of your most recent Annual Report and financial statements (including last year's and interim reports).

Please sign this release (below):

_____ _____
Authorized Signature Date

Docket No. _____
Witness: Garl S. Zimmerman
Exhibit No. ___ (GSZ-4)

Table 9 **Ranking of Peaking Capacity Bids**	
Average Annual Cost (Nominal $/MWh)	Rank
$_____	1
$_____	2
$_____	3
$_____	4
$_____	5

Docket No. _____
Witness: Garl S. Zimmerman
Exhibit No. ___ (GSZ-5)

Table 11
Calpine Osprey : Savings (PVRR) when compared to:

Bidder	Period of Comparison	MW	Additional Costs
Bidder 2	2004 - 2008	350	$_____
Bidder 3	2004 - 2008	350	$_____
Bidder 4	2004 - 2008	350	$_____
Seminole self-build	2004-2008	350	$_____