

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for) DOCKET NO. 931212-EC
Determination of Need for) ORDER NO. PSC-94-0761-FOF-EC
Proposed Electrical Power Plant) ISSUED: June 21, 1994
to be located in Hardee and Polk)
Counties By Seminole Electric)
Cooperative, Incorporated)
_____)

The following Commissioners participated in the disposition of this matter:

J. TERRY DEASON, Chairman
JULIA L. JOHNSON
DIANE K. KIESLING

APPEARANCES:

RICHARD D. MELSON, Esquire, CHERYL G. STUART, Esquire,
and JONATHAN T. JOHNSON, Esquire, Hopping, Boyd, Green &
Sams, Post Office Box 6526, Tallahassee, Florida 32314.
On behalf of Seminole Electric Cooperative, Inc.

ROBERT V. ELIAS, Esquire, Florida Public Service
Commission, 101 E. Gaines Street, Tallahassee, Florida
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On behalf of the Commission Staff.

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On behalf of the Commissioners.

ORDER GRANTING PETITION FOR DETERMINATION OF NEED

CASE BACKGROUND

On December 17, 1993, Seminole Electric Cooperative, Inc. (Seminole) filed, pursuant to Section 403.519, Florida Statutes, its Petition to Determine Need for Electric Power Plant. The applicant waived, to the extent applicable, the time requirements in the Power Plant Siting Act and Florida Administrative Code, to permit a Commission decision at the May 31, 1994 regular agenda conference.

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FPSC-RECORDS/REPORTING

Seminole is the generating and transmission supplier for eleven of Florida's rural electric cooperatives. Seminole currently owns and operates two coal-fired base load generating plants located in Palatka which produce approximately 625 megawatts (MW) each. Seminole also has an ownership interest in Florida Power Corporation's (FPC) Crystal River Unit No. 3 plant which provides approximately 13 megawatts for Seminole's member cooperatives. Seminole also has a contractual agreement with TECO Power Services, Inc. for back up resources for these units with power generated at Big Bend Unit 4 and Hardee Power Station Units 1 and 2. The balance of system needs, including load growth, are supplied through partial requirements contracts with FPC and Florida Power Light Company (FPL). The partial requirements contract with FPL requires that Seminole give seven years notice of its intent to reduce the amount of Seminole's needs supplied by FPL.

Based on its analysis of future needs and costs, Seminole advised FPL in December of 1991 that, beginning January 1, 1999, Seminole would increase its obligation (and thereby reduce the purchases from FPL) pursuant to the contract by 440 MW.

Seminole proposes to meet that need by constructing, under a turnkey contract with a Black & Veatch/Westinghouse joint venture, a 440 megawatt advanced combined cycle plant to be located at Hardee Power Station (HPS #3) on the border of Polk and Hardee counties.

No other party has intervened in the docket. The final hearing was held on March 30, 1994.

The ultimate issue in this case is whether Seminole's petition meets the statutory requirements of Section 403.519, Florida Statutes, which charges the Commission with consideration of the following criteria when determining the need for an electrical power plant:

- the need for electric system reliability and integrity;
- the need for adequate electricity at a reasonable cost;
- whether the proposed plant is the most cost-effective alternative available; and
- conservation measures taken by or reasonably available to mitigate the need for the proposed plant.

We find that Seminole has provided to the Commission sufficient information on the site, design, engineering characteristics, and transmission requirements of its proposed combined cycle unit to evaluate its proposal.

HPS #3 will be a 440 MW advanced combined cycle generating facility consisting of two Westinghouse 501 F advanced combustion turbines, each of which will drive a 150 MW generator. The combustion gas from each combustion turbine will be exhausted through its own heat recovery steam generator (HRSG). The two HRSGs will produce steam to power a 140 MW Westinghouse steam turbine/generator set. By recovering the energy in the exhaust gases from the combustion turbines and utilizing this energy to produce steam for additional steam powered generation, the combined cycle facility is one of the most efficient power cycles available today.

HPS #3 will be constructed on a 1280 acre site located in northern Hardee County and southern Polk County. The site is owned by Acuera, a subsidiary of Seminole. A portion of the site is currently leased to TECO Power Services, Inc. for its existing 295 MW combined cycle facility and proposed future 145 MW addition. The existing facility provides peaking power to Tampa Electric Company and back-up power to Seminole for its two 600 MW class coal units.

The HPS site was certified in November, 1991 under the Florida Electric Power Plant Siting Act (PPSA) for an ultimate site capacity of 660 MW. As of January 1, 1993, Hardee Power Partners, the operating company for TPS, began operating Hardee Units #1 and #2 at the site consisting of a 220 MW combined cycle unit and a 75 MW combustion turbine. An additional 145 MW has been licensed for addition to the site in 2003, with the remaining 220 MW to be permitted at a later date.

HPS #3 has been conceptually presented to the Florida Department of Environmental Protection (DEP), the Environmental Protection Agency (EPA), and the Rural Electrification Administration (REA), as being a gas/oil-fired 440 MW combined cycle unit to be constructed within the boundaries of the original site certification for the HPS.

The primary fuel for the combined cycle facility will be natural gas which will be supplied to the facility by a natural gas pipe line. The site is currently served by an 8" natural gas lateral which interconnects with the Florida Gas Transmission System nine miles north of the facility in Polk County. The

existing lateral will have the capability of supplying gas to fuel the additional 440 MW of generation. An alternate connection with the proposed Sunshine Pipeline is under consideration.

Number two (distillate) fuel oil will be used as a back-up fuel. The facility will have the equivalent of a seven day burn at a 100% capacity factor fuel oil storage tank with a truck off-loading facility capable of supporting prolonged operation on the backup fuel. Fuel oil will be transported to the site by truck.

Since HPS #3 is being constructed on an existing site, it will interconnect with three existing 230 KV transmission lines. The first line, owned by Seminole, extends from the HPS facility to a Lee County Cooperative substation located in Fort Myers. The second line, also owned by Seminole, leaves the HPS facility and interconnects with FPC's Vandolah substation. The third line is owned by Tampa Electric Company, leaves the HPS facility and interconnects with the TECO Pebbledale substation. The two Seminole-owned transmission lines have sufficient capability for the 440 of capacity represented by HPS #3 in addition to the output of HPS #1 and #2.

HPS #3 will be designed and operated to comply with all applicable state and federal environmental requirements. The expected costs of environmental compliance have been included in the capital and operating cost figures used in Seminole's economic analysis of the project.

Therefore, we believe that Seminole has provided sufficient information on the technical aspects of HPS #3 to evaluate the proposal.

I LOAD FORECAST

Seminole's load forecast includes annual projections from 1993 through 2012 of each of the following:

- A. Residential Consumers
- B. Commercial Consumers
- C. Residential Sales, based on Avg. Residential Usage (kWh)
- D. Commercial Sales, based on Avg. Commercial Usage (kWh)
- E. Total Purchases by members at the delivery point (GWH)
- F. Winter Peak Demand (MW)
- G. Summer Peak Demand (MW)

Seminole's load forecast is produced through a joint effort by Seminole, its distribution members, and the Rural Electrification Administration (REA). The total purchases forecast for Seminole is the summation of results of modelling residential and commercial sales, plus trended sales to other classes (street lighting, etc). Residential and commercial forecasted sales is the product of forecasted consumers times forecasted customer usage. The summation of the individual members' sales across customer classes, adjusted for energy losses and the impact of conservation and load management, yields the total purchases forecasted for Seminole.

Projections are developed for each of Seminole's member cooperatives separately. Econometric and end-use models are used to derive each forecast. Seminole's forecasts are simply the summation of the individual members' forecasts.

Since Seminole's power supply arrangements include the purchase of peak requirements from other utilities, the Company's peak demand does not appreciably impact its need for power generation.

All of the annual projections referenced above appear in the Company's 1992 Power Requirements Study (PRS). This study is conducted by Seminole every two years for planning purposes. Likewise, the results of this study are reflected in the Seminole's 1993 Ten Year Site Plan. The energy forecast presented in the Company's filing is identical to that which appears in the 1992 Power Requirements Study. The energy forecast in the 1992 Power Requirements Study is consistent with the energy forecast in the 1993 Ten Year Site Plan.

According to Seminole forecast results, the average growth rates in residential consumers and residential energy usage per customer are expected to decline dramatically in the years 1993 through 2012 compared to the 1982 through 1992 time period. Average annual residential consumer growth is expected to slow from 4.6% per year to 2.7% per year. Likewise, average annual residential usage growth is expected to slow from 1.9% per year to .5% per year.

Similarly, the average growth rates in commercial consumers is expected to decline significantly, from 6.0% per year to 2.7% per year. However, the average annual growth rate in commercial energy usage is expected to remain the same at 0.8% per year.

According to Seminole, these historical and forecasted energy usage growth rates are higher than similar growth rates throughout the rest of the state, but Seminole's average energy usage per

residential and commercial consumer is lower than the average energy usage in the rest of the state. This would indicate that the Seminole service territory is lagging in energy usage, but gradually gaining on the rest of the state as the territory increasingly takes on more urban characteristics.

We find that the load forecast used by Seminole is reasonable for planning purposes.

II EFFECTS OF CONSERVATION AND DEMAND SIDE MANAGEMENT

We find that the effects of conservation and demand side management are appropriately reflected in Seminole's load forecast.

The Company states that the conservation programs used by its members, combined with the lack of Seminole resources to measure the impact of all such programs, motivated Seminole to use statewide conservation savings data to determine the impact of conservation programs on its load forecast. The statewide savings data used by Seminole appears in the 1989 Planning Hearing Document, prepared by the Florida Electricity Coordinating Group (FCG). This statewide data is the percentage of net energy for load which is expected to be avoided through the impact of conservation programs, based on the expected implementation of energy conservation programs projected at the time of the publication of the document. The assumed conservation savings ratio level for the forecast period is 1.6% of purchases.

Seminole states that the impact of load management programs on the energy forecast is minimal - less than 3 gigawatt hours (GWH) in any year. While 100 percent of the expected load management reduction is applied to the coincident peak, it is assumed that 50 percent of the displaced energy would be recovered during the hours following the peak. We agree that the impact of load management programs would have a minimal impact on energy requirements.

We reviewed the data in the 1989 Planning Hearing Document used to calculate the energy savings related to conservation and load management. The annual percentage savings ratios appearing in the document are consistent with the savings data forecasted by Seminole. We believe it is likely that the Company's use of statewide data has the effect of making the energy forecast lower than it would be if direct measurement had been used. Since Seminole members' consumers use less electricity than average Floridians, they probably have even less potential to conserve than the average Floridian, so statewide data would reflect greater savings than would be expected for Seminole members' consumers.

For the purposes of determination of need, it is not unreasonable to substitute the use of statewide data for direct measurements of conservation savings, since a more conservative load forecast would be expected using statewide data rather than direct measurement of conservation effects.

III NEED FOR ADDITIONAL CAPACITY

We find that Seminole, as a utility interconnected with the statewide grid, has a need for 440 MW of additional capacity in 1999.

Seminole has demonstrated by evidence of record, that based on the estimated economic benefits to Seminole, 440 megawatts of additional capacity is needed in 1999. Typically, new resources are needed when a utility's reliability criteria are projected to be violated at a point in the future. This is usually caused by a combination of factors including but not limited to customer growth, and consumption per customer growth.

Seminole states that HPS #3 is being added for economic reasons, to displace higher cost partial requirements service, and not to meet a need for additional reliability. This decision was based primarily on the economic analyses performed by Seminole that showed cost savings to Seminole, its member cooperatives, and their customers by building this unit, rather than continuing to purchase the same level of partial requirements power.

We find that the proposed combined cycle unit is needed in the 1999 time frame to contribute to the reliability and integrity of the electric system of Seminole and the State of Florida.

According to Seminole's witness Walbridge, FPL has since documented that Seminole's intent to remove this load from FPL's system, along with other factors, has contributed to the deferral of FPL's need to build capacity in the 1998-1999 time frame. HPS #3 can be viewed as a substitute for a portion of the capacity that FPL had been planning to construct in the 1998-1999 time frame, and is equally consistent with the projected statewide needs.

According to Seminole witness Huis, HPS #3 improves the reliability of Seminole's system on an EUE basis. The 1993 Ten-Year Plan for the State of Florida shows Peninsular-wide reserve margin in 1999 of approximately 20% summer and 13% winter. These reserve margin calculations assume that HPS #3 is placed into service as proposed on January 1, 1999.

In addition to enabling Seminole to meet the obligation it assumed to serve an additional 440 MW of capacity, HPS #3 will improve the reliability of Seminole's system, defer the need for additional combustion turbine capacity, and satisfy a portion of the state's need for additional capacity in this time frame.

Therefore, the evidence tends to demonstrate that the proposed combined cycle unit is needed in the 1999 time frame to contribute to the reliability and integrity of the electric system of Seminole and the State of Florida.

We find that the timing of Seminole's petition to determine need for its proposed combined cycle unit is appropriate.

We have reviewed the HPS #3 project schedule and believe it to be a reasonable timetable. Actual construction of the advanced combined cycle unit is scheduled to take approximately two years. All environmental permitting is expected to take an additional two years. Another factor influencing the project schedule is the loan application process at the Rural Electrification Administration (REA). Seminole plans to submit its loan application in June 1994 with loan approval anticipated in September 1995.

Therefore, the timing of Seminole's petition for determination of need is appropriate, given the reasonable project schedule submitted.

We find that if HPS #3 is not completed in the time frame requested, Seminole, its member cooperatives, and their customers face the risk of potentially more costly replacement power.

Given that Seminole notified FPL that it would increase its capacity commitment under the partial requirements contract by 440 MW beginning in 1999, Seminole is responsible for providing that amount of capacity at that time. Seminole has investigated other alternatives in the event HPS #3 is delayed or denied. Those alternatives include the construction of combustion turbine units which do not require Commission approval, short term purchases from other utilities, utilizing outdated bids from potential suppliers who participated in Seminole's RFP process, or potential renegotiation with FPL. Seminole estimates that alternatives to HPS #3 would result in higher cost to Seminole's member consumers. We agree that, based upon record evidence, Seminole and its ratepayers face the risk of higher cost electricity if HPS #3 is not completed in the time frame requested.

We find that Seminole's fuel price forecasts for heavy oil, distillate oil, natural gas and coal are reasonable and adequate for planning purposes.

Seminole's base case delivered fuel price forecasts for each fuel type are neither the highest nor the lowest compared to forecasts made by other utilities. Of the forecasts compared, Seminole's fuel price forecasts are similar to FCG's. The FCG price forecast is the lowest fuel price forecast for high sulfur coal, residual oil and natural gas while FPC's is the lowest price forecast for distillate oil. The Seminole distillate oil forecast shows a lower price than FCG's but higher than FPC's distillate oil price forecasts. Seminole's base case delivered fuel price forecast indicates that coal is expected to be the lowest priced fuel, then natural gas, residual oil and distillate respectively over the study period.

The fuel price forecasts prepared by Seminole, FPL, FPC, Florida Electric Coordinating Group (FCG), Tampa Electric Company (TECO) and Orlando Utilities Commission (OUC) each show a continual increase in the price of all fuels over time. We do not believe that future fuel prices will be as high as these trends indicate because of the actual market price trends which are monitored by the Commission. However, Seminole's fuel price forecasts are reasonably adequate for assessing the relative risks of long term commitments between fuel types for planning purposes. These relative risks include weighing the uncertainty of future fuel prices against the capital costs associated with the technologies of using each of the different fuels. In this docket, the target costs to avoid are the Partial Requirements which principally follow the price of distillate fuel oil, heavy oil and natural gas.

Therefore, selecting either natural gas or coal would be more economic than the higher priced residual oil and distillate oil based on just fuel prices alone. Coal units are more expensive to build than combined cycle units which can be later converted to use gasified coal. Deferring the additional capital requirements to burn coal to some future date provides for economic flexibility to respond to fuel prices if and when necessary.

Because of the pricing of Partial Requirements and selection of a lower cost fuel and selection of a low capital cost technology which can be adapted to alternate fuels, the fuel-capital cost flexibility risk is not at issue in this case.

We find that Seminole's proposed natural gas fired combined cycle unit (HPS #3) will contribute to fuel diversity for Seminole's system and for Peninsular Florida by adding natural gas

to its fuel mix. In addition to cost savings, the construction of HPS #3 will provide Seminole with greater fuel diversity, which reduces Seminole's risk associated with unexpected fuel supply or price changes. Seminole's existing generation consists almost exclusively of 1276 MW of coal-fired capacity from Seminole units No. 1 and No. 2.

Assuming that HPS #3 is placed into service as proposed on January 1, 1999, HPS #3 will represent 15% of Seminole's generating capacity and 9% of its energy output. Peninsular Florida will be proportionately affected.

We find that adequate assurances have been provided regarding available primary and secondary fuel to serve the proposed combined cycle unit on a long and short term basis at reasonable cost.

Natural gas will be the primary fuel for HPS #3, and it will provide approximately 95 percent of the unit's fuel requirements. Florida Gas Transmission (FGT) already serves HPS #1 and 2, although some upstream improvements to the FGT system would be required to transport the full quantity of gas required by the project. FGT has advised Seminole that the volume of gas needed to serve HPS #3 is sufficient to support an expansion of the FGT system solely to serve HPS #3 without forcing Seminole to wait for future expansions. Natural gas supplies are abundantly available at the wellhead and Seminole is in the fortunate position of choosing from two pipeline companies for transportation of such wellhead gas.

The alternate fuel, distillate oil, will be delivered to the proposed unit by tanker truck from terminals near Tampa Bay in a similar manner which is used to deliver distillate oil to the existing Hardee Power Station Units 1 and 2. Seminole is planning to install a 4.4 million gallon distillate oil storage tank on site as well as tanker truck off-loading facilities to provide for extended operation should natural gas deliveries experience a sustained interruption. Not including any additional deliveries, the standby distillate storage tank provide for 7 days continuous burn at a 100% capacity level. We believe that there are adequate and sufficient distillate oil supplies to serve the projected requirements based on the expected life of the proposed unit.

We find that Seminole has provided adequate assurances that sufficient natural gas pipeline capacity will be available to transport natural gas to the proposed combined cycle unit.

Florida Gas Transmission (FGT) already serves the Hardee site. The additional 16 inch pipe that will create an alternative route for FGT to supply gas to the Hardee Power Station (HPS) will be sufficient to transport the total quantity of gas needed to the HPS including that of HPS #3.

We find that the reasonably anticipated costs to Seminole of environmental compliance of the proposed unit been properly considered by Seminole.

Capital costs to comply with known environmental requirements were part of Seminole's cost effectiveness evaluation and contract price for the proposed unit. If new environmental requirements come into effect which are not specified in the contract, Seminole is responsible for those costs.

Additional evaluations and negotiations are in progress to determine the possibilities of sharing existing cooling pond and waste water facilities at Hardee Power Station. However, whether these facilities are shared or not have no significant impact on the cost-effectiveness of the proposed unit.

Coal gasification was a criteria for selecting the Hardee Power Station site. In the eventuality that natural gas becomes less economic than coal gasification, the adjacent 40 acre site appears convenient to the generation station and coal transportation. Pursuant to the Clean Air Act of 1990, Seminole anticipates annual allocations of 36,700 SO₂ allowances. Seminole projects that approximately 27,000 allowances will be used at existing coal fired units with a surplus of 9,700 SO₂ allowances annually. These surplus allowances may be used at the proposed unit.

Seminole states that the projected water use by the proposed unit will be essentially within the expected environmental impacts and conditions of certification adopted in 1990 for Hardee Power Station No. 1 and No. 2a in the 660-megawatt site buildout scenario.

Therefore, we believe that Seminole has made a fair and reasonable effort to assess environmental compliance costs.

We find that Seminole has adequately explored and evaluated alternative Seminole-owned supply side sources of capacity.

In the 1989 Power Supply Study, Seminole determined that partial requirements purchases could be economically displaced.

The results of this plan identified combined cycle units as the appropriate technology. Seminole issued its Request for Proposals (RFP) in July 1990 based on the results of the 1989 Power Supply Study. The RFP contained requests for purchased power proposals and Seminole-owned turnkey projects.

A turnkey project transfers the risk of such items as project schedule delays, equipment performance, and initial environmental compliance to the turnkey contractor while allowing the utility to own and operate the completed facility. Seminole also requested bids for turnkey projects in order to enhance competition for resources based on concerns expressed by the Federal Energy Regulatory Commission regarding Seminole's 1988 solicitation. We believe Seminole's decision to request proposals for turnkey projects was appropriate.

Seminole's RFP was advertised in industry trade journals, and inquiry letters were mailed to over 300 companies taken from Seminole's listing from the 1988 bid solicitation. Seminole mailed 47 RFP documents to prospective bidders and eventually received ten formal proposals from eight different bidders. In 1991 Seminole updated its planning assumptions and ultimately revised its plan to 75 MW needed January 1996 for reserves and 440 MW needed in 1999 for partial requirements displacement in the FPL area. As a result of the new plan, Seminole in January 1992 notified the RFP respondents and requested modifications to the bids to match the new plan.

A four phase evaluation process was utilized which analyzed the technical aspects and economic parameters of each proposal. Staff believes that Seminole's bid solicitation and evaluation of the turnkey proposals which culminated in the selection of the Black & Veatch/Westinghouse project was adequate.

We find that Seminole has adequately explored and evaluated the availability of purchased power to serve its load in lieu of constructing HPS#3.

Seminole first evaluated the purchased power proposals against Seminole's self-build alternative in late 1990. After the updated solicitation in early 1992, the purchased power proposals were evaluated as part of the four phase process discussed below.

After Seminole notified FPL in December 1991 that Seminole would increase its capacity commitment by 440 MW beginning in 1999, FPL offered alternative arrangements for providing purchased power.

Seminole evaluated the proposals from FPL and found them not to be competitive with responses to the RFP.

We find that the evaluation process used by Seminole in the selection of the 440 MW combined cycle unit project was appropriate.

After receiving the responses to the updated solicitation early 1992, Seminole evaluated those responses using a four phase evaluation process. Ten proposals, consisting of four turnkey projects and six purchased power proposals, were evaluated in this process. Phase one of the process reviewed each proposal for completeness.

In phase two, each proposal was evaluated on technical grounds including technical viability, environmental compliance, and reasonableness of stated performance data. An economic analysis was also performed and each proposal was analyzed using Seminole's planning models. The 30-year present worth revenue requirements of Seminole's system including each proposal separately was calculated. Each analysis performed compared Seminole's system cost with the particular proposal to the base case cost which assumed continuing to purchase partial requirements from FPL. The top four bids, two turnkey and two purchased power bids, were retained for further evaluation.

In phase three of the evaluation process, a more detailed economic analysis was conducted which included costs for transmission and gas pipeline construction. While no bid was excluded from further consideration, the ranking of the bids changed.

Phase four of the evaluation process consisted of negotiations with each bidder to acquire additional information. A detailed economic analysis utilizing the additional data was performed, and a risk analysis was conducted by Stone & Webster. This analysis considered the risk of completing the project as proposed, and the operational risk of plant performance. Based on the results of this analysis, Seminole selected the Black & Veatch/Westinghouse project and subsequently began contract negotiations.

We believe the evaluation process employed by Seminole to analyze the responses to its updated solicitation was reasonable.

We find that the evidence in the record does not indicate that additional conservation measures are available to Seminole to avoid or significantly defer its need for capacity in 1999. However, we are concerned about the lack of energy saving programs available to

member cooperative customers. We will examine this issue in the upcoming conservation goals dockets for the five FEECA cooperatives.

Utility conservation programs primarily are aimed at reducing and/or shifting the system peaks, and also at reducing the level of the load curve in a cost effective manner. Seminole supplies base load power to its member cooperatives with predominately its coal-fired Seminole units 1 and 2.

Intermediate and peaking power is provided primarily through the partial requirements contracts Seminole has with FPL and FPC. These contracts require FPC and FPL to not only meet the peak the demand of Seminole, but meet the growth in peak demand over the term of each contract. Conservation programs which result in the lowering of Seminole's system peak, result in lower partial requirements power costs to Seminole. As the entity responsible for providing power to its member cooperatives, Seminole has responded to this situation by initiating the Coordinated Load Management Program.

Seminole states that other conservation programs are the province of the individual member cooperatives. We are concerned regarding the type and diversity of conservation programs offered by member cooperatives. While it appears the member coops perform audits and provide information on conservation options, there is a lack of incentive based equipment retrofit programs. Seminole was asked to perform a cost effectiveness analysis for a residential ceiling insulation program from the perspective of an individual member coop. This analysis showed that with the given assumptions such a program would be cost-effective. In response, Seminole stated that such a program is best left to the individual member systems to pursue. We are concerned that potential cost-effective conservation programs are not being pursued by member cooperatives. We intend to pursue this issue for the five FEECA cooperatives during the upcoming goals dockets. These five cooperatives make up 85 percent of Seminole's load.

The energy and capacity from HPS #3 will increase, from the bottom up, Seminole's capacity commitment in the FPL area. Because conservation programs reduce the load curve from the top down, there are not sufficient conservation resources available to cost-effectively defer HPS #3. Seminole performed several sensitivities to analyze the cost-effectiveness of HPS #3. One sensitivity increased the saturation of load management from 40 percent to 60 percent of controllable appliances. This analysis showed a decline in savings compared to the base plan which assumed a 40 percent load management saturation. Another sensitivity restricted load

growth to 50 percent of the predicted level. This sensitivity mimics the effect of conservation in that it lowers the load to be served by Seminole. This sensitivity resulted in an estimated \$59 million less in savings than the base plan.

We believe, that given the type of load to be served by HPS #3, there is not sufficient conservation available which could cost-effectively defer all or part of HPS #3 by 1999.

We find that Seminole's proposed combined cycle unit will contribute to the provision of adequate electricity to Seminole and the State of Florida at a reasonable cost.

The decision by Seminole to increase its capacity commitment under its partial requirements contract with FPL in part allowed FPL to defer its capacity need.

The total installed cost of HPS #3 is estimated to be \$313 million or approximately \$711 per kW. This amount was confirmed as a reasonable cost by staff witness Waters of FPL. He agreed that \$800 per kW would be "in the ballpark" for a natural gas fired combined cycle unit.

Thus, the evidence suggests that HPS #3 will provide reasonable cost electricity.

We find that the project does not require the need to construct additional transmission lines or other off-site associated facilities. There will be a need to construct additional on site facilities including fuel off loading, storage, metering and pumping facilities.

HPS #3 is being constructed on an existing site and will interconnect with three existing 230 kV transmission lines Seminole currently owns two of the 230 kV lines. The power currently being transmitted over the lines include 295 MW of capacity being generated by HPS #1 and HPS #2. According to Seminole's witness Zimmerman, the three 230 kV transmission lines are adequate to handle the output of the existing facilities, the plan build-out of HPS #2 and the 440 MW of HPS #3.

In addition to facilities that will be shared on the site by the proposed project, HPS #3 will require a switch yard extension, this will enable the generator to interconnect with the existing transmission lines, a water treatment facility, fuel oil off-loading and storage facilities. The fuel oil facilities will have storage to accommodate seven days of full load operation. The off-loading facilities will be designed to support prolonged operation

on fuel oil should the primary fuel, natural gas, become unavailable.

Seminole has also requested that Black & Veatch include mechanical draft cooling towers in its base proposal. Seminole's reason for that was at the time of the contract, the studies to determine if the existing cooling pond could handle the additional capacity of the 440 MW plant had not been completed. At the time of hearing, Seminole had not made a final decision on the use of the existing cooling pond or to construct mechanical draft cooling towers. If the existing cooling pond is utilized for HPS #3, the overall cost of the project will be less.

We find that, based on record evidence, HPS #3 appears to be the most cost-effective alternative to Seminole and peninsular Florida.

Seminole purchases partial requirements power (PR) from FPC and FPL. Under the PR contract with FPC, Seminole is charged for the intermediate and peaking generation on their system used to provide power to Seminole. This is known as a stratified methodology.

Pursuant to the PR contract with FPL, Seminole's charges are based on an average system cost methodology. Because of these different methodologies, Seminole pays lower fixed costs under its PR contract with FPC than with FPL.

The record demonstrates that the different methodologies result in higher cost power from FPL than FPC. Seminole pursued a change in PR rate methodologies with FPL at the FERC but was unsuccessful.

After Seminole issued its RFP in 1990, the 1991 Base Case Update was performed, the results of which showed a change in the amount and timing of Seminole's displacement of PR purchases. This plan resulted in the greatest savings by displacing 440 MW of PR purchases from FPL in 1999, and 220 MW of PR purchases from FPC. Seminole negotiated a shorter notice provision with FPC allowing Seminole to postpone a decision on whether to displace 220 MW of PR purchases from FPC. Seminole notified previous bidders of the change in its base plan which is described in issues 14-16.

Seminole compared each of the bid respondents to continuing to purchase PR from FPL. HPS #3 ultimately was shown to be the most cost-effective among the proposals received. Seminole performed its need study to analyze the cost effectiveness of HPS #3. The primary source of savings derived from HPS #3 over continuing to

purchase PR from FPL is the difference in the fixed cost of HPS #3 and the fixed cost component of FPL's PR rate. Because FPL's rate is based on an average system cost, the fixed component includes FPL's high capital cost baseload units, as well as its intermediate and peaking units.

A number of sensitivities to Seminole's base plan of HPS #3 were performed to test the cost-effectiveness of the unit. These sensitivities include a reduction in load growth which mimics conservation, and, is estimated to provide less savings than the base plan. The other sensitivities, with the exception of HPS #3 running exclusively on distillate oil, show estimated savings to Seminole by owning and operating HPS #3.

Based on the resolution of the previous factual and legal issues, we find that Seminole's petition for determination of need for the proposed combined cycle unit should be granted.

Seminole's petition for determination of need meets the statutory requirements of Chapter 403.519, Florida Statutes. These statutory requirements include:

1. The need for electric system reliability and integrity
 - The addition of 440 MW in 1999 will allow Seminole to meet the need created when Seminole notified FPL that Seminole would increase its capacity commitment under its PR contract with FPL due to evidence that displacing PR would provide an economic benefit to Seminole.
 - The capacity from HPS #3 in part allows FPL to defer its need for capacity to later years. HPS #3 also will provide a portion of the additional generating capacity needed in 1999 to maintain an adequate level of reliability.
2. The need for adequate electricity at a reasonable cost
 - The capacity from HPS #3 is projected to adequately provide the electricity FPL would have provided Seminole under its PR contract.
 - The estimated cost to construct and operate HPS #3 is reasonable level compared to the comparable combined cycle units.

3. Whether the proposed plant is the most cost-effective alternative available
 - HPS #3 appears to be the most cost-effective alternative compared to continuing to purchase PR from FPL, given the assumptions contained in Seminole's analysis.
 - Compared to other turnkey and purchased power bids acquired pursuant to Seminole's bid solicitation, HPS # 3 appears to be the most cost-effective alternative.
4. Conservation measures taken by or reasonably available to mitigate the need for the proposed plant
 - As discussed in this Order we are concerned about the relative lack of incentive based energy saving programs offered by the member cooperatives. This issue will be examined in the five FEECA member cooperatives conservation goals dockets.
 - However, it appears that additional conservation measures, given the type of load HPS #3 will serve, cannot cost-effectively mitigate the need for HPS #3 prior to 1999.

In consideration of the foregoing, it is

ORDERED by the Florida Public Service Commission that the findings set forth in the body of this Order are hereby approved. It is further

ORDERED that the Petition for Determination of Need for Proposed Electrical Power Plant to be located in Hardee and Polk counties by Seminole Electric Cooperative, Incorporated is hereby granted. It is further

ORDERED that this docket shall be closed.

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By ORDER of the Florida Public Service Commission, this 21st
day of June, 1994.

BLANCA S. BAYO, Director
Division of Records and Reporting

by: Kay DeLeon
Chief, Bureau of Records

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NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water or sewer utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Civil Procedure. The notice of appeal must be in the form specified in Rule 9.900 (a), Florida Rules of Appellate Procedure.