BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition For Determination of Need for a Proposed Electrical Power Plant and Related Facilities, Polk County Units 1-4, by Florida Power Corporation.	DOCKET NO. 910759-EI ORDER NO. 25805 ISSUED: 2/25/92

The following Commissioners participated in the disposition of this matter:

THOMAS M. BEARD, Chairman
SUSAN F. CLARK
J. TERRY DEASON
BETTY EASLEY
LUIS J. LAUREDO

ORDER DETERMINING THE NEED FOR A PROPOSED POWER PLANT

BY THE COMMISSION:

Pursuant to Notice, a formal hearing was held in this docket on November 20 and 21, 1991, in Tallahassee, Florida by the duly designated hearing officer of the Florida Public Service Commission, Commissioner Betty Easley. Upon consideration of the record in this proceeding, the Commission now enters its Final Order.

Background

On July 8, 1991, Florida Power Corporation (FPC or Florida Power) filed with the Commission its Notice of Intent to file a Petition for Determination of Need for a proposed electrical power plant and related facilities at a site located in Polk County, Florida. FPC filed its petition on August 16, 1991, in which it requested that the Commission determine the need for the construction of four advanced combined cycle units fired primarily with natural gas, with the capability of being converted to burn coal gas in the future. FPC estimated that the four proposed units would produce 940 MW of electricity. FPC expected its proposed units to come on line in the 1998-2000 time frame, with 235 MW of capacity to be available in 1998, 2 units of 235 MW each in 1999, and 235 MW to become available in 2000.

Destec Energy, Inc., Panda Energy, Inc., the Florida Industrial Cogenerator's Association (FICA), the Floridians for Responsible Utility Growth (FRG), and the Florida Division of Chesapeake Utilities, Inc. were granted leave to intervene in this proceeding. The day of the hearing Hillsborough County filed a petition to intervene and cross examine witnesses. Florida Power Corporation objected to Hillsborough County's intervention on the

grounds that it had not shown that it had a substantial interest in the outcome of the proceeding, that its petition was not timely filed, and that Florida Power's interests would be prejudiced by such a tardy intervention. Because Hillsborough County had not timely filed its petition at least five days before the hearing, as Commission Rule 25-22.039, Florida Administrative Code requires, Hillsborough County's request to cross examine witnesses at the hearing was denied, but the county was permitted to intervene to file a post-hearing brief in the case.

After the November 21-22, 1991 hearing Florida Power Corporation (FPC), the Florida Industrial Cogenerator's Association (FICA), The Floridians for Responsible Utility Growth (FRG), and Destec Energy, Inc. (Destec) filed briefs, post hearing statements, and/or proposed findings of fact. The Hearing Officer issued her Recommended Order and Responses to Proposed Findings of Fact on December 30, 1991. They are included in this order as Attachments A and B, respectively. FICA, FRG and Destec filed exceptions to the Hearing Officer's Recommended Order, and FRG requested oral argument on its exceptions. That oral argument was held on February 3, 1992. Our responses to the exceptions are included in this order as Attachment C.

Upon consideration of the record and the exceptions filed, we find that the Hearing Officer's Findings of Fact and Responses to Proposed Findings of Fact should be adopted as this agency's Findings of Fact and Responses, with one minor change to Finding of Fact 132. In order to recognize, as FICA and Destec pointed out in their exceptions, that allowing utilities to earn a return on investment in non-utility purchases is another way utilities can compensate for the financial consequences of increased purchased power obligations, we adopted this rewording for Finding of Fact 132:

> Credit rating agencies recognize that, without compensating factors, increased reliance on purchased power obligations may lower coverage ratios. A utility can compensate for the financial consequences of increased purchased power obligations by increasing its equity ratio (reducing its debt leverage), increasing its earnings, or petitioning for modified regulatory treatment that allows the utility an opportunity to earn a return on this capacity.

Also, a typographical error was made in transcribing FPC's Proposed Finding 72. The word "reductions" should be replaced with the word "improvements" to read: "opportunities for eff ciency improvements are first identified in energy audits. . . "

Upon consideration of the record and the exceptions filed, we also find that the Hearing Officer's Conclusions of Law should be adopted as this agency's Conclusions of Law. We conclude that the Recommended Order in its entirety is supported by competent substantial evidence in the record and comports with the essential requirements of law.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the Hearing Officer's Findings of Fact as modified above are accepted and adopted as this agency's Findings of Fact. It is further

ORDERED that the Hearing Officer's Conclusions of Law are accepted and adopted as this agency's Conclusions of Law. It is further

ORDERED that for the reasons set out in the Recommended Order, Florida Power Corporation's Petition for Determination of Need for Proposed Electrical Power Plant and Related Facilities is hereby APPROVED for the first two proposed units. It is further

ORDERED that this Docket be closed.

By ORDER of the Florida Public Service Commission this 25th day of FEBRUARY, 1992.

STEVE TRIBBLE, Director
Division of Records and Reporting

(S E A L)

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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 Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900 (a), Florida Rules of Appellate Procedure.

ATTACHMENT A

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination of Need for Proposed Electrical Power Plant and related facilities Polk County Units 1-4, by Florida Power Corporation.	DOCKET NO. 910759-EI ORDER NO. 25550 ISSUED:

RECOMMENDED ORDER

Pursuant to Notice, a formal hearing was held in this docket on November 20 and 21, 1991, in Tallahassee, Florida by its duly designated hearing officer, Commissioner Betty Easley.

A. APPEARANCES:

CHERYL G. STUART, Esquire and CARLOS ALVAREZ, Esquire, Hopping, Boyd, Green and Sams, Post Office Box 6526, 123 South Calhoun Street, Tallahassee, Florida 32314
On behalf of Florida Power Corporation.

James P. Fama, Esquire, Post Office Box 14042, 3201 Thirty-fourth Street, South, St. Petersburg, Florida 33733
On behalf of Florida Power Corporation.

Wayne L. Schiefelbein, Esquire, Gatlin, Woods, Carlson & Cowdery, 1709-D Mahan Drive, Tallahassee, Florida 32308
On behalf of Chesapeake Utilities Corporation.

Suzanne Brownless, Esquire and Ken Irwin, Esquire, Oertel, Hoffman, Fernandez & Cole, P.A., 2700 Blair Stone Road, Suite C, Tallahassee, Florida 32301
On behalf of Destec Energy, Inc.

Paul Sexton, Esquire, Richard A. Zambo, P.A., 211 South Gadsden Street, Tallahassee, Florida 32301.
On behalf of Florida Industrial Cogeneration Association.

Terry R. Black, Esquire, Pace University Energy Project, Center for Environmental Legal Studies, 78 N. Broadway, White Plains, New York 10603
On behalf of Floridians for Responsible Utility Growth.

Edward Gwynn, Esquire, 4100 Spring Valley, Suite 1001, Dallas, Texas 75244
On behalf of Pahda Energy Corporation.

John J. Dingfelder, Esquire
Post Office Box 1110
Tampa, Florida 33601
On behalf of Hillsborough County

MARTHA C. BROWN, MICHAEL A. PALECKI, Esquire, and MARY ANNE BIRCHFIELD, Esquire, 101 East Gaines Street, Suite 216, Tallahassee, Florida 32399-0863
On behalf of the Commission Staff.

PRENTICE PRUITT, Esquire, the Office of the General Counsel, 101 East Gaines Street, Suite 212, Tallahassee, Florida 32399-0861
Counsel to the Commissioners.

BACKGROUND

On July 8, 1991, Florida Power Corporation (FPC or Florida Power) filed with the Commission its Notice of Intent to file a Petition for Determination of Need for a proposed electrical power plant and related facilities at a site located in Polk County, Florida. FPC filed its petition on August 16, 1991, in which it requested that the Commission determine the need for the construction of four advanced combined cycle units fired primarily with natural gas, with the capability of being converted to burn coal gas in the future. FPC estimates that the four proposed units will produce 940 MW of electricity. FPC's expects its proposed units to come on line in the 1998-2000 time frame, with 235 MW of capacity to be available in 1998, 470 MW in 1999, and 235 MW to become available in 2000.

Destec Energy, Inc., Panda Energy, Inc., the Florida Industrial Cogenerator's Association (FICA), the Floridians for Responsible Utility Growth (FRG), and the Florida Division of Chesapeake Utilities, Inc. were granted leave to intervene in this proceeding. The day of the hearing Hillsborough County filed a petition to intervene and cross examine witnesses. Florida Power Corporation objected to Hillsborough County's intervention on the grounds that it had not shown that it had a substantial interest in the outcome of the proceeding, that its petition was not timely filed, and that Florida Power's interests would be prejudiced by such a tardy intervention. Because Hillsborough County had not timely filed its petition at least five days before the hearing, as Commission Rule 25-22.039, Florida Administrative Code requires, Hillsborough County's request to cross examine witnesses at the hearing was denied, but the county was permitted to intervene to file a post-hearing brief in the case.

FICA and FRG filed several motions in this docket which were addressed and disposed of by the prehearing officer in Order No. 25221 granting intervention, granting partial extension of time to file testimony, denying motion regarding discovery, denying motion for continuance, and granting admission to practice before the commission. FICA petitioned the full Commission to reconsider the prehearing officer's decision on its motion to extend the time to file testimony and its motion regarding discovery. That petition for reconsideration was reviewed and denied by the full Commission at its November 5, 1991 Agenda Conference.

The transcripts of the two-day hearing were received on November 26, 1991. Post hearing briefs were filed on December 16, 1991. Florida Power Corporation and the Floridians for Responsible Utility Growth filed proposed findings of fact, and a ruling on each proposed finding is includes in the Appendix to this recommended order.

The substantive aspects of this case are governed by Section 403.519, and Chapter 366, Florida Statutes. The procedural aspects of the case are governed by the provisions of Chapter 120, Florida Statutes, and Chapter 25-22, Florida Administrative Code.

ISSUES

The ultimate issue in this case is whether the Petition for a Determination of Need meets the statutory requirements of Section 403.519, Florida Statutes, as amended by Chapter 90-331, Laws of Florida. Section 403.519, Florida Statutes, enumerates five major areas for consideration by the Florida Public Service Commission in determining the need for an electrical power plant:

(1) the need for electric system reliability and integrity;

(2) the need for adequate electricity at reasonable cost;

(3) whether the proposed plant is the most cost effective alternative available;

(4) conservation measures taken by or reasonably available to the applicant which might mitigate the need for the proposed power plant, and

(5) other matters within the Commission's jurisdiction which it deems relevant.

The Florida Public Service Commission is the sole forum to determine the need for the proposed power plant, and only issues relating to that need, as prescribed by section 403.519, Florida Statutes, were heard in this proceeding. Separate public hearings will be held by the Department of Environmental Regulation before the Division of Administrative Hearings to consider the environmental and other impacts of the proposed plant and associated facilities.

At the Prehearing Conference on November 4, 1991, the parties identified thirty-three issues for resolution in this proceeding. They are:

Need for Electric System Reliability

ISSUE 1: Are the reliability criteria used by FPC to determine its need for 940 MW of combined cycle units reasonable for planning purposes?

ISSUE 2: Is the load forecast used by FPC to determine its need for 940 MW of combined cycle units reasonably adequate for planning purposes?

ISSUE 3: Does FPC, as a utility interconnected with the statewide grid, exhibit a need for 235 MW of capacity in 1998, 470 MW of capacity in 1999, and 235 MW of capacity in 2000?

ISSUE 4: Are the proposed 940 MW of combined cycle units needed to contribute to electric system reliability and integrity to FPC and to the State of Florida?

ISSUE 5: Are there any adverse consequences to FPC and its customers if all four of its proposed combined cycle units are not completed in the approximate time frame requested by FPC?

ISSUE 6: Is the timing of FPC's petition to determine the need for its proposed combined cycle units appropriate?

Fuel Issues

ISSUE 7: Is the fuel price forecast used by FPC reasonably adequate for planning purposes?

ISSUE 8: Have adequate assurances been provided regarding: A) the sufficiency of supplies of natural gas; B) the commitment of natural gas supplies to FPC, and C) the availability either of gas transportation capacity or of commitments to build sufficient capacity; to serve the needs of the proposed Polk County units?

ISSUE 9: Will the Polk County Project contribute to fuel diversity for FPC's system, and for peninsular Florida?

ISSUE 10: If FPC is not authorized to construct all four of its proposed combined cycle units will FPC be able to secure an economical gas supply?

Reasonable Cost

ISSUE 11: Did FPC reasonably consider the costs of environmental compliance associated with the Clean Air Act when it evaluated its future generation needs?

ISSUE 12: Have the reasonably anticipated costs to FPC of environmental compliance of the proposed units been properly considered by FPC?

ISSUE 13: Has FPC provided sufficient information on the site, design and engineering characteristics of its 940 MW of combined cycle units to evaluate its proposal?

ISSUE 14: Do FPC's proposed combined cycle units contribute to the provision of adequate electricity to FPC and the State of Florida at a reasonable cost?

ISSUE 15: Assuming that the construction of a natural gas pipeline would be beneficial to the state, could natural gas-fired QFs provide the "anchor" demand which FPC indicates is so important?

Most Cost-effective Alternative

ISSUE 16: What would be the anticipated effect on FPC's credit rating if FPC constructs its proposed capacity?

ISSUE 16a: What would be the anticipated effect on FPC's credit rating if FPC constructs its proposed capacity in conjunction with the construction of a potential gas pipeline by FPC or others?

ISSUE 16b: What would be the anticipated effect on FPC's credit rating if FPC relies on self-service generation, including self-service wheeling, in lieu of capacity purchases, conservation and load management?

ISSUE 17: What would be the anticipated effect on FPC's credit rating if all or part of the proposed capacity were replaced by purchased power?

ISSUE 18: What would be the general effect on FPC's revenue requirements if its proposed capacity was replaced in whole or in part by purchased power and the effects of credit ratings are considered?

ISSUE 19: Has the availability of purchased power from other utilities been adequately explored and evaluated by FPC?

ISSUE 20: Has the availability of non utility generation, including firm capacity purchases and self-service generation, been adequately explored and evaluated by FPC?

ISSUE 21: Has FPC demonstrated that it has adequately considered conservation or other non-generating alternatives, including the end use of natural gas, reasonably available to it that could mitigate the need for all or part of FPC's proposed 940 MW of combined cycle units?

ISSUE 22: STIPULATED Has FPC adequately explored other reasonably available generating technologies for utility construction in lieu of the proposed project?

ISSUE 23: Are FPC's planned unit retirements in 1999 and 2000 cost-effective compared to the refurbishment and continued operation of those units?

ISSUE 24: Will the proposed combined cycle units constructed by FPC be the most cost-effective alternative to FPC and Peninsular Florida?

Miscellaneous

ISSUE 25: What associated facilities are required in conjunction with the Polk County project?

ISSUE 26: Do purchases from QFs limit FPC's planning and operating flexibility?

ISSUE 27: Based on the resolution of the previous factual and legal issues, should FPC's petition for determination of need for 940 MW of combined cycle units, with 235 MW on-line in 1998, 470 MW on-line in 1999, and 235 MW on-line in 2000, be granted?

LEGAL ISSUES

ISSUE 28: Based on the resolution of ISSUE 8, should the Commission grant or deny FPC's Petition for Determination of Need?

ISSUE 29: Under Florida law, may the Commission impose upon new FPC constructed generating capacity the same cost and performance obligations and requirements that FPC places upon QFs, so that its stockholders bear the risk of construction and operation, rather than the ratepayers?

ISSUE 30: Is FPC obligated as a matter of law to purchase QF capacity in lieu of constructing the proposed units?

ISSUE 31: Under Florida law, may the Commission, in making a determination of need for FPC's proposed units, consider the benefits of a potential natural gas pipeline to persons other than FPC?

ISSUE 32: Under Section 403.519, Florida Statutes, does the term "most cost-effective alternative available" mean the same thing as "least cost option or combination of options available"?

ISSUE 33: Does Florida law require the company to examine and use all reasonably available conservation measures that might mitigate the need for the proposed plant? If not, what standard is appropriate to determine that the company has fulfilled its obligations under section 403.519, Florida Statutes.

In addressing these issues at the hearing, the parties have provided the Hearing Officer with substantial competent evidence to make the following material Findings of Fact.

FINDINGS OF FACT

FLORIDA POWER'S REQUEST

1. Florida Power Corporation ("Florida Power") is an investor-owned public utility regulated by the Public Service Commission. Florida Power provides electrical power to more than one million customers in thirty-two (32) counties in the state of Florida. (Tr. 72; Ex. 2, pp. 5, 32).

2. Florida Power has proposed the addition of 940 MW to be produced by four separate and distinct 235 MW combined cycle units. (Tr. 71, Ex. 1, p. 9).

3. Florida Power has proposed that one unit will be added in November, 1998; two in November, 1999; and one in November, 2000. (Ex. 1, p. 10).

4. Florida Power's proposed plan to construct the four 235 MW combined cycle units is identified as Alternative 3 in Florida Power's Integrated Resource Study. (Tr. 934, Ex. 105).

INTEGRATED RESOURCE PLANNING METHODOLOGY

5. The 1991 Integrated Resource Plan (IRP) was designed to provide reliability, cost effectiveness, environmental responsibility, and financial stability for Florida Power. Florida Power plans to meet these goals with a diversified set of demand- and supply-side resources. (Tr. 71).

6. The Integrated Resource Plan is based on the principle of diversified resources. The plan includes demand-side management (DSM), cogeneration, tie-line construction, peaking capacity, interruptible load, and combined cycle units. (Tr. 941).

7. Florida Power's planning process combines DSM programs, QF and utility purchases, new transmission and generating plants, and interruptible load. (Tr. 1079; Tr. 920).

8. Florida Power's integrated planning process requires Florida Power to first determine the optimum amount of DSM programs and then evaluate alternative capacity plans to meet any further capacity needs. (Tr. 915).

9. Florida Power uses two reliability criteria - a winter 15-percent reserve margin and 0.1 days per year Loss of Load Probability (LOLP) - to evaluate system reliability. The LOLP calculation provides a probabilistic evaluation that takes into account the uncertain nature of generator forced-outage rates and tie-line assistance from other areas. (Tr. 917; Ex. 2, p. 113).

10. Florida Power's methodology for calculating LOLP is generally accepted by the Florida Public Service Commission and the utility industry. The calculation of reserve margin provides a determination of total system capacity compared to the system peak load. (Tr. 917).

11. Ten alternative resource combinations were formulated and modeled using the PROSCREEN II production costing and economic model. These alternatives were evaluated using 27 sets of input assumptions. (Tr. 932-33; Tr. 1090).

12. The primary output of the PROSCREEN II model is the Cumulative Present Worth of Revenue Requirement (CPWRR). The CPWRR from each model run was weighted by its probability of occurrence, and the expected (or average) CPWRR values for each alternative were compared. (Tr. 933; Tr. 1089; Ex. 72-73).

13. Florida Power developed a high, medium, and low forecast for each of the primary input assumptions: demand and energy, fuel prices, and capital cost of technologies. The analysis evaluated the 27 possible combinations of these assumptions. (Tr. 918).

14. The assigned probabilities for the fuel forecast were 20 percent for the high scenario, 55 percent for the medium scenario, and 25 percent for the low scenario. The assigned probabilities for the demand-and-energy and the cost-of-technology forecasts were 25 percent for the high scenario, 50 percent for the medium scenario, and 25 percent for the low scenario. (Tr. 932; Ex. 2, p. 137).

LOAD FORECAST

Methodology/Assumptions

15. The Florida Power forecasting procedure is the same as that used by the Load Forecasting Working Group of the North American Electric Reliability Council (NERC). (Tr. 648).

16. The Florida Power long-term load forecast seeks to project trends in Florida Power's customer base, energy sales, and peak seasonal demands over the next 20 years. The results indicate the future electricity demands that are likely to come from each of its customer classes. (Tr. 631).

17. The following are key assumptions of the Florida Power load forecast:

- Normal weather conditions are characterized by the 1981-1990 average of service area conditions. (Tr. 634).
- The long-term customer forecast is developed from the Bureau of Economic and Business Research's "medium-case" population projections. (Tr. 634).
- The forecast accounts for the addition of a new partial-requirements wholesale customer (New Smyrna Beach) in 1992, but it otherwise assumes that there will be no major changes in the company's wholesale load or energy service. (Tr. 634).
- The energy and demand forecast subtracts the load impacts of Florida Power's DSM programs and self-service cogeneration, but for reporting purposes, it does not subtract interruptible/curtailable loads. It assumes that all interruptible/curtailable customers will be served at the time of peak. (Tr. 634).
- Florida Power forecasts that its rates will not increase in real terms over the period 1991-2000. (Tr. 302, Ex. 2, p. 219).

18. Since 1983, residential use per customer exhibited an exceptionally high rate of growth that was driven by several factors. These include: (a) a strong Florida economic expansion; (b) larger, more energy intensive homes; (c) a

greater percentage of new single-family home construction compared to multifamily homes; (d) strong population growth in Florida Power's high-use Eastern and Mid-Florida divisions; and (e) a declining real price of electricity since 1986. (Tr. 649).

19. Interruptible load is not included in the peak demand used for calculating the winter reserve margin. This margin is calculated using only firm peak load. The interruptible load is not considered to be firm for the purpose of calculating LOLP. (Tr. 923).

20. Self-service generation has been addressed in the Integrated Resource Study, Docket No. 910759-EI, in the forecast of future demand and energy. The forecast assumes that self-service generation will not increase. (Tr. 301).

21. Historically, Florida Power has tended to underforecast its load. (Tr. 660-664; Ex. 38). Attempts to correct underforecasting have focused on factors affecting the short-term (1991-1995) forecast. (Tr. 666, Ex. 2, p. 208).

Results

22. Florida Power forecasts the compound average annual growth rate in customers through 2010 to be approximately 2.17 percent, with the customer base increasing from roughly 1.14 million to 1.75 million over that time. (Tr. 648).

23. Florida Power forecasts total energy sales to grow at an annual rate of 3.41 percent for the period 1991 through 2010. (Tr. 650).

24. Florida Power forecasts winter and summer peak demands to increase at compound average annual growth rates of 2.15 percent and 2.55 percent, respectively, for the period 1991 through 2010. (Tr. 650). Florida Power forecasts peak summer demand for 2001 to be 7,716 MW, and winter peak demand for 2001 to be 8,301 MW. (Ex. 2, p. 263).

25. Florida Power forecasts residential energy-use per customer for 2001 to be 13,205 kWh. (Ex. 2, p. 259). The average kWh per residential customer growth rate from 1991-2000 is forecasted to be approximately 1 percent per year. (Ex. 2, p. 259).

26. Florida Power forecasts the average annual growth in energy use by its commercial customers to be 1.4 percent per year for 1991-2000. In addition, energy use per commercial customer is forecasted to be 75,299 kWh in 2001. (Ex. 2, p. 259).

27. Florida Power forecasts energy use per industrial customer in 2001 to be 1,146 kWh. (Ex. 64).

28. The further in the future, the load forecast becomes a broader range of possible values, and more uncertain. (Tr. 666-667).

CONSERVATION

Assumptions

29. In Florida Power's review prior to filing its conservation plan with the Commission in February 1990, 199 potential programs were identified that met all end uses. A broad set of criteria were applied to reduce these to 40 programs that were likely to be feasible for Florida Power and its customers. These 40 were then analyzed in terms of cost effectiveness, and 22 were accepted. (Tr. 834).

30. Florida Power's DSM projections represent an expansion of previously approved cost-effective DSM programs. These programs, referred to as M.A.C.S. (Maximum Avoidable Capacity Scenario), offer an expanded menu of conservation and load management services. (Tr. 677).

31. Florida Power did not consider natural gas use as an end use in developing M.A.C.S. The Florida Public Service Commission stated in its February 1990 order in Docket 890737 that electric utilities are not compelled to pursue end-use gas programs. (Tr. 848).

32. Florida Power's marketing strategy is to start with low, but reasonable financial incentives and raise them to increase market penetration. (Tr. 719).

33. Florida Power's Energy Efficiency and Conservation filing, submitted on February 12, 1990, included cost-effectiveness analyses for all programs currently included in M.A.C.S. All programs were in conformance with Florida Public Service Commission's Rule 25-17.008 as it pertains to cost effectiveness. (Tr. 682).

Conservation Impacts

34. Florida Power forecasts DSM programs under M.A.C.S. will reduce winter peak demand by 1,445 MW, or nearly 30 percent of Florida Power's new resource needs between 1992-2001. (Tr. 72, Tr. 73, Ex. 3).

35. Florida Power forecasts to obtain over 1,000 MW in incremental dispatchable load management capacity for the period 1992-2001. In total, load management programs are expected to reduce winter peak demand by 1,814 MW in 2001. (Tr. 689).

36. Florida Power forecasts that energy efficiency programs implemented under M.A.C.S. will reduce winter peak demand by an additional 334 MW in 2001. Combining the contributions of the energy efficiency programs implemented prior to M.A.C.S. with the projected contributions from M.A.C.S. would result in a total winter peak reduction of 568 MW in 2001. (Tr. 689).

37. Florida Power forecasts that energy efficiency programs implemented under M.A.C.S. will reduce energy consumption in 2001 by 391 GWh. The combined results from efficiency programs implemented from 1980 through 2001 will have reduced consumption in 2001 by 779 GWh. (Tr. 689).

38. In 1990, Florida Power allocated more than $50 million to its DSM programs. (Tr. 676; Ex. 43). Florida Power's 1990 DSM budget was 2.9 percent of total operating revenue. (Tr. 676; Ex. 43). Annual expenditures on Florida Power's DSM programs are forecasted to be nearly $75 million in 1992, and nearly $1.4 billion by 2001. (Ex. 55).

39. Florida Power forecasts costs for those DSM programs in which Florida Power does not control the load, and primarily reduce energy, to be 20 percent of total DSM program costs for the period 1992-2001. Costs for those programs which allow Florida Power to control the load, and primarily reduce peak demand, are forecasted to be 80 percent of total DSM program costs for the period 1992-2001. (Ex. 55).

40. Increasing participation, in those programs projected to have participation rates below 10 percent, to 10 percent in 1996 would provide 792 MW of additional savings. However, Florida Power contends that increasing participation to 10 percent is not supported by Florida Power's data. (Tr. 852, Ex. 60).

41. Florida Power has recently established a Conservation Monitoring, Evaluation and Planning Department. This

department will have lead responsibility for developing and implementing a framework for determining the kW and kWh reductions associated with each Florida Power conservation program. (Tr. 692).

EXISTING AND PLANNED SUPPLY-SIDE AND TRANSMISSION ALTERNATIVES

Generation

42. For the Integrated Resource Study, all of Florida Power's generation is assumed to be available for operation, including all units that were returned from Extended Cold Shutdown (ECS). Turner Unit 2 has been retired, and Avon Park Unit 2 will be leased to an independent power producer to be rebuilt to burn peat as a fuel. (Tr. 919; Ex. 65).

43. The total existing Florida Power winter generating capacity is 6,621 MW. Of this capacity, 4,912 MW is steam generation and 1,709 MW is from combustion turbines. (Tr. 919; Ex. 65).

44. Additional units currently under construction or planned for construction were also included as assumptions for the Integrated Resource Study. Four distillate-fired combustion turbines with total winter capacity of 364 MW are scheduled to be in service at the DeBary site in November 1992. Four more identical units with a total winter capacity of 364 MW also are scheduled to be in-service at the Intercession City site by November 1993. (Tr. 920).

45. Florida Power is planning to locate a 40 MW gas-fired combustion turbine with a waste-heat boiler at the University of Florida. This unit will add 40 MW of capacity to the Florida Power system and will provide a steam source for the University. (Tr. 920).

46. The Higgins Plant site was retired in 1999 for the Study. This retirement included the three oil-fired steam units with a total winter capacity of 123 MW and four distillate-fired combustion turbines with a total winter capacity of 126 MW. (Tr. 919). Two distillate-fired combustion turbines at Avon Park were assumed retired in the year 2000 for the study. They have a total winter capacity of 60 MW. (Tr. 919).

Purchased Power

47. Purchased power will account for approximately 15 percent of Florida Power's 1998 total generation resources. Florida Power

is the state's largest purchaser of QF capacity. Florida Power also purchases capacity from Southern Company. (Tr. 1096; Tr. 864; Tr. 72; Ex. 3; Ex. 2, pp. 94-5).

48. Florida Power contracted 43 MW of new QF capacity in 1991 and more than 800 MW between 1992 and 1996. If all of the capacity under contract comes on line, more than 11 percent (over 1,000 MW) of supply-side resources in 1996 will come from QF generating capacity. (Tr. 864-865).

49. In Florida Power's previous solicitation for QF capacity, the bids received were only 1 to 2 percent below the avoided costs that Florida Power published. (Tr. 1177)

50. Florida Power's Integrated Resource Plan incorporates over 900 MW of future purchased capacity from the QF developers. Most of this QF capacity is not on line, but is expected to be in service by 1997. (Tr. 1081; Tr. 918).

51. Florida Power has contracted for more capacity than reliability studies indicate is needed. In other words, by assuming a 75-percent probability of performance, Florida Power contracted for 844 MW of capacity, but it assumed for planning purposes that only 633 MW will ultimately be available. (Tr. 869).

52. If all contracted QF capacity performs, Florida Power will have 211 MW more capacity than it expected when it developed its Integrated Resource Plan. (Tr. 869).

53. Florida Power signed an agreement in 1988 to buy up to 400 MW of coal-fired UPS from Southern Company. The UPS portion of the sale begins in 1994 with a 200 MW purchase and increases to 400 MW by 1995. The contract expires in 2010 and also has provisions for early options in 1993 and 1994 for UPS purchases or firm economy purchases called "Schedule E." (Tr. 920; Tr. 72; Ex. 2, p. 85).

54. Florida Power intends to buy economy energy from Southern Company or other utilities interconnected with Southern Company. This economy energy will come into the Florida Power system on the 500 kV line scheduled to be in service by January 1997. For the Integrated Resource Study, it was assumed that Florida Power will buy up to 500 MW at a time, with a total of 1,000 GWh for each year. (Tr. 921; Tr. 72; Ex. 67; Ex. 2, pp. 85-7). The power purchases over the new 500 kV intertie with Southern Company are expected to represent about 10 percent or at least 500 MW of winter peak demand. (Ex. 3).

Transmission Line

55. The addition of the 500 kV tie-line is expected to improve the loss-of-load probability to between .02 and .03. The line is also expected to improve the reliability of other utilities in the state, which in turn further improves Florida Power's reliability. (Tr. 976). The tie-line does not affect Florida Power's reserve margin since Florida Power plans to use it for economy and emergency purchases. (Tr. 924).

56. With the construction of the 500 kV line from Florida to Southern Company, the First Contingency Total Transfer Capability (FCTTC) will be increased by 1,300 MW to 4,900 MW. The existing facilities will account for 3,600 MW of transfer capability and the new 500 kV line will account for 1,300 MW. (Ex. 2, p. 117).

57. From the new 500 kV line, as well as other facility additions on Florida Power's system, Florida Power's tie capacity to the Florida assistance area is expected to increase to 2,200 MW. (Ex. 2, p. 117).

58. The negotiations and logistics involved in building the 500 kV line are extensive. The January 1997 completion date was the best estimate at the time the IRP study began. There are distinct possibilities that the actual completion date (sic.) could be later. (Tr. 948).

59. If the 1997 500 kV line were not constructed, the number of megawatts that Florida Power would have to add to the proposed Polk County units in order to keep its LOLP at 0.1 days per year would be 225 MW for 1997. If the 500 kV line is not built, Florida Power would have to add more than 500 MW to keep its LOLP as low as it would be if the tie-line were built. (Ex. 88, pp. 1-2).

INTEGRATED RESOURCE PLANNING INPUT TECHNOLOGIES

60. Five generation technologies were considered viable alternatives in the Integrated Resource Study: pulverized coal, combined cycle, combustion turbine, fluidized bed combustion, and integrated gasification combined cycle. (Tr. 1000).

61. Significant experience exists with both combustion turbines and steam cycles, which are the primary components of combined cycle units. The combined cycle is a well developed,

efficient technology with a relatively short construction schedule. (Tr. 1007).

62. Florida Power considered the following 10 alternative plans:

- Alternative 1: two 165 MW combustion turbines on distillate and one 700 MW pulverized coal unit.
- Alternative 2: three 165 MW combustion turbines on distillate and one 450 MW pulverized coal unit.
- Alternative 3: four 235 MW combined cycle on gas.
- Alternative 4: four 235 MW combined cycle on distillate.
- Alternative 5: twenty-four 40 MW small combustion turbines on gas.
- Alternative 6: 110 MW purchase from Orlando Utilities and four 235 MW combined cycle on gas.
- Alternative 7: one 165 MW combustion turbine on distillate and 870 MW of integrated gasification on coal.
- Alternative 8: one 165 MW combustion turbine on distillate and 750 MW of fluidized bed combustion on coal.
- Alternative 9: 593 MW from orimulsion gasification combined cycle and two 165 MW combustion turbines on distillate.
- Alternative 10: two 165 MW of combustion turbine on gas, one 376 MW pulverized coal purchase from Cajun, and one combined cycle on gas for 235 MW. (Ex. 104).

63. It was stipulated by all parties that Florida Power Corporation adequately explored other reasonably available generating technologies for utility construction in lieu of the proposed project. (Tr. 1011)

STRATEGIC CONSIDERATIONS, (Including Clean Air Act Compliance Strategy)

64. Strategic analysis refers to systematic consideration of issues such as fuel choices, environmental and siting benefits, and operational flexibility. Some of these issues

are long term in nature and/or difficult to quantify. (Tr. 1081, Ex. 2, pp. 175-76).

65. There are three ways for a utility to comply with the Clean Air Act. One is to reduce loads so that fewer kWh need to be produced. A second way is to reduce emissions at existing plants by switching fuels or putting on scrubbers. The third is to build new plants so that existing plants are used less. (Tr. 1411-1412).

66. Florida Power evaluated the long-term factors affecting Florida Power's Clean Air compliance strategy after 2000 for potential resource additions. (Tr. 916-17).

67. Florida Power's proposed generation expansion plan was designed to be operated on an economic dispatch basis and to also meet Clean Air Act regulations. For this reason, Florida Power plans to switch the Bartow plant and Crystal River 1 and 2 plants from burning high-sulfur fuel to a lower-sulfur fuel. (Ex. 85).

68. The Polk County units' natural gas fuel supply, which produces no sulfur emissions when burned, plays a critical role in Florida Power's compliance with the Clean Air Act under Phase II. Also, since the units are operated as intermediates, they can be base loaded to reduce sulfur emissions further at an incremental dispatch cost. (Ex. 2, p. 84).

RESULTS OF FLORIDA POWER'S INTEGRATED RESOURCE PLANNING

69. The cumulative present worth risk analysis graphs extended until 2030 also shows that Alternative 3, the four combined cycle units, is projected to be the lowest cost option for adding new capacity to Florida Power's system, when compared to the 10 alternatives. (Ex. 83, pp. 1-5).

70. The purchased power alternatives, 10 and 6, were not projected to be as cost effective as the proposed Polk County units. When compared to Alternative 3 in present value dollars, Alternative 6 is projected to cost approximately $17.5 million more, and Alternative 10 is projected to cost approximately $80 million more. (Tr. 1089; Ex. 105).

71. Alternative 6 was projected to be the second best option. Alternative 6 included a short-term purchase of 110 MW of coal-fired capacity from the Orlando Utilities Commission (OUC). (Tr. 1086; Tr. 935-6; Ex. 105).

72. Florida Power expects a life extension of the Higgins Plant and the two Avon Park combustion turbines planned for retirement in 1999 and 2000 respectfully to cost Florida Power's customers approximately $37 million more in present value terms than building the Polk County units. These costs are predominantly due to Clean Air Act compliance measures that Florida Power would have to undertake if the units were not retired (Tr. 1112-1113).

73. In 1991 dollars, Alternative 3 is expected to be the best option, at approximately $20.4 to $20.6 billion over a 30-year period. (Ex. 105, 87).

74. Without the addition of the Polk County units, Florida Power expects its winter reserve margin will range from 13.9 percent for winter 1998/99 to 5.6 percent in winter 2000/01. (Tr. 924; Ex. 68)

75. Florida Power projects that it must add a minimum of 83 MW in November, 1998, 381 MW in November, 1999, and 276 MW in November, 2000 in order to meet Florida Power's forecasted 1998/99. 1999/00, and 2000/01 winter peak load, respectfully. (Ex. 81).

76. The second combined cycle unit in 1999 is not needed to meet Florida Power's reliability criteria. (Ex. 86).

77. Florida Power's analysis shows that deferring one 1999 unit to the year 2000 is expected to increase the cost by $1.3 million over a 30-year period. This represents an expected increase of 0.007 percent. Sulfur dioxide emissions would be higher if the second unit were deferred by one year. (Ex. 87)

78. Florida Power expects that the accuracy of the total cost of each alternative plan over 30 years is plus or minus 20 percent and the accuracy of the differences between the alternative plans is plus or minus 5 percent. (Tr. 955)

STATEWIDE NEED FOR GENERATION

79. To assist in determining the consistency of the proposed Polk County Units with peninsular Florida's system reliability and

need, an update of the Florida Electric Power Coordinating Group's (FCG) 1989 Planning Hearing Generation Expansion Planning Studies document (1989 APH) was provided. The 1989 APH showed an accumulated addition of 5,930 MW, 6,990 MW, and 7,785 MW of generating capacity would be required in the winters of 1998/99, 1999/00, and 2000/01, respectively, to meet the reliability criteria. (Tr. 622; Ex. 36).

80. Adjustments were made to that information for known changes, including the removal of Florida Power's previously identified coal units. (Ex. 36). After these adjustments, the reserve margins for the winters of 1998/99 through 2000/01, excluding Florida Power's Polk County Units, are less than the amount necessary to maintain adequate peninsular Florida reliability. (Tr. 623-624; Ex. 36). Florida Power's proposed capacity additions will provide only a portion of the additional generating capacity that is needed for peninsular Florida to maintain an adequate level of reliability. (Tr. 621).

GAS SUPPLY AND TRANSPORTATION

81. Florida Power currently uses very small volumes of natural gas on its system. (Tr. 1091). Florida Power's Bartow, Higgins, Turner, and Avon Park plants all have natural gas capability and are served by FGT on an interruptible basis. (Ex. 2, p. 170). The Suwannee plant is served by SGNG, also on an interruptible basis. Id. Florida Power plans to use about 8.8 MMCFD of natural gas at its planned facility at the University of Florida. Id.

82. Florida Power is considering a possible conversion of its Anclote plant as supported by testimony of the witnesses and the Letter of Intent (Late filed Ex. 28). As shown in the Decenber 3, 1991 letter of intent, Anclote will require approximately 120 MMCFD of natural gas beginning in 1995. The Anclote units are expected to have less than a 50-percent capacity factor for a number of years.

83. The four Polk County units (940 MW) will require about 100 MMCFD on average, and will have a peak demand of between 200 and 216 MMCFD. (Tr. 449; Ex. 2, p. 172)

84. The Polk County units will contribute to fuel diversity on Florida Power's system and in peninsular Florida. (Tr. 1091-1092; Ex. 2, p. 126.) The Polk county units will increase the

percentage of installed gas-fired combined cycle generating capacity in peninsular Florida to about 6 percent in 1998/1999 and about 9 percent in 2000/2001. (Tr. 1092; Ex. 106, p. 2).

Fuel Forecast

85. The fuel price forecast uses the same basic methodology as that used previously by Florida Power and reviewed by the Florida Public Service Commission as recently as the 1991 Annual Planning Hearing. (Tr. 536). Florida Power's natural gas price forecast is conservative and may show a relative price disadvantage for gas as compared to other fuels. (Tr. 587, 595).

86. Florida Power's forecast of natural gas price trends is well within the range of projections compiled by other recognized sources. (Tr. 575, 577). Such sources include Data Resources, Inc., the Gas Research Institute, the American Gas Association, and the United States Department of Energy's Energy Information Administration. (Tr. 576-77).

87. In Florida Power's base- and low-case fuel forecasts, natural gas is expected to be priced at or below the price of low sulfur oil and well below the price of distillate oil. (Tr. 532,538; Ex. 2, pp. 71-73). Florida Power expects that natural gas prices will remain below oil competition levels through most of the 1990s. (Tr. 576).

Gas Supply

88. Natural gas reserves and resources in the United States are vast and well documented. (Tr. 579; Tr. 497). Recent studies estimate the nation's gas resource base to be in excess of 1 quadrillion cubic feet. (Tr. 579; Ex. 34, pp. 1-2; Ex. 2, pp. 163, 167). In 1990, less gas was consumed than was added to the reserve base. (Tr. 497; Ex. 2, p. 163). In relation to these vast resources, Florida Power's expected natural gas requirements are quite small. (Tr. 578).

89. Florida is relatively close to significant potential onshore gas reserves in Louisiana, Mississippi, and Alabama, as well as the offshore Gulf Coast gas-producing regions and some of the country's largest coalbed methane deposits. (Tr. 580; Tr. 502; Ex. 2, p. 162-164).

90. Florida Power has not entered into any contracts or letters of

intent for gas supply for the Polk county units. (Tr. 391). Florida Power's strategy is to defer entering into fuel supply contracts until a time closer to the in-service date of the Polk county units. (Tr. 391, 394-395; Ex. 2, p. 169). Florida Power does not expect to enter into contracts until after the Florida Public Service Commission and the Department of Environmental Regulation have authorized the Polk County units. (Tr. 394-395).

Gas Transmission

91. Florida represents the only major demand growth area in the United States that is served by only one natural gas pipeline. (Tr. 396). FGT is the only major natural gas pipeline currently serving peninsular Florida. (Ex. 2, pp. 170-171). The FGT system has been expanded recently in two stages. Id. The second stage is expected to be complete late in 1991 or early in 1992. Id. Virtually all of FGT's resulting delivery capability (925 MMCFD) has been reserved on a firm basis. Id. Florida Power has reserved 8.8 MMCFD of transportation capacity from the Phase II expansion to serve Florida Power's planned University of Florida plant. (Ex. 2, p.170).

92. FGT currently is planning a Phase III expansion to be completed in 1994 or 1995. Id. The capacity expected to be available from this expansion has been heavily oversubscribed by potential shippers. Id. Florida Power has not executed a contract with FGT, but it has placed an initial request for Phase III capacity in the following amounts: (a) May-September - 140 MMCFD; (b) October-April 55 MMCFD. (Id.; Tr. 431-432). This capacity could accommodate a conversion of the Anclote units in the mid-1990's, but is not expected to accommodate the needs of the Polk County units. (Tr. 431, 396).

93. Florida Power initially identified three gas transportation options. (Tr. 397; Ex. 2, pp. 172-173). Option A was the development of a new independent pipeline owned by Florida Power and others. (Tr. 397; Ex. 2, p. 172). Option B was a subsequent expansion of FGT's system (beyond Phase III) to accommodate the Polk county units, while committing the Anclote gas requirements to FGT's Phase III expansion. (Tr. 397; Ex. 2, 172). Option C was to commit to capacity on a new, competitive pipeline to be constructed by a party or parties other than Florida Power or FGT. (Tr. 397; Ex. 2, pp. 172-173).

94. Florida Power has been negotiating with a newly-formed joint

venture consisting of United Gas Pipeline Company (United) and the ANR Pipeline Company (ANR) (a division of Coastal Corporation). (Tr. 427, 443-444). The Suncoast Venture has been formed for the purpose of building a new pipeline in Florida. (Tr. 443-444; Ex. 28).

95. Florida Power has executed a December 4, 1991 non-binding Letter of Intent (the Letter) with respect to the SunCoast Venture. The Suncoast venture involves the construction of a new intrastate pipeline approximately 560 miles in length with an initial capacity of 400 MMCFD. The pipeline is expected to have a delivery point to the Polk County units as well as delivery points both upstream and downstream of the Polk County site. (Ex. 28)

96. As of the signing of the Letter of Intent, FGT has not presented Florida Power with any proposal that would be more advantageous to Florida Power than the SunCoast proposal. (Ex. 28)

97. In assessing pipeline options, Florida Power must consider both short-run fuel savings and the long-term benefits of developing competitive pipeline capacity in Florida. (Tr. 415-16, 435-38). It is not necessarily in the long-run best interests of Florida Power's customers for Florida Power to capture short-term fuel savings by foregoing the cost savings or strategic benefits that competitive gas transportation can generate. Id.

98. The absence of pipeline competition has hampered Florida Power's ability to obtain desired terms and conditions of transportation service. (Tr. 441). The introduction of competition could help facilitate more attractive terms of service and prices. (Tr. 437, 441; Tr. 500).

99. The initiation of every major pipeline project in the nation in recent years has been based on the advance gas transportation commitments of one or more key shippers, or, in other words, an "anchor load." (Tr. 480-481; Ex. 24).

100. An anchor load ensures that a pipeline will be built in sufficiently large diameter to achieve economies of scale. (Tr. 476-477). Such economies is expected to allow transportation rates to be held to levels that will attract shippers and allow the gas transported on the new system to remain competitive with alternative fuels. Id. Firm contracts with credit-worthy shippers typically are required for the pipeline sponsor to obtain financing. (Tr. 477).

101. An anchor load must be sufficiently large to justify the several million dollar expenditure necessary to do preliminary analyses and get a pipeline project to the stage of the required regulatory filings. (Tr. 479-80). Ideally, project development would not begin without firm commitments for all of the pipeline's capacity. (Tr. 477).

102. Generally, an anchor load represents a volumetric commitment of between one-third and one-half of the pipeline's capacity. (Tr. 483). More committed load at the outset translates to an increased likelihood that a competitively sized pipeline will be constructed. (Tr. 503).

103. Since the proposed pipeline (Suncoast) has an initial capacity of 400 MMCFD, a sufficient anchor need only require between 133 and 200 MMCFD. (Tr. 483, Ex. 28).

104. The proposed pipeline construction configuration shows a lateral to Anclote and Peoples Gas System, and laterals to Orlando, Kissimmee, Lakeland, Teco-Hardee, Seminole-Tocala, and Teco-Power Park. (Ex. 28).

105. The contractual arrangements and design for the engineering, permitting, certification, construction, and testing of a major natural gas pipeline can require a lead time of six to seven years. (Tr. 403-04, 407; Tr. 483-93; Tr. 590-92; Ex. 21). This lead time is approximately the same under any of the identified pipeline options. (Tr. 484-85; Tr. 592). The tentative pipeline schedule shown in Exhibit 21 is reasonable because of the following factors:

- After a need for new gas pipeline capacity has been established, the contractual arrangements required to bring about such a development can take a year or more to finalize. (Tr. 590; Tr. 407).

- Before required filings are made for regulatory approvals of the pipeline, it can take 12 to 18 months (some of this time can overlap the contracting phase) to conduct the design and engineering work, the right-of-way evaluation and acquisition, and the development of cost estimates, pro forma rates, and a proposed tariff. (Tr. 487-89).

- Obtaining state, federal and local approvals for major natural gas pipeline construction can take four to five years, as evidenced by recent pipeline proceedings at FERC. (Tr. 490; Tr. 591; Tr. 403). Unexpected

environmental issues or other complications will tend to draw out the process. (Tr. 489).

- Following regulatory approvals of a new natural gas pipeline, construction may be delayed by approximately six months to account for such factors as the final redesign necessary to comply with regulatory requirements, the finalization of the construction contract, the mobilization of construction forces, and the completion of financing. (Tr. 491-92). Thereafter, construction can be expected to take up to two years. (Tr. 492; Tr. 592; Tr. 407; Ex. 21).

106. To ensure that sufficient new natural gas pipeline capacity will be available for the Polk County units, there can be no material delay in initiating significant pipeline development activities. (Tr. 407, 421; Tr. 589, 596). Pipeline capacity can be constructed between now and the 1998 in-service date for the Polk County units, but not if there is an initial delay in commencing the development process. (Tr. 407; Tr. 589).

FINANCIAL IMPACTS

Impact of the Construction of the Polk County Units

107. Florida Power has conducted analyses to ensure that the Polk units will not adversely affect its financial portfolio. (Tr. 1083; Tr. 197; Tr. 277-78; (Ex. 2, pp. 150-55).

108. Florida Power has determined that it can finance the investments included in its Integrated Resource Study, Docket No. 910759-EI, through conventional means without threatening its AA bond rating. (Tr. 307).

Impacts of Purchased Power on Credit Rating

109. Increased utility industry reliance on purchased power has received attention from ratings analysts and the financial community, who are reassessing the consequences of this development. The legal and financial complexities of purchased power transactions have outstripped conventional analytical tools, resulting in divided opinions regarding the specific degree of consequences from having significant levels of purchased power. (Tr. 193).

110. Power purchase agreements have been recognized as an issue by

all major credit agencies. The financial community gives purchased power policy close scrutiny when the amount of purchase capacity reaches 10 to 15 percent of the utility's total available resources. (Ex. 12, p. 3).

111. No clear-cut formula can be followed in assessing the impact of third-party generation on an investor-owned utility's credit profile. The financial community's understanding of the implications of utility purchases is still evolving. But increased reliance on this source of power does not have to portend lower credit ratings. (Ex. 7, p. 5)

112. Quantifying the financial impacts of the reduced planning and operating flexibility caused by power purchases is difficult. In addition, there is no agreed-on method for calculating increases in risks that result from them. (Tr. 296, 299; Ex. 16).

113. To a degree, purchased power obligations can be absorbed in the credit quality assessment. Purchased power obligations are only one factor in credit quality assessment. Coverage and capitalization ratios may move somewhat within ranges without impacting the credit rating of a utility. (Tr. 182)

114. Qualitatively, determining credit quality includes a judgmental assessment of any and all circumstances that bear on risk exposure. Such circumstances include the outlook for sales, competition, management quality, the regulatory environment, the quality of reported earnings, and the quality of the balance sheet. (Tr. 167; Ex. 6, p. 2).

115. Quantitatively, utility credit quality is based on a number of financial ratios. Three of the primary ratios are debt leverage, interest coverage, and the internal funds ratio. A lower value for the first and higher values for the (second and) third of these ratios indicate - all other things being equal - lower risk to bondholders and higher credit quality. (Tr. 166-67; Ex. 6, p. 3).

116. What enhances a utility's credit quality after a purchased power contract or a construction option has been exercised is the total qualitative and quantitative posture of the utility. (Tr. 232-3)

117. Capacity payments can contribute to the overall utility credit risk because these payments increase the utility's aggregate fixed-charge obligations. (Tr. 188) However, the qualitative factors associated with the terms of purchased power contracts

can reduce the financial risk of these types of payments. (E. 11, p. 4).

118. Depending on the financial condition of the utility, third-party purchases can be beneficial to a utility. Furthermore, a utility's credit rating could be upgraded despite the fact that its purchased power commitments have increased. (Tr. 233, 248)

119. In measuring the financial impact of purchased power contracts, Duff and Phelps converts the fixed obligations for the contracts into debt equivalents on a utility's income statement and balance sheet. Duff and Phelps reclassifies one-third of the total capacity charges associated with purchased power as the equivalent of interest expense on the income statement. The approximate value of the assets that provide the capacity are added to the balance sheet as the equivalent of additional debt. (Tr. 175).

120. Standard & Poors (S&P) will balance the risks with the benefits in assessing the impact on a utility's creditworthiness. The analysis will cover all aspects of the utility's credit profile including financial, operating, and regulatory segments. (Ex. 7, p. 5)

121. Moody's recognizes that there are a number of clear benefits a utility can gain by entering into purchased power commitments. However, Moody's also believes that there are risks inherent in a utility's use of purchased power. Therefore, in assessing the impact of purchased power commitments on a utility's credit quality, Moody's will focus on the specific terms and conditions of the underlying contracts, the financial and operating strength of the power providers, and the unique characteristics of the utility. (Ex. 8, p. 9)

Duff and Phelps' Downgrades of Other Utilities

122. Increased financial pressure expected to accrue from generating capacity purchases contributed to several Duff and Phelps rating actions in 1989 and 1990. Credit downgrades for Consolidated Edison Company (Ex. 10), the Delaware Economic Development Authority (a project of Delmarva Power and Light Company), Orange and Rockland Utilities, Inc., Eastern Edison Company, Public Service Electric and Gas Company, and Potomac Electric Power Company all cited the impact of both purchased power and construction as contributing to the downgrade

action. (Tr. 176-7, 243-4; Ex. 10, Ex. 13).

123. The news release from D&P concerning the credit downgrade of Public Service Electric and Gas Company states that the utility plans to rely primarily on independent power producers and cogenerators to meet its future generation needs over the next several years. (Ex. 13) The fact that Florida Power is contesting even the exercise of soliciting bids for purchased power confirms that the company has no intention of relying primarily on these sources for its future generation needs.

124. All of the news releases from D&P cite declining interest coverage ratios, declining equity ratios, and a general deterioration in financial protection measures that have been occurring in some cases over the past several years. (Tr. 243-4; Ex. 10; Ex. 13)

125. Since its last heavy construction cycle in 1982, Florida Power has taken great strides to improve its financial protection measures and put itself in a strong financial position for the start of this growth cycle. (Tr. 236) Florida Power has increased its equity position from 44.6% of investor capital in 1982 to 56% in 1990 and has improved its interest coverage ratio from 2.42x to 3.89x over the same period. (Tr. 375)

126. Florida Power is currently rated AA- by Duff and Phelps, representing an upgrade from its 1986 rating of A+. Florida Power has similar lower tier AA class credit quality ratings from the other major credit-rating agencies. (Tr. 168; Ex. 2, p. 150).

Florida Power's Level of Purchased Power

127. Florida Power has contracted for significant amounts of power as measured by methods recognized and used by credit-rating agencies in the financial community. Purchased power is projected to represent 15 percent of Florida Power's total generation resources by 1998. (Tr. 165, 182; Ex. 2, p. 157).

128. Total purchased power capacity charges are projected to reach 178 percent of interest expense in 1997, based on the Integrated Resource Study, which assumes a 75-percent success rate for contracts of future purchased power delivery (exclusive of the Southern UPS contract). (Tr. 182; Ex. 2, p. 157).

Financial Affect of Building versus Buying

129. When a utility builds a plant and then places it in its rate base, the utility obtains revenue to cover operating costs and capital costs. The operating costs include depreciation, return on equity, and sometimes deferred taxes. The revenues covering each of the costs are available to the utility to reinvest in the utility system as customer needs require. (Tr. 270; Ex. 2, p. 156). In contrast, when a utility purchases capacity, the revenues obtained flow through to another party to cover its debt and pay dividends to its shareholders. (Tr. 270).

130. Excluding variable costs such as fuel, interest payments are the only fixed long-term financial obligation associated with a utility-owned power plant. Other revenue requirement components associated with a utility-owned generating plant include the equity return and depreciation. These funds ensure that the utility can meet its interest obligations at all times, which is the primary concern of credit-rating agencies. (Tr. 308-09).

131. Relying on a NUG purchase, as opposed to a generation asset constructed and owned by the utility, reduces depreciation cost recovery as a source of cash to the utility. Depreciation cost recovery is the single largest source of cash flow available for investing in new facilities to serve customers. (Tr. 180; Ex. 2, p. 156).

132. There are two ways of compensating for the financial consequences of increased purchased power obligations. One is to increase the proportion of equity used to finance other utility assets. The second is to increase the rate of return on equity. Both represent real costs of purchased capacity. (Tr. 181).

THE POLK COUNTY UNITS

Site Description

133. Florida Power undertook a comprehensive and exhaustive selection study to identify a site capable of accommodating a wide range of fossil-fuel technologies, including combined cycle units fueled by natural gas. (Ex. 2., pp. 187-190). The site selection process considered environmental, socioeconomic, and engineering criteria, including fuel delivery facilities and the location of existing transmission.

(Ex. 2, pp. 187-190). Florida Power received considerable assistance in this effort from an independent group of environmentalists, educators, and community leaders called the Environmental Advisory Group (EAG). The EAG met regularly to review Florida Power's siting criteria and helped to identify issues of public concern. (Tr. 1025).

134. The site chosen as a result of the selection process is the 8,000 acre Polk County site, located in southwest Polk County, approximately 40 miles east of Tampa and 3.5 miles northwest of Ft. Meade. (Tr. 1027).

135. The site represents a rare opportunity to make beneficial use of land that has already been disturbed by the activities associated with on-going phosphate mining. Unlike more "traditional" site preparation and development activities, approximately two years of activity on the site will be required before actual construction of the generating units can begin. (Tr. 1033, 1053).

136. The location identified as the power block site is presently highly irregular and under water. As Mr. Major described in his testimony, approximately 8 million cubic yards of fill material will be required to develop the power block area - the equivalent of stacking 100 football fields 60 feet high. This fill will come from an existing pond on site which has not yet had clay deposited in it. (Tr. 1041).

137. One of the reasons it is necessary to proceed with the licensing activities at this time is to ensure that the required fill material remains suitable for fill. This will involve the relocation of some on-going mining activities to ensure that clay is not deposited in the settling pond that will be the source of the fill material. (Tr. 1060-1061).

Associated Facilities

138. The 1998 Polk County unit is expected to require the looping of the existing Barcola-Ft. Meade 230 kV transmission line into a new 230 kV switchyard at the plant site. This line passes through the site. (Tr. 1029-1030).

139. For the remaining three units, Florida Power expects that it will be necessary to rebuild a portion of the existing line from Barcola to the plant site with double-circuit structures to support two 230 kV circuits. The portion of the line from the plant site to Ft. Meade is expected to require the addition of a new 230 kV circuit and is expected to use

existing structures. In using the existing structures, Florida Power expects it to be necessary to relocate approximately 2.7 miles of the existing Ft. Meade-Rockland 115 kV circuit, parallel to SR 630 west of the Ft. Meade substation. (Tr. 1029-1030).

140. The associated transmission facilities required will depend ultimately on the number of units certified. For certification of only the first two Polk County units, the associated transmission facilities required are expected to be those stated in finding 138 and a portion or all of those stated in finding 139. (Tr. 1029).

141. Florida Power expects a natural gas lateral will be needed. The exact dimensions of the lateral will depend on the ultimate placement of the natural gas pipeline. (Tr. 1030).

142. A facility for storage of up to 3 days of distillate oil as a backup fuel for natural gas will be necessary for the Polk County Units. (Tr. 1030)

Cost of the Units

143. Florida Power has refined its site-specific cost estimate for the Polk County Units as the project has developed. As preliminary engineering is completed, this estimate will be further refined. Florida Power's current estimate of $566/kW (1991 dollars) includes site development, associated transmission, and a potential gas lateral. (Ex. 97).

144. The current site-specific cost estimate of $566/kW (1991 dollars) for the Polk County units compares favorably with the non-site-specific cost estimate of $599/kW (1991 dollars) used by Mr. Niekum in the evaluation of the alternative plans for planning purposes. (Tr. 1034-35; Ex. 97).

145. The units will be constructed by Florida Power using the traditional approach to utility construction contracting as described in Mr. Ruisch's testimony. (Tr. 102). Florida Power will use an architect/engineer to design the plant and to assist Florida Power with construction management. Multiple fixed-price bid solicitations with well-defined work scopes will be used for equipment manufacturers and other subcontractors. (Tr. 1033).

146. Environmental compliance measures are included in Florida Power Corporation's estimates of costs for such items as equipment, construction, spare parts and inventory, indirect

costs, contingencies, land and site development, transmission and switchyard, and gas lateral and metering. (Tr. 1063).

147. The capital cost of the combined cycle units is expected to be half the capital cost of a pulverized coal plant. (Ex. 2, p. 108). The combined cycle technology provides operational flexibility, moderate construction time, and fuel diversity. (Ex. 2, p. 108).

148. The total installed cost for all four Polk County units is expected be approximately $862 million. This estimate includes escalation and AFUDC. The land and development cost for the Polk County site is approximately $64 million (1991 dollars). The cost of the four combined cycle units is approximately $448 million (1991 dollars). (Ex. 97).

149. Florida Power employs competitive bidding in its power plant construction and in its fuel procurement. (Tr. 1177-78).

Operational Specifications

150. The Polk County units are designed to operate on natural gas with distillate as a backup fuel. The Polk County site can accommodate all necessary on-site gas facilities such as compressors and metering that may be required. (Tr. 1030).

151. Following the installation of the Polk County units, Florida Power's natural gas use is projected to change from nearly zero to 11 percent. (Ex. 2, p. 179)

152. The Polk County units are extremely efficient, having an expected heat rate of 7,960 Btu/kWh. As a result, these efficient plants use smaller amounts of fuel per unit of electric service delivered, and when combined with the use of a clean fuel, these units can reduce the exposure of Florida Power's system to new environmental rules or taxes. (Ex. 2, p. 180, Ex. 1, p. 111).

153. The Polk County units are expected to have a Scheduled Maintenance Rate of 5% and a Forced Outage Rate of 4% (Ex. 1, p. 111).

154. The Polk County site is capable of future conversion to coal gasification. The site layout is designed to allow coal delivery, storage and handling, as well as allowing space for gasifiers and solid waste disposal areas for gasification byproducts. Preliminary air quality analyses for coal gasification emissions indicate the site is suitable. Two

industrial-grade rail lines are adjacent to the site to facilitate future coal delivery. (Tr. 1029).

155. The four combined cycle units are expected to operate as intermediate (55-percent capacity factor) units on Florida Power's system. However, these units have the ability to run base load (continuous duty) as required. (Ex. 2, p. 84).

TIMING OF NEED DETERMINATION

156. A one-year delay in the in-service date of the all four of the proposed units will cause Florida Power's winter reserve margin to drop below its minimum level of 15 percent. With this one-year delay, the projected reserve margins will range from a low of 12 percent in the winter of 1999/2000 to 14.5 percent the following winter. Further delays will have a more dramatic effect. (Ex. 2, pp. 199-200).

157. Florida Power's proposed schedule preserves the ability to bring the combined cycles on line early to meet any contingencies that might affect system reliability. If the units are delayed, strategic flexibility to mitigate problems such as a delay in QF capacity, a greater anticipated load, or a delay in the 500 kV line, would be unavailable. (Ex. 2, p. 201).

158. Denying or delaying the entire Determination of Need for all four could cause increased site development costs; however, denying or delaying the Determination of Need for the 1999 or 2000 combined cycle units need not cause increased site development costs. (Tr. 1060, 1061)

159. The determination of how much capacity is needed and the cost-effectiveness of a capacity choice becomes more accurate the closer it is to the date the capacity is needed. (Tr. 666, 667).

160. Florida Power's proposed construction time for the combined cycle unit is approximately three years. (Tr. 1050, Ex. 1, p. 195)

CONCLUSIONS OF LAW

The Florida Public Service Commission has jurisdiction over the parties and the subject matter of this docket pursuant to Chapters 120 and 366, Florida Statutes, section 403.519, Florida Statutes, and Chapter 25-22, Florida Administrative Code.

The information provided in this record satisfies the informational requirements of Rule 25-22.081, Florida Administrative Code. Florida Power Corporation has provided sufficient information on the site, design and engineering characteristics of its four proposed 235 MW combined cycle units to evaluate its proposal. On the basis of the competent substantial evidence contained in the record, I have evaluated the proposed Polk County units, and I hold that, for the reasons stated below, at this time Florida Power Corporation has a need to construct two of the four proposed units to meet its future capacity needs. I propose that Florida Power's petition for a determination of the need to construct the first two Polk County units be granted. Further I hold that Florida Power Corporation's petition for a determination of the need to construct the last two units to meet projected capacity needs for the years 1999-2000 is premature, and I propose that the petition for the last two units not be granted at this time.

Section 403.519, Florida Statutes, provides that in considering the need for a proposed electrical power plant, the Commission must take into account:

> . . . the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, and whether the proposed plant is the most cost-effective alternative available. The commission shall also expressly consider the conservation measures taken by or reasonably available to the applicant or its members which might mitigate the need for the proposed plant and other matters within its jurisdiction which it deems relevant.

Reliability and the Need for Adequate Electricity at a Reasonable Cost

The record in this case supports the conclusion that the first two proposed combined cycle units on Florida Power's proposed Polk County site will contribute to electric system reliability and integrity. I find that Florida Power's reliability criteria - a LOLP of 0.1 days per year and a winter reserve margin of 15% - are reasonable for planning purposes. I also find that the addition of the first two units will enable Florida Power to meet that winter reserve margin criteria and to withstand the outage of its largest unit at time of system peak. The combined cycle technology chosen is a sufficiently mature and reliable generating option for Florida Power's system. The first two Polk County units will contribute to diversifying Florida Power's system fuel mix, and thus contribute to the integrity of Florida Power's system.

I find that Florida Power's load forecast is reasonable for planning purposes, and it supports the conclusion that the first two proposed Polk County units will contribute to, and are in fact needed to ensure, electric system integrity and reliability. Additions of 5,930 and 6,990 MW of generating capacity are projected to be required in the winters of 1998/99 and 1999/00 for peninsular Florida (Finding of Fact 79 (FF79)) and the first two Polk County units are needed to provide a portion of that required generating capacity.

At this time, however, I cannot find with certainty that Florida Power's load forecast supports the conclusion that Florida Power's last two proposed units are needed to provide adequate electricity to Florida Power's customers, because the need is identified in the long term, far in the future. Too much uncertainty remains with respect to Florida Power's planned resources in the 1999-2000 time frame. For example, to ensure against the possibility that some QF's may default in their obligations, Florida Power has contracted for more capacity than reliability studies indicate is needed. (FF51) If all of Florida Power's contracted QFs perform, Florida Power will have 211 MW more capacity than projected. All other things being equal, the additional 211 MW of capacity would be sufficient to avoid or delay construction of one of the Polk County units. (FF52) On the other hand, if Florida Power's proposed 500 kV transmission line is not constructed, this event would push the need forward, and Florida Power would have to advance the construction of one of its combined cycle units. (FF59)

It is reasonable and beneficial to wait to grant a Determination of Need for the construction of the last two Polk County units, because the load, fuel, and conservation forecasts will be more certain. In addition, Florida Power will know in approximately four years, by 1996, how much of the 800 MW of contracted QF capacity will materialize, and whether the 500 kV line will be completed as planned.

Florida Power can defer its third combined cycle unit from 1999 to 2000 without violating its reliability criteria. (FF76) It appears that the deferral of this unit would cause virtually no difference in cost. (FF77 & FF78) While construction of this unit in 1999 would likely produce Clean Air Act benefits, those benefits are not quantifiable at this time.

Through a thorough economic analysis of a variety of generating alternatives, Florida Power Corporation has shown that the first two proposed Polk County units will contribute to the provision of adequate electricity to Florida Power and the State of

Florida at a reasonable cost. The design of the units is based on the use of modern, high-efficiency gas-fired combustion turbines and steam turbines configured in a "combined cycle." As a result, these efficient plants use smaller amounts of fuel per unit of electric service delivered. (FF152) The units take approximately three years to construct. (FF160)

The associated facilities that will be required by Florida Power in conjunction with the two recommended 235 MW units at the Polk County Site, including transmission facilities, oil storage facilities, and a natural gas lateral, are reasonable. Furthermore, the reasonably anticipated costs of environmental compliance of the first two Polk County units have been adequately considered. Florida Power included the costs of environmental compliance in its estimates for equipment, construction, spare parts and inventory, indirect costs, contingencies, land and site development, transmission and switchyard, and gas lateral and metering costs (FF146).

The fuel forecasts submitted by Florida Power in this proceeding are reasonable and appropriate for planning purposes, and the record demonstrates that adding two 235 MW gas burning combined cycle units will contribute to fuel diversity for Florida Power and for the State. (FF84)

With respect to the issues of natural gas supply that arose during the course of this proceeding, it appears that Florida Power's natural gas requirements are quite small relative to present natural gas reserves in the United States (FF88) and sufficient gas reserves exist to fuel the first two Polk County units.

While the issues of gas transportation to the Polk County site are somewhat more complex, I also conclude that adequate assurances have been provided in this proceeding that gas transportation capacity will be available to serve the needs of the first two Polk County units. Florida Power contends, and I agree, that construction of a second natural gas pipeline into peninsular Florida will provide a variety of strategic benefits for the state. While the strategic benefits alone cannot lead to a determination of the need for the proposed power plants, certainly the Commission may consider them in this proceeding. I have so considered them in light of the new pipeline's contribution to fuel diversity for Florida Power and the State, and in light of the lead times associated with construction of the pipeline and the plants.

A commitment of one or more key shippers to use approximately one-third to one-half of the pipeline capacity is necessary to

anchor the new pipeline. (FF102) While it is theoretically possible, the facts of this case do not demonstrate a clear probability that QFs would "anchor" the pipeline at this time, and no QFs claimed in this proceeding that they were presently willing to commit to a gas supply for the new pipeline.

Florida Power's Letter of Intent with SunCoast Venture indicates that Suncoast would construct a pipeline with an initial capacity of 400 MMCFD. (FF95) Because six or seven years are typically needed to bring a new pipeline of this size into service, it is necessary to make the decision of the units necessary to "anchor" the pipeline now. (FF105) Anclote plus two Polk Units will use approximately half the pipeline capacity, and, therefore, they should act as a strong anchor load. (FF103) The facts do not support the conclusion that all four Polk County units are necessary to anchor the pipeline, and in view of the present uncertainty of the need for the last two Polk County units, I see no reason to change my conclusion that the petition for approval of the last two units should not be granted at this time.

Florida Power selected the Polk County site, a site to be developed on mined-out phosphate land, with the assistance of a group of educators, environmentalists, and community leaders known as the Environmental Advisory Group (EAG) (FF133 & FF135). The site preparation will be predominantly the same for two units as it would be for four units, and will take approximately two years of preparation before construction can begin. (FF135) I conclude that it is important for Florida Power to secure a site to meet its future generation needs, and approval of the first two Polk County units will be sufficient to that end.

A one-year delay in the completion of the first unit will cause Florida Power's winter reserve margin to fall below its minimum level of 15 percent. There are also adverse consequences associated with not starting now to prepare the site and secure the gas supply; however, there are no adverse consequences associated with waiting to certify the last units. In fact, it would be beneficial to wait to certify the last two units because more wil be known about when they are needed and whether there would be a more cost-effective manner to meet the need.

Most Cost-Effective Alternative Available

Florida Power evaluated ten alternative generating plans in its Integrated Resource Study. These plans included various generating technologies, as well as purchased power options from other utilities. It was stipulated by all parties that Florida Power Corporation adequately explored other reasonably available

generating technologies for its construction in lieu of the proposed project. I approve that stipulation, and I conclude that Florida Power's Integrated Resource Plan (IRP) developed from the Study is reasonable for planning purposes.

The record demonstrates that, for the purposes of planning, the planned unit retirements in 1999 and 2000 are cost-effective when compared to the refurbishment and continued operation of those units. Florida Power expects a life extension of the units to cost Florida Power customers $37 million more than constructing the four proposed Polk County units. These costs are predominantly due to Clean Air Act compliance measures that Florida Power would have to undertake if the units were not retired (FF72).

With respect to the effects of self-service generation on Florida Power's credit rating, I conclude that there is not competent substantial evidence in this record to determine what effect, if any, reliance on self-service generation would have on Florida Power's credit rating.

Florida Power's contention that further purchased power will have a negative effect upon its planning and operating flexibility did not impact my decision regarding the "buy vs. build" issues in this case. I am also not persuaded by the contention that further purchased power creates a substantial risk of a negative impact on Florida Power's credit rating. Florida Power has not demonstrated that it will experience a downgrade in its credit rating if it purchases more power.

While increased utility industry reliance on purchased power has received attention from ratings analysts and the financial community, these analysts have divided opinions regarding the specific degree of consequences from having significant levels of purchased power. (Tr. 193). There is no one method of evaluating purchased power that is widely accepted. (Tr. 296) The analysts agree, however, that there are risks in both purchasing power and constructing one's own plant. (Ex. 12, p. 7)

I find that increased reliance on this source of power does not have to portend lower credit ratings. (Ex. 7, p. 5) Just because a utility increases its reliance on purchased power does not mean that debt protection measures will deteriorate and a downgrade is imminent. In many cases, various qualitative factors may outweigh the quantitative factors. (Tr. 236-7; Ex. 12, p. 7)

I recognize that purchased power is not without its risks, just as constructing one's own plant contains risks. However, I also recognize that it is generally not possible to point to an

increased reliance on purchased power as the sole reason for a change in credit rating. (Tr. 176) Similarly, I cannot conclude that Florida Power's credit rating would be downgraded solely because it constructs the needed generating capacity and participates in the construction of a pipeline. Each of the utilities downgraded by Duff and Phelps had demonstrated a pattern of deterioration in its financial ratios over a period of time preceding the downgrade action. The possibility of a credit downgrade exists for any utility that allows its financial protection measures to fall outside the ranges prescribed by the rating agencies, regardless of its level of purchased power. In light of the fact that Florida Power has steadily improved its financial protection measures since its last growth cycle, I find Florida Power's claim that additional purchased power commitments would result in a credit downgrade to be exaggerated.

Florida Power has demonstrated that it reasonably considered capacity purchases from other utilities and nonutility generators to meet future generation needs. In the past, Florida Power has purchased significant amounts of QF capacity (without any demonstrated loss of planning and operating flexibility). If all of Florida Power's contracted QF capacity comes on-line, it will have over 1,000 MW of QFs--over 11 percent of supply-side resources. (FF48) Furthermore, in terms of the immediate need, the record in this case contains no formal proposals for a project capable of deferring the first two units.

I am reluctant to require Florida Power to bid for power to avoid construction of the first two units. Since no non-utility projects were proposed in this docket, I have no assurance that a bid would be successful. Power is needed in 1998 and, because of the delay associated with bidding, Florida Power would not have time to meet this need, should the bid be unsuccessful. If the bid is successful, it would jeopardize the construction of a second pipeline into peninsular Florida and Florida Power would likely lose its site for future generation. Therefore, whether successful or unsuccessful, requiring bidding for Florida Power's first two units would be detrimental.

Approval of Florida Power's first two proposed generating units and deferral of a decision on the last two gives non-utility generators ample time to negotiate with Florida Power for a power purchase contract to displace the third and fourth units. If those negotiations are not fruitful, non-utility generators will have the opportunity to intervene in Florida Power's future certification petition and to demonstrate why their non-utility power is less costly. Also, at that time the status of a new pipeline to transport natural gas for utility and non-utility generators alike

will be more certain. Deferral of a decision on the third and fourth units gives non-utility generators time to develop and propose tangible projects. Failure of non-utility generators to come forward with a site specific alternative to Florida Power's third and fourth units will cast doubt on the availability of non-utility generators to supply this need.

At this time, I will not make a finding on how Florida Power should meet the needs of its third and fourth units. I will not require bidding for purchased power to avoid construction of these units for two reasons: the need for the third unit is not mature, and we have no policy or rules requiring bidding. However, Florida Power should reevaluate all of the options for meeting the needs of the third and fourth units before requesting certification in order to ensure that it chooses the most cost-effective option.

Furthermore, I conclude that consideration of whether to impose upon new Florida Power constructed generating capacity the same cost and performance obligations that Florida Power Corporation imposes upon QFs is beyond the scope of this proceeding, as is the question of whether Florida Power is obligated as a matter of law to purchase QF capacity in lieu of constructing the proposed units. Those issues are more properly addressed in a generic rulemaking docket or ratemaking proceeding. In fact, the obligation to purchase issue will be resolved in such a proceeding, specifically Docket No. 910603-EQ, the negotiated QF contracts docket. In addition, if Florida Power's construction, non-fuel operating, and maintenance costs are substantially higher than what they are claiming they will be in this docket, the increase in costs will have to be justified in some future rate case to obtain cost-recovery. This is the risk the company assumes by constructing its own units.

Conservation or other non-generating alternatives

As mentioned above, section 403.519, Florida Statutes requires the Commission to consider "whether the proposed plant is the most cost-effective alternative available" for meeting the need for additional generating capacity. FRG has raised the issue of whether this phrase means the same thing as "least cost option." I conclude that it does not. The term "least cost" does not appear in the statute or Commission rules. Had the legislature intended those terms to be synonymous, it would have so indicated. The evidence shows that the first two Polk County Units have the lowest cost on a cumulative present worth revenue requirements basis. Regardless of the resolution of this question, the record contains no competent substantial evidence that the requisite amount of capacity is or will be available elsewhere at a cheaper cost.

FRG has questioned whether Florida law requires Florida Power to examine and use all reasonably available conservation measures that might mitigate the need for the proposed plant. I conclude that Florida law imposes no such requirement on a utility. Section 403.519 imposes a requirement on the Commission to consider the conservation measures taken by or reasonably available to the utility which might mitigate the need for the proposed plant. As described in the findings of fact above, I have taken these matters into account, and I conclude that, based on the information available in this record, Florida Power has adequately considered the conservation measures that are reasonably available to it to avoid the need for capacity as required by section 403.519, Florida Statutes.

Florida Power examined 199 potential conservation programs prior to filing its conservation plan containing 22 cost effective programs with the Commission in February 1990. Florida Power's Maximum Avoidable Capacity Scenario (M.A.C.S.) submitted in this proceeding expands upon those programs, and allows for the development of additional programs. (FF29 & FF30). I conclude that Florida Power is taking the conservation measures that are reasonably available to it at this time, but the market penetration rates for some of Florida Power's conservation programs appear to be low. (Tr. 1320, 1361, 1414-17) For example, its residential air conditioning service program is planned to have a market penetration of only 1.0 percent by 1996. In addition, the market penetrations of the company's commercial/industrial conservation programs also appear low. At this time, however, there are no conclusive facts available to determine that additional conservation could be achieved by expanding participation in those programs projected to have a participation rate less than 10 percent by 1996. By increasing participation to 10 percent in those programs, 792 MW could be saved. (FF40) Ten percent is arbitrarily chosen to demonstrate how it appears on paper that conservation can displace the proposed units. However, there is scant evidence in the record about how difficult or easy it is to increase conservation market penetration even a few percent. Florida Power's load management and load shifting programs have performed well, but those programs primarily save peak demand and peaking units, with little savings in energy generated by base load units.

Delay of approval of the third and fourth units gives the Commission further time to analyze Florida Power's conservation market penetrations. To this end, Florida Power shall resubmit its conservation plan and programs to the Commission for approval one year prior to filing its petition for determination of need for the third and fourth Polk County units. Included in its conservation

plan shall be a definitive explanation of why its conservation programs are not projected to achieve higher participation rates.

It is my recommendation that the Florida Public Service Commission enter a final order:

(a) incorporating the foregoing Findings of Fact and Conclusions of Law;

(b) granting the Petition for Determination of Need for the first two proposed Polk County Units only; and

(c) that the Final Order be submitted to the Department of Environmental Regulation as required by and in accordance with the date specified by Section 403.507(2) (a)2, Florida Statutes.

Respectfully submitted,

Betty Easley

BETTY EASLEY, Commissioner
and Hearing Officer

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APPENDIX

RESPONSES TO PROPOSED FINDINGS OF FACT

FLORIDA POWER CORPORATION

THE PARTIES

1. Florida Power Corporation ("Florida Power") is an investor-owned public utility regulated by the Public Service Commission. Florida Power provides electrical power to more than one million customers in thirty-two (32) counties in the state of Florida. (Keesler, Tr. 72; Ex. 2, pp. 5, 32).

   We accept the above proposed finding of fact.

2. Florida Industrial Cogeneration Association ("FICA") is an association whose members own or operate cogeneration facilities in Florida. (Seelke, Tr. 1189).

   We accept the above proposed finding of fact. See Background.

3. Destec Energy, Inc. ("Destec") is a Delaware corporation whose principal place of business is in Houston, Texas. Destec is engaged in the development, operation and ownership of cogeneration facilities and coal gasification projects.

   We accept the above proposed finding of fact. See Background.

4. Floridians for Responsible Utility Growth ("FRG") is an informal ad hoc coalition of individual utility customers and organizations doing business in the state of Florida. Members of the coalition include Legal Environmental Assistance Foundation ("LEAF"), a public interest advocacy organization located in Tallahassee; Florida Solar Energy Industries Association, an industry association, an industry trade association located in Homestead; Timothy Steorts, an individual utility customer residing in Lake Wales; and John O. Blackburn, an individual utility customer who resides in Maitland.

   We accept the above proposed finding of fact. See Background.

5. The Florida Division of Chesapeake Utilities Corporation is an operating division of Chesapeake Utilities Corporation which distributes natural gas at retail in Hillsborough, Polk and Osceola Counties, having a principal place of business in Winter Haven.

We accept the above proposed finding of fact. See Background.

6. Panda Energy Corporation of Dallas, Texas is a corporation engaged in the development and operation of cogeneration facilities. (Lindloff, Tr. 1425).

We accept the above proposed finding of fact. See Background.

7. Hillsborough County is a political subdivision of the state of Florida.

We accept the above proposed finding of fact. See Background.

INTEGRATED RESOURCE PLAN

Key Planning Criteria

8. The 1991 Integrated Resource Plan (IRP) was designed to provide reliability, cost effectiveness, environmental responsibility, and financial stability for Florida Power. Florida Power plans to meet these goals with a diversified set of demand- and supply-side resources. (Keesler, Tr. 71).

We accept the above proposed finding of fact.

9. The Integrated Resource Plan is based on the principle of diversified resources. The plan includes demand-side management (DSM), cogeneration, tie-line construction, peaking capacity, interruptible load, and combined cycle units. (Niekum, Tr. 941).

We accept the above proposed finding of fact.

10. The total addition of all resources must satisfy Florida Power's dual reliability of 0.1 days per year Loss of Load Probability (LOLP) and a 15-percent reserve margin. (Niekum, Tr. 916; Ex. 2, p. 120).

We reject the above proposed finding of fact because no statute or regulatory provision requires utilities to use an LOLP of 0.1 days per year or a reserve margin of 15 percent. The Commission as a matter of policy only requires that utilities use reliability criteria which are reasonable.

11. The selection of resources must consider fuel diversity, schedule flexibility and modularity, generation type, and system needs. (Niekum, Tr. 916-917).

We reject the above proposed finding of fact because no statute or regulatory provision requires utilities to specifically consider the above-mentioned items.

12. Any long-term factors affecting Florida Power's Clean Air compliance strategy after 2000 must be evaluated for any potential resource addition. (Niekum, Tr. 916-17; Ex. 70; Ex. 84; Ex. 2, pp. 124-126).

We reject the above proposed finding of fact because no statute or regulatory provision requires utilities to specifically consider the above-mentioned items.

Integrated Resource Planning Methodology

13. Florida Power's planning process combines DSM programs, QF and utility purchases, new transmission and generating plants, and interruptible load. (Foley, Tr. 1079; Niekum, Tr. 920).

We accept the above proposed finding of fact.

14. Florida Power's integrated planning process requires Florida Power to first determine the optimum amount of DSM programs and then evaluate alternative capacity plans to meet any further capacity needs. (Niekum, Tr. 915).

We accept the above proposed finding of fact.

15. Ten alternative resource combinations were formulated and modeled using the PROSCREEN II production costing and economic model. These alternatives were evaluated using 27 sets of input assumptions. (Niekum, Tr. 932-33; Foley, Tr. 1090).

We accept the above proposed finding of fact.

16. The primary output of the PROSCREEN II model is the Cumulative Present Worth of Revenue Requirement (CPWRR). The CPWRR from each model run was weighted by its probability of occurrence, and the expected (or average) CPWRR values for each alternative were compared. (Niekum, Tr. 933; Foley, Tr. 1089; Ex. 72-73).

We accept the above proposed finding of fact.

Load Forecast

General Approach

17. The Florida Power forecasting procedure is the same as that used by the Load Forecasting Working Group of the North American Electric Reliability Council (NERC). (Jacob, Tr. 648).

We accept the above proposed finding of fact.

18. The Florida Power long-term load forecast seeks to project trends in Florida Power's customer base, energy sales, and peak seasonal demands over the next 20 years. The results indicate the future electricity demands that are likely to come from each of its customer classes. (Jacob, Tr. 631).

We accept the above proposed finding of fact.

19. The load reductions resulting from the maximum feasible DSM were removed from the demand and energy forecast. (Niekum, Tr. 918; Jacob, Tr. 634).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 17 in Recommended Order.

20. The load forecast accounts for projected self-service generation. Florida Power's projected demand would be higher if not for the fact that self-service generators are assumed to serve some of their own load. (Wieland, Tr. 302).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 17 in Recommended Order.

21. A base case is developed using a set of assumptions designed to identify the important factors affecting the forecast. This establishes a "most-probable" scenario. (Jacob, Tr. 632).

We reject the above proposed finding of fact because the finding is vague.

22. Interruptible load is not included in the peak demand used for calculating the winter reserve margin. This margin is calculated using only firm peak load. The interruptible load

is not considered to be firm for the purpose of calculating LOLP. (Niekum, Tr. 923).

We accept the above proposed finding of fact.

Assumptions

23. The following are the key assumptions of the Florida Power load forecast:

- Normal weather conditions are characterized by a 10-year average of service area conditions.
- The long-term customer forecast is developed from the Bureau of Economic and Business Research's "medium-case" population projections.
- The forecast accounts for the addition of a new partial-requirements wholesale customer (New Smyrna Beach) in 1992, but it otherwise assumes that there will be no major changes in the company's wholesale load or energy service.
- The energy and demand forecast subtracts the load impacts of Florida Power's DSM programs and self-service cogeneration, but for reporting purposes, it does not subtract interruptible/curtailable loads. It assumes that all interruptible/curtailable customers will be served at the time of peak. (Jacob, Tr. 634).
- Florida Power forecasts that its rates will not increase in real terms over the next 10 years. (Wieland, Tr. 302).

We accept the above proposed finding of fact with modification, see Finding 17 in Recommended Order.

Inherent Forecasting Uncertainties

24. Historically, Florida Power has tended to underforecast its load. One of the reasons for this is the inability of a long-term forecast to predict volatile business cycles. A second reason is that the Bureau of Economic and Business Research's forecasts have tended to underestimate population growth. (Jacob, Tr. 660-664; Ex. 38).

We accept the above proposed finding of fact with clarification. See Finding 21 in Recommended Order.

25. Differences between the normalized and forecast peak demands may be substantial because actual peak conditions and those assumed in the forecast for controllable resources (such as load management) may vary considerably. For example, during the summer of 1990, peak-hour load management and voltage load reduction were not used. As a result, if one adjusted the actual peak to match forecast assumptions, the variance would fall from 11.9 to 1.3 percent. (Ex. 37, p. 3).

We accept the above proposed finding fact; however, the finding is not material to the ultimate decision in this case.

System-wide Energy Forecast Results

26. Florida Power total energy sales are projected to grow at an annual rate of 3.41 percent through 2010 (as compared to a rate of 3.46 percent during the 1980s). (Jacob, Tr. 650).

We accept the above proposed finding of fact with modification. See Finding 23 in Recommended Order.

27. Winter and summer peak demands are expected to increase at compound average annual growth rates of 2.15 percent and 2.55 percent, respectively, for the period ending 2010. (Jacob, Tr. 650).

We accept the above proposed finding of fact with modification. See Finding 24 in Recommended Order.

28. Florida Power expects that its customer base, energy sales, and peak demand will continue to grow significantly, but at somewhat more modest rates than in the recent past. This growth will occur at varying rates across customer classes. (Jacob, Tr. 631).

We reject the above proposed finding of fact because the finding is vague.

29. Florida Power expects continued customer growth over the 20-year forecast period, primarily the result of population in-migrations. The compound average annual growth rate in customers through 2010 is expected to be approximately 2.17 percent, with the customer bases increasing from roughly 1.14 million to 1.75 million over that time. (Jacob, Tr. 648).

We accept the above proposed finding of fact with modification. See Finding 22 in Recommended Order.

30. The total peak summer demand for 1990 was 5,946 MW, and the total winter peak demand for 1989/1990 was 6,056 MW. (Ex. 2, p. 263).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

31. The forecasted peak summer demand for 2001 is 7,716 MW, and the total forecasted winter peak demand for 2001 is 8,301 MW. This 2001 forecast is 30 percent higher than the 1990 summer peak demand and 37 percent higher than the 1990 winter peak demand. (Ex. 2, p. 263).

We accept the above proposed finding of fact. However, the first sentence is included in Finding 24 in Recommended Order and, the second sentence is not material to the ultimate decision in this case.

Residential Sector Methods and Results

32. Florida Power is projecting significant increases in residential customers. The results of the load forecast show compound average annual growth rates for total customers of 2.17 percent through 2010. (Jacob, Tr. 648).

We reject the above proposed finding because the first sentence is vague, and the second sentence is restated in Finding 22 in Recommended Order.

33. Growth is also expected in residential use per customer at a more moderate pace than the 1980s. (Jacob, Tr. 649). Florida Power's residential energy-use per customer for 2001 is expected to be 13,205 kWh. (Ex. 2, p. 259). The average kWh growth rate for residential customers from 1991-2000 is approximately 1 percent per year. (Ex. 2, p. 259).

We accept the above proposed finding of fact with modification. See Finding 25 in Recommended Order.

34. Since 1983, residential use per customer exhibited an exceptionally high rate of growth that was driven by several factors. These include: (a) a strong Florida economic expansion; (b) larger, more energy intensive homes; (c) a greater percentage of new single-family home construction

compared to multifamily homes; (d) strong population growth in Florida Power's high-use Eastern and Mid-Florida divisions; and (e) a declining real price of electricity since 1986. (Jacob, Tr. 649).

We accept the above proposed finding of fact.

35. Forecasts indicate that the recent upward trend in residential energy sales will moderate, but generally continue well into the 21st century. (Jacob, Tr. 649).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 25 in Recommended Order.

Methods and Results for Non-Residential Sectors

36. From 1991-2000, Florida Power's commercial customers have an average annual growth in energy use of 1.4 percent per year. In addition, their expected 2001 energy use per customer is 75,299 kWh. (Ex. 2, p. 259).

We accept the above proposed finding of fact with modification. See Finding 26 in Recommended Order.

37. For Florida Power's industrial customers, their average annual growth rate in energy-use will be about one percent per year. The 2001 energy-use per industrial customer for Florida Power is expected to be 1,146 kWh per year. (Ex. 2, pp. 246, 255).

We accept the above proposed finding of fact with modification. See Finding 27 in Recommended Order.

38. This recent decline in energy sales is expected to reach a low in 1991 and begin a moderate rebound. (Jacob, Tr. 641). Sales to the phosphate industry have been depressed since the late 1980s. New phosphate mines, however, are expected to begin operations in the mid-1990s, initiating a surge in phosphate energy sales. (Jacob, Tr. 641).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

39. Florida Power's retail forecasts for the street-and-highway lighting and public authority classes are tied to population growth within the service area. The street-and-highway

lighting forecast is adjusted to reflect reduction attributable to luminaire changeouts, a specific energy efficiency program undertaken by Florida Power. (Jacob, Tr. 642).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

40. Florida Power also must compile sales forecasts for two wholesale customer classes. The first is the Rural Electric Authority revenue class, which consists of only one partial-requirements customer, Seminole Electric Cooperative, Incorporated (SECI). SECI provides Florida Power with a forecast of its energy requirements above those it expects to supply itself. The second category is the municipal revenue class. (Jacob, Tr. 642). Energy sales to Seminole Electric Cooperative are expected to be constant through the 1991-2000 time period. However, energy sales from Florida Power to municipals is forecasted to increase by 0.7 percent per year from 1991-2000. (Ex. 2, p. 246).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Existing and Planned Demand-Side Management

Role of DSM in Florida Power's Integrated Resource Plan

41. As a result of its DSM analyses in the Integrated Resource Plan, Florida Power has determined that DSM will be the largest resource category used to meet new needs. During the period 1991-2000, DSM programs will provide nearly 30 percent of all Florida Power's new resource needs. (Keesler, Tr. 73; Ex. 3).

We accept the above proposed finding of fact with modification. See Finding 34 in Recommended Order.

42. In 1990, Florida Power allocated more than $50 million to its DSM programs. (Gelvin, Tr. 676; Ex. 43). Florida Power's 1990 DSM budget was 2.9 percent of total operating revenue. (Gelvin, Tr. 676; Ex. 43). By 1992, annual expenditures on Florida Power's DSM programs are expected to climb to nearly $75 million; they will exceed $1.4 billion by 2001. Florida Power DSM costs within this time period will have increased almost 200 percent. (Ex. 55).

We accept the above proposed finding of fact with modification. See Finding 38 in Recommended Order.

Maximum Avoidable Capacity Scenario (M.A.C.S.)

43. Florida Power's DSM projections represent an expansion of previously approved cost-effective DSM programs. These programs, referred to as M.A.C.S. (Maximum Avoidable Capacity Scenario), offer a significantly expanded menu of conservation and load management services. (Gelvin, Tr. 677).

We accept the above proposed finding of fact with modifications. See Finding 30 in Recommended Order.

44. The individual M.A.C.S. DSM programs are described below:

- **Home Energy Check** -- examination of the home structure and energy-using equipment.
- **Home Energy Analysis** -- computer analysis of the building structure, insulation, caulking and weather stripping, heating and air-conditioning systems, and water heating.
- **Home Energy Fixup Program** -- customer assistance for minor weatherization energy improvements to the home, including weather stripping, caulking, water heater insulation, and installing low-flow devices in showers.
- **Residential Energy Management** -- voluntary program that allows Florida Power to turn off selected energy-using equipment (electric central heating and/or air-conditioning, water heaters, and pool pumps) for short intervals during periods of peak electrical usage.
- **Comfort Cash Loan Program** -- program can fund items such as heat pumps or other high efficiency central air-conditioning systems, and heat recovery or heat-pump water heating equipment at subsidized interest rates
- **Air-Conditioning Duct Test and Repair** -- pressure test on the home's central duct work system.
- **Insulation Upgrade** -- customer assistance for upgrading ceiling/attic insulation to reduce energy losses for heating and air conditioning the home.
- **Residential HVAC Service** -- $5 certificate toward air-conditioning or heat pump service.

- **HEATWORKS Heating Storage System** -- system where during periods of high demand when the domestic heating system is interrupted by Florida Power, heating from HEATWORKS is available to replace it (water is heated in a dedicated storage thermal tank during off-peak hours).

- **High Efficiency Air Conditioning Promotion** -- incentive program for dealers to sell high efficiency central air-conditioning systems, heat pumps, and heat recovery or heat-pump water heating equipment.

- **Low-Income Programs** -- programs designed for low-income customers.

- **Trade Efficiency** -- seminars on the Florida Energy Efficiency Building Code, how to build an energy-efficient home, and energy-saving equipment.

- **Business Energy Check** -- inspection of a commercial/industrial facilities' lighting, building envelope, water heating system, heating, ventilating, air-conditioning and other energy-using systems.

- **Business Energy Analysis** -- in-depth study of a commercial/industrial customer's facility.

- **Air Conditioning Duct Test and Repair** -- pressure test performed on the central duct work system.

- **Interior Lighting and Conversion** -- rebates to business customers who install preapproved lighting products designed to reduce energy consumption and demand.

- **Commercial/Industrial HVAC Service** -- $5 certificate for air-conditioning service.

- **Business Energy Fixup** -- program provides minor weatherization repairs such as caulking, weather stripping, door sweeps and thresholds, window film, water heater insulation, faucet aerators, lamp replacement, and HVAC filter replacement.

- **Commercial/Industrial HVAC Promotion** -- incentive program for air-conditioning dealers to sell high-efficiency central air conditioning, heat pumps, and heat recovery or heat pump water heating equipment.

- **Motor Replacement Rebate** -- incentive for customers to replace inefficient motors with high efficiency types.

- **Heat Pipe Development** -- analysis of the energy savings resulting from installing heat pipes to control humidity and reduce energy use.

- **Demand Reduction Capital Offset (DRCO)** -- program designed to encourage significant conservation efforts that are not addressed by other Florida Power incentive programs.

(Ex 2., pp. 54-59).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

45. In Florida Power's initial review, 199 potential programs were identified that met all end uses. A broad set of criteria were applied to reduce these to 40 programs that were likely to be feasible for Florida Power and its customers. These 40 were then analyzed in terms of cost effectiveness, and 22 were accepted. (Gelvin, Tr. 835).

We accept the above proposed finding of fact with modification. See Finding 29 in Recommended Order.

46. The M.A.C.S. plan assumes that Florida Power will receive the Florida Public Service Commission's approval in 1992 to increase DSM incentives as markets become saturated at their current levels. (Gelvin, Tr. 802).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

47. It has been standing Florida Public Service Commission pol cy since 1986 that DSM opportunities for new construction should be sought through modifications to the building code as opposed to cost-recoverable utility actions. (Gelvin, Tr. 789).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

48. Florida Power did not consider natural gas use as an end use in developing M.A.C.S. The Florida Public Service Commission

stated in its February 1990 order in Docket 890737 that electric utilities are not compelled to pursue end-use gas programs. (Gelvin, Tr. 848).

We accept the above proposed finding of fact.

49. In order to adapt to changing customer needs, economic conditions, and technology improvements, M.A.C.S. has a procedure to allow for the development and evaluation of new conservation programs. This process, "New Program Development," ensures that new DSM will be pursued if it is prudent and cost effective. (Gelvin, Tr. 708).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

50. M.A.C.S. addresses every major customer class and type of energy use. (Gelvin, Tr. 705). Every sector has at least one conservation program addressing each significant end use. Florida Power also has several programs that target both an end use and a customer class. (Gelvin, Tr. 706).

We reject the above proposed finding of fact because the finding is vague.

Overall DSM Impacts

51. In total, DSM programs under M.A.C.S. will reduce winter peak demand by 1,445 MW in 2001. (Keesler, Tr. 72).

We accept the above proposed finding of fact with modification. See Finding 34 in Recommended Order.

52. Some DSM programs will perform better than expected. Others will not perform as well as expected. The overall M.A.C.S. projections take this program's under- and overperformance into account. (Gelvin, Tr. 763).

We reject the above proposed finding of fact because the finding is not a fact.

Load Management

53. Under M.A.C.S., Florida Power plans to obtain over 1,000 MW in incremental dispatchable load management capacity over the

next decade. In total, load management programs will reduce winter peak demand by 1,814 MW in 2001. (Gelvin, Tr. 689).

We accept the above proposed finding of fact with modification. See Finding 35 in Recommended Order.

54. Florida Power's load management program represents 86 percent of the total current DSM budget because there are an extremely large number of customers in it. As participation rates rise in other conservation programs, their share of the budget will increase accordingly. (Gelvin, Tr. 712).

We reject the above proposed finding of fact because the finding is not a fact.

55. Florida Power's interruptible load program will alleviate the need for new capacity by contributing an additional 84 MW, almost 2 percent. (Ex. 3).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Efficiency Improvements

56. Energy efficiency programs implemented under M.A.C.S. will reduce winter peak demand by an additional 334 MW in 2001. Combining the contributions of the energy efficiency programs implemented prior to M.A.C.S. with the contributions from M.A.C.S. will result in a total winter peak reduction of 568 MW in 2001. (Gelvin, Tr. 689).

We accept the above proposed finding of fact with modification. See Finding 36 in Recommended Order.

57. Energy efficiency programs implemented under M.A.C.S. will reduce energy consumption in 2001 by 391 GWh. The combined results from efficiency programs implemented from 1980 through 2001 will have reduced consumption in 2001 by 779 GWh. (Gelvin, Tr. 689).

We accept the above proposed finding of fact with modification. See Finding 37 in Recommended Order.

58. Efficiency programs that create long-term peak savings are also vital to Florida Power's resource portfolio. These programs can effectively reduce the need for generation and will not increase rates. (Gelvin, Tr. 712).

We reject the above proposed finding of fact because the finding is not a fact.

Cost Effectiveness

59. Florida Power's Energy Efficiency and Conservation filing, submitted on February 12, 1990, included cost-effectiveness analyses for all programs currently included in M.A.C.S. All programs were in conformance with Florida Public Service Commission's Rule 25-17.008 as it pertains to cost effectiveness. (Gelvin, Tr. 682).

We accept the above proposed finding of fact.

60. Florida Power uses three economic tests to evaluate the cost effectiveness of its DSM programs:

- The total resource cost test measures the net costs of a DSM program based on the total program costs, including both participants' costs and those borne by the utility.
- The participant test measures the program's impact on participating customers, taking into account participant costs, bill reductions, and any utility incentives or tax credits received.
- The rate impact test is an indirect measure of a DSM program's effect on customer rates. This test compares the respective changes in utility revenue and utility costs. (Gelvin, Tr. 681-82).

We accept the above proposed finding of fact; however, it is not material to the ultimate decision in this case.

61. The Florida Public Service Commission, after nine months of investigation, mandated the use of the rate impact test, the participant test, and the total resource test to characterize the full range of benefits, costs, and economic perspectives affected by DSM programs. (Gelvin, Tr. 734).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Difficulties in Extrapolating Results from Other Utilities to Florida Power

62. Many characteristics specific to an individual utility affect DSM potential. These include economic climate, annual load profile, manufacturing, services, agricultural activities, and tourism. (Gelvin, Tr. 814).

We reject the above proposed finding of fact because the finding is vague.

63. Climatic differences between Florida and the Northeast are substantial. For example, Boston and New York have at least 10 times as many heating degree days as St. Petersburg. Conversely, St. Petersburg has about four times as many cooling degree days as Boston and about three times as many as New York City. (Gelvin, Tr. 726-27; Ex. 50).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

64. Florida Power has low loads during the winter, except for a few days in January when there is a chill or frost, causing a large winter load "spike." During the summer when air conditioning is universal, Florida Power's peak load rises and then falls through the summer season. However the summer load never rises to the height of the winter spike. (Gelvin, Tr. 728; Ex. 52).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

65. Significantly different weather patterns combined with varying electric and central air conditioner saturations cause energy use patterns and related DSM savings to vary between Florida Power and the Northeastern utilities. (Gelvin, Tr. 727).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

66. Economic conditions in the Northeast and Florida are very different. New England utilities serve mixed rural and urban areas with a balanced mixture of manufacturing, services, agriculture, and tourism. In contrast, Florida has less

tourism and more economic activity in retirement housing, business services, high-tech, and light-to-medium industry. (Gelvin, Tr. 727).

We reject the above proposed finding of fact because the finding is not a fact.

DSM Market Penetration

67. There is considerable national debate about both the relative rate of increase and the absolute levels of market penetration that can be achieved by increasing DSM incentive levels. (Gelvin, Tr. 782).

We reject the above proposed finding of fact because the finding is not a fact.

68. Florida Power starts with reasonable financial incentives and raises them to increase market penetration. Since Florida Power is not paying the maximum incentive to all customer groups, this payment method is economical. (Gelvin, Tr. 719).

We accept the above proposed finding of fact with modification. See Finding 32 in Recommended Order. We reject the last sentence because it is not a fact supported in the record.

69. Conservation program participation is affected by issues other than the size of financial incentives. Customers join programs where the conservation measure is identified, installed, described, serviced, and financed. (Gelvin, Tr. 714-15).

We reject the above proposed finding of fact because the finding is not a fact and is vague.

70. Achieving 10-percent penetration across the board for all Florida Power DSM programs is not supported by Florida Power's data. Planning on such penetration levels would impose risks in view of the lack of historical experience for utilities with similar system requirements and a similar customer base. (Gelvin, Tr. 852).

We accept the above proposed finding of fact with modification. See Finding 40 in Recommended Order.

Florida Power's DSM Implementation Approach

71. Florida Power uses a variety of market research techniques to support M.A.C.S.'s development and implementation. Surveys, focus groups, and information from Florida Power customer databases are used to identify barriers to participation, determine customer satisfaction with programs, refine program designs, and provide input for developing new programs. Market research activities are used in conjunction with other methods to quantify program impacts. (Gelvin, Tr. 683).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

72. Opportunities for efficiency reductions are first identified in energy audits performed by certified Florida Power representatives. These audits can be done in the form of a relatively simple on-site inspection or a more detailed analysis, and they are available to all Florida Power residential, commercial, industrial, and agricultural customers. (Gelvin, Tr. 688).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

73. In order to tailor programs for varying customer needs, Florida Power performs thorough site analyses done by trained auditors. These auditors generate detailed recommendations to maximize each customer's energy-saving potential. (Gelvin, Tr. 718).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

74. For all conservation programs, Florida Power targets the decisionmaker for each account. For example, for chain store accounts, Florida Power approaches the chain's national headquarters. (Gelvin, Tr. 719). Air-conditioning and water-heating programs are directed toward equipment dealers to minimize the number of free riders. (Gelvin, Tr. 719). Florida Power also coordinates with architects and engineers to develop new construction and retrofit programs. (Gelvin, Tr. 720).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Monitoring and Evaluation

75. Florida Power has employed a wide range of monitoring techniques to evaluate DSM program impacts. These include engineering studies, customer surveys, analyses of implementation data, comparative usage analyses, and end-use metering. (Gelvin, Tr. 691-92).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

76. Florida Power has recently established a Conservation Monitoring, Evaluation and Planning Department. This department will have lead responsibility for developing and implementing a framework for determining the kW and kWh reductions associated with each Florida Power conservation program. (Gelvin, Tr. 692).

We accept the above proposed finding of fact.

Existing and Planned Generation

77. For the Integrated Resource Study, all of Florida Power's generation is assumed to be available for operation, including all units that were returned from Extended Cold Shutdown (ECS). Turner Unit 2 has been retired, and Avon Park Unit 2 will be leased to an independent power producer to be rebuilt to burn peat as a fuel. (Niekum, Tr. 919; Ex. 65).

We accept the above proposed finding of fact.

78. The total existing Florida Power winter generating capacity is 6,621 MW. Of this capacity, 4,912 MW is steam generation and 1,709 MW is from combustion turbines. (Niekum, Tr. 919; Ex. 65).

We accept the above proposed finding of fact.

79. Florida Power plans on meeting 768 MW or 16 percent of winter load through new peaking capacity. (Ex. 3). Additional units currently under construction or planned for construction were also included as assumptions for the Integrated Resource

Study. Four distillate-fired combustion turbines with total winter capacity are scheduled to be in service at the DeBary site in November 1992. Four more identical units are scheduled to be in-service at the Intercession City site by November 1993. (Niekum, Tr. 920).

We accept the above proposed finding of fact with the deletion of the first sentence and changes providing additional detail. The first sentence is vague in that it does not describe in which year the 768 MW of peaking capacity will meet 16% of winter load. Additionally, the amount of megawatts expected at each site has been added to the finding. See Finding 44 in Recommended Order.

80. Florida Power is planning to locate a 40 MW gas-fired combustion turbine with a waste-heat boiler at the University of Florida. This unit will add 40 MW of capacity to the Florida Power system and will provide a steam source for the University. (Niekum, Tr. 920).

We accept the above proposed finding of fact.

81. The Higgins Plant site was retired in 1999 for the Study. This retirement included the three oil-fired steam units with a total winter capacity of 123 MW and four distillate-fired combustion turbines with a total winter capacity of 126 MW. (Niekum, Tr. 919). In 2000, two distillate-fired combustion turbines at Avon Park also will be retired. They have a total winter capacity of 60 MW. (Niekum, Tr. 919).

We accept the above proposed finding of fact with a clarification that what is understood is that in 2000, the two distillate-fired combustion turbines at Avon Park were retired for the study. It is not found as fact that the two units will be retired in 2000. See Finding 46 in Recommended Order.

Power Purchases

82. Purchased power will account for approximately 15 percent of Florida Power's 1998 total generation resources. Florida Power is the state's largest purchaser of QF capacity. Florida Power also purchases capacity from Southern Company. (Foley, Tr. 1096; Dolan, Tr. 864; Keesler, Tr. 72; Ex. 3; Ex. 2, pp. 94-5).

We accept the above proposed finding of fact.

Existing and Planned Qualifying Facilities (QFs)

83. Florida Power has contracted to purchase more QF capacity than all other Florida investor-owned utilities combined. (Dolan, Tr. 864-865; Foley, Tr. 1079; Keesler, Tr. 72).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 47 in Recommended Order.

84. Florida Power contracted 43 MW of new QF capacity in 1991 and more than 800 MW between 1992 and 1996. If all of the capacity under contract comes on line, more than 11 percent (over 1,000 MW) of supply-side resources in 1996 will come from QF generating capacity. (Dolan, Tr. 864-865).

We accept the above proposed finding of fact.

85. Florida Power's Integrated Resource Plan incorporates over 900 MW of future purchased capacity from the QF developers. Most of this QF capacity is not online, but is expected to be in service by 1997. (Foley, Tr. 1081; Niekum, Tr. 918).

We accept the above proposed finding of fact.

86. To account for the risks of non-availability of planned non-utility projects, Florida Power has contracted for more capacity than reliability studies indicate is needed. In other words, by assuming a 75-percent probability of performance, Florida Power contracted for 844 MW of capacity, but it assumes for planning purposes that only 633 MW will ultimately be available. (Dolan, Tr. 869). The 75-percent probability assumption for available capacity as contracted has been recently reviewed by the Florida Public Service Commission. (Dolan, Tr. 870).

We accept the above proposed finding of fact with the following exception: While it is true that the 75-percent probability assumption was reviewed by the Commission in approving negotiated contracts submitted by Florida Power, it is important to note that the Commission did not endorse the 75-percent probability assumption as a general policy. Rather, it specifically stated that utilities should not sign up more QF capacity than they need as a general rule (Order No. 24923). See Finding 51 in Recommended Order.

87. Florida Power also has a number of self-service cogenerators online and able to make small amounts of energy sales under Florida Power's as-available tariff. (Dolan, Tr. 865).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

88. The status of capacity under contract by Florida Power has been resubmitted under a late-file exhibit. The update of Florida Power's existing QF contracts is as of November 20, 1991. This exhibit is not representative of the QF assumptions used in the Integrated Resource Study. (Ex. 62). The status of contracts between September 13 and November 20 has not changed substantially. (Ex. 61; Ex. 62).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Utility Purchases

89. Existing purchases from other utilities were included as a base assumption for the Integrated Resource Study. (Niekum, Tr. 920; Keesler, Tr. 72).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Findings 53 and 54 in Recommended Order.

90. Florida Power signed an agreement in 1988 to buy up to 400 MW of coal-fired UPS from Southern Company. The UPS portion of the sale begins in 1994 with a 200 MW purchase and increases to 400 MW by 1995. The contract expires in 2010 and also has provisions for early options in 1993 and 1994 for UPS purchases or firm economy purchases called "Schedule E." (Niekum, Tr. 920; Keesler, Tr. 72; Ex. 2, p. 85).

We accept the above proposed finding of fact.

91. Florida Power will buy economy energy from Southern Company or other utilities interconnected with Southern Company. This economy energy will come into the Florida Power system on the 500 kV line scheduled to be in service by January 1997. For the Integrated Resource Study, it was assumed that Florida Power will buy up to 500 MW at a time, with a total of 1,000 GWh for each year. (Niekum, Tr. 921; Keesler, Tr. 72; Ex. 67; Ex. 2, pp. 85-7). The power purchases over the

new 500 kV intertie with Southern Company will represent about 10 percent or at least 500 MW of winter peak demand. (Ex. 3).

We accept the above proposed finding of fact with modification: See Finding 54 in Recommended Order. We are unwilling to accept as a fact that Florida Power will buy.

Formulation of Alternative Plans

Methodology

92. The alternative plans formulated for the Integrated Resource Study involved several steps. The first step is to screen the available viable technologies. The primary criteria for a technology are technical maturity and operational flexibility. (Niekum, Tr. 925-26; Tittle, Tr. 1000; Ex. 2, pp. 106-07).

We reject the above proposed finding of fact because the finding is vague.

93. If a technology meets Florida Power's criteria, it is a legitimate capacity alternative and is included in the planning process. The feasible choices were combustion turbines, combined cycle plants, pulverized coal plants, integrated gasification combined cycle plants, and fluidized bed plants. (Niekum, Tr. 925-26; Tittle, Tr. 1000).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 60 in Recommended Order.

94. The generation alternatives are subjected to economic evaluations to determine which scenario will have the lowest Cumulative Present Worth Revenue Requirement. (Foley, Tr. 1082; Niekum, Tr. 933; Ex. 105; Ex. 72; Ex. 73).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 12 in Recommended Order.

95. Florida Power formulated two purchased power alternatives to examine the possibility of purchasing additional capacity for its need determination. (Foley, Tr. 1089; Ex. 104; Ex. 105; Ex. 69).

We accept the above proposed finding of fact with the clarification that Florida Power's two purchased power alternatives only considered purchases from utilities, and did not consider purchases from other sources. However, the finding is subsumed in Finding 62 in Recommended Order.

Technology Screening

96. Once a technology is accepted as a viable utility option, conceptual configurations are developed. When necessary, adjustments to generic industry data are made to better match the conditions on which the conceptual unit was based. Using a variety of analytical techniques, Florida Power develops conceptual cost and performance estimates for each configuration. The estimates are for all of the generation technology options are considered reasonable and appropriate for Florida Power. (Tittle, Tr. 995).

We reject the above proposed finding of fact because the finding is vague and is not material to the ultimate decision in this case. In addition, it is a conclusion of policy and not a statement of fact.

97. In Florida Power's highly integrated generation system, not all generation alternatives are suitable. Technologies such as geothermal, hydro, and wind turbines are not feasible in Florida at an industrial scale. Other generation alternatives such as nuclear, fuel cells, and photovoltaics, which are technically feasible, are currently not cost effective when compared to the fossil options. (Tittle, Tr. 996-997).

We reject the above proposed finding of fact because the finding is vague.

98. Five generation technologies were considered viable alternatives in the Integrated Resource Study: pulverized coal, combined cycle, combustion turbine, fluidized bed combustion, and integrated gasification combined cycle. (Tittle, Tr. 1000).

We accept the above proposed finding of fact.

99. Significant experience already exists with both combustion turbines and steam cycles, which are the primary components of combined cycle units. Increased interest and demand for the combined cycle option has prompted designers to further develop this technology, and as a result, it is one of the

most efficient cycles available today. Combined cycle units have relatively short construction schedules. The plan to build four units over a three-year period permits continuous construction that saves mobilization costs. (Tittle, Tr. 1007).

We accept the above proposed finding of fact in part. See Finding 61 in Recommended Order.

Description of the Alternatives

100. Florida Power considered the following 10 alternative plans:

- Alternative 1: two 165 MW combustion turbines on distillate and one 700 MW pulverized coal unit.
- Alternative 2: three 165 MW combustion turbines on distillate and one 450 MW pulverized coal unit.
- Alternative 3: four 235 MW combined cycle on gas.
- Alternative 4: four 235 MW combined cycle on distillate.
- Alternative 5: twenty-four 40 MW small combustion turbines on gas.
- Alternative 6: 110 MW of capacity from Orlando Utilities and four 235 MW combined cycle on gas.
- Alternative 7: one 165 MW combustion turbine on distillate and 870 MW of integrated gasification on coal.
- Alternative 8: one 165 MW combustion turbine on distillate and 750 MW of fluidized bed combustion on coal.
- Alternative 9: 593 MW from orimulsion gasification combined cycle and two 165 MW combustion turbines on distillate.
- Alternative 10: two 165 MW of combustion turbine on gas, one 376 MW pulverized coal purchase, and one combined cycle on gas for 235 MW. (Foley, Ex. 104).

We accept the above proposed finding of fact with clarification. See Finding 62 in Recommended Order.

Economic and Risk Analysis

Reliability Considerations

101. Florida Power uses two reliability criteria - the 15-percent reserve margin and the Loss of Load Probability (LOLP) - to provide a balanced evaluation of system reliability. The LOLP calculation provides a probabilistic evaluation that takes into account the uncertain nature of generator forced-outage rates and tie-line assistance from other areas. (Niekum, Tr. 917; Ex. 2, p. 113).

We accept the above proposed finding of fact with minor changes. See Finding 9 in Recommended Order.

102. Florida Power's methodology for calculating LOLP is generally accepted by the Florida Public Service Commission and the utility industry. The calculation of reserve margin provides a straightforward determination of total system capacity compared to the system peak load. (Niekum, Tr. 917).

We accept the above proposed finding of fact with the elimination of the word "straightforward". See Finding 10 in Recommended Order.

103. A utility's reserve margin provides a measure of its ability to serve peak demand and allows a utility to reliably serve its customers under a wide range of contingency conditions, such as abnormal weather. Florida Power raised its reserve margin from 10 to 15 percent to ensure system reliability. (Niekum, Tr. 979-80; Ex. 80, p. 1).

We reject the above proposed finding of fact in part because the finding is confusing. In addition, some of the information is duplicated in Finding 9 in Recommended Order.

104. Florida Power's reserve margin was increased to 15 percent for two reasons. The first is that, upon examination, the reserve margins for other utilities in Florida and the Southeast ranged from 15 to 20 percent. The second is that Florida Power's planned DSM programs, because they substantially reduce winter peaks, would have the effect of lowering the summer reserve margin. (Niekum, Tr. 979-80; Ex. 80, pp. 1-4).

We reject the above proposed finding of fact because the finding is repetitive and it mixes fact with policy.

105. Even though Florida Power has added 1,445 MW of DSM induced-capacity savings and over 900 MW of future QF capacity, its system requires additional capacity to meet its reliability standards. (Foley, Tr. 1081; Ex. 2, pp. 1-2). With all expected resources, Florida Power will not meet its 15-percent winter reserve margin criterion. Since Florida Power's 500 MW of capacity from the new tie-line will be used for economy and emergency purchases, this capacity cannot be used in the reserve margin calculation. As a result, Florida Power's winter reserve margin will range from 13.9 percent for 1998-1999 to 5.6 percent in 2000-2001. (Niekum, Tr. 924; Ex. 68).

We accept the above proposed finding of fact in part. See Findings 55 and 74 in Recommended Order.

Economic and Risk Analysis Methods

106. Each of Florida Power's 10 proposed alternatives was (sic.) modeled using the PROSCREEN II production costing and economic model with 27 sets of input assumptions. This resulted (sic.) in 270 PROSCREEN II models to test all alternatives under all combinations of input variations. (Niekum, Tr. 932-33; Foley, Tr. 1090; Ex. 69; Ex. 71).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 11 in Recommended Order.

107. Since Florida Power's 10 proposed alternatives consist of approximately equal capacity additions and since all meet SO_2 limits, the next step in the decision analysis is to identify key input variables and use them to test each option's long-term sensitivity. The key input variables are the demand-and-energy forecast, the fuel forecast, and the cost-of-technologies forecast. Each forecast has a high, medium, and low scenario with assigned probabilities of occurrence. (Niekum, Tr. 931-32; Foley, Tr. 1089-90; Ex. 2, pp. 136-37).

We accept the above proposed finding of fact; however, the finding is duplicative in substance. The first sentence is included in Finding 67 in Recommended Order and the remainder is included in Finding 13 in Recommended Order.

108. Florida Power developed a high, medium, and low forecast for each of the primary input assumptions: demand and energy, fuel prices, and capital cost of technologies. The analysis

evaluated the 27 possible combinations of these assunptions. (Niekum, Tr. 918).

We accept the above proposed finding of fact.

109. The assigned probabilities for the fuel forecast were (sic.) 20 percent for the high scenario, 55 percent for the medium scenario, and 25 percent for the low scenario. The assigned probabilities for the demand-and-energy and the cost-of-technology forecasts were (sic.) 25 percent for the high scenario, 50 percent for the medium scenario, and 25 percent for the low scenario. (Niekum, Tr. 932; Ex. 2, p. 137).

We accept the above proposed finding of fact.

110. With the given multiple of forecasts, a total of 27 (3 x 3 x 3 = 27) individual scenarios were developed to test each alternative plan. (Niekum, Tr. 932; Foley, Tr. 1089-90; Ex. 71).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 11 in Recommended Order.

Results of the Economic and Risk Analyses

111. Four 235 MW combined cycle units are the most cost-effective alternative to meet Florida Power's need in the 1998-2000 time frame, taking into account all appropriate risk factors. (Niekum, Tr. 939; Foley, Tr. 1088; Ex. 105).

We reject the above proposed finding of fact for the following reason: While, Florida Power's study shows the four 235 MW combined cycle units appear to be the most cost-effective alternative, we reject this proposed finding of fact because the cost-effectiveness of constructing the third unit in 1998 as opposed to 1999 is marginal. Since it is not necessary to commit to the construction of the third unit at this time, it would be beneficial to wait.

112. The Polk County units are expected to meet about 19 percent or 940 MW of the 2001 winter peak demand. The plants are highly efficient, and will enable Florida Power to comply with the regulations of the Clean Air Act. (Foley, Tr. 1093; Ex. 3).

We reject the above proposed finding of fact because the finding is misleading. The Polk County units are not the

only things that will enable Florida Power to comply with the Clean Air Act.

113. The cumulative present worth risk analysis graphs extended until 2030 also show that Alternative 3, the 940 MW on combined cycle, is the best option for adding new capacity to Florida Power's system. (Ex. 83, pp. 1-5). The risk analysis showed that there is a low probability that any of the alternatives will have a lower cost than Alternative 3. (Niekum, Tr. 935; Ex. 74; Ex. 75).

We accept the above proposed finding of fact in part. See Finding 69 in Recommended Order. We reject the last sentence because it is vague.

114. The purchased power alternatives, 10 and 6, were not as cost effective as the proposed Polk County units. When compared to Alternative 3 in present value dollars, Alternative 6 cost approximately $17.5 million more, and Alternative 10 cost approximately $80 million more. (Foley, Tr. 1089; Ex. 105).

We accept the above proposed finding of fact with modification. See Finding 70 in Recommended Order.

115. Alternative 6 was the second best option. Alternative 6 included a short-term purchase of 110 MW of coal-fired capacity from the Orlando Utilities Commission (OUC). Florida Power determined that OUC's power was not sufficient to fulfill its capacity need for the late 1990s. (Foley, Tr. 1086; Niekum, Tr. 935-6; Ex. 105).

We accept the above proposed finding of fact with modification. See Finding 71 in Recommended Order.

116. In 1991 dollars, the expected total cost of alternatives to ratepayers shows Alternative 3 as the best option at approximately $20.6 billion. The next best alternative, number 6, would cost Florida Power's ratepayers about $17.5 million dollars more. (Ex. 105).

We accept the above proposed finding of fact in part. We reject the last sentence as being duplicative in substance. Also, Florida Power's exhibit 87 states that Alternative 3 will cost $20.4 billion. See Finding 73 in Recommended Order.

500 kV Line

117. The addition of the 500 kV tie-line improves the loss-of-load probability by between .02 and .03. The line also improves the reliability of other utilities in the state, which in turn further improves Florida Power's reliability. (Niekum, Tr. 976).

We accept the above proposed finding of fact with modification. See Finding 55 in Recommended Order.

118. If the 1997 500 kV line were not constructed, the number of megawatts that Florida Power would have to add to the proposed Polk County units in order to keep its LOLP at 0.1 days per year would be 225 MW for 1997. If the tie-line were not built, more than 500 MW of combined cycle would be needed to replace it and maintain system reliability. (Ex. 8, pp. 1-2).

We accept the above proposed finding of fact with the following clarification: "maintain system reliability" means "maintain system reliability equal to the reliability if the tie-line had been constructed". Florida Power would not have to construct 500 MW of combined cycle capacity to maintain an adequate system reliability of 0.1 days per year. See Finding 59 in Recommended Order.

119. With the construction of the 500 kV line from Florida to Southern Company, the First Contingency Total Transfer Capability (FCTTC) will be increased by 1,300 MW to 4,900 MW. The existing facilities will account for 3,600 MW of transfer capability and the new 500 kV line will account for 1,300 MW. (Ex. 2, p. 117).

We accept the above proposed finding of fact.

120. From the new 500 kV as well as other facility additions on Florida Power's system, Florida Power's tie capacity to the Florida assistance area will increase to 2,200 MW. (Ex. 2, p. 117).

We accept the above proposed finding of fact with modification. See Finding 57 in Recommended Order.

121. The negotiations and logistics involved in building the 500 kV line are extensive. The January 1997 completion date was the best estimate at the time the IRP study began. There are

distinct possibilities that the actual completion date (sic.) could be later. (Niekum, Tr. 948).

We accept the above proposed finding of fact.

Financial Analysis

122. Analyzing the financial impacts of alternative resource planning decisions was an important part of the IRP study. Facts relating to financial issues, including those pertaining to the Polk County units and those pertaining to power purchases, are all addressed together to improve the organization and readability of this document.

We reject the above proposed finding of fact because the finding is not a fact. In addition, this finding is not material to the ultimate decision in this case.

Strategic Analysis

123. Strategic analysis refers to systematic consideration of issues such as fuel choices, environmental and siting benefits, and operational flexibility. Some of these issues are long term in nature and/or difficult to quantify. (Foley, Tr. 1081, Ex. 2, pp. 175-76).

We accept the above proposed finding of fact.

124. Adding a block of natural gas-fired generation will allow Florida Power to diversify away from the risks of interruptions, price changes, or environmental restrictions associated with reliance on coal and oil. (Foley, Tr. 1092).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 84 in Recommended Order.

125. The addition of a single, large, long-term customer will prompt the addition of substantial new gas pipeline capacity into Florida, providing benefits to both the Florida Power system and the state as a whole. (Foley, Tr. 1092).

We reject the above proposed finding of fact because the finding is vague.

126. The minimum capacity additions to meet Florida Power's reliability criteria would be 381 MW for 1999's winter and summer peak load. However, the minimum amount of megawatts

required may not be the most appropriate amount to add to Florida Power's system. These minimum capacity additions may not be economical, and they may not enable Florida Power to meet some of its strategic goals, such as complying with the Clean Air Act. (Ex. 81, p. 1).

We reject the above proposed finding of fact because the finding is misleading. In order to meet Florida Power's forecasted 1999 winter and summer peak load, Florida Power must add a minimum of 83 MW in November, 1998, in addition to 381 MW in November, 1999.

CLEAN AIR ACT COMPLIANCE

127. Any long-term factors affecting Florida Power's Clean Air compliance strategy after 2000 must be evaluated for any potential resource addition. (Niekum, Tr. 916-17).

We accept the above proposed finding of fact with modification: See Finding 66 in Recommended Order.

128. There are three ways for a utility to comply with the Clean Air Act. One is to reduce loads so that fewer kWh need to be produced. A second way is to reduce emissions at existing plants by switching fuels or putting on scrubbers. The third is to build new plants so that existing plants are used less. In the long run, a mix of these approaches is probably the lowest cost approach. (Chernick, Tr. 1411-1412).

We accept the above proposed finding of fact except for the last sentence which is an opinion, not supported by a study or analysis of the Clean Air Compliance costs on Florida Power's system. See Finding 65 in Recommended Order.

129. If the proposed Polk County units were operated below an average capacity factor of 40 percent based on the current load forecast, additional measures (for example, scrubbing or fuel-switching) would be needed to meet the Clean Air Act requirements. (Ex. 84).

We accept the above proposed finding of fact with the clarification that it is Florida Power's projection that additional measures would be necessary, should the units be operated at capacity factors below 40 percent. However, this finding is not material to the ultimate decision in this case.

130. Florida Power's proposed generation expansion plan was designed to be operated on an economic dispatch basis and to also meet Clean Air Act regulations. In addition, the Bartow plant and Crystal River 1 and 2 plants will be switched from burning high-sulfur fuel to a lower-sulfur fuel. No units were run off economic dispatch in the study; however, this may be done for emergency conditions. (Ex. 85).

We accept the above proposed finding of fact with the exception of the last sentence, which could be misinterpreted. In addition, it is clarified that it is Florida Power's plan to switch fuels. See Finding 67 in Recommended Order.

131. The units' natural gas fuel supply, which produces no sulfur emissions when burned, plays a critical role in Florida Power's compliance with the Clean Air Act under Phase II. Also, since the units are operated as intermediates, they can be base loaded to reduce sulfur emissions further at an incremental dispatch cost. (Ex. 2, p. 84).

We accept the above proposed finding of fact in substance. See Finding 68 in Recommended Order.

132. The addition of the combined cycle unit in November 1999 would reduce system emissions by approximately 3,800 tons. (Niekum, Tr. 972).

We reject the above proposed finding of fact because the finding is vague and does not state which combined cycle is referred to or when the reduction will take place.

CAPITAL COSTS OF UTILITY BUILT POWER PLANT VERSUS CAPITAL COSTS OF NON-UTILITY GENERATORS (NUGs)

Traditional Utility Construction Contracting

133. The "traditional utility approach" to power plant construction is one where utilities act as the owners and main construction supervisors of the plants under consideration. Utilities generally hire an engineer/architect to produce detailed plant design specifications. They then put these specifications out to bid and award multiple, fixed-price equipment and construction contracts to the most qualified vendors. (Ruisch, Tr. 102; Major, Tr. 1033; Ex. 2, p. 186).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

134. The traditional utility approach entails use of multiple, fixed-price contracts. Manufacturers and construction contractors are responsible for supplying equipment and services for a well-defined, fixed scope of work based on the technical specifications and detailed drawings prepared by the engineer. (Ruisch, Tr. 102; Major, Tr. 1033; Ex. 2, p. 186).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

135. The traditional utility approach allows the owner to have total project control. The manufacturer and construction contractor risks are minimized and limited to controllable factors such as labor productivity and wage rates. Since risks for factors outside manufacturer or contractor control are limited, little or no contingencies need to be included in contract prices. These reduced contingencies create a lower plant cost. (Ruisch, Tr. 103; Major, Tr. 1033).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

136. Florida Power used multiple fixed-price contracts for its Crystal River Units 4 and 5 project. Crystal River Unit 4 began commercial operation in 1982 at $683/kW ($621/kW without AFUDC). This compares to an industry average of $779/kW for coal-fired utility power plants also entering commercial operation that year. In 1984, Crystal River Unit 5 began commercial operation at $576/kW ($483/kW without AFUDC) compared to 1984 industry average of $1,089/kW. (Ruisch, Tr. 103; Ex. 2, p. 187).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Turnkey Construction Practices Used by Non-Utility Projects

137. IPP/QF projects and investor-owned utilities use the same engineering organizations to design and build their plants. (Ruisch, Tr. 116). IPP/QF projects, however, are typically

designed, procured, and constructed on a "turnkey" basis. Developers solicit bids for the design and complete construction of the plant, from site work through commercial planning, and then select one contractor. This "turnkey" contractor bids a fixed price for completing the entire plant. (Ruisch, Tr. 104).

We reject the above proposed finding of fact because the finding implies that all QFs and IPPs use the same engineering organizations as utilities. The evidence in the record has not demonstrated that there are no exceptions to this claim.

138. With the turnkey approach, a single contract is awarded at the project's beginning, before the plant is largely designed. For example, if permitting and licensing are not complete at the time the contract is awarded, it will not be possible to include all of the final permit requirements. The owner and the turnkey contractor must negotiate any subsequent changes in design or scope. Since the owner has very little leverage during these negotiations, the change order price will probably be high. (Ruisch, Tr. 105).

We reject the above proposed finding of fact because the finding is vague. While we agree that with the turnkey approach, a single contract is awarded at the project's beginning, we reject this finding because it is a prediction of the witness of future events, and not a fact, that the owner will have little leverage and that future change order prices will be high for turnkey projects.

139. IPPs and QFs use the turnkey method even though it results in a more expensive construction cost because most do not have the cash flow to self-finance the project. In order to obtain money to build plants, IPPs/QFs often borrow as much as 100 percent of the project's value on a nonrecourse basis. (Ruisch, Tr. 106).

We reject the above proposed finding of fact.

140. The turnkey contractor assumes all project responsibilities and risks. These risks include schedule, performance, and price. Some portion of these risks can be passed on to various subcontractors. However, only the turnkey contractor is entitled to the reward/risk pool in the form of additional profit and turnkey contingencies. These turnkey contractor contingencies are in addition to owner contingencies for

those risks that cannot be passed on. (Ruisch, Tr. 104-05; Ex. 5).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

141. The contingency cost component of a turnkey contract can raise the project price by 4 to 10 percent. In addition, the profit component of a turnkey contract will make it 3 to 9 percent more expensive than the traditional utility approach. (Ex. 5).

We reject the above proposed finding of fact.

142. The total costs for a construction project completed with a turnkey contract can be 7 to 20 percent higher than multiple, fixed-price contracts that characterize the traditional utility approach. The cost components that make the turnkey contract more expensive than the traditional utility approach are for liquidated damage insurance, profit, and contingency. (Ex. 5).

We reject the above proposed finding of fact.

143. Concluding that the turnkey approach is more expensive than the traditional utility one is consistent with Black and Veatch's recent turnkey proposal for the Florida Power and Light (FPL) Martin units. After examining all turnkey proposals submitted, FPL elected to proceed with the project using the traditional utility approach. (Ruisch, Tr. 107).

We reject the above proposed finding of fact.

144. The turnkey contractor is responsible for administrating all subcontracted equipment and services. These additional administrative costs require the contractor to charge a markup, which often includes a profit. The traditional utility approach does not require this. (Ruisch, Tr. 106).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Other Distinctions Between Utility Generation and Purchased Power

145. If a QF misses the scheduled on-line date and forfeits the security deposit, Florida Power will still experience costs

accruing from the need to find replacement power. Customers still bear the burden of these costs. (Foley, Tr. 1149).

We reject the above proposed finding of fact because the finding incorrectly assumes that the cost accruing from the need to find replacement power will exceed the amount of the security deposit. While this is possible, it is also possible that the security deposit will more than compensate for any costs incurred as a result of the default of a QF.

146. The Seminole Fertilizer contract was for the sale of between 15 MW and 47 MW of capacity. Recently, it sold only 15 MW, understating the amount assumed by Florida Power in its Integrated Resource Study by 32 MW. (Dolan, Tr. 868).

We accept the above proposed finding of fact in part; however, the finding is not material to the ultimate decision in this case.

147. The cost of a generating plant built by Florida Power is likely to be less than the costs of a QF or IPP developer building an equivalent plant. It would not be more. (Ruisch, Tr. 122; Ex. 5).

We reject the above proposed finding of fact because the finding is not a fact; it is an opinion of what will happen in the future.

148. IPP and QF plant construction costs more than utility construction because their procurement and engineering methods are not efficient. In contrast, Florida Power has an excellent construction management record. (Foley, Tr. 1098-99; Ruisch, Tr. 103-06; Ex. 178, p. 187).

We reject the above proposed finding of fact.

149. Utilities can design modular plants as well as QFs. Utilities and QFs use much the same designs and plant components. There is no basis for asserting that QFs can be modular while utilities cannot. (Ruisch, Tr. 116-17).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

150. Utility power plants do not have a steam host, and utilities can and often build several exact duplicates of other plants

in order to take advantages of the economics of standardization. (Ruisch, Tr. 117).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

151. If the costs of utility-constructed plants exceed estimates, the Florida Public Service Commission decides whether ratepayers will bear the costs of the overrun. (Foley, Tr. 1145). If costs for a utility-constructed power plant end up being lower than those projected, customers receive all the cost savings under Florida Public Service Commission rules. (Foley, Tr. 1178).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

FINANCIAL IMPACTS

Financial Impacts of Planned Investments Included in the Integrated Resource Plan

152. Florida Power has conducted analyses to ensure that the Polk units will not adversely affect its financial portfolio. (Foley, Tr. 1083; Abrams, Tr. 197; Wieland, Tr. 277-78; (Ex. 2, pp. 150-55).

We accept the above proposed finding of fact.

153. Florida Power can finance the investments included in its Integrated Resource Study, Docket No. 910759-EI, through conventional means without threatening its AA bond rating. (Wieland, Tr. 307).

We accept the above proposed finding of fact with the clarification that Florida Power has stated it can finance the investments included in its Integrated Resource Study through conventional means without threatening its AA bond rating. See Finding 108 in Recommended Order.

154. Florida Power is not planning to contribute more than 10 percent of the equity for a gas pipeline projected to have a total cost of approximately $600 million. Negotiations with potential partners in such a project have indicated that this amount of equity would allow Florida Power sufficient

input and operating control to ensure that its needs would be met. (Watsey, Tr. 457-58).

We reject the above proposed finding of fact because this statement represents a projection of what the company may or may not do and is not considered a fact.

Impacts of Power Purchases On Credit Ratings

Credit-Rating Agencies

155. Rating agencies agree that long-term purchased power obligations carry risk for the purchasing utility, as represented in a credit analysis. (Abrams, Tr. 194).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Findings 117, 120, and 121 in Recommended Order.

156. Increased utility industry reliance on purchased power has received attention from ratings analysts and the financial community, who are reassessing the consequences of this development. The legal and financial complexities of purchased power transactions have outstripped conventional analytical tools, resulting in divided opinions regarding the specific degree of consequences from having significant levels of purchased power. (Abrams, Tr. 193).

We accept the above proposed finding of fact.

157. Power purchase agreements have been recognized as an issue by all major credit agencies. The financial community gives purchased power policy close scrutiny when the amount of purchase capacity reaches 10 to 15 percent of the utility's total available resources. (Ex. 12, p. 3).

We accept the above proposed finding of fact.

158. Increased financial pressure expected to accrue from generating capacity purchases contributed to several Duff and Phelps rating actions in 1989 and 1990. Credit downgrades for Consolidated Edison Company (Ex. 10), the Delaware Economic Development Authority (a project of Delmarva Power and Light Company), Orange and Rockland Utilities, Inc., Eastern Edison Company, Public Service Electric and Gas Company, and Potomac Electric Power Company all cited the impact of purchased power as contributing to the downgrade action. (Abrams, Tr. 176-7; Ex. 13).

We accept the above proposed finding of fact with some clarifications about construction also contributing to these downgrades. First, the news releases from Duff & Phelps (D&P) concerning the credit downgrades of Consolidated Edison Company, the Delaware Economic Development Authority (a project of Delmarva Power and Light Company), Orange and Rockland Utilities, Inc., and Potomac Electric Power Company all cite the impact of purchased power and construction as contributing to the downgrade action. (Abrams, TR 176-7, 243-4; EX 10; EX 13) As a result, it may be misleading to point only to the use of purchased power as contributing to the downgrades. The news release from D&P concerning the credit downgrade of Public Service Electric and Gas Company states that the utility plans to rely primarily on independent power producers and cogenerators to meet its future generation needs over the next several years. (Abrams, EX 13) The fact that Florida Power is contesting even the exercise of soliciting bids for purchased power confirms that the company has no intention of relying primarily on these sources for its future generation needs. Because of this difference, this example is not comparable to the situation at Florida Power. Finally, all of the news releases from D&P cite declining interest coverage ratios, declining equity ratios, and a general deterioration in financial protection measures that have been occurring in some cases over the past several years. (Abrams, TR 243-4; EX 10; EX 13) This has not been the case at Florida Power. In fact, since its last heavy construction cycle in 1982, Florida Power has taken great strides to improve its financial protection measures and put itself in a strong financial position for the start of this growth cycle. (Abrams, TR 236) Florida Power has improved its equity position from 44.6% of investor capital in 1982 to 56% in 1990 and has improved its interest coverage ratio from 2.42x to 3.89x over the same period. (Wieland, TR 375) These actions have enabled Florida Power to improve its credit rating from A to AA, one of only four utilities to do so in the past six years. (Abrams, TR 171) As a result, it would be misleading to imply that the planned future use of purchased power would necessarily portend a credit downgrade without also mentioning that the credit downgrades in these examples were the result of a pattern of declining financial measures over an extended period of time. See Finding 122 in Recommended Order.

Why Power Purchases Affect Credit Ratings

159. When a utility builds a plant and then places it in its rate base, the utility obtains revenue to cover operating costs and capital costs. The operating costs include depreciation, return on equity, and sometimes deferred taxes. The revenues covering each of the costs are available to the utility to reinvest in the utility system as customer needs require. (Abrams, Tr. 270; Ex. 2, p. 156). In contrast, when a utility purchases capacity, the revenues obtained flow through to another party to cover its debt and pay dividends to its shareholders. (Abrams, Tr. 270).

We accept the above proposed finding of fact.

160. Excluding variable costs such as fuel, interest payments are the only fixed long-term financial obligation associated with a utility-owned power plant. Other revenue requirement components associated with a utility-owned generating plant include the equity return and depreciation. These funds ensure that the utility can meet its interest obligations at all times, which is the primary concern of credit-rating agencies. (Wieland, Tr. 308-09).

We accept the above proposed finding of fact.

161. Capacity payments contribute to the overall utility credit risk because these payments increase the utility's aggregate fixed-charge obligations. As the total level of fixed obligations increases, the risk of the utility not being able to satisfy obligations individually and collectively increases accordingly. (Abrams, Tr. 188).

We accept the above proposed finding of fact in part. While it is true that capacity payments contribute to the overall fixed-charge obligations of the utility, the qualitative factors associated with the terms of purchased power contracts can reduce the financial risk of these types of payments. See Finding 117 in Recommended Order.

162. Capacity payment risks concern bondholders because there is no corresponding equity investment to buffer project risk (as there is with utility-owned capacity, which has been financed with a mixture of debt and equity). (Abrams, Tr. 188-89).

We reject the above proposed finding of fact.

163. Qualitatively, determining credit quality includes a judgmental assessment of any and all circumstances that bear on risk exposure. Such circumstances include the outlook for sales, competition, management quality, the regulatory environment, the quality of reported earnings, and the quality of the balance sheet. (Abrams, Tr. 167; Ex. 6, p. 2).

We accept the above proposed finding of fact.

164. Quantitatively, utility credit quality is based on a number of financial ratios. Three of the primary ratios are debt leverage, interest coverage, and the internal funds ratio. A lower value for the first and higher values for the (second and) third of these ratios indicate - all other things being equal - lower risk to bondholders and higher credit quality. (Abrams, Tr. 166-67; Ex. 6, p. 3).

We accept the above proposed finding of fact.

165. Relying on a NUG purchase, as opposed to a generation asset constructed and owned by the utility, reduces depreciation cost recovery as a source of cash to the utility. Depreciation cost recovery is the single largest source of cash flow available for investing in new facilities to serve customers. (Abrams, Tr. 180; Ex. 2, p. 156).

We accept the above proposed finding of fact.

166. A utility engaged in a purchased power contract is obligated to make fixed payments. The financial impact is equivalent to the utility taking out a loan, meaning that purchased power contracts must be appraised for credit evaluation as a form of debt financing for the utility. This approach has been taken with many industries where fixed assets are leased or otherwise controlled by long-term contracts or agreements. (Abrams, Tr. 171-2).

We reject the above proposed finding of fact. See Findings 120 and 121 in Recommended Order.

167. In measuring the financial impact of purchased power contracts, Duff and Phelps converts the fixed obligations for the contracts into debt equivalents on a utility's income statement and balance sheet. Duff and Phelps reclassifies one-third of the total capacity charges associated with purchased power as the equivalent of interest expense on the income statement. The approximate value of the assets that provide the capacity are added to the balance sheet as the

equivalent of additional debt. In the absence of a compensating adjustment to the utility's capitalization ratios, these changes will increase risk and reduce credit quality. (Abrams, Tr. 174-5; Ex. 6).

We accept the above proposed finding of fact with the exception of the final sentence. Witness Abrams testified that coverage and capitalization ratios may move somewhat within ranges without impacting the credit rating of the utility. Furthermore, he stated that credit ratings are assigned with substantial weight given to the expected long-term trend in performance and level of risk, and with the understanding that there may be moderate fluctuations in the ratios upon which the credit rating is based. (TR 182) Therefore, the absence of a corresponding adjustment to the utility's capitalization ratios may not necessarily increase risk and reduce credit quality. See Finding 119 in Recommended Order.

168. Performance-based contracts and take-or-pay contracts involve a utility entering into a set of commitments for the use of fixed assets. These contracts decrease the utility's financial flexibility. (Abrams, Tr. 189).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

169. Performance-based contracts are preferable to take-or-pay contracts, but they do not eliminate the risk associated with QF capacity and energy payments. If a utility is relieved of contract obligations due to inadequate performance, it is still necessary to replace the capacity with another purchase or with utility-owned facilities. (Abrams, Tr. 189; Ex. 12, p. 4; Ex. 2, p. 155).

We reject the above proposed finding of fact because the finding incorrectly assumes that the utility will always incur replacement power costs if a QF defaults. This would not be the case if a utility had too much capacity.

170. The existence of a "regulatory out" clause does not have a material effect on credit quality because it does not eliminate the present or future obligations to make capacity payments under a purchase contract. (Abrams, Tr. 178; Ex. 12, p. 5). Cost-recovery clauses do not eliminate fundamental concerns that rating agencies have regarding the overall risk to investors from assuming fixed long-term obligations

without having adequate equity. QF capacity payments compete with all other business obligations for satisfaction. (Abrams, Tr. 187-88).

We reject the above proposed finding of fact.

171. Fuel contracts are not a fixed obligation because they are an operating expense. Unlike capacity purchases, they are not an operating expense that is substituted for a fixed asset. (Abrams, Tr. 208).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

172. Energy conservation costs and load management payments are controllable operating expenses. These items are not fixed charges because there are no long-term fixed commitments associated with them. (Abrams, Tr. 190).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Florida Power's Large Amount of Planned Purchases

173. Florida Power has contracted for significant amounts of power as measured by methods recognized and used by credit-rating agencies in the financial community. Purchased power is projected to represent 15 percent of Florida Power's total generation resources by 1998. (Abrams, Tr. 165, 182; Ex. 2, p. 157).

We accept the above proposed finding of fact.

174. The 1,000 MW that Florida Power is currently committed to purchase will create capacity charges that comprise approximately 280 percent of its interest charges. If the 940 MW of capacity for the Polk County plants were replaced by purchases, the total capacity charges would make up approximately 560 percent of Florida Power's interest charges. (Abrams, Tr. 249).

We reject the above proposed finding of fact because the finding is vague. It cannot be determined if the claim that if the 940 MW of capacity for the Polk County plants were replaced by purchases would result in total capacity charges of approximately 560 percent of Florida Power's interest

charges assumes that Florida Power will not incur any additional interest expense on debt associated with the remaining $3.5 billion in capital expenditures that Florida Power plans to make by the year 2000.

175. Florida Power is committed to capacity payments several times as large as its interest expense. Florida Power makes no profit on this money - there is no compensation for the equity it has committed to these purchases. (Abrams, Tr. 212-13).

We reject the above proposed finding of fact because Florida Power has not committed an equity investment to these purchases.

176. In previous dockets, Florida Power viewed purchased capacity as cost effective because the level of purchased power that Florida Power had at the time was lower than the amount currently planned. (Niekum, Tr. 1127).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

177. Total purchased power capacity charges are projected to reach 178 percent of interest expense in 1997, based on the Integrated Resource Study, which assumes a 75-percent success rate for contracts of future purchased power delivery (exclusive of the Southern UPS contract). (Abrams, Tr. 182; Ex. 2, p. 157).

We accept the above proposed finding of fact.

Benefits of a Strong Credit Rating

178. Florida Power is currently rated AA- by Duff and Phelps, representing an upgrade from its 1986 rating of A+. Florida Power has similar lower tier AA class credit quality ratings from the other major credit-rating agencies. (Abrams, Tr. 168; Ex. 2, p. 150).

We accept the above proposed finding of fact.

179. Retaining an AA credit rating will minimize the cost of capital to Florida Power and the revenue requirements needed to support capital. Lower credit ratings will increase interest rates and customer rates, all other things being equal. (Abrams, Tr. 170).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

180. One reason to retain an AA credit rating relates to borrowing reserve capability, which is the ability to access capital markets under a broad range of circumstances. The large amount of utility borrowing projected for the next three years will heighten competition for funds and widen the spread in costs between higher and lower credit ratings. (Abrams, Tr. 169).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

181. NUG projects obtain competitive interest rates on their debt, despite being highly leveraged, because of the credit strength of the utility providing a guaranteed payment. (Wieland, Tr. 280).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

182. Non-utility generators can engage in projects selectively and enter or leave the business of power generation at will. Utilities must finance and construct generation capacity to meet the needs of their customer base. To fulfill this responsibility at the lowest cost and without undue risk, the utility must preserve its financial viability. (Abrams, Tr. 191; Ex. 2, p. 156).

We reject the above proposed finding of fact because it is misleading. While non-utility generators may selectively choose projects, once the company is contractually obligated to provide service there are monetary awards for non-performance. (Abrams, TR 252) This finding implies that there are no financial consequences for non-performance.

183. It is difficult to re-establish prior credit quality. In the past six years, only eight BBB companies rated by Duff and Phelps reached an A rating, and none have reached an AA rating. Florida Power Corporation is one of the four A-rated companies that have achieved an AA rating. (Abrams, Tr. 171).

We accept the above proposed finding of fact in part. See Finding 126 in Recommended Order.

The Hidden Costs of Power Purchases

Nature of Hidden Costs

184. The "hidden cost" of a power purchase is the cost imposed on the purchasing utility due to diminished credit quality that accompanies large capacity purchases. (Wieland, Tr. 283-83).

We reject the above proposed finding of fact because this is an unsupported conclusion of law that is unrelated to this docket.

185. There are two ways of compensating for the financial consequences of increased purchased power obligations. One is to increase the proportion of equity used to finance other utility assets. The second is to increase the rate of return on equity. Both represent real costs of purchased capacity. (Abrams, Tr. 181).

We accept the above proposed finding of fact.

186. The cost of compensating equity for the imputed debt associated with purchased power obligations is absolutely necessary in order to meaningfully compare the costs of such a purchase with the cost of utility-owned capacity. (Wieland, Tr. 283).

We reject the above proposed finding of fact because this is an unsupported conclusion of law that is unrelated to this docket.

187. Utilities have been evaluating similar types of "make-versus-buy" decisions for many years. For example, a long-term lease on a utility truck would, compared to owning the truck, be treated by a financial rating agency in a manner similar to an interest payment and would cause the utility's coverage ratios to deteriorate if not mitigated. (Wieland, Tr. 292).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Methods of Determining Hidden Costs

188. Quantifying the financial impacts of the reduced planning and operating flexibility caused by power purchases is difficult. In addition, there is no agreed-on method for calculating increases in risks that result from them. The most widely used methods indicate that there is a substantial "hidden" component to the costs of long-term capacity purchases from NUGs. (Wieland, Tr. 296, 299; Ex. 16).

We accept the above proposed finding of fact with the clarification that none of the positions presented in the record from the three rating agencies make any mention of a substantial "hidden" cost of capacity purchases from NUGs. See Finding 112 in Recommended Order.

189. The added costs attributable to relying on NUG purchases ranges between 21 and 63 percent of the direct costs of the purchased capacity. (Wieland, Tr. 296, 299; Ex. 16, pp. 1-3).

We reject the above proposed finding of fact. During cross examination, Witness Wieland admitted that the top of this range would not be reasonable for Florida Power since it assumes that the contracts are treated by rating agencies as 100% debt equivalents. (TR 339) This is not the case. Witness Wieland also admitted that, because of the specific terms and conditions of Florida Power's contracts, the risk factor would be 20%. (TR 339) The methodology used by S&P as reflected in Exhibit 11 indicates that the risk factor could be as low as 10%. (Wieland, TR 329; Abrams, EX 11, p. 7) Therefore, this testimony is suspect.

190. The "hidden cost" of compensating the equity associated with purchased power obligations is developed in three steps:

- The purchased power transaction is added to the utility's base-case projection. This includes coverage ratios to properly reflect the fixed charge qualities of the power purchase. (Wieland, Tr. 282-83).

- Secondly, any change in the coverage ratios occurring because of the power purchase is measured. Then, a sufficient amount of equity is added to restore the capitalization and coverage ratios to their initial level in the base case. (Wieland, Tr. 283).

- Third, the revenue requirements of the additional equity are added to the cost of the purchased power to arrive at

an adjusted total cost for the purchased power transaction. (Wieland, Tr. 283).

We reject the above proposed finding of fact. Witness Wieland admitted that the methods he presented in Exhibits 14 - 16 do not represent how rating agencies will evaluate the quantitative and qualitative factors associated with purchased power. (TR 322)

191. Even though it is unrealistic to surmise that a utility could finance the second plant entirely with equity, such a scenario does not change the conclusion - a utility needs to restore its coverage ratio to the initial levels after buying purchased power. When a utility buys power, fixed charges go up but "coverage" does not. More equity is needed to restore a coverage ratio to its initial level. (Wieland, Tr. 289).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

192. The utility adjusts its capital structure to restore the coverage ratio prior to the purchase of the first unit because any comparison of capacity options should yield equal amounts of financial risk and power. (Wieland, Tr. 291-92).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

Costs Imposed on Florida Power's Ratepayers

193. Prior to 1991, Florida Power's power purchases were below the 10 to 15 percent threshold where the aggregate impact of purchased power becomes financially significant. The current projected level of purchased power is substantial and may require Florida Power to compensate for any resulting financial impacts. (Abrams, Tr. 193).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to another finding.

194. Replacing the capacity Florida Power currently plans to construct during 1998-2000 with purchased power would represent a serious increase in purchased capacity as a percentage of total generation. The associated deterioration would result, all other things being equal, in a credit downgrade for Florida Power. (Abrams, Tr. 183).

We reject the above proposed finding of fact because the finding is a prediction and not a statement of fact.

195. Any increase in the planned level of capacity purchases would necessitate an additional compensating adjustment in the company's equity capitalization in order to avoid a downgrade. (Abrams, Tr. 183-4).

We reject the above proposed finding of fact. See Finding 113 in Recommended Order.

196. In the course of a rate case, utility commissions examine the cost of capital. Since the cost of capital depends on the costs of debt, commissions take into account the views of ratings agencies. (Abrams, Tr. 379).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

WHY ADDITIONAL POWER PURCHASES, THROUGH BIDDING OR OTHER MEANS, ARE ILL-ADVISED IN THIS CASE

197. When deciding to purchase additional capacity, a utility should examine many issues such as financial risk, reliability, operational impacts, and regulatory treatment. The decision to purchase capacity should not be based on apparent cost alone. (Foley, Tr. 1102).

We reject the above proposed finding of fact because the finding is a conclusion of policy, and not a finding of fact.

198. Existing competitive bidding methods only recognize the payments paid directly to winning bidders. A utility's avoided cost, on the other hand, is based on its target capital structure and represents the full cost of a capacity increment. Bidding processes, because they do not represent the costs of compensating equity, are biased in favor of selecting nonutility projects. (Wieland, Tr. 296).

We reject the above proposed finding of fact.

199. A bidding competition is a reasonable way of selecting the best capacity to purchase in the event that additional purchases are warranted, but not a good way of determining whether a utility should buy or build the next increment of capacity. (Foley, Tr. 1102).

We reject the above proposed finding of fact.

200. The fact that Florida Power should not make additional purchases now, via bidding or otherwise, does not mean that all utility purchases are not cost effective. Rather, additional Florida Power purchases are inadvisable because it already relies heavily on purchased power and other specific circumstances. (Foley, Tr. 1100).

We reject the above proposed finding of fact.

201. It is unrealistic to think that IPPs and QFs can build reliable, long-lasting capacity more inexpensively than Florida Power can build the Polk County units. It is particularly unrealistic to think that reliable, long-lasting capacity can be sold to Florida Power at a price that is so much less than the Polk County units that the lower price offsets the hidden financial and other costs. (Foley, Tr. 1099-1100).

We reject the above proposed finding of fact.

202. In the previous solicitation approved as part of Docket 910401, the bids received were only 1 to 2 percent below the avoided costs that Florida Power published. (Foley, Tr. 1177), even though QFs were bidding against a high avoided cost core unit. (Foley, Tr. 1141-42).

We accept the above proposed finding of fact with the modification that the contracts, not the solicitation process, were approved. See Finding 49 in Recommended Order.

203. Power plants operate for periods longer than the term of a typical purchased power contract. By purchasing capacity, Florida Power will be left with only contract renewal options. However, with owned capacity, Florida Power will have fully depreciated plants, which will provide customers with economical service. (Foley, Tr. 1097-98).

We reject the above proposed finding of fact because Florida Power has not demonstrated that the Polk County units will not have additional capital improvements which would prevent them from ever be fully depreciated.

204. Non-dispatchable QFs, under current Florida Public Service Commission rules, impose substantial costs on Florida Power customers. (Dolan, Tr. 901).

We reject the above proposed finding of fact because it is misleading. Nothing in the Florida Public Service Commission rules require QFs to be non-dispatchable.

205. Florida Power already employs competitive bidding in its power plant construction and in its fuel procurement. (Foley, Tr. 1177-78).

We accept the above proposed findings of fact in substance. See Finding 149 in Recommended Order.

SELF-SERVICE GENERATION

206. Self-service generation has been addressed in the Integrated Resource Study, Docket No. 910759-EI, in the forecast of future demand and energy. The forecast assumes that self-service generation will not increase. QF developers have made aggressive efforts in the past to take advantage of such opportunities. (Wieland, Tr. 301).

We accept the above proposed finding of fact in part. See Finding 20 in Recommended Order.

207. Florida Power does not have the same degree of control over self-service generation as it does over its other resource planning options. (Wieland, Tr. 301).

We accept the above proposed finding of fact.

208. Financial risks associated with self-service are addressed as part of the overall credit-risk analysis. Significant levels of self-service activity would push Florida Power's credit rating down. (Wieland, Tr. 304).

We reject the above proposed finding of fact.

209. Large amounts of self-service generation pose several types of financial risk for a utility. Self-service generation causes sales levels to decrease. This reduction can impede a utility's ability to cover the fixed obligations for investments made to meet customer needs. (Wieland, Tr. 303).

We accept the above proposed finding of fact; however, the finding is not material to the ultimate decision in this case.

FUEL ISSUES

Natural Gas Supply

Florida Power's Existing Gas Use

210. Florida Power currently uses very small volumes of natural gas on its system. (Foley, Tr. 1091). Florida Power's Bartow, Higgins, Turner, and Avon Park plants all have natural gas capability and are served by FGT on an interruptible basis. (Ex. 2, p. 170). The Suwannee plant is served by SGNG, also on an interruptible basis. Id. Florida Power plans to use about 8.8 MMCFD of natural gas at its planned facility at the University of Florida. Id.

We accept the above proposed finding of fact.

Anclote Plant Conversion

211. Florida Power is actively considering a possible conversion of its Anclote plant in late 1994 or early 1995. (Ex. 2, p. 160). There are a number of options as to how Anclote could be converted. (Niekum, Tr. 959). However, it is expected that Anclote will require approximately 120 MMCFD of natural gas in the summer and about 50 to 55 MMCFD in the winter. (Watsey, Tr. 450). The Anclote units are expected to have less than a 50-percent capacity factor for a number of years. (Watsey, Tr. 405).

We accept the above proposed finding of fact with modifications. See Finding 82 in Recommended Order.

212. Converting the Anclote plant would provide for a phasing-in of the natural gas supply to Florida Power's Polk County units, and would enhance the security of supply by bringing substantial volumes of gas to the Florida Power system before the initial in-service date of the Polk County units. (Ex. 2, p. 160).

We reject the above proposed finding of fact because the statement represents a projection. It is unknown whether converting the Anclote plant would lead to enhanced security of natural gas supply for the Polk County units.

Polk County Units

213. The four Polk County units (940 MW) will require about 100 MMCFD on average, and will have a peak demand of between 200 and 216 MMCFD. (Watsey, Tr. 449; Ex. 2, p. 172)

We accept the above proposed finding of fact.

214. The Polk County units will contribute to fuel diversity on Florida Power's system and in peninsular Florida. (Foley, Tr. 1091-1092; Ex. 2, p. 126.) The Polk county units will increase the percentage of installed gas-fired combined cycle generating capacity in peninsular Florida to about 6 percent in 1998/1999 and about 9 percent in 2000/2001. (Foley, Tr. 1092; Ex. 106, p. 2). This addition of a substantial block of gas-fired capacity to Florida Power's system will system will enable the company to mitigate some of the risks of coal and oil supply interruptions, price changes, and environmental restrictions. (Foley, Tr. 1092).

We accept the above proposed findings of fact with the deletion of the last sentence and changes in wording of the first two sentences. Although a substantial block of gas-fired capacity to Florida Power's system will enable the company to mitigate some of the risks of coal and oil supply interruptions, and price changes, the same risks related to natural gas will replace those of coal and oil. See Finding 84 in Recommended Order.

Supply Adequacy

215. Natural gas reserves and resources in the United States are vast and well documented. (Schlesinger, Tr. 579; Waller, Tr. 497). Recent studies estimate the nation's gas resource base to be in excess of 1 quadrillion cubic feet. (Schlesinger, Tr. 579; Ex. 34, pp. 1-2; Ex. 2, pp. 163, 167). In 1990, less gas was consumed than was added to the reserve base. (Waller, Tr. 497; Ex. 2, p. 163). In relation to these vast resources, Florida Power's expected natural gas requirements are quite small. (Schlesinger, Tr. 578). Natural gas supplies to Florida Power will be ample when needed for the Polk County units, if the transportation capacity exists to deliver such gas. (Waller, Tr. 497, 502).

We accept the above proposed finding of fact with the deletion of the last sentence. It is an assumption of future conditions and not a fact. See Finding 88 in Recommended Order.

216. If adequate transportation capability exists, there will be substantial competition among producers and marketers to sell gas to Florida consumers. Because transportation distances to Florida are relatively short and because Florida is perceived by many producers as a burgeoning gas market, gas supply to Florida on competitive terms will be constrained only by the availability of sufficient transportation capacity. (Schlesinger, Tr. 580; Waller, Tr. 502; Ex. 2, p. 168).

We reject the above proposed finding of fact because this is the witnesses' opinion of third parties' perceptions of the Florida market for natural gas. There is no documentation in the record to support the perceptions of the producers and marketers.

217. Florida is relatively close to significant potential onshore gas reserves in Louisiana, Mississippi, and Alabama, as well as the offshore Gulf Coast gas-producing regions and some of the country's largest coalbed methane deposits. (Schlesinger, Tr. 580; Waller, Tr. 502; Ex. 2, p. 162-164).

We accept the above proposed finding of fact.

Acquisition Strategy

218. Florida Power's natural gas supply strategy is to develop a supply portfolio that will provide diversity in terms of sources, terms and conditions of purchase, prices, firmness of supply, volume flexibility, expiration dates, and other important contract terms. (Watsey, Tr. 391; Ex. 2, pp. 168-169).

We accept the above proposed finding of fact; however the finding is not material to the ultimate decision in this case. This is a statement of fact as to Florida Power's strategy in developing a natural gas supply portfolio. However, because this statement merely reflects a projection of what the company may or may not be able to achieve in the future, it is irrelevant.

219. Because of the expected vigorous natural gas supply competition, and because Florida Power is a large volume gas customer, Florida Power will have considerable flexibility to negotiate favorable terms for its gas supply and transportation. (Waller, Tr. 502; Schlesinger, Tr. 581; Ex. 2, p. 168).

We reject the above proposed finding of fact because the finding is a statement about expectations in natural gas supply markets. This assumption is used to draw a conclusion which may or may not be correct.

220. Although Florida Power's long-term fuel contracts will not match the 30-year or longer useful life of the Polk County units, Florida Power will be able to secure long-term contracts of up to 15 years. (Watsey, Tr. 393; Schlesinger, Tr. 581-582; Ex. 2, pp. 168-69).

We reject the above proposed finding of fact because the statement represents an opinion that Florida Power will be able to secure long-term fuel contracts up to 15 years. Since there are no signed letters of intent or contracts for gas supply or statements of gas suppliers in the record, it is unknown whether Florida Power will be able to secure long-term contracts of up to 15 years.

Supply Commitment Timing

221. Florida Power has not entered into any contracts or letters of intent for gas supply for the Polk county units. (Watsey, Tr. 391). Florida Power's strategy is to defer entering into fuel supply contracts until a time closer to the in-service date of the Polk county units. (Watsey, Tr. 391, 394-395; Ex. 2, p. 169). Florida Power does not expect to enter into contracts until after the Florida Power Commission (Florida Public Service Commission) and the Department of Environmental Resources have authorized the Polk County units. (Watsey, Tr. 394-395).

We accept the above proposed finding of fact.

222. Even if Florida Power were willing to enter into supply contracts before the need is established, in the currently depressed market for natural gas, most suppliers are not willing to sign long-term commitments seven years before the gas is expected to flow. (Waller, Tr. 494).

We reject the above proposed finding of fact because there is nothing in the record to support the statement that most suppliers are not willing to sign long-term commitments seven years before the gas is expected to flow. It seems as plausible that, because of the depressed natural gas markets, suppliers might be more willing today to sign long-term contracts to firm up their markets.

223. Even if a producer were willing to enter into long-term fuel contracts with Florida Power at this early date, it is likely that such an agreement would result in unnecessary and unreasonable costs for Florida Power. (Watsey, Tr. 391-92; Waller, Tr. 495-96; Schlesinger, Tr. 583). In this scenario, Florida Power would have little leverage to negotiate favorable terms. (Schlesinger, Tr. 583).

We reject the above proposed finding of fact because this statement represents an assumption regarding the provisions of an agreement that does not exist. This statement of projection is not considered factual. Again, it appears just as plausible that Florida Power could contract at most favorable terms because of the depressed markets referenced in the previous statement.

224. The initial contract prices of long-term contracts signed today would be well above current market prices, including annual escalation. (Watsey, Tr. 391-92). Such contracts would likely include provisions such as premiums, inventory charges, or reservation fees. (Watsey, Tr. 391-92; Waller, Tr. 495; Schlesinger, Tr. 583). The natural gas fuel supply cost to Florida Power under these conditions would be greater than the fuel supply value. (Waller, Tr. 495).

We reject the above proposed finding of fact because this statement represents the opinion of the witnesses and is not considered a finding of fact.

225. Florida Power's best course of action is to commit for natural gas supplies at a point much closer to when it will need the gas. (Waller, Tr. 496; Watsey, Tr. 391-96; Schlesinger, Tr. 582). Many of the price-inflating provisions that Florida Power would have to accept now will be avoidable at a later date, and Florida Power would be in a better position to negotiate favorable supply and price terms. (Waller, Tr. 495-496; Schlesinger, Tr. 584).

We reject the above proposed finding of fact because the statements are merely opinions of the witnesses. The projections regarding price are not considered factual.

Florida Power Standards for QF Fuel Supplies

226. Florida Power has not held QFs to a standard different from its own in terms of fuel supply certainty. (Watsey, Tr. 418-19). The eight QFs obtained through Florida Power's recent bid are contractually committed to being operational by 1994,

four years ahead of the Polk County units. (Ex. 2, pp. 98-100). Even with those earlier in-service dates, Florida Power has not required the QFs to have or produce contracts or letters of intent with fuel suppliers or transporters as a contract prerequisite. (Watsey, Tr. 418-19; Ex. 63).

We reject the above proposed finding of fact.

Natural Gas Transportation

Existing Transportation

227. Florida represents the only major demand growth area in the United States that is served by only one natural gas pipeline. (Watsey, Tr. 396). FGT is the only major natural gas pipeline currently serving peninsular Florida. (Ex. 2, pp. 170-171). The FGT system has been expanded recently in two stages. Id. The second stage is expected to be complete late in 1991 or early in 1992. Id. Virtually all of FGT's resulting delivery capability (925 MMCFD) has been reserved on a firm basis. Id. Florida Power has reserved 8.8 MMCFD of transportation capacity from the Phase II expansion to serve Florida Power's planned University of Florida plant. (Ex. 2, p.170).

We accept the above proposed finding of fact.

228. FGT currently is planning a Phase III expansion to be completed in 1994 or 1995. Id. The capacity expected to be available from this expansion has been heavily oversubscribed by potential shippers. Id. Florida Power has not executed a contract with FGT, but it has placed an initial request for Phase III capacity in the following amounts: (a) May-September - 140 MMCFD; (b) October-April 55 MMCFD. (Id.; Watsey, Tr. 431-432). This capacity could accommodate a conversion of the Anclote units in the mid-1990's, but is not expected to accommodate the needs of the Polk County units. (Watsey, Tr. 431, 396).

We accept the above proposed finding of fact.

Transportation Options

229. Florida Power initially identified three gas transportation options. (Watsey, Tr. 397; Ex. 2, pp. 172-173). Option A was the development of a new independent pipeline owned by Florida Power and others. (Watsey, Tr. 397; Ex. 2, p. 172). Option B was a subsequent expansion of FGT's system (beyond

Phase III) to accommodate the Polk county units, while committing the Anclote gas requirements to FGT's Phase III expansion. (Watsey, Tr. 397; Ex. 2, 172). Option C was to commit to capacity on a new, competitive pipeline to be constructed by a party or parties other than Florida Power of FGT. (Watsey, Tr. 397; Ex. 2, pp. 172-173).

We accept the above proposed finding of fact.

230. All three of Florida Power's pipeline options were shown to be potentially viable for purposes of bringing natural gas to the Polk County units, if initiated promptly. (Watsey, Tr. 397; Schlesinger, Tr. 588).

We reject the above proposed finding of fact because this statement represents a projection of viability. The pipeline options were not shown to be potentially viable. Florida Power's measure of viability was merely determined based on the opinions of Witness Watsey and Witness Schlesinger.

231. Florida Power's evaluation of pipeline options has been an ongoing process. (Watsey, Tr. 397, 427, 446-447; Ex. 2, p. 173). Since the Florida Power Commission (Florida Public Service Commission) hearing, Florida Power has not abandoned Option A but is no longer actively pursuing it. (Watsey, Tr. 427, 446). Instead, Florida Power is focusing on Option B and, particularly, on Option C. Id.

We reject the above proposed finding of fact. We accept the fact that the Witness testified that Florida Power's evaluation of pipeline options has been ongoing. However, Witness Watsey testified that Florida Power was concentrating equally on Option B and Option C, and that Option A was not actively being pursued at this time.

Letter of Intent

232. Florida Power has been negotiating with a newly-formed joint venture consisting of United Gas Pipeline Company (United) and the ANR Pipeline Company (ANR) (a division of Coastal Corporation). (Watsey, Tr. 427, 443-444). The "Suncoast Venture" has been formed for the purpose of building a new pipeline in Florida. (Watsey, Tr. 443-444; Ex. 28).

We accept the above proposed finding of fact.

233. Florida Power has executed a December 4, 1991 Letter of Intent (the Letter) with respect to the SunCoast Venture,

under which a joint venture would construct a new 560-mile intrastate pipeline predicated on firm transportation commitments to the four Polk County units (Ex. 28) under the following terms:

- The parties are (1) United, (2) ANR, (3) SunCoast Venture, a developmental joint venture by and between Florida Gulf South Pipeline Company and ANR Southern Pipeline Company, (4) Gateway Pipeline, and (5) Florida Power. (Ex. 28).

- The Letter of Intent represents a non-binding statement of the parties' present intention to enter into a discussion aimed at developing a new natural gas pipeline in Florida. Id.

- The Letter provides that the pipeline would be 36 inches in diameter, including various smaller pipes, and approximately 560 miles in length. Id.

- The pipeline would extend from United's facilities at or near Pensacola along the west coast of Florida to a terminus near the Polk County units. Id.

- The Letter provides for an initial design capacity of approximately 400 MMCF per day, and a subsequent capacity of up to 745 MMCF per day. Id.

- The Letter provides that firm transportation service rates to Florida Power on the new pipeline would be provided under competitive rates. Id.

- The Letter contemplates a 20-year agreement between SunCoast and Florida Power. Id.

- The Letter provides that Florida Power's advance commitment of 180,000 MCF per day of firm transportation capacity to the Polk County units is essential to the basic design and economic viability of the new pipeline. Id.

- The Letter contemplates a phase-in of Florida Power's firm transportation or delivery rights up to an aggregate total of 300,000 MMBtu per day in four phases (Ex. 28):

(1) 1995 - 120,000 MMBtu for Anclote
(2) 1998 - 45,000 MMBtu for Polk Unit 1
(3) 1999 - 90,000 MMBtu for Polk Units 2 and 3
(4) 2000 - 45,000 MMBtu for Polk Unit 4

- The Letter of Intent is terminable by any party if the Polk County units are not certified by the Florida Power Commission (Florida Public Service Commission). (Ex. 28).

We accept the above proposed finding of fact in part with the exception of some statements. See Finding 95 in Recommended Order. Portions of this finding of fact which are not accepted include:

1. The letter states the pipeline to be 560 miles, yet the attached exhibit (Exhibit B) states the pipeline to be approximately 579 miles.

2. The letter states that the initial design capacity of approximately 400 MMCF per day, and a subsequent capacity of up to 745 MMCF per day. However, Exhibit B states that the subsequent capacity to be 800 MMCF per day.

3. The finding of fact states that firm transportation service rates to Florida Power on the new pipeline would be provided under competitive rates. To clarify this statement, the letter of intent states that firm transportation service shall be competitive with the aggregate amount of the rate and charges applicable for services of a comparable duration, quality, quantity and distance reflected in bona fide offers by third parties to Florida Power.

4. The letter of intent is no longer terminable by any party if the Polk County units are not certified by the Florida Public Service Commission. The December 3, 1991 "Letter of Intent") was amended on December 10, 1991. The amendment is entitled Supplement #2 to Late-Filed Exhibit No. 28.

234. As of the signing of the Letter of Intent, FGT has not presented Florida Power with any proposal that would be more advantageous to Florida Power than the SunCoast proposal. (Ex. 28)

We accept the above proposed finding of fact.

235. Florida Power does not contemplate holding more than a small equity interest (up to 10 percent or about $60 million), if any, in a new pipeline. (Watsey, Tr. 458). Florida Power might contribute existing right-of-way as an equity contribution. Id.

We reject the above proposed finding of fact because this statement represents a projection of what the company may or may not do and is not considered a fact.

Benefits of Pipeline Competition

236. In assessing pipeline options, Florida Power must consider both short-run fuel savings and the long-term benefits of developing competitive pipeline capacity in Florida. (Watsey, Tr. 415-16, 435-38). It is not necessarily in the long-run best interests of Florida Power's customers for Florida Power to capture short-term fuel savings by foregoing the cost savings or strategic benefits that competitive gas transportation can generate. Id.

We accept the above proposed finding of fact.

237. The absence of pipeline competition has hampered Florida Power's ability to obtain desired terms and conditions of transportation service. (Watsey, Tr. 441). The introduction of competition could help facilitate more attractive terms of service and prices. (Watsey, Tr. 437, 441; Waller, Tr. 500).

We accept the above proposed finding of fact.

238. Competition among pipelines can lower transportation costs in at least two ways. (Waller, Tr. 498). First, competing pipelines will discount their tariff rates to attract load and, second, pipelines will be induced to lower the total cost of service on which their rates are based. Id. Competition can lower overall costs more than regulation alone. (Waller, Tr. 500).

We reject the above proposed finding of fact because the statement reflects what may or may not happen when pipelines are faced with competition. A proposed new pipeline may or may not have delivery points that overlap with the existing gas pipeline, so direct competition may or may not exist. There is no documentation in the record which proves that pipelines will be induced to lower the total cost of service, nor is there documentation which proves that competition lowers overall costs more than regulation alone.

Polk County Anchor Load

239. Failure to obtain certification for even one of the Polk County units will jeopardize development of a timely and viable natural gas transportation system to the Polk County

site, regardless of the option selected. (Watsey, Tr. 405; Ex. 28).

We reject the above proposed finding of fact because the original project criteria was based on the construction of a pipeline with 600 MMCFD capacity. The revised plan is to initially construct a pipeline with a capacity of 400 MMCFD. Since we agree that an anchor of one-third to one-half is usually required to entice pipeline development, an anchor requiring between 133 and 200 MMCFD would be required with respect to the revised pipeline plan.

240. The minimum size for an economically feasible pipeline of several hundred miles is about 600 MMCFD. (Waller, Tr. p. 477). The cost of designing, certificating, building, and testing a new pipeline averages $1 million per mile. (Id.; Watsey, Tr. 401). Therefore, a 600-mile pipeline would cost approximately $600 million. (Waller, Tr. 477; Watsey, Tr. 401).

We reject the above proposed finding of fact. Since the Suncoast project is planned to have an initial capacity of 400 MMCFD, the statement that the minimum size for an economically feasible pipeline of 600 MMCFD is not considered a fact. (Ex. 28)

241. The initiation of every major pipeline project in the nation in recent years has been based on the advance gas transportation commitments of one or more key shippers, or, in other words, an "anchor load." (Waller, Tr. 480-481; Ex. 24).

We accept the above proposed finding of fact.

242. An anchor load ensure that a pipeline will be built in sufficiently large diameter to achieve economies of scale. (Waller, Tr. 476-477). Such economies will allow transportation rates to be held to levels that will attract shippers and allow the gas transported on the new system to remain competitive with alternative fuels. Id. Firm contracts with credit-worthy shippers typically are required for the pipeline sponsor to obtain financing. (Waller, Tr. 477).

We accept the above proposed finding of fact in substance. See Finding 100 in Recommended Order.

243. An anchor load must be sufficiently large to justify the several million dollar expenditure necessary to do preliminary analyses and get a pipeline project to the stage of the required regulatory filings. (Waller, Tr. 479-80). Ideally, project development would not begin without firm commitments for all of the pipeline's capacity. (Waller, Tr. 477).

We accept the above proposed finding of fact.

244. Generally, an anchor load represents a volumetric commitment of between one-third and one-half of the pipeline's capacity. (Waller, Tr. 483). More committed load at the outset translates to an increased likelihood that a competitively sized pipeline will be constructed. (Waller, Tr. 503).

We accept the above proposed finding of fact.

245. An anchor load is a "core load" of critical mass in a confined location at the pipeline's terminus. (Waller, Tr. 503-04; Schlesinger, Tr. 602). A "rifle-barrel" pipeline configuration with a single, large diameter all the way to the terminus provides the greatest economies of scale and results in the best possible transportation rates anywhere along the pipeline. (Waller, Tr. 505-507).

We reject the above proposed finding of fact because the statement about core load provides an impression that this is an absolute definition. However, Witness Waller stated that the concept of a core load is not something that can be stated with absolute precision (Waller, Tr. 503, lines 7-9). Further, Witness Waller stated that a "rifle-barrel" pipeline configuration <u>may</u> be less expensive (Waller, Tr. 507, lines 16-17). With respect to attached Exhibit A of late-filed Exhibit 28, a map of the proposed Suncoast pipeline is shown as a telescoping pipeline.

246. The four Polk County units together with the converted Anclote units satisfy all of the basic characteristics of an anchor load for a new 600 MMCFD pipeline. (Waller, Tr. 481-82, 501, 503; Schlesinger, Tr. 610; Ex. 28). Together these units will require about 336 MMCFD, or roughly half of the expected pipeline capacity. (Watsey, Tr. 449-50).

We reject the above proposed finding of fact. Although we agree that the four Polk County units together with the converted Anclote units satisfy the anchor load requirement of a 600 MMCFD pipeline, since the Suncoast plan specifies an

initial pipeline capacity of 400 MMCFD, a sufficient anchor load needs only to be between 133 and 200 MMCFD.

247. The Polk County units alone will represent a maximum daily demand of about 216 MMCFD (or a third of the pipeline's capacity) at a single location at or very near the pipeline's terminus. (Id., Waller, Tr. 501). Florida Power's gas needs are known and identifiable (Ex. 28), and will, if authorized by the Florida Power Commission (Florida Public Service Commission), coincide with the lead time required to put a new pipeline in service. (Watsey, Tr. 402-04; Waller, Tr. 483-93; Schlesinger, Tr. 590-92).

We reject the above proposed finding of fact. Because the revised pipeline plan (Suncoast) specifies an initial pipeline capacity of 400 MMCFD, the Polk County units alone represent approximately 54 percent of the planned pipeline capacity.

248. If the pipeline is anchored by Florida Power's identified gas requirements, there will be ample additional demand to fill the balance of the pipeline's capacity. (Waller, Tr. 482-83).

We reject the above proposed finding of fact because this statement represents the witness' opinion and is not considered a statement of fact.

249. The fact that large pipeline companies are anxious to negotiate with Florida Power (Watsey, Tr. 427, 432, 443-44; Ex. 28) is indicative of the importance of an anchor load.

We reject the above proposed finding of fact because this statement represents an assumption. The fact that large pipeline companies are anxious to negotiate with Florida Power is only indicative of the desire of the companies to sell additional gas.

250. While the gas needs of the Anclote unit will facilitate project development (Watsey, Tr. 433; Waller, Tr. 511-12), they cannot be regarded as a substitute for the core gas requirements of the four Polk County units. (Waller, Tr. 503; Schlesinger, Tr. 610). The distinguishing factor is that the Polk County units will represent a substantial volume use at a single site. (Waller, Tr. 501, 503; Schlesinger, Tr. 610; Ex. 28).

We reject the above proposed finding of fact because the statements are premised on the construction of a pipeline that would have a capacity of 600 MMCFD. The statements leads to a conclusion that all four Polk County units are necessary to provide the substantial volume use at a single site. Since the proposed pipeline (Suncoast) has an initial capacity of 400 MMCFD, a sufficient anchor need only require between 133 and 200 MMCFD.

QFs Do Not Offer Anchor Load

251. The record cannot support a finding that QFs could effectively substitute for Florida Power as the anchor load for developing a new pipeline. (Watsey, Tr. 459-60; Schlesinger, Tr. 602-03). Individually, the known QFs in Florida Power's vicinity are relatively small in size. (Ex. 2, pp. 98-100). The largest will have a capacity of 104 MW, or less than one-ninth the size of the Polk County project. Id. Small QFs would fail to meet the basic criterion that an anchor load be sufficiently large to induce project development (i.e., between one-third and one-half of the pipeline's capacity). (Waller, Tr. 483).

We reject the above proposed finding of fact. Although we agree that the record does not clearly support the fact that QFs could effectively substitute as the anchor load for Florida Power, neither does the record support that a QFs would be unable to substitute as an anchor. The fact that the proposed pipeline (Suncoast) is telescoping in nature as opposed to a rifle-barrel lends more credence that a consortium of QFs may be able to provide an effective anchor.

252. Although there may be larger QFs in the future, because they are not yet known, quantifiable, or credit-worthy. (Waller, Tr. 480). A hypothetical need or a need that is not far enough in the future to match the pipeline's in-service date could not induce development. (Waller, Tr. 483). Even if a group of QFs could band together and negotiate effectively with pipeline builders, an "atomized" group of QF delivery points would fail to satisfy the geographic proximity criterion for an anchor load. (Watsey, Tr. 459; Schlesinger, Tr. 602, 605-06).

We reject the above proposed finding of fact because, as stated in discussion of previous proposed finding of fact, the fact that the proposed pipeline is telescoping in nature as opposed to rifle-barrel lends credence that a consortium of QFs may be able to provide an effective anchor load.

253. A geographically scattered set of gas delivery points, as compared with the Polk County units' "core" load, would increase the cost of pipeline construction materially. (Schlesinger, Tr. 602). If substantial loads are located upstream from the pipeline's terminus, the pipeline may not be built at its maximum optimal diameter along its entire length, with a resulting loss of overall economies of scale. (Waller, Tr. 504).

We reject the above proposed finding of fact. Since the proposed Suncoast pipeline has two delivery points upstream of the Polk County units, (Anclote and Peoples Gas System), the proposed pipeline already incorporates the costs of any additional construction costs that would be required.

254. There are costly impacts on the pipeline's pressure and compression characteristics whenever gas is diverted from the pipe's trunk line. (Waller, Tr. 507). Construction of numerous lateral delivery lines, at approximately $1 million per mile, can add substantial costs to the project. (Waller, Tr. 506; Schlesinger, Tr. 605-06).

We reject the above proposed finding of fact because the proposed pipeline construction configuration depicted in Exhibit A shows a lateral to Anclote and Peoples Gas System, as well as laterals to Orlando, Kissimmee, Lakeland, Teco-Hardee, Seminole-Tocala, and Teco-Power Park. Any costs related to these laterals has already been incorporated in the cost of construction.

Required Lead Time for New Gas Pipeline Development and Construction

255. The contractual arrangements and design for and the engineering, permitting, certification, construction, and testing of a major natural gas pipeline can require a lead time of six to seven years. (Watsey, Tr. 403-04, 407; Waller, Tr. 483-93; Schlesinger, Tr. 590-92; Ex. 21). This lead time is approximately the same under any of the identified pipeline options. (Waller, Tr. 484-85; Schlesinger, Tr. 592). The tentative pipeline schedule shown in Exhibit 21 is reasonable because of the following factors:

- After a need for new gas pipeline capacity has been established, the contractual arrangements required to bring about such a development can take a year or more to finalize. (Schlesinger, Tr. 590; Watsey, Tr. 407).

- Before required filings are made for regulatory approvals of the pipeline, it can take 12 to 18 months (some of this time can overlap the contracting phase) to conduct the design and engineering work, the right-of-way evaluation and acquisition, and the development of cost estimates, pro forma rates, and a proposed tariff. (Waller, Tr. 487-89).

- Obtaining state, federal and local approvals for major natural gas pipeline construction can take four to five years, as evidenced by recent pipeline proceedings at FERC. (Waller, Tr. 490; Schlesinger, Tr. 591; Watsey, Tr. 403). Unexpected environmental issues or other complications will tend to draw out the process. (Waller, Tr. 489).

- Following regulatory approvals of a new natural gas pipeline, construction may be delayed by approximately six months to account for such factors as the final redesign necessary to comply with regulatory requirements, the finalization of the construction contract, the mobilization of construction forces, and the completion of financing. (Waller, Tr. 491-92). Thereafter, construction can be expected to take up to two years. (Waller, Tr. 492; Schlesinger, Tr. 592; Watsey, Tr. 407; Ex. 21).

We accept the above proposed finding of fact in substance. See Finding 105 in Recommended Order.

256. To ensure that sufficient new natural gas pipeline capacity will be available for the Polk County units, there can be no material delay in initiating significant pipeline development activities. (Watsey, Tr. 407, 421; Schlesinger, Tr. 589, 596). Pipeline capacity can be constructed between now and the 1998 in-service date for the Polk County units, but not if there is an initial delay in commencing the development process. (Watsey, Tr. 407; Schlesinger, Tr. 589).

We accept the above proposed finding of fact in substance. See Finding 106 in Recommended Order.

257. Because Florida Power's identified natural gas requirements will serve as the anchor load for new pipeline construction, Florida Power's current request for authorization of the four Polk County units is not premature. (Watsey, Tr. 407, 421; Schlesinger, Tr. 596).

We reject the above proposed finding of fact because, although we agree that the request for authorization to construct additional generating facilities is not premature as it relates to attaining sufficient natural gas delivery capability, the necessity for approval of all four units to serve as an anchor load is not essential. As the proposed Suncoast pipeline's initial capacity is 400 MMCFD, and not the 600 MMCFD discussed in the hearing, minimum sufficient anchor load requires 133 MMCFD of natural gas. The 133 MMCFD minimum anchor load can be obtained by as little as one Polk County unit and the converted Anclote plant.

Natural Gas Price Forecast

258. Florida Power's fuel forecast is reasonable and appropriate for the company to use in its system planning. (Schlesinger, Tr. 575). The fuel price forecast uses the same basic methodology as that used previously by Florida Power and reviewed by the Florida Power Commission as recently as the 1991 Annual Planning Hearing. (Williams, Tr. 536). Florida Power's natural gas price forecast is conservative and may show a relative price disadvantage for gas as compared to other fuels. (Schlesinger, Tr. 587, 595).

We accept the above proposed finding of fact with the exclusion of the first sentence because it is a conclusion of law. Previous review by the FPSC of the Florida Power fuel price forecast methodology and assumptions is true. In addition, the words "Florida Power Commission" have been changed to "Florida Public Service Commission." See Finding 85 in Recommended Order.

259. Florida Power's forecast of natural gas price trends is well within the range of projections compiled by other, recognized sources. (Schlesinger, Tr. 575, 577). Such sources include Data Resources, Inc., the Gas Research Institute, the American Gas Association, and the United States Department of Energy's Energy Information Administration. (Schlesinger, Tr. 576-77).

We accept the above proposed finding of fact.

260. In Florida Power's base- and low-case fuel forecasts, natural gas is expected to be priced at or below the price of low sulfur oil and well below the price of distillate oil. (Williams, Tr. 532,538; Ex. 2, pp. 71-73). Natural gas prices will remain below oil competition levels through most of the 1990s. (Schlesinger, Tr. 576). Most available fuel

price forecasts are not predicting great increases in the price of natural gas. (Schlesinger, Tr. 599).

We accept the above proposed finding of fact with modification and deletion of the last sentence. See Finding 87 in Recommended Order.

261. Natural gas prices are not expected to rise significantly as a result of the expanded use of combined cycle gas units as a generating technology of choice, or the use of gas fired generation to satisfy Clean Air Act requirements. (Schlesinger, Tr. 597-98).

We reject the above proposed finding of fact. Staff agrees that Florida Power's fuel forecast does indicate an expectation of what the future fuel prices maybe and that the fuel forecast incorporates reasonable assumptions about the trends of fuel prices. However, the fuel price trends are not facts but assumptions, estimates and conclusions.

THE POLK COUNTY UNITS

262. The analyses in the Integrated Resource Study showed conclusively that the four 235 MW natural-gas-fired combined cycle units are the lowest cost and lowest risk option. (Niekum, Tr. 935; Foley, Tr. 1088; Ex. 74; Ex. 75; Ex. 105). The total installed cost estimate for all four Polk County units would be approximately $862 million. This estimate includes escalation and AFUDC. The land and development cost for the Polk County site is approximately $64 million. The cost of the four combined cycle units is approximately $448 million. (Ex. 97). Current rate forecasts indicate that the addition of the Polk County units will not cause any increase in real electricity rates. (Niekum, Tr. 962).

We accept the above proposed finding of fact in part and with a clarification of which years dollars the values are given. We agree that Florida Power's analyses show that the Polk County units are the lowest cost and lowest risk option. We recognize that Florida Power has forecasted that the total installed cost of these units will be $862 million. However, the projected cost of the units is a forecast, and not a fact. In addition, we reject the last sentence regarding the effect on electricity rates since it is not a fact; rather, it is an opinion of what will happen in the future. See Findings 69 and 148 in Recommended Order.

263. Florida Power has refined its site-specific cost estimate for the Polk County Units as the project has developed. As preliminary engineering is completed, this estimate will be further refined. Florida Power's current estimate of $566/kW (1991 dollars), includes site development, associated transmission, and a potential gas lateral. (Ex. 97).

We accept the above proposed finding of fact.

264. The current site-specific cost estimate of $566/kW for the Polk County units compare favorably with the non-site-specific cost estimate of $599/kW used by Mr. Niekum in the evaluation of the alternative plans for planning purposes. (Major, Tr. 1034-35; Ex. 97).

We accept the above proposed finding of fact with the clarification that the dollar amounts are in 1991 dollars. See Finding 144 in Recommended Order.

265. The units will be constructed by Florida Power using the traditional approach to utility construction contracting as described in Mr. Ruisch's testimony. (Ruisch, Tr. 102). Florida Power will use an architect/engineer to design the plant and to assist Florida Power with construction management. Multiple fixed-price bid solicitations with well-defined work scopes will be used for equipment manufacturers and other subcontractors. This will minimize the risk of cost overruns. (Major, Tr. 1033).

We accept the above proposed finding of fact with the exclusion of the last sentence. See Finding 145 in Recommended Order.

266. The Polk County units are designed to operate on natural gas with distillate as a backup fuel. On-site storage of distillate oil sufficient for three days of continuous unit operation will be provided. (Major, Tr. 1030). The Polk County site can accommodate all necessary on-site gas facilities such as compressors and metering that may be required. (Major, Tr. 1030).

We accept the above proposed finding of fact in substance. See Findings 142 and 150 in Recommended Order.

267. Following the installation of the Polk County units, Florida Power's natural gas use will change from nearly zero to 11 percent. This will provide the system with greater insulation from fuel supply disruptions and price variability

affecting any one of Florida Power's major fuels. (Ex. 2, p. 179).

We accept the above proposed finding of fact in part. See Finding 151 in Recommended Order.

268. With the addition of four 235 MW combined cycle units, Florida Power's reserve margin will improve to 17.5 percent (1,389 MW). With these reserves, the Florida Power system will have adequate capacity to withstand the loss of any large unit or combinations of any large and small units. (Niekum, Tr. 937-8; Ex. 76).

We reject the above proposed finding of fact because the finding is vague.

269. The Polk County units are extremely efficient and therefore have a low heat rate. As a result, these efficient plants use smaller amounts of fuel per unit of electric service delivered, and when combined with the use of a clean fuel, these units can reduce the exposure of Florida Power's system to new environmental rules or taxes. (Ex. 2, p. 180).

We accept the above proposed finding of fact in substance. See Finding 152 in Recommended Order.

270. The Polk County site is capable of future conversion to coal gasification. The site layout is designed to allow coal delivery, storage and handling, as well as allowing space for gasifiers and solid waste disposal areas for gasification byproducts. Preliminary air quality analyses for coal gasification emissions indicate the site is suitable. Two industrial-grade rail lines are adjacent to the site to facilitate future coal delivery. (Major, Tr. 1029).

We accept the above proposed finding of fact.

271. The four combined cycle units operate as intermediate (55-percent capacity factor) units on Florida Power's system. However, these units have the ability to run base load (continuous duty) as required. (Ex. 2, p. 84).

We accept the above proposed finding of fact with modification. See Finding 155 in Recommended Order.

272. The combined cycle units can be built for half the cost of a pulverized coal plant. (Ex. 2, p. 108). Other advantages of combined cycle technology are operational flexibility,

moderate construction time, and fuel diversity. (Ex. 2, p. 108).

We accept the above proposed finding of fact with the following clarification: The costs referred to are capital costs only, and it is possible for plants of high capital cost to result in a lower system cost because of operational costs. See Finding 147 in Recommended Order.

Site Selection Process

273. Florida Power undertook a comprehensive and exhaustive selection study to identify a site capable of accommodating a wide range of fossil-fuel technologies, including combined cycle units fueled by natural gas. (Ex. 2., pp. 187-190). The site selection process considered environmental, socioeconomic, and engineering criteria, including fuel delivery facilities and the location of existing transmission. (Ex. 2, pp. 187-190). Florida Power received considerable assistance in this effort from an independent group of environmentalists, educators, and community leaders called the Environmental Advisory Group (EAG). The EAG met regularly to review Florida Power's siting criteria and helped to identify issues of public concern. (Major, Tr. 1025).

We accept the above proposed finding of fact.

Site Description

274. The site chosen as a result of the selection process is the 8,000 acre Polk County site, located in southwest Polk County, approximately 40 miles east of Tampa and 3.5 miles northwest of Ft. Meade. (Major, Tr. 1027).

We accept the above proposed finding of fact.

275. The site has an ultimate capacity of approximately 3,000 megawatts, and can easily accommodate the initial 940 MW of the Polk County units at issue in this case. The site is capable of accommodating the future conversion of the Polk County units to coal gasification. (Major, Tr. 1038-39). The development of the Polk County site will be undertaken in a manner to provide adequate capability for future generation facilities. (Major, Tr. 1028).

We reject the above proposed finding of fact because the last sentence of the finding appears to be more of a policy

statement than a recognizable fact. An event in the future cannot be stated as a fact.

276. The site represents a rare opportunity to make beneficial use of land that has already been disturbed by the activities associated with on-going phosphate mining. Unlike more "traditional" site preparation and development activities, approximately two years of activity on the site will be required before actual construction of the generating units can begin. (Major, Tr. 1033, 1053).

We accept the above proposed finding of fact.

277. The location identified as the power block site is presently highly irregular and under water. As Mr. Major described in his testimony, approximately 8 million cubic yards of fill material will be required to develop the power block area - the equivalent of stacking 100 football fields 60 feet high. This fill will come from an existing pond on site which has not yet had clay deposited in it. (Major, Tr. 1041).

We accept the above proposed finding of fact.

278. One of the reasons it is so critical to proceed with the licensing activities at this time is to ensure that the required fill material remains suitable for fill. This will involve the relocation of some on-going mining activities to ensure that clay is not deposited in the settling pond that will be the source of the fill material. (Major, Tr. 1060-1061).

We accept the above proposed finding of fact with the change in the first sentence of the words "so critical" to "necessary" in order to make the proposed finding of fact more objective. See Finding 137 in Recommended Order.

Associated Facilities

279. The 1998 Polk County unit will require the looping of the existing Barcola-Ft. Meade 230 kV transmission line into a new 230 kV switchyard at the plant site. This line passes through the site. For the remaining units, a portion of the existing line from Barcola to the plant site will be rebuilt with double-circuit structures to support two 230 kV circuits. (Major, Tr. 1029-1030).

We accept the above proposed finding of fact in substance. The first two sentences of the proposed finding of fact are

included in Finding 138 in Recommended Order. The remainder is included in Finding 139 in Recommended Order.

280. The portion of the line from the plant site to Ft. Meade will require the addition of a new 230 kV circuit and will likely use existing structures. By using the existing structures, it will be necessary to relocate approximately 2.7 miles of the existing Ft. Meade-Rockland 115 kV circuit, parallel to SR 630 west of the Ft. Meade substation. (Major, Tr. 1029-1030).

We accept the above proposed finding of fact with modification. See Finding 139 in Recommended Order.

281. Depending on the ownership arrangements and the ultimate routing of the new gas pipeline, it may be necessary to construct a natural gas lateral. Current estimates show that lateral to be approximately 17 miles in length and 20" in diameter. (Major, Tr. 1030). The cost of the lateral pipeline and metering station, if required, will be $11 million in 1991 dollars. (Major, Tr. 1030).

We reject the above proposed finding of fact because in the second line of the proposed finding of fact, it says it "may be necessary to construct a natural gas lateral." Therefore, one could conclude that it may not be necessary, and a fact is therefore not definitively stated.

282. If the pipeline is constructed by FGT, it is probable that a 17-mile lateral connecting the site with existing FGT facilities in Hillsborough County will be needed. It is this lateral that is included in the site-specific current cost estimate. (Major, Tr. 1030; Ex. 97). If a pipeline is built by SunCoast Venture or another third party, such a pipeline would run adjacent to or through the Polk County site, and a lateral of undetermined length, located entirely in Polk County, may be needed. To cover both contingencies, Florida Power asks that the Florida Public Service Commission find a need for an associated gas lateral to connect the plant site with the appropriate pipeline facilities. (Ex. 28). The gas pipeline, however, is not an associated facility because it is not dedicated exclusively or even in large part to the Polk County units. (Ex. 28). Less than one-third of the pipeline's capacity is expected to be dedicated to the Polk County units. (Ex. 28).

We reject the above proposed finding of fact because the first line of proposed finding states "it is probable." This

does not state anything definitively. See Finding 141 in Recommended Order.

283. Only a small piece of the lateral gas pipe, if any, will be located in Hillsborough County if the lateral is needed. None of the contemplated transmission, or any other facility associated with the plant, will be located in Hillsborough County. (Watsey, Ex. 22).

We reject the above proposed finding of fact because the proposed finding of fact could result in two different conclusions: (1) a small piece of the pipeline will go through Hillsborough County, or (2) none of the pipeline will go through Hillsborough County. Therefore, a fact can not be extracted from the proposed finding.

STATEWIDE NEED

284. To assist in determining the consistency of the proposed Polk County Units with peninsular Florida's system reliability and need, an update of the Florida Electric Power Coordinating Group's (FCG) 1989 Planning Hearing Generation Expansion Planning Studies document (1989 APH) was provided. The 1989 APH showed an accumulated addition of 5,930 MW, 6,990 MW, and 7,785 MW of generating capacity would be required in the winters of 1998/99, 1999/00, and 2000/01, respectively, to meet the reliability criteria. (Speck, Tr. 622; Ex. 36).

We accept the above proposed finding of fact.

285. Adjustments were made to that information for known changes, including the removal of Florida Power's previously identified coal units. (Ex. 36). After these adjustments, the reserve margins for the winters of 1998/99 through 2000/01, excluding Florida Power's Polk County Units, are less than the amount necessary to maintain adequate peninsular Florida reliability. (Speck, Tr. 623-624; Ex. 36). Florida Power's proposed capacity additions will provide only a portion of the additional generating capacity that is needed for peninsular Florida to maintain an adequate level of reliability. (Speck, Tr. 621).

We accept the above proposed finding of fact.

286. The Polk County Units also will contribute toward maintaining fuel diversity for peninsular Florida. Using the 1991 IE-411 filed with the Southeastern Electric Reliability Council, and

adjusting for the proposed units, the peninsula's percentage of installed generating capacity fueled by natural gas will increase from approximately 6 to 9 percent. (Foley, Tr. 1092; Ex. 106).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Finding 84 in Recommended Order.

287. The proposed Polk County Units are therefore consistent with the reliability needs of peninsular Florida and will contribute toward the maintenance of adequate fuel diversity for the peninsula. (Ex. 2, p. 197).

We reject the above proposed finding of fact because the finding is a conclusion of law, not a finding of fact.

CONSEQUENCES OF DELAY

288. Stopping the current Determination of Need proceeding and soliciting bids could jeopardize Florida Power's ability to:

- Meet Clean Air Act requirements (Foley, Tr. 1177; Ex. 2, p. 201),
- Develop the Polk County site (Foley, Tr. 1177; Ex. 98), and
- Bring a new gas pipeline into Florida. (Foley, Tr. 1177; Ex. 21; Ex. 2, pp. 201-02).

We reject the above proposed finding of fact.

289. The effects of NUG purchases will be compounded if Florida Power were required to undergo successive rounds of bidding for new capacity. In each round the Florida Power would need to add compensating equity in order to restore its coverage ratios, so its leverage will decrease and its cost of capital will increase. The utility will be disadvantaged even further in the subsequent bidding process because of its higher cost of capital. (Wieland, Tr. 297-98).

We reject the above proposed finding of fact.

290. Each alternative was (sic.) compared to a base alternative under 27 different scenarios. The base option was Alternative 3, the addition of the planned Polk County units. (Niekum, Tr. 934; Ex. 105).

We accept the above proposed finding of fact; however, the finding is duplicative in substance to Findings 4 and 13 in Recommended Order.

291. If one of the 235 MW combined cycle units in the year 1999 was deferred until the year 2000, this alternative would result in a higher cumulative present worth revenue requirement (CPWRR) and higher SO_2 emissions. The level of SO_2 emissions would increase by 3,861 tons in 2000 and from 1991 to 2030, the CPWRR would be approximately $1.3 million more. (Ex. 87).

We accept the above proposed finding of fact in substance. See Finding 77 in Recommended Order.

292. A one-year delay in the in-service date of the each of the proposed units will cause Florida Power's winter reserve margin to drop below its minimum level of 15 percent. With this one-year delay, the reserve margins will range from a low of 12 percent in the winter of 1999/2000 to 14.5 percent the following winter. Further delays will have a more dramatic effect. (Ex. 2, pp. 199-200).

We accept the above proposed finding of fact with the clarification that the reserve margins referenced above are the forecasted reserve margins that would occur if all of the units were delayed by one year. The effects would be less dramatic if one unit is delayed by one year. See Finding 156 in Recommended Order.

293. A delay in the in-service dates of any of the units beyond 1999 also will lead to an increase in Florida Power's SO_2 emissions. Florida Power will be forced to run less efficient, less clean units more often. This may require Florida Power to take more costly measures to ensure compliance with the Clean Air Act. (Ex. 2, p. 201).

We reject the above proposed finding of fact because the finding is an opinion of what will happen in the future.

294. Florida Power's proposed schedule preserves the ability to bring the combined cycles on line early to meet any contingencies that might affect system reliability. If the units are delayed, strategic flexibility to mitigate problems such as a delay in QF capacity, a greater anticipated load, or a delay in the 500 kV line, would be unavailable. (Ex. 2, p. 201).

We accept the above proposed finding of fact.

FLORIDIANS FOR RESPONSIBLE UTILITY GROWTH
(#'s 1-7, pps. 19-22 Brief of FRG)

We reject the proposed findings of fact, because they are conclusions of law, and they are addressed as such on pages 40 and 41 of the Proposed Recommended Order.

STAFF RESPONSES TO EXCEPTIONS TO THE RECOMMENDED ORDER

Response to FICA's Exceptions to the Conclusions of Law

Timing Issues

Exception: FICA's alleged First error in the Recommended Order: "the three-year construction lead time for the combined cycle units would...require the Commission to defer ruling on the need for even the first two Polk County units..." (p. 2)
Staff Response:
- This statement totally neglects the consideration of the 2-year lead-time necessary to prepare the site before construction begins, as well as the lead-time necessary to construct a gas pipeline. Furthermore, if the Commission denies the need determination, the lead time necessary to prepare and process a second need certification must be added to the site preparation time and the pipeline development time.

Exception: "Virtually all of the factors cited by the Hearing Officer as justifying a delay in certifying the second two units apply to the first two units as well." (p. 7)
Staff Response:
- This assertion is incorrect. The first units certified on the site require a longer lead time than subsequent units because of the two-year site preparation time and the lead time necessary to bring a new pipeline into service. In addition, the record contained competent substantial evidence that the first two units are needed and that they are the most cost-effective alternative available. The Hearing Officer found that the need for the last two units should not be granted at this time because the cost-effectiveness of constructing the third unit in 1999 was marginal and because the last two units do not require the additional lead time associated with site preparation and the pipeline.

Cogeneration Issues

Exception: FICA's alleged Second error in the Recommended Order: "The second error...was the finding that FPC's planned Polk County units were the most cost-effective alternative available. The record clearly shows that FPC completely ignored cogeneration." (p. 2)
Staff Response:
- Competent substantial evidence in the record demonstrates that FPC's first two planned Polk County units are the most cost-effective alternative available. The record contains no competent substantial evidence regarding a more cost-effective

alternative. All evidence regarding the ability of QFs to construct more cost-effective projects was totally speculative. The record contains no proposals from non-utility generators from which to make a conclusive determination that non-utility generation is available, let alone a determination that such proposals are more cost-effective than the Polk County units.

- The record shows that FPC has contracted for a substantial amount of cogeneration, and it also shows that FPC's Integrated Resource Study relied on 150 MW of non-utility generation that is yet to be contracted.
- In addition, as discussed in the Recommended Order, the Hearing Officer considered strategic concerns associated with the proposed Polk County units in making her decision: the benefits of securing a site capable of housing 3,000 MW of generation, and the benefits of securing a second gas pipeline into peninsular Florida.
- The record shows that if FPC were required to hold a bid to acquire non-utility generation and no suitable projects responded, the resultant delay could jeopardize the acquisition of the site and the siting of the second pipeline. At the least, the delay would cause increased site development costs, resulting in more expensive generation to FPC's ratepayers.

Exception: "the Commission recently approved over 600 MW of firm capacity contracts with various QFs to sell power to FPC at prices up to 5% below its total avoided cost...Moreover, FPC's recently-filed standard offer was based on an avoided combustion turbine unit, which has a construction cost well below that of a combined cycle unit, yet it received almost 500MW of contracts from QFs..."
Staff Response:

- The average discount from avoided cost in the 600 MW of firm capacity contracts was 1.79 percent (See Order 24734 at page 13); therefore, the Hearing Officer's Finding No. 49 is accurate.
- FICA's argument that QFs are lower cost than FPC's proposed Polk units because QFs previously contracted below FPC's avoided cost is misleading. The 600 MW of firm capacity contracts are all based on coal units which have a total cost that is higher than that of the Polk County combined cycle units. Similarly, the avoided combustion turbine unit has a higher total cost than the Polk County combined cycle units (coal units and combustion turbine units were rejected in the planning process to meet FPC's 1997 - 2000 needs because they resulted in higher costs than combined cycle units).

Exception: "The Recommended Order fails to acknowledge...the legislative mandate of Section 366.81, Florida Statutes, to liberally construe Section 403.519, Florida Statutes, in order to...'...encourage further development of cogeneration facilities...'" (p. 5) "These two legislative declarations

provide a presumption that firm cogeneration capacity is cost-effective and is to be preferred over utility construction. Concrete proof to the contrary must be presented before a certification of need for utility construction can be issued." (p. 8)

Staff Response:

- FICA's assertion that Section 366.81 of FEECA creates a rebuttable presumption that firm cogeneration capacity is cost effective and thus preferred over utility construction far exceeds a reasonable interpretation of the intent of FEECA. Section 366.81 states in pertinent part that:

> ss. 366.80-366.85 and 403.519 are to be liberally construed in order to meet the complex problems of reducing and controlling the growth rates of electric consumption and reducing the growth rates of weather-sensitive peak demand; increasing the overall efficiency and cost-effectiveness of electricity and natural gas production and use; encouraging further development of cogeneration facilities; and conserving expensive resources, particularly petroleum fuels.

In response to this legislative directive the Commission considers relevant cogeneration issues as a matter of course in utility need determination proceedings. The question of whether a utility has adequately explored and evaluated the availability of non-utility generation to meet projected capacity needs is a standard line of inquiry in the Commission's investigation of the cost-effectiveness of proposed utility generation projects, as it was in this case. (See Issue 20 at page 6 of the Recommended Order) This is the "liberal construction" of section 403.519 that is contemplated by section 366.81.

- FICA is asking the Commission to gamble with the reliability of FPC's system and jeopardize the economics of FPC's proposal based on the hope that suitable QFs will be there when the capacity is needed and the unsupported assumption that they would be more cost effective than utility construction.

Exception: As a matter of law, "QFs have no burden in this proceeding to present specific projects that will defer a utility's planned unit." (p. 18)

Staff Response:

- In her Recommended order the Hearing Officer did not impose an undue burden upon QF's. She simply found that no competent substantial evidence existed on the record that would allow her to find that site-specific, viable, cost-effective cogeneration projects were available to fill the identified need for additional capacity on FPC's system. Because that evidence did not exist she could not hold that FPC had not adequately explored the availability of non-utility generation

as a cost-effective alternative to construction of the proposed project.

- It is not possible to prove a negative, and therefore FPC was not required to demonstrate that no specific cost-effective cogeneration projects could replace the proposed project.

Exception: "Since the grounds for FPC's deliberate rejection of additional non-utility purchases have themselves been rejected, it is impossible and illogical to conclude that FPC had "reasonably" explored and evaluated non-utility generation." (p. 12)
Staff Response:
- This assertion is incorrect. As discussed in the Recommended Order, the Hearing Officer relied on grounds other than FPC's assertion that QFs cause "hidden costs" and FPC's assertion that QF projects cost more than utility projects. (See Recommended Order, pages 39 - 40)

Exception: "During the planning process, FPC evaluated two alternatives to construction: 1) additional conservation measures; and 2) additional purchases from utility sources. In contrast...FPC completely ignored additional non-utility purchases..." (p. 9)
Staff Response:
- Conservation and additional utility purchases were alternatives that FPC could quantify and, therefore, evaluate during the planning process. The record contained no proposals from non-utility generators which could be input into FPC's computer models. Therefore, it was not possible to evaluate such proposals. It is unrealistic for QFs to demand that utilities not be permitted to plan to meet their needs without evaluating non-utility purchases, when QFs did not provide purchase offers which FPC could evaluate.

Exception: Alleged Third error in the Recommended Order: "The Third error committed...is the finding...that FPC did, in fact adequately consider cogeneration as an alternative to the proposed units." (p. 2 - 3)
Staff Response:
- FICA's alleged Third error is similar to its alleged Second error in that FICA alleges that the planned Polk County units are not the most cost effective alternative because FPC did not adequately consider cogeneration. See previous discussions for Staff Response.

Site Issues

Exception: "nothing in the record suggests that FPC cannot simply purchase the land and reclaim it in accordance with established DNR requirements in preparation for eventual use as a construction site." (p. 4) "The record contains no evidence that FPC cannot

buy nor reclaim the property in preparation for eventual construction of generating units if the Polk County units are not certified at this time." (p. 16 - 17)

Staff Response:

- This exception is misleading in that it confuses reclamation of the site with preparation of the site. FPC must perform approximately $63.5 million of site preparation activities in excess of the reclamation activities required (and allowed) by the DNR. Most of these additional preparation activities relate to filling in the power block area. (Tr. 1058 - 1059) These site development activities--which will take approximately two years--may not be initiated until after FPC obtains certification of the site. Therefore, it is not possible for FPC to "simply purchase the land and reclaim it...in preparation for eventual use as a construction site" as FICA alleges. If FPC purchased the site and waited to obtain certification, the site would not be ready for construction at the needed time.
- Also, as discussed below, delays in certification of the units would jeopardize the development of a gas pipeline to the Polk County site.

Exception: "Other utilities have held sites for future use for many years and there is nothing in the record to suggest that FPC cannot do the same." (p. 17)

Staff Response:

- FICA did not provide any transcript references to support its assertion that other utilities have held sites for future use for many years. Nor did it provide transcript references which show that sites held by other utilities are comparable to FPC's proposed Polk County site.
- In addition, as discussed previously, FPC must obtain certification of the site before it starts the lengthy site preparation process.

Exception: "Neither the New Pipeline Nor the Polk County Site Materially Affect Any Criteria Under 403.519." (p. 17)

Staff Response:

- Regarding the Polk County Site, FICA's assertion that the purchase or use of a power plant site has no material relationship to the criteria for certification under 403.519 is incorrect. In making its determination of need, the Commission is required to "take into account ... the need for adequate electricity at a reasonable cost, and whether the proposed plant is the most cost-effective alternative available." (403.519, Florida Statutes) Adequate electricity at a reasonable cost cannot be provided without a power plant site at a reasonable cost. Issues regarding the site of the proposed power plant are an essential part of the Commission's determination of need proceedings. (Staff's response to the exception as it pertains to the natural gas pipeline is found in the "Natural Gas Issues" below.)

Natural Gas Issues

Exception: FICA's alleged Fourth error in the Recommended Order: "The principle error concerns the construction lead time of the natural gas pipeline. In spite of the fact that FPC's letter of intent with SunCoast Venture (Exhibit 28) indicates service to Anclote would begin in 1995 (three years in the future) the Recommended Order finds that a six to seven-year lead time is required (Finding of Fact No. 105)" (p. 4)
Staff Response:

- Exhibit 28 is a letter of intent that reduces to writing the agreement of several parties to proceed toward interrelated goals, one of which gives a date for service to Anclote and another, Paragraph 5, Pursuit of Regulatory Approvals. In Paragraph 5, SunCoast agrees to seek legislation to subject rates and services to regulation by this Commission. That would exempt the proposed pipeline from Federal Energy Regulatory Commission (FERC) jurisdiction. As a backup, SunCoast agrees in subparagraphs 5 (b) and 5 (c) to concurrently prepare an application to seek authority from the FERC to construct and operate an interstate natural gas pipeline. If the state legislative initiative fails, jurisdiction rests with the FERC, under the Natural Gas Act.

- The record, both in Mr. Waller's testimony (TR. 479 and 487-494) and Mr. Schlesinger's testimony (TR. 591, lines 6-15, p. 596, lines 13-18, p. 607, line 25 - p. 608, line 6) provides unrefuted testimony that refers to FERC authority and the FERC's approval timelines. This Commission is correct in considering the longer FERC timelines for approval of a gas pipeline, because the authority rests with the FERC under existing law.

Exception: "The pipeline is not jeopardized if the Polk units are not certified at this time." (p. 16)
Staff Response:

- FICA's comments related to the timing of the pipeline and the early delivery date to Anclote are incorrect for the reasons given in the discussion of the alleged fourth error in the Recommended Order. Early delivery of gas to the Anclote plant is a part of the agreement that includes changing Florida law. If that does not happen, the FERC has jurisdiction and the seven year lead time is supported adequately in the record.

Exception: Alleged Fifth error in the Recommended Order: "The Fifth error involves the conclusion that two of the Polk County units are needed to anchor a second gas pipeline into Florida. In fact, the findings in the order and the record itself show that FPC's planned conversion of Anclote, with a small amount of other firm load will be sufficient to anchor a new pipeline." (p. 5)
Staff Response:

- FICA's position appears to stem from combining Mr. Waller's testimony on necessary "anchor load" of one third to one-half of pipeline design capacity, (TR p. 503, line 19 - p 504. line 1) with the 400 million cubic feet per day (MMCFD) stated as the proposed design capacity in Exhibit 28, the letter of intent for the SunCoast Venture. It ignores the fact that Mr. Waller's agreement with Mr. Palecki's statement that the one-third to one-half generic decision guideline is "talking about a line of 600 million cubic feet per day" (TR 504, lines 2 - 4). The record is not clear that the same ratio, particularly the one-third limit, holds true on a pipeline of lower initial capacity.

- The proposed pipeline described in Exhibit 28 is a 36 inch pipeline, which meets Mr. Waller's definition of a large diameter pipeline "something in excess of 20 inches", which will cost an estimated $1 million per mile (TR 509, lines 19 - 21). The investment is approximately the same as a larger capacity line. It does not logically follow that an anchor load of only 1/3 of the design capacity would be sufficient to build the 400 MMCFD pipeline when the pipeline construction cost is not significantly lower than for the 600 MMCFD pipeline. It does logically follow that if 200 MMCFD is sufficient to serve as an anchor to support an estimated $600 million investment in a 600 MMCFD pipeline, then 200 MMCFD is a sufficient anchor to anchor a 400 MMCFD pipeline estimated to cost close to the same $600 million.

Exception: "The proposed pipeline can be anchored by FPC'S Anclote unit and other expected load" (p. 20) "The Hearing Officer's conclusion that two of FPC's units were needed to anchor the pipeline is clearly erroneous and cannot stand as a basis for certifying two units." (p. 21)
Staff Response:

- In its discussion, FICA refers to Finding of Fact 103 in the Recommended Order. That finding does not logically support that a 400 MMCFD pipeline will be built for an anchor load of 1/3 of the design capacity. This is fully discussed in response to the alleged fifth error in the Recommended Order. FICA's conclusion that only 13 MMCFD need be added to attract a pipeline gives credence only to the ratio of 1/3 of design capacity, not to the logic behind the economics discussed previously.

Exception: "The value of a second pipeline is completely unknown." (p. 15)
Staff Response:

- In transcript references provided by FICA (TR 442-443), Mr. Watsey states that the benefits have not been quantified, not that they are unknown as FICA asserts.

- FICA's assertion that FPC does not expect transportation price

concessions is irrelevant.

- FICA's statement that the Commission "... rejected FPC's Proposed Finding of Fact No. 238 that claim that a second pipeline would lead to lower prices (Recommended Order at page 104)." misrepresents the position taken in the Recommended Order and ignores evidence in the record that supports the benefits of competition. Proposed Finding of Fact 238 relates only to the transportation component of natural gas pricing. It is in the transportation component that the Recommended Order finds the record weak. The larger component of gas price is the commodity, itself -- the supply. Mr. Watsey's testimony discusses other strategic and operating benefits, some that give lower costs, including gas-to-gas competition at the wellhead (TR 437 lines 2-14).

Exception: "Neither the New Pipeline Nor the Polk County Site Materially Affect Any Criteria Under 403.519." (p. 17)
Staff Response:
- Regarding the pipeline, FICA's remarks that the construction and operation of a pipeline has no material relationship to the criteria for certification under 403.519 is incorrect. In making its determination of need, the Commission is required to "take into account ... the need for adequate electricity at a reasonable cost, and whether the proposed plant is the most cost-effective alternative available." (403.519, Florida Statutes) Adequate electricity at a reasonable cost cannot be provided without adequate fuel at a reasonable cost and it cannot be provided without fuel delivered to the generating site.

Exception: "The purpose (of the need determination process) is not to explore means of inducing new pipelines...." "... it is improper to venture so far afield into this wholly irrelevant realm." (p 18)
Staff Response:
- FICA is correct that "The purpose (of the need determination process) is not to explore means of inducing new pipelines...." FICA is wrong, however, when it continues, "... it is improper to venture so far afield into this wholly irrelevant realm." The Commission must be reasonably assured that adequate and reasonably priced fuel will be available to a proposed generating site before approving a need determination petition.

Response to FICA's Exceptions to the Findings of Fact

FICA's exception to Findings 6 and 7 is misleading. FPC included 150 MW of QF purchases that were not under contract; 70 MW of these purchases were not part of a standard offer.

FICA's exception to Finding 20 incorrectly characterizes the finding. Finding 20 simply states how self-service generation is considered in planning. It does not say that FPC has a program to encourage self-service generation.

FICA's exception to Finding 44 addresses the amount of contracted QF capacity. Finding 44 discusses FPC's units currently under construction and does not mention QF capacity.

FICA's exception to Finding 47 incorrectly characterizes the finding. Finding 47 does not address new purchases and it does not state that FPC is the State's largest purchaser of QF plus utility power.

FICA's exception to Finding 49 is misleading. The average discount from avoided cost in the 600 MW of firm capacity contracts was 1.79 percent (See Order 24734 at page 13); therefore, the Hearing Officer's Finding No. 49 is accurate. In addition, FICA's reference to a 12.5 percent discount refers only to capacity costs only and does not refer to total costs.

FICA's exception to Finding 50 mischaracterizes the finding. Finding 50 does not say or imply that the QF capacity incorporated is not under contract. This finding does not address new purchases.

Finding 65 is correct as stated. It identifies three methods of complying with the Clean Air Act: reduce loads, reduce emissions at existing plants, or build new plants so existing plants are used less. The Finding does not limit "built new plants" to utility-only plants as FICA claims.

Findings 69 and 78 are in the same document and will be considered together. It is inadvisable and unnecessary to combine these findings since Finding 78 should be considered along with other findings as well.

Finding 70 refers to two specific purchased power options, and does not imply a general consideration.

Finding 74 simply states FPC's expected capacity factor if its identified need is not met. This finding does not imply that there are no other methods of meeting the need. In addition, the Finding does not mention FPC's minimum reserve margin criteria--even if it did, it is not necessary to mention the date that it was adopted, since it was not material to the decision in this case.

Finding 77 does not have to say that the figure is not significant because Finding 78 is in the same document and these findings will be read together. In addition, Finding 77 implies that the figure is insignificant because it says, "[t]his represents an expected increase of 0.007 percent."

Finding 84 is supported by competent, substantial evidence; it speaks to the fuel diversity of the Polk County units. It does not say, nor does it imply, that QFs would not provide fuel diversity.

In its exceptions to Findings of Fact Nos. 85, 86 and 87, FICA states that "the record suggests FPC's planning department tampered with or influenced their fuel forecast expert to reduce his 'high-case' forecast." FICA gives no transcript references or otherwise explains the source in the record of this suggestion of tampering or influence. For purposes of these comments, Staff assumes Mr. Sexton refers to his cross-examination of Mr. Williams, in which Mr. Williams explained the decision analysis technique used by FPC. According to Mr. Williams, in that process interviewers ask questions such as, "if you would win a car if you were right, would you bet that ... " (TR 547, lines 20-21). The record there indicates that, rather than tampering with or influencing the forecast, or making an attempt to reduce the high forecast as alleged by FICA, the process was used to expose any unconscious biases that might be skewing Mr. Williams' forecast. Mr. Williams stated, "... through the interview process, they brought out that my underlying thoughts had a bias in them...." (TR 548, lines 17-19) Mr. Schlesinger, in response to a question by Mr. Palecki that appeared to have been asked at least partly in jest, confirmed that he had participated in a number of interview processes like that used to uncover Mr. Williams inherent biases and that it is a legitimate process. (TR 611, lines 17-25)

In its exception to Finding 90, FICA states that this finding ignores Exhibit 28, "... which is in fact a letter of intent for the transportation segment of fuel supply for the Polk units..." [emphasis added]. Finding of Fact 90 refers to gas supply contracts, which are contracts for the gas, the commodity itself. The finding of fact is correct as stated.

In its exception to Finding 91, FICA states, "[t]his finding, as it relates to Florida being served by only one pipeline, is completely irrelevant to this proceeding. The Commission cannot certify the need for a power plant based on the need for a pipeline unless perhaps the entire pipeline is considered an associated facility of the Polk County project." The existing gas transportation grid is relevant. See the discussion under the above response to FICA's statement: "Neither the New Pipeline Nor the Polk County Site Materially Affect Any Criteria Under 403.519." Regarding FICA's statement, "[t]he Commission cannot certify the need for a power plant based on the need for a pipeline...": The Recommended Order is not certifying need on that basis, but it is also not ignoring

information relevant to the need finding.

In FICA's exception to Finding 95, FICA states, "This finding is incomplete. It provides an update of many facts based on the Letter of Intent but it omits the fact that the Anclote unit will be served by the new pipeline beginning in 1995." The 1995 service to FPC's Anclote unit is not relevant. This issue is thoroughly discussed in Staff's response to FICA's alleged fourth error in the Recommended Order. This finding of fact is correct and it is complete because it includes all points intended for inclusion.

In its exception to Finding 96, FICA alleges, "This finding is based on an ex parte communication of FPC after hearing which is not record evidence and cannot be part of any late-filed exhibit. Therefore, this finding must be stricken." This finding is supported by the record. FICA's allegation of ex-parte communication is improper, unsupported and absolutely false. The finding is a conclusion drawn from two facts clearly in the record; 1) FPC's original Option B was an FGT extension and 2) FPC abandoned that option, agreeing in the letter of intent, Paragraph 6, Exclusive Negotiations, "FPC shall not negotiate or enter into any other agreements for the transportation or delivery service contemplated by Section 4 above." To then conclude that FGT had presented FPC with a better offer would take a leap of (ill)faith and a preponderance of poor judgement. The finding of fact simply states the conclusion as a fact. As to whether ex parte communication took place, this finding of fact was accepted as FPC's Proposed Finding of Fact 234, which is a part of the record.

FICA questions the complete accuracy of Finding 98 and states that it appears inconsistent with the ruling on FPC's Proposed Finding of Fact No. 238. The first sentence of this finding quotes the unrefuted record of what has been FPC's experience. The second states what could happen, and is not a statement of what will happen. FPC's Proposed Finding of Fact No. 238 was rejected because it stated future events as a fact, using the word "will" as if future events were an absolute, rather than a prediction.

In its exception to Finding 105, FICA states, "This finding is incorrect. The Letter of Intent with Suncoast shows that the lead time of a new pipeline is approximately 3 years. In fact, Suncoast proposes to begin deliveries to Anclote in 1995." See Staff response to alleged fourth error in Recommended Order.

FICA's exception to Finding 106 is essentially the same as for Finding 105. See Staff response to alleged fourth error in Recommended Order.

FICA's exception to Finding 119 incorrectly characterizes the Finding. Finding 119 simply reiterates Witness Abrams' testimony regarding the quantitative analysis Duff & Phelps employs when evaluating the financial impact of purchased power contracts.

Findings 109 - 121 clearly indicate that the Commission recognizes that a complete analysis of the financial impact of purchased power contracts requires consideration of both quantitative and qualitative factors in relation to the utility's total financial posture.

FICA's exception to Finding 131 incorrectly characterizes the Finding. Finding 131 does not imply that a reduction in cash flow will have a negative effect on credit quality as claimed by FICA. While the Commission agrees that Finding 131 implies a more significant reduction in cash flow than probably would be realized on a marginal basis, the Finding makes no reference to how this would impact credit quality.

FICA's exception to Finding 132 is supported by the record in part. The Finding as stated implies that there are only two ways of compensating for the financial consequences of increased purchased power obligations. However, in addition to the two methods cited in the Finding, a utility could also compensate for the financial consequences of acquiring this type of capacity if regulatory treatment of purchased power obligations is modified to allow the utility the opportunity to earn a return on this capacity. (See Issue 1 for Staff Proposed Wording for Finding 132) However, while the Commission does agree that Finding 132 is incomplete as stated, it does not agree with FICA's claim that the Finding is misleading. Findings 113, 118, 120, and 121 clearly indicate that the Commission recognizes that financial ratios can move within ranges without affecting the credit rating and that the credit rating agencies will weigh both the risks and benefits of purchased power capacity when assessing the impact on a utility's creditworthiness.

In FICA's exception to Finding 141, FICA states, "[t]his finding is misleading and incomplete. FPC needs not only a gas lateral, it also needs a 560 mile natural gas transportation pipeline..." This finding is neither misleading nor incomplete. FPC will have to build a lateral, as stated in the finding of fact. The 560 mile pipeline referred to by FICA is not an associated facility to be permitted in this case. It will likely be built by someone else. FPC may choose to be an equity participant in the pipeline, or it may not, but the 560 mile pipeline is not an associated facility on or near the site.

In its exception to Finding 142, FICA states, "[t]his finding is misleading in that it assumes the natural gas pipeline will be built. If it is not, FPC will require many millions of gallons of distillate storage or other facilities to fuel the project." To the contrary, it would be incorrect to assume that a gas pipeline will not be built. At page 42 of the Recommended Order, Recommendation B is to grant "the Petition for Determination of Need for the first two proposed Polk County Units..." Those units, as proposed, are fired with natural gas as the primary fuel and FPC states it intends to seek final certification to construct the Polk

County Units as natural gas fired units. (Petition to determine Need for Electrical Power Plant, paragraph 6.) If the gas is not available, FPC does not have certification.

Finding 147 is correct in that it states that the combined cycle technology provides fuel diversity. It does not state that the combined cycle technology provides the most fuel diversity of any conceivable option.

In its exception to Finding 150, FICA states, "... if natural gas is not available, due to lack of a pipeline ... firing the proposed units on distillate fuel would make them the most expensive of the 10 alternatives evaluated by FPC" See Staff response to Finding of Fact No. 142.

FICA's exception to Finding 156 mischaracterizes the finding. Finding 156 implies that no other capacity resources are employed. Otherwise, the capacity resources that were employed would be identified in the finding.

Finding 157 addresses the strategic flexibility provided by the Polk County units and does not address other options, nor does it need to address other options.

FICA's exception to Finding 158 is in error in that it assumes that it would be prudent for FPC to purchase and develop the Polk County site with no plans for certification or construction on the site.

Response to FICA's Exceptions to the Rulings on FPC's Proposed Findings of Fact

Proposed Finding 9: see response to exception of Finding 6.

Proposed Finding 13: see response to exception of Finding 7.

FICA's exception to Proposed Finding 61 is factually correct, but the proposed finding is not a description of Rule 25-17.008 F.A.C.; it merely recounts the results of the process, and describes the purposes of the tests.

FICA's exception to Proposed Finding 72 points out a typing error, as "...efficiency reductions..." should be replaced with "...efficiency improvements..."

Proposed Finding 82: see response to exception of Finding 47.

Proposed Finding 83: Since this finding was supported by competent, substantial evidence, it was accepted. But it was not included in the Recommended Order because it was duplicative.

FICA misinterpreted FPC's Proposed Finding 84. The finding does not imply that the QF capacity is intended to avoid the Polk County unit. Also, given that the hearing occurred in 1991, it would be logical to conclude that the contracts were not signed between 1992 and 1996; rather, the in-service dates of the contracts are between 1992 and 1996.

Proposed Finding 85: see response to exception of Finding 50.

FPC's proposed finding 101 was supported by competent, substantial evidence. It does not imply that FPC's reserve margin criteria was never different from 15%.

Proposed Finding 105: see response to exception of Finding 74.

Proposed Finding 111 was rejected by the Hearing Officer.

Proposed Finding 113 was not accepted as stated. See response to exception of Finding 69.

Proposed Finding 114 was not accepted as stated. See response to exception of Finding 70.

Proposed Finding 115 was not accepted as stated. However, FICA's discussion is not relevant since the proposed finding does not mention Alternative 3.

Proposed Finding 116 was not accepted as stated. There is no competent and substantial evidence in the record that there is a more cost-effective alternative than Alternative 3.

Proposed Finding 118 was not accepted as stated. However, FICA's exception is flawed since the proposed finding does not assume that FPC will construct the capacity. The proposed finding merely states the type and amount of capacity that will be needed, should the 500 kV line not be constructed.

Proposed Finding 124 was not included in the Recommended Order because it is duplicative in substance to Finding 84. See response to exception of Finding 84.

Proposed Finding 128: See response to Finding 65.

Proposed Finding 131 was not accepted as stated. FICA's exception is flawed because the proposed finding does not state or imply that there are no other ways of complying with the Clean Air Act.

Proposed Finding 135 is not included in the Recommended Order. FICA misread the proposed finding--it does not claim to have control over uncontrollable variables.

Proposed Finding 136 is not included in the Recommended Order. FICA's exception to its acceptance is flawed because the proposed finding does not mention Clean Air compliance levels.

Proposed Finding 140 is not included in the Recommended Order. The proposed finding only discusses the contingency fee that turnkey operators charge. It does not need to address the traditional utility approach.

Proposed Finding 144 is not included in the Recommended Order because it is immaterial to the decision in this case. However, the proposed finding is supported by competent, substantial evidence in the record.

Proposed Finding 152 does not address investment in a pipeline; it only addresses the construction of the Polk County units. Therefore, the financial impacts of investing in a pipeline are not appropriately considered in this finding.

Proposed Finding 153 was not accepted as stated. The proposed finding says that FPC can finance the investments in its Integrated Resource Study. The pipeline is not in the study. Therefore, the financial impacts of investing in a pipeline are not appropriately considered in this finding.

Proposed Finding 155 is not duplicative of Finding 118 since Finding 118 considers the benefits of purchased power, not the risks of purchased power. Proposed Finding 155 considers the risks.

Proposed Finding 165: See response to exception of Finding 131.

Proposed Finding 172 was not included in the Recommended Order. However, it is supported by competent, substantial evidence. Contrary to FICA's exception, it is not necessary to discontinue programs to control the costs of conservation.

Proposed Finding 181 was not included in the Recommended Order. However, payments to QFs are guaranteed to the extent that the utility has a contractual commitment to pay the QF as long as the QF performs.

Proposed Finding 185: See response to exception of Finding 132.

The ruling on Proposed Finding 188 does reject the last sentence.

Proposed Finding 189 is not included in the Recommended Order. The ruling to reject this Finding is based on the language in Exhibit 11 which expressly states a range of 10% to 50%. (Ex 11, p. 7) It would be speculative to conclude at this time, based on the very limited presentation on the S&P methodology in Exhibit 18, that the lower limit is 0% rather than 10%.

Proposed Finding 191 is not included in the Recommended Order. However, while the Proposed Finding is not material to the ultimate decision in this case, it is supported by the record. This Proposed Finding states that as fixed charges go up, absent additional revenue, coverage ratios will go down. Contrary to FICA's claim, this Proposed Finding is not in error and does not imply that coverage ratios cannot move within an acceptable range without affecting credit quality. Furthermore, Finding 113 indicates that the Commission recognizes that coverage and capitalization ratios may move somewhat within ranges without impacting the credit rating of a utility.

Proposed Finding 192 is not included in the Recommended Order. However, while the Proposed Finding is not material to the ultimate decision in this case, it is supported by the record. Despite FICA's arguments to the contrary, companies do make capital structure decisions based on stockholders', rating agencies', regulatory commissions', and managements' perceptions of the trade off between risk and return with respect to coverage ratios, capitalization ratios, and the overall cost of capital.

Proposed Finding 196 is not included in the Recommended Order. However, it is supported by competent, substantial evidence. The proposed finding need not address what factors rating agencies consider.

Proposed Finding 202: See response to exception of Finding 49.

Proposed Finding 206 was not accepted as stated. See response to exception of Finding 20.

Proposed Finding 209 was not included in the Recommended Order. However, it is supported by competent, substantial evidence. FICA's exception is in error because the proposed finding does not mention conservation or the financial risk of conservation.

Proposed Finding 214 was not accepted as stated. See response to exception of Finding 84.

Proposed Finding 227 was accepted by the Hearing Officer and is included as Finding 91. FICA is incorrect in listing this Proposed Finding of Fact with the group deemed not material.

Proposed Finding 234: See response to exception of Finding 96.

Proposed Finding 237: See response to exception of Finding 98.

Proposed Finding 247 was rejected by the Hearing Officer. However, Staff disagrees with FICA's statement regarding the pipeline lead time. See Staff response to alleged Fourth error regarding construction lead time for the pipeline.

Proposed Findings 255 and 256: FICA's exception to these proposed findings is essentially the same as its exception for Finding of Fact No. 105. See Staff response to alleged Fourth error regarding construction lead time for pipeline.

Proposed Findings 258 and 260: Proposed Finding of Fact No. 258 and 260 are essentially the same as Findings of Fact Nos. 85, 86 and 87. See Staff response to Findings of Fact Nos. 85, 86 and 87.

Proposed Finding 262 was not accepted as stated. The proposed finding refers to the analysis in the Integrated Resource Study which compared the ten options. Finding 62 in the Recommended Order lists the plans considered in the Integrated Resource Study. Also, see response to exception of Finding 69.

Proposed Finding 266 was not accepted as stated. See responses to exceptions of Findings 142 and 150.

Proposed Findings 267 and 269 were not accepted as stated. However, FICA's exceptions to the proposed findings are in error because the proposed findings do not say or imply that the same benefit would not accrue from QF purchases. And they do not need to say that the same benefit would accrue since the need determination is for the Polk County units, and not for a QF.

Proposed Finding 272 does not need to mention QFs. It compares two generation technologies.

FICA's exception to proposed finding 278 is flawed because it assumes that FPC would be prudent to purchase a site and incur the expense to divert the clay even if it has no plans to certify or

construct on the site.

Proposed Finding 286 does not say or imply that QFs could not provide the same benefit. And it does not need to say that the same benefit would accrue since the need determination is for the Polk County units, and not for a QF.

Proposed Finding 291: See response to exception of Finding 77.

Proposed Finding 293: See response to exception of Finding 156.

Proposed Finding 293 was rejected by the Hearing Officer.

Proposed Finding 294: See response to exception of Finding 157.

Proposed Findings 25, 30, 31, 32, 38, 40, 44, 46, 47, 49, 55, 60, 61, 63, 64, 65, 71, 72, 73, 74, 75, 87, 88, 122, 129, 133, 134, 135, 136, 144, 146, 149, 150, 151, 168, 171, 176, 179, 180, 181, 184, 186, 187, 192, 196, 209, and 218 were supported by competent substantial evidence in the record and were, therefore, accepted. They were not included in the Recommended Order because they were not material to the decision in this case. It is not necessary to reject such findings.

Response to Destec's Exceptions to the Conclusions of Law

Exception: Destec objects to the Hearing Officer's finding that "[s]ince no non-utility projects were proposed in this docket, I have no assurance that a bid would be successful." Destec seems to argue that FPC should be required to bid. (p. 2)
Staff Response:
- As discussed in the Recommended Order, in this case, delaying the need determination for a bidding proceeding would have detrimental effects.
- Destec's implication that a bid would be successful, just because previous bids were successful is flawed. The timing and costs of this bid would be different from previous bids. Also, Destec agrees that "[t]here is nothing in the record which defines what any QF or IPP could or could not do..." That is the point that the Hearing Officer made in the Recommended Order.
- See also Staff response to FICA's alleged Second error.

Exception: "With regards to the ability of FPC to develop the site for future generation, what is to stop FPC from buying the property and 'sitting on it' until some later date?" (p. 3)
Staff Response:
- Site development must begin in a timely manner so that the site will be ready for construction when it is needed. Site development activities not included in the reclamation plan may not take place until after the units are certified.
- There is no evidence in the record that the current DNR reclamation plan is consistent with FPC's needs for site preparation. It would be a liability for FPC to purchase the land with a mandatory reclamation order if it had no concrete plans to construct and certify the property.
- Also, FPC's avoided costs would be reduced to exclude the costs of land acquisition and preparation if FPC were to purchase and prepare the land.

Exception: "If a QF had a signed contract with FPC, it would be willing to sign the necessary commitment letter with the...Suncoast Venture." (p. 3)
Staff Response:
- Destec's statement is pure speculation that is not supported by competent substantial evidence in the record. The record does not support the conclusion that a suitable QF will burn gas, or that its location will be suitable. If FPC did put these constraints on QFs, the probability of having a successful bid would be reduced.

Exception: "Further, Section 403.519, F. S., gives the Commission the authority to take into account 'other matters within the Commission's jurisdiction which it deems relevant' in evaluating the need for proposed power plants. Natural gas pipelines are not within the Commission's jurisdiction." (p. 3)

Staff Response:

- Although they are not within the Commission's jurisdiction, construction and operation of a pipeline have a material relationship to certification under 403.519. In making its determination of need, the Commission is required to "take into account ... the need for adequate electricity at a reasonable cost, and whether the proposed plant is the most cost-effective alternative available." (Section 403.519, Florida Statutes) Adequate fuel at a reasonable cost must be available at the generating site to produce adequate electricity at reasonable cost.

- Further, generating fuel costs and the mix of fuels used in electric generation in Florida are within the Commission's jurisdiction and are relevant. The Recommended Order should not and does not make a determination of need based solely on additional gas pipeline capacity, but neither does the Recommended Order ignore the very relevant matter of generating fuel mix and fuel availability.

Exception: "Destec disagrees with the statement...that the issue of whether FPC should be held to the same cost and performance standards as that of QFs is beyond the scope of this docket." (p. 3 - 4)

Staff Response:

- As discussed in the Recommended Order, issues related to the recovery of costs incurred in constructing power plants are considered in a utility's rate case. If Destec is asking that the Commission change its regulatory policy to require utilities to be held to the same cost and performance standards as that of QFs, this would have to be done in a rulemaking.

Response to Destec's Exceptions to the Findings of Fact

Findings 48 and 50 are not redundant because one deals with the amount of QF capacity that is contracted and the other deals with how FPC modeled QF capacity in its planning. Exhibit 102 shows that FPC included 918.5 MW of QF capacity as a base assumption in its plan.

Finding 77 implies that sulfur dioxide emissions would be higher "if all other parameters stayed the same". Otherwise, the finding would identify the parameters that were changed.

Destec's exception to Finding 132 in the Recommended Order (FPC's proposed Finding 185) is supported by the record. The Finding as stated implies that there are only two ways of compensating for the financial consequences of increased purchased power obligations. However, in addition to the two methods cited in the Finding, a utility could also compensate for the financial consequences of acquiring this type of capacity if regulatory treatment of purchased power obligations is modified to allow the utility the opportunity to earn a return on this capacity.

Response to FRG's Exceptions to the Conclusions of Law

Exception: "the Company's claim that its integrated planning process determines the optimum amount of DSM, are (sic.) unsupported by the evidence on the record unless the Commission is prepared to rule that the optimum amount of DSM necessarily excludes measures that fail the RIM test..." (p. 1)

Staff Response:

- In Docket No. 891324-EU, the Commission revised its rules on the format for reporting cost-effectiveness data for conservation and self-service generation. The Commission approved the use of the Rate Impact Test (RIM), the Participants Test, and the Total Resource Test for the reporting of cost-effectiveness data for any demand side program proposed by an electric utility for approval by the Commission. FRG is arguing that the Commission violate its own rules and deny the use of the RIM test in favor of the Total Resource Test.
- Under FEECA, the Commission has authorization from the Legislature to require each utility to develop plans and implement programs for increasing energy efficiency and conservation. Florida Power's conservation plan was approved with modification in September 1990. Florida Power's existing plan complies with its approved conservation plan. In fact, FPC has expanded its programs to acquire additional conservation as part of its Integrated Resource Study. Denying FPC's need on the grounds of inadequate conservation would be unfair, given the fact that FPC is complying with its approved conservation plan.

Exception: "...FPC's claim that its analyses show that the Polk County units are 'the lowest cost and lowest risk option,' is not supported by the record unless the Commission rules that only supply-side options should be considered in making cost and risk comparisons." (p. 2)

Staff Response:

- The Polk County units are the lowest cost and lowest risk option, as found by the Hearing Officer. FPC, in its planning process, determined the amount of its need that could be met through other sources, including DSM, then evaluated the appropriate generation source. This exception requires a statement of policy which is outside the purview of this proceeding.
- FRG would have the Commission deny FPC's entire need based on the "hope" that cost-effective conservation would materialize. However, FRG acknowledges that "the evidence in this case does not support a judgement that all of the proposed new capacity could be replaced by lower cost DSM..." (p. 3). The Hearing Officer did not recommend approval of all of the proposed capacity. Staff believes that the Hearing Officer has taken a fair and optimal approach in approving the first half of FPC's identified need and requiring FPC to file an updated

conservation plan at least one year prior to requesting certification of the remaining two Polk County units. In taking this approach, the Hearing Officer is ensuring that FPC has adequate capacity to meet its 1998-1999 needs while leaving room for additional cost-effective conservation to defer the last two units.

Exception: "The proposed ruling at the top of page 41, that Florida law does not require a utility 'to examine and use all reasonably available conservation measures that might mitigate the need for the proposed plant,' is contrary to the intent of 403.519, F.S. ..." (p. 3)
Staff Response:

- The Hearing Officer's ruling is not contrary to the intent of section 403.519, Florida Statutes. It is consistent with the clear language of the statute which states that:

> In making its determination the Commission shall take into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, and whether the proposed plant is the most cost-effective alternative available. The commission shall also expressly consider the conservation measures taken by or reasonably available to the applicant or its members that might mitigate the need for the proposed plant. . .

If the legislature intended to require a utility to use all reasonably available conservation measures that might mitigate the need for a proposed plant it would have used that language in the statute. The Hearing Officer's ruling is not contrary to the intent of section 403.519, Florida Statutes. Had the legislature intended for a utility to use all reasonably available conservation measures that might mitigate the need for a proposed plant, it would have used that language in the statute.

Exception: "...there is substantial evidence on the record regarding cost-effective conservation programs, measures and end-uses that are not being implemented by FPC (TR 1321-1322 & 1333-1335), and these include the TRC (Total Resource Test) cost-effective measures that FPC admitted were eliminated solely for failure to pass the RIM (Rate Impact Test)." (p. 5)
Staff Response:

- The Commission does not have a rule or policy on how a utility should screen DSM programs. The Commission directs utilities on how to evaluate programs that they propose for approval by the Commission. The hearing officer found that Florida Power is taking those conservation measures reasonably available to it.
- Also, see previous discussions regarding the fact that the

Hearing Officer is providing an opportunity for cost-effective conservation to defer or avoid the construction of the last two units.

Exception: "There is additional evidence on the inadequacies of several of FPC's current program designs (TR 1342-1357)." (p. 5)
Staff Response:

- The Hearing officer considered the testimony of Mr. Chernick regarding his assertions concerning the inadequacies of FPC's programs in making the finding that Florida Power is taking those conservation measures reasonably available to it and in requiring FPC to submit its conservation plan prior to requesting certification of the remaining Polk County units.

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