

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Joint petition for determination)
of need for proposed electrical power) DOCKET NO. 900709-EQ
plant and related facilities, Indiantown) ORDER NO. 24042
Project, by FLORIDA POWER & LIGHT COMPANY) ISSUED: 1/29/91
and INDIANTOWN COGENERATION, L.P.)
_____)

RECOMMENDED ORDER

Pursuant to notice, a formal hearing was held in this docket before the Florida Public Service Commission (Commission) by its duly designated Hearing Officer, Commissioner Michael Mck. Wilson, on December 5, 1990, in Tallahassee, Florida.

APPEARANCES

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On behalf of Florida Power & Light Company

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On behalf of Indiantown Cogeneration, L.P.

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On behalf of Florida Municipal Power Agency

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On behalf of Nassau Power Corporation

DOCUMENT NUMBER DATE

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SO-RECORDS/REPORTING

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BACKGROUND

On August 21, 1990, Florida Power and Light Company (FPL) and Indiantown Cogeneration L.P. (ICL) filed a Joint Petition for a Determination of Need for a proposed electrical power plant and related facilities to be located in Martin County, Florida, pursuant to Section 403.519, Florida Statutes, and Rule 25-22.081, F.A.C. The proposed facility, known as the Indiantown Project, will be located near Indiantown, Florida and will be owned and operated by ICL. The net electrical power from the facility will be sold to FPL pursuant to an Agreement For The Purchase of Firm Capacity and Energy between Indiantown Cogeneration, L.P. and Florida Power & Light Company, dated May 21, 1990 and amended December 5, 1990 (the "Power Sales Agreement"). The proposed unit has a projected in-service date of December 1, 1995. On August 29, 1990, FPL filed a petition pursuant to Rules 25-17.080 through 25-17.091, Florida Administrative Code, seeking approval of the Power Sales Agreement. On October 25, 1990, ICL was granted permission to intervene in the docket concerning approval of the Power Sales Agreement. By Order, the two dockets were consolidated for purposes of discovery and hearing.

The Florida Municipal Power Agency (FMPA), a wholesale customer of FPL, sought and was granted intervention in this docket. Air Products and Chemicals, Inc. initially sought intervention but later withdrew its request. At the prehearing conference held pursuant to notice on November 27, 1990, Nassau Power Corporation (Nassau), a company which had tendered an executed standard offer power sales contract to FPL on June 13, 1990, was granted intervention in this docket. At the outset of the final hearing, Nassau withdrew its intervention.

At the final hearing, ICL presented the testimony of Joseph P. Kearney, President and Chief Executive Officer of ICL and of PG&E-Bechtel Generating Company; Stephen A. Sorrentino, Project Development Manager for PG&E-Bechtel Generating Company with

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overall responsibility for managing the development of the Indiantown Project; and John R. Cooper, Vice President -- Finance of PG&E-Bechtel Generating Company. FPL presented the testimony of G.R. Cepero, FPL's Director of Bulk Power Markets, and Samuel S. Waters, FPL's Manager of Power Supply Planning. No other party presented any testimony. Petitioners offered Exhibits 2 through 18, Exhibits 20 through 25, and Exhibits 27 through 30, which were received into evidence. The Commission Staff offered Exhibits 1 and 31, which were received into evidence. The Hearing Officer requested Late-Filed Exhibits 19 and 26, which were filed subsequent to the hearing and received into evidence without objection.

The transcript of the hearing (2 volumes) was filed on December 7, 1990. Florida Power and Light Company filed a Post-Hearing Statement on December 21, 1990. ICL filed a Proposed Recommended Order and a Post-Hearing Statement on December 21, 1990. A ruling on each proposed finding of fact in ICL's Proposed Recommended Order has been made in the Appendix attached to this Recommended Order.

ISSUES

The ultimate issue in this proceeding is whether the Joint 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 reasonable available to the applicant (in this case FPL) which might mitigate the need for the proposed power plant, and
- (5) other matters within the Commission's determination which it deems relevant.

At the Prehearing Conference the parties identified seventeen issues for resolution in this proceeding. They are:

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- ISSUE 1: Has ICL provided sufficient information on the site, technology and status of project development of the Indiantown Project to enable the Commission to evaluate its proposal?
- ISSUE 2: Are the reliability criteria used by FPL to determine its need for 270-330 MW of capacity in 1996 to be satisfied by the proposed Indiantown Project reasonably adequate for planning purposes?
- ISSUE 3: Is the load forecast used by FPL to determine its need for 270-330 MW of capacity in 1996 to be satisfied by the proposed Indiantown Project reasonably adequate for planning purposes?
- ISSUE 4: Does FPL, as an individual utility interconnected with the statewide grid, exhibit a need for additional capacity in 1996?
- ISSUE 5: Does FPL, as an individual utility interconnected with the statewide grid, have a need by 1996 for the additional 270-330 MW of capacity represented by the Indiantown Project?
- ISSUE 6: Are there any adverse consequences to FPL and its customers if the proposed Indiantown Project is not completed in the approximate time frame provided in the power purchase agreement with ICL?
- ISSUE 7: Would the proposed Indiantown Project and the purchase of power pursuant to the ICL/FPL contract contribute to the reliability and integrity of FPL's electric system?
- ISSUE 8: Would the proposed Indiantown Project and the proposed purchased power agreement between ICL and FPL reliably provide electricity to FPL at a reasonable cost to assist FPL in providing reliable service to its customers?
- ISSUE 9: Is the fuel price forecast used by FPL to compare power supply alternatives reasonable for planning purposes?
- ISSUE 10: Does ICL's fuel selection and fuel procurement plan provide adequate assurances regarding the availability of fuel for the Indiantown Project?

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- ISSUE 11: Will the Indiantown Project contribute toward maintaining adequate fuel diversity for FPL's system?
- ISSUE 12: Has FPL reasonably considered alternative supply side sources of capacity?
- ISSUE 13: Is the Indiantown Project and the purchased power agreement between ICL and FPL the most cost-effective means of meeting 270-330 MW of FPL's 1996 capacity need, taking into account risk factors that are part of the cost-effectiveness analysis?
- ISSUE 14: Did FPL's power supply plan reasonably consider the ability of conservation or other demand side alternatives to mitigate the need by 1996 for the capacity represented by the Indiantown Project?
- ISSUE 15: What off-site associated facilities are required in connection with the development of the Indiantown Project?
- ISSUE 16: Is the capacity to be provided by the Indiantown Project reasonably consistent with the needs of Peninsular Florida, taking into consideration timing, impacts on the reliability and integrity of the Peninsular Florida grid, cost, fuel diversity and other relevant factors?
- ISSUE 17: Based on the resolution of the above issues, should the joint petition of ICL and FPL for determination of need for the Indiantown Project be granted?

While these issues encompass a somewhat greater range of topics than the explicit language of section 403.519, Florida Statutes, that statute also permits consideration by the Commission of "other matters within its jurisdiction." By addressing these issues the parties have provided the Hearing Officer with substantial competent evidence to make the following Findings of Fact.

FINDINGS OF FACT

1. FPL is a public utility regulated by the Commission. FPL's service area spans 35 Florida counties and contains approximately 27,650 square miles with a population of approximately 5.9 million.

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2. (a) ICL is a limited partnership formed as the vehicle for PG&E-Bechtel Generating Company to construct, own and operate the Indiantown Project. ICL's general partners are Toyan Enterprises, a wholly-owned subsidiary of PG&E Generating Company, and Palm Power Corporation, a wholly-owned subsidiary of Bechtel Generating Company. PG&E Generating Company is also a limited partner of ICL. Additional limited partners may be admitted at a later date.

(b) PG&E-Bechtel Generating Company is a general partnership between PG&E Generating Company and Bechtel Generating Company. PG&E Generating Company is a subsidiary of PG&E Enterprises, which in turn is a subsidiary of Pacific Gas & Electric Company. Bechtel Generating Company is a subsidiary of Bechtel Enterprises, which in turn is a wholly-owned subsidiary of Bechtel Group, Inc., one of the largest engineering, construction and development companies in the world.

3. The planned Indiantown Project is to be a 270-330 MW, coal-fired cogeneration facility to be located in southwestern Martin County, Florida, about three miles northwest of Indiantown, Florida, nine miles east of Lake Okeechobee. The projected commercial operation date for the plant is December 1, 1995.

4. The plant site is adjacent to the Caulkins citrus processing plant, an abandoned Florida Steel facility, and vacant land zoned for industrial use. State Road 710 and the CSX Railroad line are adjacent to the northern boundary of the site.

5. The site for the Indiantown Project consists of two parcels of land totaling approximately 325 acres. ICL has exclusive three year options to purchase these parcels.

6. The site is adjacent to the project's proposed steam customer and has direct access to the CSX rail system and State Road 710.

7. FPL's existing Martin-Indiantown 230 kV transmission line traverses the plant site.

8. Load flow studies show that the plant can be efficiently integrated into the existing bulk power system by interconnection with that transmission line.

9. No new off-site transmission lines would be required to integrate this facility into FPL's system.

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10. The site is located close to FPL's load center. Because of that location, it is not expected to experience any significant transmission losses.

11. The project's location will contribute to FPL's system reliability and integrity.

12. The project will have no negative impact on FPL's ability to obtain emergency assistance from the utilities with which it is interconnected.

13. There is no capacity penalty associated with the project's location. In other words, every 100 megawatts of capacity from the Indiantown Project will provide 100 megawatts of reliability benefit to FPL.

14. The facility will consist of a single pulverized coal boiler, a steam turbine generator, and associated equipment. This is a well established and reliable electric generating technology.

15. The plant will be designed to comply with all applicable environmental standards. The known provisions of the recently enacted Clean Air Act Amendments will have no significant impact on the facility. The facility is exempt from the acid deposition control provisions of these amendments because the Power Sales Agreement for the facility was signed on May 21, 1990, well in advance of the effective date of the law. The more stringent limitations established by the amendments for facilities located in "nonattainment areas" also will not apply to the Indiantown Project, since it is located in an area which is presently designated as an "attainment area" for all pollutants for which national ambient air quality standards have been established.

16. The amendments to the Clean Air Act contain provisions which confer additional rulemaking authority on the Federal Environmental Protection Agency and the State of Florida, Department of Environmental Regulation. To date, no rules have been adopted which would impact the proposed facility.

17. The plant will burn approximately one million tons per year of coal. Coal will be obtained from one or more coal suppliers in the Southern Appalachian coal region. Coal is a domestically-sourced, readily available fuel with a history of stable pricing. These factors reduce the potential of supply interruptions and significant fuel price increases, and result in a stable and secure fuel supply.

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18. The contract requires that at least 50% of the plant's coal requirements be purchased under long term contracts, with the remainder to be obtained by either long term contracts or spot purchases.

19. ICL has obtained preliminary expressions of interest from a number of potential fuel suppliers, and ICL's affiliates have recent experience in coal acquisition for similar facilities.

20. ICL will maintain approximately a seven day fuel inventory in active storage, with an additional 30 days' supply in an emergency coal pile.

21. The site has the physical capability of accommodating a larger coal inventory if conditions warrant increasing the amount of coal stored on site.

22. The plant will use small quantities of natural gas or distillate fuel oil for start-up purposes. These fuels can also be used for supplemental firing in the main boiler during periods of peak demand, and may be used in an auxiliary boiler to meet steam requirements when the main boiler is out of service.

23. ICL has a letter of intent with Indiantown Gas Company to provide natural gas to the project for these purposes.

24. Coal for the projected is expected to be transported by the CSX Railroad, which has an existing rail line adjacent to the site.

25. ICL has a letter of intent with CSX Transportation for transportation of both coal and limestone to the site, and for backhaul of ash.

26. FPL's system today relies on coal-fired generation, excluding coal-by-wire purchases, for approximately 2% of its energy requirements. The purchase of coal-fired power from ICL will contribute to maintaining or improving FPL's fuel diversity.

27. ICL has certified to the Federal Energy Regulatory Commission (FERC) that the project will be constructed and operated as a "qualifying facility" (QF) under the Public Utility and Regulatory Policies Act of 1978 and FERC's implementing regulations.

28. The steam customer for the facility will be Caulkins Indiantown Citrus Company. The Caulkins plant produces

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concentrates and extracts from the juice of citrus fruits. Caulkins uses steam in an evaporation process for producing citrus concentrate, and in a drying process in which pulp and peel are used to create cattle feed.

29. ICL has an Agreement in Principle with Caulkins under which ICL will provide all of Caulkins' steam requirements, up to a maximum of 215,000 pounds per hour.

30. Under the agreement Caulkins will, at a minimum, take the amount of steam necessary for ICL to maintain qualifying facility status.

31. Caulkins' current thermal energy requirements on an annualized basis are sufficient to support QF status for the Indiantown Project. If a planned expansion by Caulkins occurs, those requirements will be approximately double the required QF minimum.

32. Cooling and process water for the facility will be obtained from agricultural waste water in the Taylor Creek-Nubbin Slough, located approximately 20 miles north of the project site.

33. Transportation of this water from the Taylor Creek-Nubbin Slough will require construction of an approximate 20-mile water pipeline to be buried in the existing CSX Railroad right-of-way.

34. The water pipeline is the only associated off-site facility required in connection with the project.

35. The estimated total capitalized cost for the facility is approximately \$600 million, or approximately \$2,000 per kW.

36. At a 5% escalation rate, this translates into approximately \$505 million, or \$1,683 per kW, in January 1991 dollars.

37. ICL bears the financial and other risks associated with construction of the project, including all cost escalation and interest rate risk.

38. Construction is scheduled to begin by July, 1992.

39. The construction start date could slip a few months without placing the December 1, 1995 in-service date in jeopardy.

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40. PG&E-Bechtel Generating Company will have overall responsibility for managing the development, construction and operation of the project. PG&E-Bechtel Generating Company was organized in 1989 to be the exclusive vehicle for Pacific Gas & Electric Company and Bechtel Group, Inc. to participate in the non-utility power production business.

41. ICL expects that Bechtel Power Company will design and construct the Indiantown Project, although FPL's required approval of the architect/engineer has not yet been obtained. Financing for the plant will be arranged by PG&E-Bechtel Generating Company, and day-to-day operations will be the responsibility of PG&E Operating Services, a subsidiary of PG&E Enterprises.

42. ICL's access to the skill, experience and resources provided by PG&E and Bechtel, each of which has substantial long-term experience in the electrical power business, provide confidence that the project will be viable and reliable.

43. The sale of capacity and energy from the Indiantown Project is governed by the terms of the Power Sales Agreement between ICL and FPL, executed on May 21, 1990. The termination fee provisions of the Power Sales Agreement were modified by a contract amendment executed on December 5, 1990, to reflect FPL's 1996 avoided unit, a 768 MW IGCC facility.

44. The Power Sales Agreement has an initial term of 30 years. The plant has a nominal net electrical output of 300 MW. The actual committed capacity from the plant will be designated by ICL based on pre-operational tests, and must be in the 270 MW to 330 MW range, unless FPL agrees otherwise.

45. The Power Sales Agreement contains a number of provisions designed to provide reasonable assurance that the facility will be completed on-time, including:

(a) deadlines for the filing of need determination and sight certification applications;

(b) requiring construction loan closing within 36 months of execution of the agreement;

(c) beginning construction within 39 months of the execution of the agreement;

(d) the payment to FPL of a total \$9,000,000 of completion security within 15 days after the construction loan

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closing. This security is forfeited at the rate of \$750,000 per month for every month that the commercial operation date is delayed beyond December 1, 1995; and

(e) the rather narrow definition of a "force majeure" which would exclude ICL from meeting the scheduled completion date.

46. Should ICL complete the facility before September 1, 1995, FPL is obligated under the agreement to begin purchasing firm capacity and energy after that date. Thus, ICL has some significant additional incentive to bring the project on line before the scheduled completion date.

47. The Power Sales Agreement also contains a number of provisions intended to assure that the facility will be designed as a utility grade plant capable of reliable, high capacity factor operation including:

(a) granting FPL the right to approve the selection of the architect/engineer for the facility, who must be instructed to design and construct the facility to be capable of operating reliably with a capacity billing factor of at least 87% during the initial term of the Power Sales Agreement;

(b) requiring ICL to obtain a minimum \$60 million liquidated damages provision from its prime contractor to guarantee performance levels and completion date; and

(c) requiring ICL to arrange to have its lenders designate an independent engineering firm to review and evaluate the design of the facility, and to make any changes determined to be necessary by that firm unless FPL concurs with ICL that such changes are unnecessary.

48. The Power Sales Agreement also contains a number of provisions designed to assure that the facility will operate reliably throughout the term of the agreement. These include:

(a) the previously mentioned provision granting FPL the right to approve both the architect and engineer for the facility;

(b) ICL must arrange for review of the facility's operation and maintenance plan by an independent engineer (subject to FPL's approval) to determine that the plan is effective and that it will allow the facility to operate with a capacity billing factor of at least 87%;

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(c) an independent review of the facility's operation and maintenance plan must be performed on a periodic, on-going basis;

(d) the parties must mutually develop written operating procedures to integrate the facility into FPL's electric system;

(e) ICL must enter into long-term fuel supply agreements, with market price reopener provisions, for at least 50% of the facility's fuel requirements; and

(f) ICL has agreed that the facility will be managed by PG&E-Bechtel Generating Company, or one of ICL's general partners.

49. The Power Sales Agreement also contains a number of provisions to assure the reliable operation of the facility during times of highest electrical demand. These include:

(a) that ICL may only schedule outages during periods approved by FPL;

(b) that ICL cannot schedule a maintenance shutdown of the facility during on-peak hours in December, January, February, June, July, August, or September 1 to September 15 of any year;

(c) that the facility is subject to dispatch by FPL; and

(d) the contract contains pay-for-performance provisions which give a financial incentive for high capacity factor performance during on-peak hours.

50. The Power Sales Agreement allows FPL to economically dispatch the facility, to commit and decommit the facility, and to control both the real and reactive power from the facility. This provision allows the facility to be treated as if it were an FPL unit, thus creating the opportunity for FPL to reduce its system costs.

51. Under the Power Sales Agreement, capacity payments are on a pay-for-performance basis. The base capacity payment, assuming the plant operates in the 87% to 92% capacity billing factor range, is \$23,000 per MW/month (\$23 per kW/month) for the first twenty years of the contract. This base payment declines by 50% in the twenty-first year, and declines annually thereafter.

52. If the plant operates above the 92% capacity billing factor level, then there is a 2 percentage point bonus for every 1

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percentage point increase in capacity billing factor up to 97%, where the capacity payments are capped. If the plant operates below the 87% capacity billing factor level, then there is a 2 percentage point penalty for every 1 percentage point decrease in capacity billing factor down to 55%. No capacity payment is made in any month in which the capacity billing factor is less than 55%.

53. The calculation of the capacity billing factor gives extra weight to performance during on-peak hours, which are noon to 9:00 p.m. from April 1 through October 31, and 6:00 a.m. to 10:00 a.m. and 6:00 p.m. to 10:00 p.m. from November 1 to March 31. The target level for performance during these hours is a 93% capacity factor, and on-peak performance above or below this level is given greater weight in calculation of the capacity billing factor. Thus ICL has significant financial incentives to produce energy during the on-peak periods when the capacity and energy are of greatest value of FPL and its customers.

54. Under the Power Sales Agreement, monthly energy payments are based on a target energy cost of \$23.20 per MWH, as adjusted quarterly from the first quarter of 1990 to track changes in the cost of coal, coal transportation, and lime and ash disposal. This base energy rate is premised on the cost of fuel for the St. Johns River Power Park (SJRPP) units, adjusted for a transportation differential to Indiantown and for ICL's expected consumption of lime and costs for ash disposal (backhaul). The monthly payments are further adjusted to reflect the hourly effect of changes in the efficiency of the facility caused by FPL dispatch. The contract permits FPL to negotiate to assume responsibility for the fuel supply in the future, if economies of scale (and savings to the ratepayers) would result.

55. Once a year, the actual energy cost for the facility is calculated (subject to audit by FPL), and ICL and FPL share in any difference between the actual energy cost and the target energy cost. Energy costs related to the production of steam for Caulkins Citrus (the steam host) are ICL's sole responsibility, and are excluded from the calculation. If the actual energy cost is less than the target, ICL and FPL share 50/50 in the energy cost savings. If the actual energy cost is greater than the target, ICL and FPL share the first 10% of additional energy cost on a 60/40 basis, and ICL bears all the additional energy cost above 110% of the target. This provision caps FPL's (and therefore the ratepayers') responsibility for energy costs at 104% of the target rate.

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56. These energy payment provisions give ICL a substantial incentive to minimize the energy costs for the facility, and enable FPL's customers to share in any savings achieved while limiting their exposure to increased costs.

57. FPL's economic analysis shows that the Indiantown Project remains approximately \$76 million more cost-effective than FPL's own avoided unit even if FPL's share of the energy cost reaches the 104% cap permitted under the Power Sales Agreement.

58. The Power Sales Agreement also contains a number of provisions designed to protect FPL in the event that the facility fails to perform. These include:

(a) the previously mentioned \$9 million completion security against which FPL can draw \$750,000 per month as liquidated damages in the event the facility does not achieve its December 1, 1995 commercial operation date, except as the date may be extended for up to 5 months by the limited definition of force majeure. This monthly amount is representative of what it could cost FPL to make obtain replacement power on a short-term basis.

(b) that if the agreement is prematurely terminated, ICL is obligated to pay FPL a termination fee equal to the cumulative difference between payments to ICL under the agreement and FPL's avoided cost for an IGCC unit, calculated on a year-by-year value of deferral basis.

(c) This obligation is secured by (i) termination fee security in the form of cash or a letter of credit which starts at \$13 million in the first year of operation up to a maximum of \$50 million in the fifth year of operation; (ii) a first lien on the QF status reserve fund described below; (iii) a second lien on the maintenance reserve fund; and (iv) a second mortgage on the facility.

59. The total security for payment of the termination fee exceeds the termination fee obligation in each year.

60. The termination fee payable under the Power Sales Agreement is greater than the termination fee liability which would be calculated if a statewide pulverized coal unit, rather than FPL's own IGCC unit, was used as the basis for calculating the termination fee liability.

61. ICL is required to maintain a QF status reserve fund which starts at \$500,000 during the first year of commercial

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operation and increases to a maximum of \$5 million by the tenth year of operation. This fund is available to ICL to take whatever action is necessary to maintain its qualifying facility status, including building or securing a new steam host. FPL has a first lien on this fund as additional security for payment of any termination fee liability.

62. ICL is required to maintain a maintenance reserve fund which starts at \$3 million in the first year of operation and increases to \$30 million in the tenth year of operation. The fund can be used for major maintenance or overhaul to the plant, but can never fall below \$10 million. This provision can be satisfied by a similar reserve fund required by ICL's lenders, including a debt service reserve fund. FPL has a second lien on such fund to secure all of ICL's obligations, including any termination fee liability, if ICL's lenders require a similar fund. FPL has a first lien on the fund if a similar fund is not required by ICL's lenders, or when ICL's project debt is fully paid.

63. FPL will hold a second mortgage on the facility to secure all of ICL's obligation to FPL, including any termination fee liability. The value of this second mortgage is protected by the requirement that ICL have a minimum 10% equity investment in the project; by a levelization formula which requires ICL's equity investment to increase over time, either through reduction in the project debt and/or appreciation in the fair market value of the facility; and by limits on distributions to ICL's partners during the period in which ICL may be liable for payment of a termination fee.

64. The estimated value of this second mortgage interest ranges from a minimum of \$ 102 million in the first year of operation to over \$ 650 million by the nineteenth year of operation, which is projected to be the last year in which any termination fee liability exists.

65. FPL's capacity planning process has three basic steps: (i) quantification of the timing and amount of resources necessary to maintain an adequate level of system reliability; (ii) identification of available alternatives to meet the need and definition of an "avoided cost" basis against which the alternative can be compared, and (iii) optimization of the alternatives to identify a power supply plan that provides favorable economics while properly addressing risk and uncertainty.

66. The quantification of the timing and amount of capacity needs begins with the preparation of a forecast of FPL's demand and

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energy requirements. FPL presented a detailed 20-year forecast of customers, sales, and peak demand.

67. This load forecast includes the impact of FPL's conservation efforts. These efforts are projected to provide approximately 126 MW of incremental demand reductions from 1989 through 1997, for a total of 750 MW by 1997.

68. This forecast shows that FPL's summer peak demand is expected to grow from approximately 13,341 MW in 1990 to approximately 15,421 MW by 1996.

69. This same load forecast was reviewed by the Commission and found reasonable for planning purposes in the need determination proceedings for FPL's Lauderdale Repowering and Martin Expansion projects. (see Order No. 23079, p. 4 and Order No. 23080, p. 4)

70. The record contains no evidence that this load forecast is not reasonable for planning purposes in this docket.

71. The timing and amount of FPL's need is determined by comparing the forecast of demand to existing and committed resources to determine if FPL's reliability criteria are met.

72. For this purpose, the maximum cost effective level of demand side management reductions is taken into account. These reductions total 1,003 MW by 1997, including both residential load control and interruptible rates for larger customers. When these demand side management measures are considered together with the conservation measures enumerated in Finding of Fact No. 67, the record shows that FPL is expected to have over 1,750 MW of total demand side savings by 1997.

73. FPL uses two reliability criteria to determine the timing and amount of its capacity needs: summer reserve margin and loss of load probability (LOLP). FPL plans its system to maintain a minimum summer reserve margin of 15% and a maximum LOLP of 0.1 days/year. These criteria are commonly used in the utility industry, and were reviewed by the Commission and found reasonable for planning purposes in the need determination proceedings for FPL's Lauderdale Repowering and Martin Expansion projects. (see Order No. 23079, p. 4 and Order No. 23080, p. 4) The record is devoid of evidence suggesting these reliability criteria are not reasonable for planning purposes in this docket.

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74. FPL's analysis of its additional capacity need takes into account FPL's existing generating capacity; the 515 MW of QFs which were under contract to FPL prior to the ICL contract; the additional capacity resulting from the repowering of Lauderdale Unit Nos. 4 and 5 in 1993 and the addition of Martin Unit Nos. 3 and 4 in 1994 and 1995; and the power purchases under FPL's 1982 and 1988 agreements with the Southern Companies. Through the use of the TIGER reliability model, the analysis also takes into account the availability of assistance from the other utilities with which FPL is interconnected.

75. FPL's analysis shows that it reaches undesirable levels of LOLP beginning in 1995, and therefore needs additional capacity beginning in that year.

76. The analysis shows that without any additional QF capacity not already under contract, FPL requires a total of approximately 900 MW of additional capacity by 1996 in order to meet the 0.1 day/year reliability target.

77. FPL's analysis then identifies the available utility construction alternatives to meet the capacity need. The economic analysis of these alternatives is based on a series of economic assumptions and on cost parameters for the various generating alternatives as shown on Exhibit 27, Documents 4 and 5.

78. The economic analysis of alternatives also makes use of FPL's May, 1989 most likely fuel forecast. This forecast, which is developed using a scenario approach, is a 30-year projection of the price and availability of fossil fuels. The fuel forecast, which is described in detail in Section III.B and Appendix D of Exhibit 3, and summarized on Exhibit 27, Document 2, was reviewed by the Commission and found reasonable for planning purposes in the need determination proceedings for FPL's Lauderdale Repowering and Martin Expansion projects. (see Order No. 23079, p. 6 and Order No. 23080, p. 6) The record is devoid of evidence suggesting that FPL's fuel forecast is not reasonable for planning purposes in this docket.

79. Based on these assumptions and forecasts, FPL's analysis shows that the most cost-effective utility construction alternative for meeting the 900 MW need in 1996 would be the construction of two 768 MW integrated gasification combined cycle (IGCC) units. Thus, an IGCC unit is FPL's "avoided unit" for 1996.

80. The Indiantown Project is a more cost-effective alternative for meeting a portion of FPL's 1996 capacity need than

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the IGCC unit. The Indiantown Project saves approximately \$90 million (1990\$) cumulative present value of revenue requirements (CPVRR) over a thirty year period compared to an equivalent amount of IGCC capacity. The Indiantown Project also saves approximately \$73 million over a thirty year period when compared to an equivalent amount of IGCC capacity on a year-by-year value of deferral basis.

81. The Indiantown Project is more expensive than 300 MW of standard offer capacity priced at 80% of the statewide avoided unit when just the present value of the payment stream for 300 MW of standard offer capacity is compared to just the present value of 300 MW of capacity under this Power Sales Agreement

82. This Agreement contains numerous provisions which are not found in the standard offer contract.

83. These include the previously mentioned provisions which will provide incentives to ICL to:

(a) assure that the unit will be completed prior to its December 1, 1995, commercial operating start up date;

(b) provide economic incentives and disincentives to ICL to assure that the unit will operate reliably;

(c) provide incentives to ICL to assure that the unit will be available when most needed to minimize costs to FPL's ratepayers.

(d) assure the unit is operated in such a way to minimize FPL's production costs.

84. These guarantees of performance and high level of operational coordination control must be considered in any cost-effectiveness analysis. While not readily quantifiable in dollar terms these do represent significant benefits to FPL and its rate payers over the thirty year term of this agreement.

85. The record is devoid of evidence to support a finding that when considering this project with these benefits versus a discounted standard offer contract that the Indiantown Project is not cost effective.

86. The Indiantown Project will contribute 300 MW toward the total 900 MW of capacity needed by FPL in 1996 and is an integral part of meeting FPL's necessary reliability level.

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87. Absent ICL's contribution toward meeting FPL's need, FPL's system reliability would degrade to unacceptable levels in 1996, increasing the likelihood of service interruptions.

88. FPL's need for additional capacity in 1996 is part of a statewide need for approximately 1,060 MW of new capacity in 1996.

89. The 300 MW to be provided by the ICL unit is also less than the cumulative Peninsular Florida need of 2,058 MW by 1996 which remains unsatisfied after all prior QFs and previously certified capacity additions are taken into account.

90. As a coal unit, the Indiantown Project is consistent with the type of capacity designated as the statewide avoided unit, and will help to maintain adequate fuel diversity on a Peninsular Florida basis.

91. The Indiantown Project is a cost-effective alternative for meeting the Peninsular Florida capacity need when compared to the statewide avoided unit, a 1996 pulverized coal unit. The Indiantown Project saves approximately \$67 million on a value of deferral basis when compared to such a unit.

CONCLUSIONS OF LAW

The 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 docket satisfies the informational requirements of Rule 25-22.081, Florida Administrative Code, and is sufficient to enable the Commission to evaluate the proposed Indiantown Project.

Section 403.519, Florida Statutes, states in pertinent part:

. . .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 of its members which might mitigate the need for the proposed plant and

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other matters within its jurisdiction which it deems relevant.

As to the first requirement of the statute, the record contains substantial competent evidence supporting a finding that this proposed power plant will contribute to electric system reliability and integrity. Located close to FPL's load center, it will have no adverse impact on FPL's ability to import power from other utilities in the event of a shortage. Being close to the load center, transmission losses will be minimal when compared to power generated at sites in the northern part of Florida or out of state. The ability to dispatch this facility, pay for performance at times of peak demand, and maintenance coordination features provide further assurances that this facility will "contribute to electric system reliability and integrity."

The second substantive consideration of Section 403.519, Florida Statutes, is the "need for adequate electricity at reasonable cost." The record contains substantial competent evidence that this planned generating unit will provide adequate electricity at reasonable cost. Given the proximity to the load center; the economic incentives to provide the most efficient delivery of maximum usable power; the experience of the parent organizations of ICL; the easy integration into FPL's transmission grid and the contractual provisions designed to assure a "utility grade" generating facility, it is clear that the electricity to be provided by the Indiantown project will be "adequate." "Adequate electricity" has also been interpreted to mean sufficient capacity for a utility to meet its peak demand with 1 day per year LOLP (loss of load probability) and a 15% summer reserve margin. The record contains substantial competent evidence to support a finding that this project contributes to FPL's 1996 needs. As to each suggested standard for comparison of the "reasonableness" of the cost of this electricity, the ICL project measures up. On a cumulative net present value of deferral basis the ICL project is approximately ninety million less expensive than the equivalent portion of FPL's own generating alternative, a 768 MW IGCC unit. On a cumulative net present value of deferral basis it is seventy three million dollars cheaper than the statewide designated avoided unit. As compared to 300 MW of 1996 firm energy and capacity purchased under a standard offer contract discounted to 80%, the Indiantown Project is more expensive (by approximately sixty one million dollars) but contains many previously mentioned contractual provisions which must be considered in any cost comparison. ICL's obligations to perform as specified under this agreement are secured to a much greater degree than is found in the standard

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offer contract. Based on the evidence presented it is my conclusion that the cost of the electricity to be provided by the Indiantown Project is reasonable when compared to the viable alternatives to meet the 1996 need for electricity.

Accordingly, I find that the Indiantown Project helps to meet the need for adequate electricity at reasonable cost in accord with the meaning of Section 403.519, Florida Statutes.

The third substantive consideration of Section 403.519, Florida Statutes, is "whether the proposed plant is the most cost-effective alternative available" for meeting the need for additional generating capacity. As discussed with respect to the reasonableness of the cost of this project, it is less expensive than the utility's own constructed or statewide avoided unit. While, as previously stated it is more expensive than an equivalent amount of capacity purchased under a standard offer contract, the numerous contractual obligations undertaken by ICL for the ultimate benefit of FPL's ratepayers not found in a standard offer support a finding that this purchase is a cost-effective alternative. The record is devoid of evidence to support a finding that the requisite amount of capacity is or will be available elsewhere for less money.

Accordingly, it is my conclusion that the ICL project is the most cost-effective alternative available to meet FPL's 1996 need for firm capacity and energy.

The final explicit substantive consideration of Section 403.519, Florida Statutes, is that the Commission expressly consider "the conservation measures taken or reasonably available to the applicant. . ." The record contains substantial competent evidence to support a finding that FPL, through demand side management and cost-effective conservation programs, has reduced its 1996 generating needs by approximately 1700 MW or more than ten percent of the total requirement. While the Commission encourages utilities under its jurisdiction to continually explore opportunities to avoid the requirement for additional capacity, the amount of capacity avoided and types of programs undertaken by FPL appear to be "reasonable" in this instance in compliance with the requirement of Section 403.519, Florida Statutes.

Accordingly, I find that Florida Power and Light Company is reasonably considering and acting upon the conservation measures available to avoid the need for capacity as required by Section 403.519, Florida Statutes.

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Lastly, the statute permits inquiry into "other matters within its jurisdiction which it deems relevant." In previous petitions under Section 403.519, Florida Statutes, we have evaluated proposed projects on a statewide perspective and Peninsular Florida. The record shows that FPL's need is part of a larger statewide and Peninsular Florida need for power in 1996. By providing between 270-330 MW of firm capacity and energy to FPL on a reliable, cost-effective basis close to FPL's load center, this project will contribute to the statewide and Peninsular Florida needs.

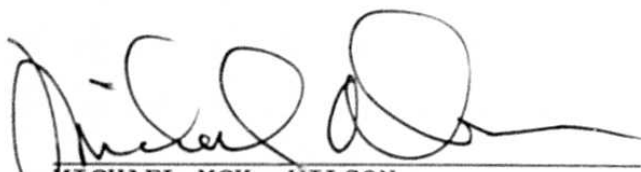
Accordingly, it is my recommendation that the Florida Public Service Commission enter a Final Order:

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

(b) GRANTING the Joint Petition for a Determination of Need for the proposed power plant and related facilities-Indiantown Project, up to 330 megawatts of committed firm capacity and energy; 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,



MICHAEL MCK. WILSON
Commissioner and Hearing Officer

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APPENDIX I

RULINGS ON PROPOSED FINDINGS OF FACT

Indiantown Cogeneration L. P. submitted some separate Findings of Fact in accordance with the requirements of Rule 22-25.056, F.A.C. In compliance with Section 120.59(2), Florida Statutes, I make the following rulings on each one:

- (1-20) Accepted and Incorporated
- (21) Accepted and Incorporated, in part. The Finding that the South Florida Water Management has "encouraged the use of this water source" is rejected as uncorroborated hearsay.
- (22-60) Accepted and Incorporated
- (61) Rejected as irrelevant.
- (62-67) Accepted and Incorporated.