

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Joint Petition For)	DOCKET NO. 910382-EM
Supplemental Certification of)	ORDER NO. 24986
Construction and Operation,)	ISSUED: 8/28/91
Including Determination of Need)	
for Electrical Power Plant, By)	
Orlando Utilities Commission,)	
Florida Municipal Power Agency,)	
and Kissimmee Utility Authority.)	

The following Commissioners participated in the disposition of this matter:

THOMAS M. BEARD, Chairman
 SUSAN F. CLARK
 J. TERRY DEASON
 BETTY EASLEY
 MICHAEL MCK. WILSON

ORDER GRANTING JOINT PETITION FOR DETERMINATION OF NEED

BY THE COMMISSION:

Pursuant to Notice, the Florida Public Service Commission held a public hearing on this matter in Tallahassee, Florida on June 18 and 19, 1991. Having considered the record in this proceeding, the Commission now enters its Final Order.

BACKGROUND

On March 15, 1991, Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA) and Kissimmee Utility Authority (KUA), filed a Joint Petition For Supplemental Certification of Construction And Operation Including Determination Of Need For Electrical Power Plant. The plant is known as the Curtis H. Stanton Energy Center Unit 2 (Stanton 2). The joint petition requested that the Florida Public Service Commission (Commission) determine pursuant to Section 403.519, Florida Statutes, and Rule 25-22.081, F.A.C., that there is a need for the proposed electrical

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power plant and its associated facilities (including an alternative plant access road and a directly associated transmission line) and that the Commission file its report and order making that determination with the Department of Environmental Regulation (DER) pursuant to Section 403.507(2)(a), Florida Statutes.

Intervention was granted by Commission Order No. 24612 dated June 3, 1991 to the Sierra Club, Florida Chapter.

On June 18 and 19, 1991 a hearing was held by Commissioner Michael McK. Wilson as Hearing Officer on the joint petition. After the hearing, the parties filed a Proposed Recommended Order and/or Post Hearing Statement. On July 26, 1991 the Hearing Officer filed his Recommended Order. The parties did not file exceptions to Commissioner Wilson's Recommended Order. A copy of the Recommended Order is attached to this Order as "Appendix A".

Upon consideration of the record we find that the Hearing Officer's Recommended Order should be adopted as this agency's Final Order.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the Hearing Officer's Findings of Fact are accepted in full 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 the Hearing Officer's Recommended Order is hereby adopted as this Commission's Final Order. It is further

ORDERED that the Joint Petition for Determination of Need for Proposed Electrical Power Plant and Related Facilities is hereby GRANTED. It is further

ORDERED that a copy of this Final Order shall be submitted to the Department of Environmental Regulation as required by and in accordance with Section 403.507(2)(a), Florida Statutes. It is further

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ORDERED that this docket is hereby closed.

By ORDER of the Florida Public Service Commission, this
28th day of AUGUST, 1991.

STEVE TRIBBLE, Director
Division of Records and Reporting

(S E A L)

MRC:bmi
910382.bmi

by: Kay DeLeon
Chief, Bureau of Records

APPENDIX "A"
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Joint Petition For)	DOCKET NO. 910382-EM
Supplemental Certification of)	
Construction and Operation,)	SUBMITTED FOR FILING:
Including Determination of Need)	
for Electrical Power Plant, By)	JULY 26, 1991
Orlando Utilities Commission,)	
Florida Municipal Power Agency,)	
and Kissimmee Utility Authority.)	

RECOMMENDED ORDER

Pursuant to notice, a formal hearing was held in this docket before the Florida Public Service Commission by its duly designated Hearing Officer, Commissioner Michael McK. Wilson, on June 18 and 19, 1991, in Tallahassee, Florida.

APPEARANCES

THOMAS B. TART, Esquire, General Counsel, Orlando Utilities Commission, 500 South Orange Avenue, Orlando, Florida 32801; ROY C. YOUNG, Esquire, and C. LAURENCE KEESEY, Esquire, Young, van Assenderp, Varnadoe & Benton, P.A., Post Office Box 1833, Tallahassee, Florida 32302-1833.

On behalf of Petitioner Orlando Utilities Commission.

FREDERICK M. BRYANT, Esquire, Moore, Williams, Bryant & Peebles, P.A., General Counsel, Florida Municipal Power Agency, Post Office Box 1169, Tallahassee, Florida 32302.

On behalf of Petitioner Florida Municipal Power Agency.

ROY C. YOUNG, Esquire.

On behalf of Petitioner Kissimmee Utility Authority.

IRBY G. PUGH, Esquire, 218 Annie Street, Orlando, Florida, 32806 and DEBRA SWIM, Esquire, Route 35, Box 1815, Tallahassee, Florida 32310.

On behalf of The Sierra Club, Florida Chapter.

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RICHARD D. MELSON, Esquire, Hopping Boyd,
Green & Sams, Post Office Box 6526,
Tallahassee, Florida 32314
On behalf of Florida Electric Power
Coordination Group.

M. ROBERT CHRIST, Esquire, Florida Public
Service Commission, Fletcher Building, Room
226, 101 East Gaines Street, Tallahassee,
Florida 32399-0850.
On behalf of the Commission Staff.

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

BACKGROUND

On March 15, 1991, Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA) and Kissimmee Utility Authority (KUA) filed a Joint Petition For Supplemental Certification of Construction And Operation Including Determination Of Need For Electrical Power Plant. The plant is known as the Curtis H. Stanton Energy Center Unit 2 (Stanton 2). The joint petition requested that the Florida Public Service Commission (Commission) determine pursuant to Section 403.519, Florida Statutes, and Rule 25-22.081, F.A.C., that there is a need for the proposed electrical power plant and its associated facilities (including an alternative plant access road and a directly associated transmission line) and that the Commission file its report and order making that determination with the Department of Environmental Regulation (DER) pursuant to Section 403.507(2)(a), Florida Statutes.

The location for Stanton was previously certified by the Governor and Cabinet sitting as the Siting Board on December 14, 1982, as a site with an ultimate generating capacity of approximately 2000 MW.

On April 22, 1991, the Commission entered an order on prehearing procedure (Order No. 24397). On April 28, 1991 the requisite notice of the hearing was published in The Orlando Sentinel, a newspaper of general circulation in the area of the project.

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On May 24, 1991, the Sierra Club, Florida Chapter (the Sierra Club or intervenor) filed a document entitled Notice of Intent To Become A Party. This document was initially determined to be defective and was later corrected by the Sierra Club. Intervention was granted by Commission Order No. 24612 dated June 3, 1991.

At the prehearing conference on June 12, 1991, the Sierra Club sought approval of this Hearing Officer to delay the hearing dates scheduled for June 18 and 19, 1991, allow late testimony for an unknown witness, require an expedited response to interrogatories to petitioners, and allow the filing of prefiled testimony of Dr. John O. Blackburn. Because the intervenor was provided with a copy of the Joint Petition by petitioners on March 20, 1991, and the intervenor offered no mitigating circumstances that would constitute good cause for its belated entry and various requests, the requests to delay the hearing dates and to allow future testimony were denied. However, the Hearing Officer ordered petitioners to expedite its responses to intervenors' interrogatories and made himself available to rule expeditiously on any contested discovery items. No such request was made. The Hearing Officer also found it appropriate to allow intervenor to late file the testimony of Dr. Blackburn and participate fully in the hearing. Prehearing Order No. 24644 was thereafter issued on June 13, 1991.

At the final hearing, Petitioner OUC presented the testimony of seven witnesses: Thomas E. Washburn, the Director of Systems Operations at OUC, Earl C. Windisch, partner in Black & Veatch, Myron R. Rollins, an employee of Black & Veatch, Dr. Douglas L. Norland and John H. Broehl, employees of Battelle, Gerald F. Erickson, Assistant Manager of Strategic Planning at OUC, Dr. Larry E. Stoddard, an employee of Black & Veatch, and Shahla S. Speck, Senior Engineer employed by the Florida Electric Power Coordinating Group.

Petitioner FMPA presented the testimony of Robert C. Williams, Director of Engineering at FMPA, and N.P. Guarriello, Partner in R.W. Beck and Associates, the consulting engineering firm for FMPA.

Petitioner KUA presented the testimony of Abani K. Sharma, Director of Power Supply at KUA, and Ludwig F. Funke, a systems engineer at Black & Veatch.

Intervenor presented the testimony of Dr. J. O. Blackburn.

Petitioners offered Exhibits 1, 2, 3, 9, 10, 15, 16, 17, 27, 31, 39, 40, 41, 42 and 47 which were received into evidence. The

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Commission Staff offered Exhibits 4, 5, 6, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 28, 30, 32, 33, 34, 35, 36 and 43 which were received into evidence. The Sierra Club offered Exhibits 7, 45 and 46 which were received into evidence. The Hearing Officer

requested Late-Filed Exhibit 37. Commission Staff requested Late-Filed Exhibits 26, 29, 38, 44, and the Sierra Club requested Late-Filed Exhibit 8. All Late-Filed Exhibits were filed by Petitioners on June 25, 1991.

The transcript of the hearing (4 volumes) was filed on June 24, 1991. Petitioners filed a Post-Hearing Statement and Proposed Recommended Order on July 9, 1991. Intervenor filed a Proposed Recommended Order on July 9, 1991. However, intervenor's proposed findings of fact did not comply with the requirements of Rule 25-22.056(2)(a) and (b), Florida Administrative Code. That rule reads as follows:

- (2) Proposed Findings of Fact. A party may submit proposed findings of fact, and the presiding officer will rule upon each one, as required by Section 120.59(2), Florida Statutes, when filed in conformance with this rule.
- (a) Proposed findings of fact shall be entitled as such, must be presented on a document separate from all other post-hearing memoranda.
- (b) Each proposed finding of fact shall be separately stated, numbered consecutively, and may not be contained in extensive narrative form or contain mixed questions of fact and law.

Because the proposed findings of fact were not presented on a document separate from all other post-hearing memoranda, separately stated, and numbered consecutively, and they contained extensive narrative form, with mixed questions of fact and law, specific rulings on the intervenor's proposed findings of fact have not been made.

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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. That section enumerates five major areas for consideration by the 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) a consideration of conservation measures taken by or reasonably available to the applicant (in this case OUC, FMPA, and KUA) which might mitigate the need for the proposed power plant, and
- (5) other matters within the Commission's jurisdiction which it deems relevant.

At the Prehearing Conference the parties identified twenty-six (26) issues for resolution in this proceeding. Of these, the parties have stipulated that ten have been satisfied, and they are so identified. The issues are:

- ISSUE 1: Are the reliability criteria used by the Petitioners to determine their need for 440 MW of capacity in 1997 to be satisfied by the proposed Stanton 2 reasonably adequate for planning purposes? (Stipulated).
- ISSUE 2: Are the load forecasts used by the Petitioners to determine their need for 440 MW of capacity in 1997 to be satisfied by the proposed Stanton 2 reasonably adequate for planning purposes?
- ISSUE 3: Do the Petitioners as utilities interconnected with the statewide grid exhibit a need for additional capacity in 1997?
- ISSUE 4: Are there any adverse consequences to the Petitioners and their customers if the proposed Stanton 2 is not completed in the approximate time frame requested by the Petitioners?

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- ISSUE 5: Would the proposed Stanton 2 provide for electric system reliability and integrity to the Petitioners?
- ISSUE 6: Will the proposed Stanton 2 provide for electric system reliability and integrity to Peninsular Florida?
- ISSUE 7: Will the proposed Stanton 2 provide adequate electricity to the Petitioners at a reasonable cost?
- ISSUE 8: Will the proposed Stanton 2 provide adequate electricity to Peninsular Florida? (Stipulated)
- ISSUE 9: Is the fuel price forecast used by the Petitioners reasonably adequate for planning purposes?
- ISSUE 10: Have adequate assurances been provided regarding available fuel to serve the needs of the Petitioners at a reasonable cost? (Stipulated)
- ISSUE 11: Does the proposed Stanton 2 provide for adequate fuel diversity for each of the Petitioners' systems? (Stipulated)
- ISSUE 12: Does the proposed Stanton 2 provide for adequate fuel diversity for Peninsular Florida? (Stipulated)
- ISSUE 13: Is the proposed Stanton 2 the appropriate generation alternative for supplying capacity to the Petitioners in 1997 given the uncertainty of load growth, fuel prices, technological developments, and economic conditions?
- ISSUE 14: Is the type, size and timing of the proposed Stanton 2 reasonably consistent with the capacity needs of Peninsular Florida?
- ISSUE 15: Have the Petitioners provided sufficient information on the site, design and engineering characteristics of Stanton 2 to enable the Commission to evaluate their proposal? (Stipulated)

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- ISSUE 16: Has the availability of purchased power from other utilities been adequately explored and evaluated? (Stipulated)
- ISSUE 17: Has the availability of purchased power from qualifying facilities and non-utility generators been adequately explored and evaluated by the Petitioners?
- ISSUE 18: Will the proposed Stanton 2 be the most cost-effective alternative available to the Petitioners?
- ISSUE 19: Will the proposed Stanton 2 be the most cost-effective alternative to Peninsula Florida?
- ISSUE 20: Are there sufficient conservation or other non-generating alternatives reasonably available to the Petitioners to mitigate the need for the proposed Stanton 2?
- ISSUE 21: What transmission facilities are required to tie the proposed Stanton 2 into the electric grid? (Stipulated)
- ISSUE 22: What fuel delivery facilities are required to provide fuel to Stanton 2? (Stipulated)
- ISSUE 23: Have the reasonably anticipated costs to the Petitioners of environmental compliance of the proposed Stanton 2 been properly considered by the Petitioners in the unit selection process?
- ISSUE 24: How should the opportunity cost of Clean Air Act SO₂ emission allowances be treated when evaluating the total in-service cost of the proposed Stanton 2? (Stipulated)
- ISSUE 25: Were the opportunity cost of Clean Air Act SO₂ emission allowances properly treated in the Petitioners' evaluation of the total in-service cost of the proposed Stanton 2? (Stipulated)
- ISSUE 26: Based on the resolution of the previous factual and legal issues, is the record supported by a preponderance of the evidence that a finding of need for Stanton 2 exists?

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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. In making these findings the undersigned has accepted the more credible and persuasive evidence on these issues.

FINDINGS OF FACT

1. On March 15, 1991 OUC, FMPA, and KUA filed a Joint Petition For Supplemental Certification of Construction And Operation Including Determination Of Need For Electrical Power Plant. The proposed plant is to be known as Curtis H. Stanton Energy Center Unit 2 (Stanton 2).
2. OUC is a statutory commission of the State of Florida and is a part of the government of the City of Orlando. It is engaged in the generation and distribution of electric power to persons within its service area. OUC has an AAA bond rating on senior lien debt from Duff and Phelps, Inc. and is the only utility in the country (public or private) to have this high rating. OUC currently has the second lowest customer outage minutes of all the utilities in Florida.
3. The FMPA is a joint agency formed pursuant to the Interlocal Cooperation Act and exercises powers under the Joint Power Act. FMPA has authority to undertake and finance electric projects and, to plan, finance, acquire, construct, own, operate, maintain, or otherwise participate jointly in this project. FMPA members Fort Pierce, Homestead, Key West, Lake Worth, Starke and Vero Beach will be participants in Stanton 2; and FMPA members Bushnell, Clewiston, Green Cove Springs, Jacksonville Beach, Leesburg and Ocala will be participants through the All-Requirements Project.
4. KUA is a public body, duly organized and legally existing as part of the government of the City of Kissimmee and is engaged in the generation, transmission and distribution of electric power.
5. Intervenor, Sierra Club, Inc. Florida Chapter a non profit corporation consisting of approximately 25,000 members throughout the state, some of whom are customers of the

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petitioners. As such, and to that extent the members substantial interest are affected.

6. OUC intends to contract, on behalf of FMPA, KUA and itself, for the construction of a 440 MW net, pulverized coal fueled steam electric generating unit adjoined to the previously certified and presently existing Stanton 1 located at a site approximately fourteen (14) miles southeast of Orlando in Orange County, Florida. Its projected commercial operation date is January, 1997. By Stanton 2 being a replicate of Stanton 1, it is estimated that total construction cost will be reduced by \$23 million.

7. The certified site of the existing Stanton 1 and the proposed Stanton 2 consists of 3,280 acres and corridors for associated transmission lines and associated facilities. This site, including the corridor for the proposed alternate plant access road and associated transmission line for Stanton Energy Center Unit 2, was certified in 1982 by the Florida Cabinet sitting as the Siting Board for an ultimate site capacity of approximately 2000 MW.

8. OUC uses a dual criteria of a minimum 15 percent reserve margin above winter peak demand and a maximum 0.5 percent expected unserved energy (EUE) on an unassisted basis to determine the timing and amount of its capacity needs. The FMPA participants use the reliability criteria that the reserve margin be a minimum of 20 percent. KUA uses a 15 percent minimum reserve margin as its reliability criteria. The reliability criteria used by petitioners are found to be reasonably adequate for planning purposes.

9. Petitioners' load forecasts are reasonable for planning purposes. OUC utilized the System for Hourly and Annual Peak and Energy Simulation (SHAPES-PC) end use/econometric model from Battelle as the primary forecasting tool to develop a forecast from 1990 to 2020. The FMPA participants and KUA used econometric techniques in which statistical relationships were developed using historical economic, demographic, and electric system data.

10. OUC's most likely forecast is that its winter peak demand will grow at a rate of 3 percent on an average annual basis over the next 30 years, its net energy for load during this period is estimated to grow at about 3.3 percent per year, and this will result in OUC's winter peak demand growing at a rate of 35 to 40 MW each year.

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11. Peak demand for FMPA is forecasted to be an average annual rate of 2.3 percent from 1991 through 2000 and 1.7 percent from 1991 through 2021 for the Participants, and 3.3 percent and 2.5 percent for the All-Requirements Project Participants.

12. KUA's forecast shows an average annual compound growth rate in peak demand of 3.9 percent.

13. Doctor Blackburn who testified on behalf of intervenor, suggested in his testimony that the load forecasts may be deficient and contain inconsistencies. He opined the deficiency was due to the load forecasts not fully considering cost effective conservation measures and the inconsistency was due to the possibility that the load forecast model did not use the same end-use device KW and KWH data as the model used to assess conservation alternatives. However, the author of SHAPES-PC, John Broehl, testified without contradiction that Dr. Blackburn was mistaken on both counts. His model does, and did in this case, consider cost effective conservation measures and the same data was used for load forecast and conservation alternatives assessment.

14. As utilities interconnected with the statewide grid, petitioners have exhibited a need for additional capacity in 1997. Although FMPA members wanted as much as 345 MW of Stanton 2, they will get only 88 MW. At the same time, KUA wanted 50 MW of Stanton 2, but will only get 16.9 MW. No party to this docket disputes the fact that OUC, the FMPA participants and KUA have a need for capacity in 1997. The disagreement from the intervenor was regarding how that need should be filled.

15. There will be adverse consequences to OUC, FMPA and KUA and their customers if Stanton 2 is not completed in the approximate time frame requested. Each utility will fall below its reliability criteria unless Stanton 2 is completed by 1997. In addition, due to Stanton 2 being a replication of Stanton 1, the \$23 million in savings associated with Stanton 2 would be jeopardized, and the benefit of lower cost capacity and an opportunity for each system to diversify its fuel mix would be delayed. In this regard, it was established that for OUC alone, a one year delay in Stanton 2 would represent an additional cost of about \$9 million on a cumulative present worth basis.

16. It is undisputed that Stanton 2 will provide for electric system reliability and integrity to petitioners. OUC's 330 MW ownership share of Stanton 2 is needed to maintain its reserve margin, and thus its system reliability, above 15 percent until the year 2010. The FMPA participants and KUA likewise indicate that

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without their share of Stanton 2 each will fall short of its reliability criteria by or before 1997. In addition, KUA needs Stanton 2 to reduce its dependency on purchased power.

17. As a replicate of Stanton 1, the existing high level of reliability of Stanton 1 is the reliability to be expected from Stanton 2.

18. Stanton 2 will provide for electric system reliability and integrity to Peninsular Florida, which has a need for approximately 654 MW of new generating capacity in the 1997 time frame. Further, the addition of 440 MW of Stanton 2 in 1997 would enhance the balance of load and generation and contribute to maintaining adequate reliability. Petitioners' need in 1997 for Stanton 2 is thus consistent with Peninsular Florida generation needs.

19. Stanton 2 will provide adequate electricity to petitioners at a reasonable cost. Petitioners' least cost alternative for capacity addition requirements is Stanton 2.

20. The cost of Stanton 2 was cheaper for OUC on a cumulative present worth basis by 4.8 percent than the next lowest cost alternative of adding a combined cycle unit. The FMPA participants will save approximately \$50 million by participating in Stanton 2 as opposed to their next best alternative. For KUA, Stanton 2 represents the most cost effective alternative on a per MW basis and the cumulative present worth savings over supplying this capacity with purchased power is \$62 million.

21. The evidence offered by intervenor that there are lower cost conservation alternatives to mitigate the need for Stanton 2 is not found to be persuasive. At best, Dr. Blackburn's suggested conservation alternatives would mitigate the need for peaking units in 1997. However, petitioners' need is for base load, not peaking units and thus the conservation measures offered by Dr. Blackburn would not mitigate the need for Stanton 2, even if found to be cost effective.

22. It is undisputed that Stanton 2 will help provide adequate electricity to Peninsular Florida. The unit is being planned as a replication of Stanton 1 with a net generating capacity of 440 MW. Stanton 2's low heat rate and coal fuel will produce economical energy. Any excess energy from Stanton 2 will be made available to Peninsular Florida through the Florida Electric Power Coordinating Group Energy Broker.

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23. The fuel price forecast used by petitioners is reasonably adequate for planning purposes. The base case fuel price forecast used was based on the 1990 Annual Energy Outlook by the Energy Information Administration. The coal price in the forecast was adjusted upward to reflect higher costs in bringing coal to Florida and further adjusted upward to reflect the anticipated price increases in low sulfur coal due to the 1990 Clean Air Act Amendments. Although intervenor argued that more recent forecasts should be used for natural gas and coal prices in comparing combined cycle units and Stanton 2, it did not provide any such forecasts for consideration.

24. Adequate assurances have been provided regarding available fuel to serve the needs of petitioners at a reasonable cost. OUC will purchase the best mix of coal at the best price available for Stanton 2, as it now does for Stanton 1. Presently, the coal for Stanton 1 is obtained from Blue Diamond Coal Company and delivered by CSX. The contract with CSX allows for transportation of coal for Stanton 2.

25. All parties agreed that Stanton 2 provides for adequate fuel diversity for each of petitioners' systems. Stanton 2 will further diversify OUC's mix by adding additional coal fueled capacity to the existing mix of coal, oil, gas, and nuclear. OUC's Indian River Units provide OUC with the unique opportunity to generate a large portion of its energy requirements using oil or natural gas if the prices for these fuels become attractive.

26. The FMPA members participating in Stanton 2 currently have generating resources with a net combined capability rating of approximately 772 MW (not including units which are currently on cold standby), most of which utilize gas and oil fuel. Total purchases including partial requirements resources total approximately 437 MW which is approximately 36 percent of total combined resources. The proposed Stanton 2 Project would increase the ratio of non-gas and oil resources from 23 percent to approximately 31 percent of the total resources in 1997, thus reducing the members' sensitivity to oil and gas price fluctuations.

27. Coal and nuclear generation amounts to only 26 percent of KUA's capacity. The addition of Stanton 2 will increase the percentage of coal and nuclear capacity to 35 percent.

28. Stanton 2 will contribute towards an adequate fuel diversity for Peninsular Florida. With Stanton 2, coal will continue to provide approximately 45 percent of Peninsular

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Florida's electric energy through 2000 and continue to provide a good energy balance.

29. Stanton 2 is the appropriate generation alternative for supplying capacity to petitioners in 1997 given the uncertainty of load growth, fuel prices, technological developments and economic conditions. Stanton 2 in 1997 was evaluated under base case and high and low growth scenarios covering a very wide range of fuel prices and economic conditions. In every case Stanton 2 was the least cost alternative.

30. Dr. Blackburn indicated that estimates of population and employment may be too high in petitioners' forecast, but he offered no evidence to support this position. This Commission should note that the load projections offered by OUC in the Stanton 1 need case, which Dr. Blackburn thought to be too high at the time, were actually lower than the true load growth.

31. The type, size and timing of Stanton 2 is reasonably consistent with the capacity needs of Peninsular Florida.

32. As a replicate of Stanton 1, Stanton 2' performance characteristics are largely based on Stanton 1. Based on performance tests of Stanton 1, Stanton 2 is expected to have a full load heat rate of 9,740 Btu/Kwh.

33. Stanton 2 is being designed on the basis that it will achieve an equivalent availability of 83 percent with an equivalent forced outage rate of 4 percent. For the first three years of operation, Stanton 1 achieved an availability of 84.54 percent with an equivalent forced outage rate of 4.756 percent.

34. Stanton 2 will be a pulverized coal unit with a wet limestone scrubber for SO₂ control, an electrostatic precipitator for particulate control, and low NO_x burners for NO_x control. Stanton 2 will use treated sewage effluent in a natural draft cooling tower for cooling.

35. The availability of purchased power from other utilities has been adequately explored and evaluated. In July 1990, OUC, together with FMPA and KUA, issued a Joint Request for Purchase Power Proposals (RFP). The RFP solicited the interest of electric utilities to supply firm power for a minimum of ten years. Electric generating utilities in Florida, as well as generating utilities outside of Florida, with only one intervening transmission system necessary to deliver the power to OUC, were each sent copies of the RFP. The RFP requested that the

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respondents provide a minimum of 50 MW up to a maximum of 440 MW beginning January 1, 1997. None of the solicited utilities submitted proposals.

36. As an alternative to the construction of Stanton 2, petitioners underwent an extensive bidding process open to qualifying facilities and independent power producers. In July 1990, an RFP was issued. Sixty-four companies requested a copy of the RFP and nineteen of those submitted a notice of intent/respondent registration form. Only three proposals were received from the nineteen notices of intent. The three respondents submitted bids totaling 1276 MW consisting of one coal fueled project and two natural gas fueled combined cycle projects. R.W. Beck and Associates, an engineering consulting firm, was retained to independently evaluate the three proposals. The results of the evaluation was that the lowest cost bid was 19.2 percent higher than Stanton 2 on a cumulative present worth basis.

37. The Petitioners have developed and have available standard offer contracts for qualifying facilities.

38. Stanton 2 is the most cost-effective alternative available to petitioners. The capital cost for Stanton 2 in 1991 dollars is \$1002/kw. As alternatives to Stanton 2, twenty-five advanced technologies were evaluated. Three of the technologies - coal gasification combined cycle, solar thermal parabolic trough, and lead-acid battery storage - were retained for additional screening. None of the three were found to be cost-effective.

39. For OUC Stanton 2 is 4.8 percent lower in cost on a cumulative present worth basis than the next lowest cost alternative which is a combined cycle. This evaluation assumed 100 percent availability of natural gas. However, the fact is that it is not currently available for firm service demands and thus cannot be considered a reliable fuel for alternatives to Stanton 2.

40. Stanton 2 is the least cost alternative for FMPA's All-Requirements Project with a 0.3 percent cumulative present worth cost savings over the evaluation period from 1997 through 2021. Stanton 2 is the least cost alternative for Fort Pierce, Vero Beach, Key West, and Starke with cumulative present worth cost savings ranging from 0.6 percent to 2.5 percent over the period from 1997 through 2021. Stanton 2 is also the least cost alternative for Lake Worth and Homestead with cumulative present worth savings of 1.4 and 1.6 percent respectively for the period 1997 through 2010.

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41. The economic evaluation of available alternatives indicates that 16.9 MW of Stanton 2 participation is KUA's least cost option. The cumulative present worth savings over supplying this capacity with purchased power is \$62 million. The cumulative present worth savings over a combustion turbine addition is \$41 million. KUA could save \$30 million cumulative present worth compared to a hypothetical joint ownership of 16.9 MW of a combined cycle unit.

42. I find Dr. Blackburn's contention that there are less costly conservation alternatives than Stanton 2 for petitioners, to be contrary to the more credible and persuasive evidence. For example, the evidence in this proceeding demonstrates that direct load control (DLC) is not cost effective compared to Stanton 2 because of OUC's system needs. The need is for low cost coal-fueled baseload energy. Doctor Blackburn also stated that he believed that an evaluation of direct local control would have proven to be cost effective if petitioners had used the Commission's cost effectiveness methodology. Petitioners exhibit 47, effectively rebuts this assertion. The exhibit shows that DLC will cost more than Stanton 2 using the Commission's methodology. However, petitioners testified that the need for peaking capacity would affect the cost-effectiveness of DLC. OUC has a need for, and is currently constructing 204 MW of combustion turbine peaking units with an in-service date of October 1992. Unfortunately, we were not provided an opportunity to review the cost-effectiveness of DLC against the cost of the combustion turbines.

43. Petitioners testified the formula (cost of conserved energy) used by Sierra to evaluate the cost effectiveness of conservation programs is not a viable alternative or consistent with this Commission's methodology. The cost of conserved energy ignores program costs associated with operating and implementing demand side management programs, it also ignores consumer behavior and the free ridership effects. The cost of conserved energy formula ignores all costs that enter into the formulas for the society test, the utility test, and the nonparticipants test. The cost of conserved energy is useful to give the customer an idea whether the particular conservation program is cost effective from the participants perspective.

44. During the 1989 Planning Hearing conducted under PSC Dockets 880004-EU, 890004-EU, and 900004-EU, The Avoided Unit Study submitted by FCG determined that combined cycles and combustion turbines represented the least cost capacity addition alternatives for Peninsular Florida. If the lower capital cost of Stanton 2 is used rather than the generic coal units which were used in the

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Study, Stanton 2 would have the least cost alternative for Peninsular Florida. On the basis of this evaluation, it can be concluded that Stanton 2 is the most cost-effective alternative for Peninsular Florida. In addition, Stanton 2 is consistent with the avoided unit designated by this Commission in Order No. 23234.

45. The Intervenor argues that the Petitioner failed to demonstrate that sufficient conservation and other non-generating alternatives reasonably available to the Petitioners were taken to mitigate the need for Stanton 2 for five years. Dr. Blackburn identified ten conservation programs which he considered could defer the need for the Stanton 2 for five years. According to Petitioners, they previously evaluated the cost effectiveness of nine of those ten programs Dr. Blackburn identified. Three programs passed the various cost effectiveness tests and OUC used these new programs to reduce forecasted load in exhibit 1 by a total of 18.4 MW prior to 1997. Six of the remaining seven programs were evaluated by OUC, and were eliminated from further consideration due to negative cost effectiveness, reliability concerns and minimal megawatt reductions. The remaining program proposed by the intervenor was the Builder Efficiency Incentive Program which was projected to reduce 1997 winter peak demand by 6 MW. Most of the modifications installed in the Builder Efficiency Program were included in OUC's existing demand forecast which includes consideration of existing energy efficiency code requirements and other market based efficiency improvements.

46. There are no sufficient conservation or other non-generating alternatives reasonably available to petitioners to mitigate the need for the proposed Stanton 2. OUC has been actively analyzing, developing, and promoting conservation and demand-side management programs since 1973. It responded to FEECA in 1981 and 1990 by offering conservation and demand-side management programs to reduce oil consumption and weather sensitive peak demands. As alternatives to Stanton 2, fifteen residential and twenty-two commercial demand-side programs were screened. Three residential and four commercial programs passed the screening to be evaluated in further detail. Upon evaluation in detail, two new programs - conversion of resistance heating to heat pumps and efficient commercial lighting were found by OUC to be cost effective. These will be enhancements to the existing approved FEECA programs and will be implemented in 1993. The estimated savings in winter peak demand of OUC's new (14 MW) and existing (24.9 MW) programs and curtailable rates (4.4 MW) are projected to reduce demand by 43.3 MW in 1997. Conservation demand savings of 43.3 MW is not sufficient to offset the need for Stanton 2.

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47. FMPA Stanton 2 participants and the All-Requirements participants are actively promoting energy conservation and are involved in a wide range of conservation programs. These ongoing programs, which are projected to result in a reduction in overall demand of 27 MW through the year 1997, are taken into account in the load forecasts. With these conservation efforts, the FMPA participants are still projected to be capacity deficient prior to 1997.

48. KUA is projected to require 299 MW of capacity by 1997 and currently owns only 123 MW of capacity. This estimate includes the effect of their conservation programs and the effect of a proposed load management program. No other non-generating alternatives have been identified, and even if they were, it is very unlikely that they could account for the 176 MW of capacity which will be required by 1997.

49. In addition to the four existing 230 kV transmission lines that connect the Stanton Substation to the grid, one new 230 kV transmission line segment will be required. The line will go from Stanton Substation to the Mud Lake area where it will connect with a line to the Taft Substation being installed in 1992 on existing transmission towers as part of a relocation project associated with the expansion of the Orlando International Airport. The new 230 kV transmission line segment will be constructed in the previously certified railroad corridor. The additional 230 kV circuit is necessary to deliver the total power output of Stanton 1 and 2 under single contingency transmission outage conditions. The siting for the new line was influenced by the need to better ensure the reliable transfer of power by finding an alternate pathway to the load centers. In addition to providing increased reliability, the new circuit provides direct support for those load centers located in the south side of the system grid.

50. The alternate access road located adjacent to the new transmission line is needed to allow maintenance of that portion of the transmission line to ensure its reliable service.

51. No additional fuel delivery facilities will be required to deliver fuel to Stanton 2 other than the purchase of two additional unit train sets of coal cars which are included in the capital cost estimate. All necessary common coal handling facilities were installed with Stanton 1.

52. The reasonably anticipated costs to petitioners of environmental compliance of the proposed Stanton 2 has been properly considered by petitioners in the unit selection process.

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The capital and operating costs presented for Stanton 2 and used in the evaluations include the reasonably anticipated costs of environmental compliance. Costs were included for a wet limestone scrubber, electrostatic precipitator, low NO_x burners, scrubber waste and ash disposal, and brine concentrators for wastewater disposal to eliminate off-site wastewater discharges. In addition, petitioners include a \$1500/ton cost for SO₂ allowances they will not need.

53. The magnitude of the opportunity cost of the 1990 Clean Air Act Amendments SO₂ emission allowances is speculative at best. Because of their speculative nature, it is adequate to only show that the utility has enough allowances available to operate its system. The evidence clearly proved that OUC will have adequate allowances available to operate its system through 2020, including Stanton 2. As a worst case analysis, the EPA allowance price of \$1500 per allowance was used to evaluate the addition of Stanton 2. Even including the \$1500 per allowance in the cost comparison Stanton 2 was still lower in cost than the next lowest cost alternative by 4.4 percent. The opportunity cost of Clean Air Act SO₂ emission allowances was properly treated in petitioners' evaluation of the total in-service cost of the proposed Stanton 2.

CONCLUSIONS OF LAW

1. 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.

2. The proposed Stanton Unit 2 facility is to be a 440 MW, pulverized coal-fired steam generation unit that will adjoin the presently existing Stanton Unit 1. The site is approximately fourteen miles southeast of Orlando in Orange County, Florida. The site of the existing Stanton 1 and proposed Stanton 2 consists of 3,280 acres and corridors for associated transmission lines and associated facilities. The Governor and Cabinet sitting as the Siting Board certified this site on December 14, 1982 as a site for Stanton 1 and as a site for an ultimate generating capacity of approximately 2,000 MW.

3. Section 403.519, Florida Statutes, (1990) provides as follows:

Exclusive forum for determination
need. On request by an applicant or

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on its own motion, the commission shall begin a proceeding to determine the need for an electrical power plant subject to the Florida Electrical Plant Siting Act.

* * *

In making its determination, the commission shall take into account the need for electric system reliability and integrity, and 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. The commission's determination of need for an electrical power plant shall create a presumption of public need and necessity and shall serve as the commission's report required by s. 403.507(2)(a)2. An order entered pursuant to this section constitutes final agency action.

4. As to the first requirement of the statute, I conclude that petitioners have demonstrated that the proposed power plant will contribute to electric system reliability and integrity. This conclusion is based upon evidence pertaining to the reliability and integrity of Stanton 1 of which Stanton 2 is a replicate. There is reason to believe that Stanton 2 will perform equally as well. The fact that Stanton 2 will provide for fuel diversity for each of the utilities involved, provides further assurances that this facility will "contribute to electric system reliability and integrity."

5. The second substantive consideration of Section 403.519, Florida Statutes, is the "need for adequate electricity at reasonable cost." By a preponderance of the evidence, petitioners have established that the planned generating unit will provide

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adequate electricity at reasonable cost. Stated differently, it is my conclusion that the cost of the electricity to be provided by the Stanton 2 Project is reasonable when compared to the viable alternatives to meet the 1997 need for electricity.

6. 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. It is my conclusion that the Stanton 2 project is the most cost-effective alternative available to meet Petitioners' 1997 need for firm capacity and energy.

7. The next substantive consideration of Section 403.519, Florida Statutes, is that the Commission expressly consider "the conservation measures taken by or reasonably available to the applicant which might mitigate the need for the proposed power plant."

Based upon the evidence of record, I conclude that petitioners are reasonably considering and acting upon the conservation measures available to avoid the need for capacity as required by Section 403.519, Florida Statutes.

8. Finally, the statute permits inquiry into "other matters within its (the Commission's) jurisdiction which it deems relevant." In previous petitions under Section 403.519, Florida Statutes, the Commission has evaluated proposed projects on a statewide perspective and Peninsular Florida needs. The record adequately shows that petitioners' need is part of a larger statewide and Peninsular Florida need for power in 1997. By providing approximately 440 MW of firm capacity and energy to petitioners on a reliable, cost-effective basis, this project will contribute to statewide and Peninsular Florida's needs.

RECOMMENDATION

Based on the foregoing findings of fact and conclusions of law, it is RECOMMENDED that the Commission enter a final order:

- a. incorporating the foregoing Findings of Facts and Conclusions of Law; and
- b. approving the Joint Petition for a Determination of Need for the proposed Stanton 2 power plant and its related facilities,

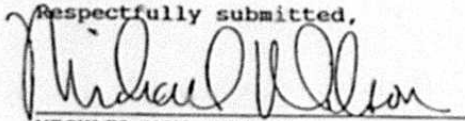
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It is further

RECOMMENDED that a copy of 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), Florida Statutes.

Respectfully submitted,



MICHAEL MCK. WILSON
Commissioner and Hearing Officer

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