

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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In re: Generic investigation )  
into the aggregate electric )  
utility reserve margins planned )  
for Peninsular Florida )

DOCKET NO. 981890-EU  
FILED OCTOBER 4, 1999

JOINT PREHEARING STATEMENT OF ISSUES AND POSITIONS  
OF DUKE ENERGY NORTH AMERICA, L.L.C. AND  
DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY LTD., L.L.P.

Intervenor Duke Energy North America, L.L.C. and Duke Energy  
New Smyrna Beach Power Company Ltd., L.L.P. (collectively  
referred to herein as "Duke"), pursuant to the Order Establishing  
Procedure for this docket, as amended, hereby file their  
Prehearing Statement of Issues and Positions.

A. WITNESSES

- 1. Kenneth J. Slater

B. EXHIBITS

- Exhibit KJS-1: Resume' of Kenneth John Slater.
- Exhibit KJS-2: The N-Times Method.
- Exhibit KJS-3: Example of Weather Impact on Load & Capacity.
- Exhibit KJS-4: Load Meeting Capability of a Generator.
- Exhibit KJS-5: Optimal Generation Reserve Margin.
- Exhibit KJS-6: Regional Reliability Council Generation  
Adequacy Criteria.

Other exhibits as such may be identified in discovery.

AFA 2  
APP \_\_\_\_\_  
CAF \_\_\_\_\_  
CMU \_\_\_\_\_  
CTR \_\_\_\_\_  
EAG 1  
LEG 1  
MAS 5  
OPC \_\_\_\_\_  
PAI 2  
SEC 1  
WAW \_\_\_\_\_  
OTH \_\_\_\_\_

**C. STATEMENT OF BASIC POSITION**

Given the declared willingness and intent of merchant power plant developers to construct and operate efficient merchant power plants in the Peninsular Florida wholesale power market, it appears unnecessary that the Commission would, at least for the foreseeable future, have to consider adopting a minimum reserve margin standard to ensure reliability or to determine whether to require utilities to add capacity. The Commission should not adopt or impose any type of maximum reserve margin that would in any way limit the addition of non-rate-based, competitive merchant generating capacity to the Peninsular Florida power supply grid. It would be acceptable and prudent to adopt a maximum reserve margin for facilities that are to be included in a utility's rate base or in purchased power cost recovery clauses pursuant to Commission-approved long-term capacity and energy contracts. From the Commission's perspective in evaluating the reliability and integrity of the Peninsular Florida power supply grid, it makes no difference whether a particular plant is owned by a retail-serving utility or by a wholesale merchant utility: a power plant is a power plant. Similarly, from the Commission's perspective, individual utilities' reserve margins are not significant in evaluating system reliability; individual utilities' reserve margins are important, however, for allocating reserve responsibilities fairly.

**D. ISSUES OF FACT**

**ISSUE 1:** What is the appropriate methodology, for planning purposes, for calculating reserve margins for individual utilities and for Peninsular Florida?

**DUKE:** Reserve Margin is calculated by subtracting the system coincident firm peak load from available firm capacity resources. The resulting difference is expressed in MW or as a percentage of firm load. The system coincident peak firm load is determined for the annual or seasonal coincident peak by subtracting the demand reduction effects of conservation, interruptible load, and load management programs from the projected total load. Available firm capacity includes the installed generation, reflecting the appropriate seasonally adjusted capability ratings of utility-owned generating units, merchant plants and Qualifying Facilities, as well as the firm net purchases and sales relative to Peninsular Florida.

**ISSUE 2:** What is the appropriate methodology, for planning purposes, for evaluating reserve margins for individual utilities and for Peninsular Florida?

**DUKE:** Reserve margins should be evaluated probabilistically to determine the probability that a given system, with its actual reserve margin, will be able to serve the power supply demands placed upon it. In Peninsular Florida, the reliability of the overall system is of paramount importance. The reserve margin contributions of individual utilities are only of importance as a matter of fairness.

**ISSUE 3:** How should the individual components of an individual or peninsular Florida percent reserve margin planning criterion be defined:

- A. Capacity available at time of peak (Ex. QF capacity, firm and non-firm purchases and non-committed capacity). Should equipment delays be taken into account?
- B. Seasonal firm peak demand. Over what period (hourly, 30 min., 15 min.) should the seasonal firm peak demand be determined? What is the proper method of accounting for the diversity of the individual utilities' seasonal firm peak demands and load uncertainty? Is sufficient load uncertainty data available and being used? How are interruptible, curtailable, load management and wholesale loads treated at the end of the tariff or contract termination period? How should demand and/or energy use reduction options be evaluated and included in planning and setting reserve margins?
- C. Should a percent reserve margin planning criterion be determined on an annual, seasonal, monthly, daily, or hourly basis?

**DUKE:** A. Capacity available at time of peak should be evaluated probabilistically. Merchant plants and other non-committed capacity resources should be included in evaluating the reliability of the Peninsular Florida system as though they were committed resources. Equipment delays should be taken into account in evaluating the probability that specific resources will be available at the time of peak.

- B. Seasonal firm peak demands should be determined hourly unless it were demonstrable that a shorter period is more important or significant in evaluating reliability. Diversity should be accounted for on an actual, coincident basis. Sufficient load uncertainty data probably are available to permit meaningful evaluations and analyses, but are apparently not being used. No position at this time as to how interruptible, curtailable, load management and wholesale loads are being treated at the end of contract or tariff periods. Demand and energy use reduction options should be evaluated and included in planning and in setting reserve margins on a probabilistic basis based on the actual performance of such options.
- C. Planning criteria should generally be developed and stated on an annual basis.

**ISSUE 4:** How should generating units be rated (MW) for inclusion in a percent reserve margin planning criterion calculation?

**DUKE:** On a probabilistic, seasonal, and weather-related basis.

**ISSUE 5:** How should individual utility's reserve margins be integrated into the aggregated reserve margin for Peninsular Florida?

**DUKE:** From the Commission's perspective examining the overall reliability of the Peninsular Florida power supply system, it is the reliability of the overall system that counts, not individual utilities' reserve margins. Individual utilities' reserve margins are important, however, for allocating reserve responsibilities.

**ISSUE 6:** Should there be a limit on the ratio of non-firm load to MW reserves? If so, what should that ratio be?

**DUKE:** Perhaps, but the answer depends on other key features of the power supply system, including total reserves (including uncommitted generating capacity), and the capacity and availability of external assistance.

**ISSUE 7:** Should there be a minimum of supply-side resources when determining reserve margins? If so, what is the appropriate minimum level?

**DUKE:** Probably yes. The actual minimum level is subject to determination based on evidence in an appropriate proceeding. For planning purposes, the minimum should be determined with respect to the capability to serve firm load under some reasonably foreseeable peak conditions. Otherwise, there should be no minimum (or maximum) reserve margin as long as there are willing merchant plant developers whose projects will result in reserve margins greater than or equal to the minimum.

**ISSUE 8:** What, if any, planning criteria should be used to assess the generation adequacy of individual utilities?

**DUKE:** From the perspective of evaluating the reliability of the Peninsular Florida supply system, it is unnecessary to assess the generation adequacy of individual utilities. If there are sufficient resources to provide the required level of reliability, it does not matter who provides those resources. From an economic perspective, however, all load-serving entities should be responsible for an appropriate share of reserves.

**ISSUE 9:** Should the import capability of Peninsular Florida be accounted for in measuring and evaluating reserve margins and other reliability criteria, both for individual utilities and for Peninsular Florida?

**DUKE:** Yes.

**ISSUE 10:** Do the following utilities appropriately account for historical winter and summer temperatures when forecasting seasonal peak loads for purposes of establishing a percent reserve margin planning criterion?

- A. City of Homestead
- B. City of Lake Worth Utilities
- C. City of Lakeland
- D. City of Tallahassee
- E. Florida Power and Light Company
- F. Florida Power Corporation
- G. Florida Municipal Power Agency

- H. Gainesville Regional Utilities
- I. Jacksonville Electric Authority
- J. Kissimmee Utility Authority
- K. Orlando Utilities Commission
- L. Reedy Creek Improvement District
- M. Seminole Electric Cooperative
- N. Tampa Electric Company
- O. Utilities Commission of New Smyrna Beach

**DUKE:** Tentatively, no. To be determined based on the evidence.

**ISSUE 11:** Has the Florida Reliability Coordinating Council's 15 percent reserve margin planning criterion, or any other proposed reserve margin criterion, been adequately tested to warrant using it as a planning criterion for the review of generation adequacy on a Peninsula Florida basis? If the answer is no, what planning criterion should be used?

**DUKE:** No. The analytical work necessary to select a planning criterion or criteria has not been performed. A minimum economic reserve margin (or a range for same) can be determined, using probabilistic modeling, by identifying the reserve margin associated with minimum total costs of power supply and of unserved load. The high end of the range will define the amount of capacity that could be considered prudent for inclusion in rate base. However, no maximum should be imposed on non-rate-based merchant capacity.

**ISSUE 12:** What percent reserve margin is currently planned for each of the following utilities and is it sufficient to provide an adequate and reliable source of energy for operational and emergency purposes in Florida?

- A. City of Homestead
- B. City of Lake Worth Utilities
- C. City of Lakeland
- D. City of Tallahassee
- E. Florida Power and Light Company
- F. Florida Power Corporation
- G. Florida Municipal Power Agency
- H. Gainesville Regional Utilities
- I. Jacksonville Electric Authority
- J. Kissimmee Utility Authority
- K. Orlando Utilities Commission
- L. Reedy Creek Improvement District
- M. Seminole Electric Cooperative

- N. Tampa Electric Company
- O. Utilities Commission of New Smyrna Beach

**DUKE:** No position at this time. This issue will be addressed by the evidence.

**ISSUE 13:** How does the reliability criteria adopted by the FRCC compare to the reliability criteria adopted by other reliability councils?

**DUKE:** The FRCC's reserve margin criterion is different from the capacity margin criterion used by all other regional reliability councils.

#### **E. ISSUES OF LAW**

**DUKE:** None at this time. Issue 18 does, however, have some legal aspects. (See below.)

#### **F. POLICY ISSUES**

**ISSUE 14:** Should the Commission adopt a reserve margin standard for individual utilities in Florida? If so, what should be the appropriate reserve margin criteria for individual utilities in Florida? Should there be a transition period for utilities to meet that standard?

**DUKE:** Tentatively, no. If the Commission were to consider adopting such standards, it should consider adopting different standards for different utilities, depending on their individual characteristics. If such standards were adopted, there should be a transition period for any utilities that were below the standards to come into compliance.

**ISSUE 15:** Should the Commission adopt a reserve margin standard for Peninsular Florida? If so, what should be the appropriate reserve margin criteria for Peninsular Florida?

**DUKE:** No. Given the declared willingness and intent of merchant power plant developers to construct and operate efficient power plants in the Peninsular Florida wholesale power market, it appears unnecessary that the Commission would, at least for the foreseeable

future, have to consider adopting a minimum reserve margin for the purpose of determining whether to require utilities to add capacity, and the Commission should not adopt or impose any type of maximum reserve margin that would in any way limit the addition of non-rate-based, competitive merchant generating capacity to the Peninsular Florida power supply grid. If in fact the Commission is to consider adopting a standard, that would probably require rulemaking.

**ISSUE 16:** Should the Commission adopt a maximum reserve margin criterion or other reliability criterion for planning purposes; e.g., the level of reserves necessary to avoid interrupting firm load during weather conditions like those experienced on the following dates: 01/08/70, 01/17/77, 01/13/81, 01/18/81, 12/19/81, 12/25/83, 01/21/85, 01/21/86 and 12/23/89?

**DUKE:** It would be acceptable and prudent to adopt a maximum reserve margin for facilities that are to be included in a utility's rate base or in purchased power cost recovery clauses pursuant to Commission-approved long-term capacity and energy contracts. The Commission should not adopt any maximum reserve margin criterion that might be applied to merchant capacity, because such capacity will enhance reliability without its costs being imposed on captive ratepayers.

**ISSUE 17:** What percent reserve margin is currently planned for Peninsula Florida and is it sufficient to provide an adequate and reliable source of energy for operational and emergency purposes in Peninsula Florida?

**DUKE:** It appears that planned reserve margins, including load management and interruptible resources, are projected to range from 15 to 21 percent over the period 1999-2009. It further appears that planned supply-side reserve margins, i.e., reserve margins calculated including only generating resources, are projected to range from 4 to 12 percent over the same period. There is significant doubt as to the adequacy of these planned reserve margins to maintain reliable service to Peninsular Florida under realistic weather scenarios.

**ISSUE 18:** Can out-of-Peninsular Florida power sales interfere with the availability of Peninsular Florida reserve capacity to serve Peninsular Florida consumers during a capacity shortage? If so, how should such sales be



accounted for in establishing a reserve margin standard?

**DUKE:** The answer to this issue depends, at least in part, on the interpretation of Section 366.055, Florida Statutes, and any interplay between the state laws and any federal energy emergency regulations. The most realistic and practical answer to this question is "No."

**ISSUE 19:** Based on the resolution of Issues 1 through 18, what follow-up action, if any, should the Commission pursue?

**DUKE:** The Commission should continue to monitor the reliability of the Peninsular Florida and to take all appropriate steps to ensure the development of a robust, competitive wholesale power market in Peninsular Florida, including the addition of merchant plants to the Peninsular Florida supply system.

**G. STIPULATED ISSUES**

Duke is not aware of any stipulated issues at this time.

**H. PENDING MOTIONS**

At this time, the Joint Petitioners are aware of the following pending motions:

FIPUG's Motion to Compel FPC to Respond to Discovery

FIPUG's Motion to Compel TECO to Respond to Discovery

FIPUG's Motion to Compel FPL to Respond to Discovery

FIPUG's Motion to Compel FRCC to Respond to Discovery

LEAF's Motion for Order to Compel Responses to Interrogatories by FPL

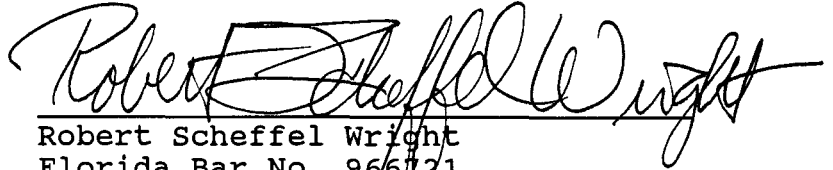
LEAF's Motion for Order to Compel Responses to Interrogatories by TECO

**I. REQUIREMENTS OF THE PROCEDURAL ORDER**

Duke is not aware of any requirements of the Order  
Establishing Procedure with which Duke cannot comply.

Respectfully submitted this 4<sup>th</sup> day of October, 1999.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing filed in the referenced proceeding, has been furnished by hand delivery (\*) or U.S. Mail on this 4th day of October, 1999, to the following:

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