STEEL HECTOR & DAVIS
REGISTERED LIMITED LIABILITY PARTNERSHIP

Steel Hector & Davis LLP
215 South Monroe, Suite 601
Tallahassee, Florida 32301-1804
850.222.2300
850.222.8410 Fax
www.steelhector.com

Matthew M. Childs, P.A.

ORIGINAL

September 13, 1998

Ms. Blanca S. Bayó, Director
Division of Records and Reporting
Florida Public Service Commission
4075 Esplanade Way, Room 110
Tallahassee, FL 32399

RE: DOCKET NO. 981890-EU

Dear Ms. Bayó:

Enclosed for filing please find an original and fifteen(15) copies of Florida Power & Light Company's Rebuttal Testimony of Roberto R. Denis in the above referenced docket.

Very truly yours,

Matthew M. Childs, P.A.

MMC:ml
Enclosure
cc: All Parties of Record

AFA 2
APP
CAF
CMU
CTR
EAG
LEG 1
MAS 5 + org
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PAI 2
SEC 1
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OTH

CERTIFICATE OF SERVICE
DOCKET NO. 981890-EU

I HEREBY CERTIFY that a true and correct copy of Florida Power & Light Company's Rebuttal Testimony of Roberto R. Denis has been furnished by Hand Delivery*, U.S. Mail this 13th day of September, 1999 to the following:

Robert V. Elias, Esq.*
Leslie J. Paugh, Esq.
Division of Legal Services
FPSC
2540 Shumard Oak Blvd.
Room 370
Tallahassee, FL 32399

James D. Beasley, Esq.
Ausley & McMullen
227 South Calhoun Street
P.O. Box 391
Tallahassee, FL 32301

Paul Sexton, Esq.
Thornton Williams & Assoc.
P.O. Box 10109
215 South Monroe St. #600A
Tallahassee, FL 32302

Robert Scheffel Wright, Esq.
John T. LaVia, III, Esq.
Landers and Parsons, P.A.
P.O. Box 271
Tallahassee, FL 32302

John Roger Howe, Esq.
Office of Public Counsel
111 West Madison Street
Room 812
Tallahassee, FL 32399

Roy C. Young, Esq.
Young, van Assenderp et al.
225 South Adams Street, #200
Tallahassee, FL 32301

Fla. Public Utilities Co.
Mr. Jack English
401 South Dixie Highway
West Palm Beach, FL 33402

Debra Swim, Esq.
Ms. Gail Kamaras
LEAF
1114 Thomasville Rd. Suite E
Tallahassee, FL 32303

Jim McGee, Esq.
Florida Power Corp.
P.O. Box 14042
St. Petersburg, FL 33733

Jeffrey Stone, Esq.
Beggs & Lane
P.O. Box 12950
Pensacola, FL 32576

Joseph A. McGlothlin, Esq.
Vicki Gordon Kaufman, Esq.
McWhirter Reeves
117 South Gadsden Street
Tallahassee, FL 32301

John W. McWhirter, Jr., Esq.
McWhirter Reeves
Post Office Box 3350
Tampa, FL 33601-3350

Frederick M. Bryant, Esq.
General Counsel
Fla. Municipal Power Agency
2010 Delta Boulevard
Tallahassee, FL 32315

Ms. Michelle Hershel
Fla. Electric Cooperative Assoc.
Post Office Box 590
Tallahassee, FL 32302

Mr. Ken Wiley
Florida Reliability
Coordinating Council
405 Reo Street, Suite 100
Tampa, FL 33609

City of Homestead
Mr. James Swartz
675 N. Flagler Street
Homestead, FL 33030

City of Lakeland
Mr. Gary Lawrence
501 East Lemon Street
Lakeland, FL 33801

City of St. Cloud
Mr. J. Paul Wetzel
1300 Ninth Street
St. Cloud, FL 34769

City of Vero Beach
Mr. Rex Taylor
Post Office Box 1389
Vero Beach, FL 32961

Fort Pierce Utilities
Mr. Thomas W. Richards
Post Office Box 3191
Ft. Pierce, FL 34948

Gainesville Regional Utilities
Mr. Raymond O. Manasco, Jr.
Post Office Box 147117
Station A-138
Gainesville, FL 32614

Kissimmee Utility Authority
Mr. Ben Sharma
Post Office Box 423219
Kissimmee, FL 34742

Mr. Robert Williams
7201 Lake Ellinor Drive
Orlando, FL 32809

Mr. Timothy Woodbury
Vice-President, Corp. Planning
Seminole Electric Cooperative
P.O. Box 272000
Tampa, FL 33688-2000

City of Lake Worth Utilities
Mr. Harvey Wildschuetz
1900 Second Avenue, North
Lake Worth, FL 33461

City of Ocala
Mr. Dean Shaw
Post Office Box 1270
Ocala, FL 34478

City of Tallahassee
Mr. Richard G. Feldman
300 South Adams Street
Tallahassee, FL 32301

Florida Keys Electric
Cooperative Association
Mr. Charles A. Russell
Post Office Box 377
Tavernier, FL 33070

Jacksonville Electric
Authority
Mr. Tracy E. Danese
21 West Church St. T-16
Jacksonville, FL 32202

Orlando Utilities Commission
Mr. T.B. Tart
Post Office Box 3193
Orlando, FL 32802

Utility Board of the City
of Key West
Mr. Larry J. Thompson
Post Office Drawer 6100
Key West, FL 33041

By: _____
Matthew M. Childs, P.A.

ORIGINAL

BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION

DOCKET NO. 981890-EU
FLORIDA POWER & LIGHT COMPANY

GENERIC INVESTIGATION INTO
THE AGGREGATE UTILITY RESERVE MARGINS
PLANNED FOR PENINSULAR FLORIDA

REBUTTAL TESTIMONY & EXHIBITS OF:

ROBERTO R. DENIS

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF ROBERTO R. DENIS

DOCKET NO. 981890-EU

SEPTEMBER 13, 1999

Q. Please state your name and business address.

A. My name is Roberto Denis and my business address is 9250 West Flagler Street, Miami, Florida 33174.

Q. Have you previously testified in this docket?

A. Yes.

Q. What is the purpose of your testimony?

A. My testimony is focused on two points raised by Duke's witness Mr. Slater. The first point is in regard to whether it is appropriate to include uncommitted (merchant unit) capacity in system reliability analyses. The second point is in regard to Mr. Slater's proposed approach to determining the proper level

of reserves to carry for Peninsular Florida and his "N-Times Method" for then allocating those reserves among the individual utilities.

Q. Do you agree with Mr. Slater's statement that merchant units should be included in reserve margin calculations?

A. No. Reserve margin analyses are intended to look at the coincident peak hour load of a utility system and all of the resources which are committed to serve that load. Therefore, uncommitted capacity of any kind, such as merchant units, should not be included in reserve margin calculations since, by definition, it is not committed to serving the load in question at the peak hour.

The obvious flaw in Mr. Slater's approach is that inclusion of uncommitted capacity in a reserve margin calculation, even at discounted values, would serve to displace committed capacity in a utility's plans. Suppose a given utility plans to a reserve target of 15%. Using current planning methodology, if the utility forecasts that its reserves will fall below 15% for a given year, it will plan to construct/purchase new capacity and/or implement demand side management (DSM) to bring the reserve margin for that year to 15% or higher.

Now suppose that a merchant plant is announced to be on-line in that same

year the utility is projecting that its reserve margin will fall below 15% and that the utility is compelled to include all/some portion of that merchant unit in its plans. The need to acquire new capacity and/or implement DSM now is minimized or eliminated for that utility. In effect, committed resources have been displaced by uncommitted resources. This suggests that the resulting utility system could be less reliable than if the committed resources had been put in place.

Q. Can this flaw be corrected by simply raising the reserve margin requirements?

A. No. This same situation of uncommitted, less reliable resources replacing committed resources will occur regardless of what reserve margin standard is set. A suggestion to both include merchant units in reserve margin calculations and raise the reserve margin standard is simply a way to facilitate the development of merchant units while attempting to mask this motive.

Q. If one were to start including uncommitted capacity in reserve margin calculations, would merchant units be the only type of capacity which would be considered?

A. No. There is no basis for only including uncommitted merchant units in reserve margin calculations and excluding other existing uncommitted resources. For example, the state already has a number of existing cogeneration/Qualifying Facilities (QF) which are being paid on an as-available basis. These resources are also uncommitted capacity resources and could just as well be included in reserve margin calculations, although this would result in some interesting issues regarding potential capacity payments to such facilities. For years the Commission has rejected arguments that as-available energy suppliers should receive capacity payments for long-term capacity deferral.

The uncommitted capacity in the transmission interface between Florida and Georgia could be used to make additional non-firm purchases and would, therefore, also fall into the category of uncommitted capacity resources. In addition, one could also consider other types of "operational" resources such as some forms of non-firm load (curtailable load, voltage reduction and load control "scram") which are also already in place, but which are not typically included in reserve margin calculations.

The key point is that if one were to change the basic premise upon which reserve margin calculations have traditionally been based - committed resources only - the door is opened to a number of such resources. To simply decide that the door is open to only one such uncommitted resource

and ignore all others would appear to be an act of patronage for the one "favored" resource. In addition, as I pointed out before, including uncommitted resources serves to displace committed resources regardless of the reserve margin standard being used and to lower reliability. If the aim of planning is really to maintain or improve reliability, then committed resources only should be included in reserve margin calculations.

Q. Could uncommitted resources such as merchant units be included in loss-of-load-probability (LOLP) calculations?

A. Yes. Probabilistic approaches are much better suited to address the potential contribution of an uncommitted resource such as a merchant unit. The probability of such a unit being available to assist a Florida utility at a given time perhaps could be projected and incorporated into such an analysis. Some of the particular difficulties with developing an estimate of merchant plants' probabilities to provide assistance are: I) unlike other uncommitted resources such as QF's providing as-available energy, there is no prior history in Florida upon which to base an estimate; ii) the opportunistic nature of merchant plants to maximize their returns makes it difficult to assess their probability of making sales to Florida utilities; and iii) most merchant plants are only announced, and it is unclear which ones will actually become operational.

This last point is particularly important as utilities, which have an obligation to meet new load requirements and provide reliable service, must take action in advance of the need. Thus, plants that are simply "announced" or which require no licensing cannot even be relied upon to even exist much less provide power when needed when a utility must commit to a new unit. This raises the strong possibility that needed facilities will either not be built and/or that facilities will be duplicated to meet the same load growth.

Q. What would be the likely effect of including merchant units in LOLP analyses of either Peninsular Florida or FPL?

A. As I discussed in my direct testimony, FPL uses two indicators to measure the outcome of the reliability planning process. Reserve margin is one and LOLP is the second. If either or both indicators violate the planning criteria, resources are required to bring the system in compliance with the criterion. Since LOLP is not the criterion currently dictating the need for future resource needs of either Peninsular Florida or FPL, the projected LOLP values are already well below the planning criterion without the addition of merchant units or other uncommitted resources. Therefore, their inclusion would have no practical effect. Either the projected LOLP would be unchanged or would be lowered even further below the planning criterion. In either case, since LOLP is not driving the need for future resources, the inclusion of merchant units would avoid no more capacity.

Q. Mr. Slater discusses a methodology for how to calculate the needed total reserves for Peninsular Florida and then how to allocate those reserves for individual utilities? What is your overall opinion of this methodology?

A. My overall opinion is that Mr. Slater offers nothing new or novel in regard to calculating total reserves or for allocating those reserves. While he does not provide enough detail regarding his methodology to enable a detailed critique, enough detail was given so that I can comment on two aspects of the proposed methodology. One aspect concerns his approach for calculating the needed total reserves for Peninsular Florida. The other aspect concerns his approach for allocating that total level of reserves to individual utilities.

Q. What is your comment concerning his approach for calculating the needed total reserves for Peninsular Florida?

A. This part of Mr. Slater's overall methodology is based on an approach, which has been tried before. The approach is also known as the "Over and Under" approach which appeared in documents published by the Electric Power Research Institute in the 1980's. The approach has not been widely embraced or followed due to an inherent fundamental problem, which was

recognized as utilities experimented with applications of the approach.

This approach basically examines a range of costs. However, there are two distinctly different types of costs, which are being compared. At one end of this range lies high utility system reliability resulting from high level of reserves, but with higher electric rates caused by these "additional units". The primary costs in this case are the higher electricity prices. Mr. Slater does not discuss this in detail but his presentation suggests that merchant units can be added indefinitely with no negative effect on these costs. Such a result would render his approach meaningless.

At the other end of this range lies low utility system reliability resulting from lower reserves, but more frequent outages due to the lower level of reserves. The primary costs in this case are the "outage" costs. The objective is to find the least cost to society when adding up the two types of costs at any point along this range.

The fundamental problem with this approach is not only that you are comparing two different types of costs (electric rates and "outage costs"), but that the "outage costs" values are significantly less well defined and agreed upon than is the other type of cost. It is extremely difficult to accurately quantify "outage costs" when such costs are so dependent upon the type of customer (residential, etc.) being interrupted, the number of interruptions, the

duration of interruptions, the time of day of interruptions, etc. Furthermore, the level of desired reserves can be manipulated by the theoretical "outage cost" levels one assumes. Primarily for these reasons, this approach to determining the needed level of reserves for a utility system has seen only limited use. It is interesting to note, however, that when this methodology was tested in the 1980's, most utilities found optimal reserve margins around the 15% level even with the lower generating unit availabilities of that era.

Q. What is your comment regarding Mr. Slater's approach for allocating the total level of needed reserves for the Peninsula to the individual utilities?

A. The theoretically simple exercise of allocating the total level of needed reserves to individual utilities is not a trivial or mechanical exercise in practice. As I mentioned in my direct testimony, the Commission has previously abandoned such an approach in attempting to allocate the capacity of the "statewide avoided unit" in its cogeneration pricing work.

Mr. Slater attempts to trivialize this with his "N-Times Method" approach. This method assumes that one has already calculated the total level of needed reserves for Peninsular Florida using a probabilistic version of the approach described above and then one "..scales up the load and number of individual resources of a member utility until it reaches the same size as

the overall system, and matches the reliability of the overall system, in order to determine the appropriate reserve contribution of that member utility".

This approach is a simplistic one (and Mr. Slater provides not even a hint of how the reserve levels in his exhibit were derived), but the approach appears to have facets which are capable of resulting in some inequitable allocations of the amount of reserves individual utilities must carry. Several of these come readily to mind. For example, in scaling up the individual utility system "..until it reaches the same size as the overall system, and matches the reliability of the overall system,.." the reliability as measured from an LOLP perspective of the individual utility can change dramatically after it is scaled up due solely to the greater number of units on the scaled-up version. The scaled-up system will have more units and, therefore, will be more reliable from an LOLP perspective than was the original utility. The key point is that the reliability of the scaled-up version of a utility is not the same as that of the original utility. Furthermore, this effect will be felt in differing degrees by utilities of different size with the smallest utilities being affected the most.

Another facet of this approach which appears troubling is that of scaling up the load of individual utilities. A simple scaling up of the load of an individual utility would not capture the effect of load diversity for the overall peninsula system and the contribution to that diversity from the individual utility.

Yet another facet which comes readily to mind is that while merchant units would be included in the calculation of the peninsula's total needed reserves, it appears that all of those total reserves would then be allocated to the utilities, including those reserves credited to the merchant units.

Q. How would you summarize Mr. Slater's proposed methodology?

A. The proposed methodology has only been minimally described, but that description is sufficient to see that significant problems exist with it. The first part of this methodology is based on a comparison of two types of costs which has been tried before but which, because of fundamental problems, has not received widespread acceptance. Furthermore, the second part of his methodology appears to be able to result in, at best, some questionable and, at worst, inequitable allocations of reserves which would have to be carried by individual utilities.

Q. Does this conclude your rebuttal testimony?

A. This concludes my rebuttal testimony of Mr. Slater, although it is necessarily constrained by the lack of detail provided in his testimony. I anticipate filing additional rebuttal testimony in response to Mr. Ballinger's and Mr. Trapp's testimonies.