

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Generic Investigation into the
Aggregate Electric Utility Reserve Margins
Planned for Peninsular Florida

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Docket No. 981890-EU

Filed: August 16, 1999

DIRECT TESTIMONY

OF

LANCE MUCKELROY

ON BEHALF OF

RELIANT ENERGY POWER GENERATION, INC.

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY

OF

LANCE MUCKELROY

ON BEHALF OF RELIANT ENERGY POWER GENERATION, INC.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lance Muckelroy, and my business address is 1111 Louisiana Street, Houston, Texas 77002.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Reliant Energy, Incorporated as Director, Market Analysis.

Q. ON WHOSE BEHALF ARE YOU FILING THIS TESTIMONY?

A. I am filing this testimony on behalf of Reliant Energy Power Generation, Inc. Reliant Energy Power Generation, Inc. is a developer of independent power projects throughout the United States. Reliant is negotiating for the acquisition of certain generation assets in Florida and is otherwise exploring opportunities to participate in the wholesale generation market in Florida.

Q. BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND, PROFESSIONAL QUALIFICATIONS, AND PRIOR EXPERIENCE.

A. I received a Bachelor of Science degree in petroleum engineering from the University of Texas at Austin in 1987 and a Master of Business Administration degree from the University of Texas at Austin in 1990. I joined Houston

1 Lighting & Power Company, now a division of Reliant Energy, Incorporated,
2 in 1990. My current position is Director of Market Analysis in the Regulatory
3 Planning and Analysis Group. My primary responsibilities involve the
4 development of market clearing price projections for electricity and assisting
5 the organization in its transition to competition in Texas. Former
6 responsibilities include developing Houston Lighting & Power's Resource
7 Plan, assisting in preparation of testimony and responding to Requests for
8 Information in Houston Lighting & Power's dockets before the Public Utility
9 Commission of Texas, and analyzing power projects within Houston Lighting &
10 Power's service territory.

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

12 A. The purpose of my testimony is to address reserve margin policy which will
13 promote an active wholesale market, provide a higher degree of reliability
14 and, at the same time, place downward pressure on costs. An unduly
15 restrictive reserve margin policy will artificially limit the reliability of the grid,
16 to the detriment of the consumer, and also restrict the ability of the wholesale
17 market to place downward pressure on wholesale rates. Specifically, I will
18 address Issue Number 16, attached to Order PSC-99-1274-PCO-EU, which
19 states: "Should the Commission adopt a maximum reserve margin criterion for
20 planning purposes?"

21 **Q. BRIEFLY CAPSULIZE THE POINTS ON WHICH YOU BELIEVE THE**
22 **COMMISSION SHOULD FOCUS AS IT FORMULATES ITS RESERVE**

1 **MARGIN POLICY.**

2 A. I believe the Commission should focus on two essential points:

- 3 1. Any target Reserve Margin, regardless of the level at which it is set,
4 should be considered as a minimum or “floor” and not a “ceiling” and;
5 2. Competitive market forces will both encourage adequate generation
6 resource development and discourage excess capacity development.

7 **Q. WHAT IS “RESERVE MARGIN” AND WHAT IS ITS PURPOSE?**

8 A. Reserve Margin for a region or specific utility is the amount of installed
9 generation capacity in a region (utility) over and above the region’s (utility’s)
10 annual peak load. Its purpose is to maintain reliable electric service by
11 providing extra generating capacity in the event of higher than forecast annual
12 peak load or forced outages of generating facilities.

13 **Q. IS IT APPROPRIATE TO ESTABLISH A MAXIMUM LIMIT ON RESERVE**
14 **MARGIN WHICH WOULD RESULT IN LIMITING THE CAPACITY**
15 **INSTALLED ON THE GRID?**

16 A. No, it is not.

17 **Q. WHY NOT?**

18 A. Limiting the amount of generation installed in a region risks the reliability of
19 electric service for that region. First, the designation of a desired or targeted
20 value of Reserve Margin is based upon some forecast or projection of the
21 region’s peak load. Forecast loads, by their very prospective nature, cannot
22 always be predicted with certainty. Extreme weather conditions or higher than

1 expected growth in population and economic activity can increase demand
2 above the projected value, thus reducing available generating reserves.
3 Second, mechanical breakdowns and other disruptions of generating facilities
4 do occur without warning. When reserves are thus reduced, the increased
5 risk of demand exceeding available generation resources is a threat to
6 maintaining reliable electric service.

7 **Q. ARE RESERVE MARGINS SET AS THE MAXIMUM AVAILABLE CAPACITY**
8 **ON THE SYSTEM IN OTHER JURISDICTIONS?**

9 A. To my knowledge, no region in North America sets Reserve Margin as a
10 *maximum* desirable level for generation capacity. Further, the criteria of the
11 North American Electric Reliability Council's ("NERC") Operating Policy 1
12 requires that "...each Region . . . shall specify its operating reserve policies,
13 including the *minimum* reserve requirement for the group." [Italics added for
14 emphasis.]

15 **Q. IS IT APPROPRIATE TO SET LIMITS ON A SPECIFIC REGULATED**
16 **UTILITY'S RESERVE MARGIN?**

17 A. Yes, such limits are appropriate when applied to a specific, regulated utility
18 serving captive retail customers. When a regulated utility acquires additional
19 capacity, either by building or through power purchase, it should only do so
20 with the appropriate regulatory approval. This certification process
21 appropriately protects captive ratepayers by preventing the utility from
22 acquiring excess capacity, which would put upward pressure on rates.

1 Regulated utilities serving captive retail customers are not in the same
2 situation as independent power producers operating in a competitive
3 wholesale market. In the monopoly utility circumstance, regulatory oversight
4 is required to protect captive ratepayers from having to pay for capacity in
5 excess of what is needed. In the case of competing wholesale generators,
6 there are no captive retail customers. Thus, there is no calculable wholesale
7 generator specific reserve margin. There is only a regional reserve margin
8 effect. Furthermore, it is the power plant owner, not the ratepayer, who takes
9 all the risk of adding generating capacity.

10 **Q. WHAT IS THE EFFECT ON CONSUMERS WHEN RESERVE MARGIN IS**
11 **CONSIDERED THE MINIMUM CAPACITY REQUIREMENTS OF THE**
12 **SYSTEM?**

13 A. With Reserve Margin set as a *minimum*, and assuming a robust wholesale
14 market environment, utilities and developers are free to add generation based
15 on their respective judgments about the demand for such generation. As this
16 level of generation exceeds the minimum level set for Reserve Margin
17 purposes, there will be downward pressure on wholesale prices.

18 **Q. WHAT IS THE EFFECT ON CUSTOMERS WHEN POWER GENERATED BY**
19 **INDEPENDENT POWER PRODUCERS IS AVAILABLE FOR RESERVE**
20 **MARGIN?**

21 A. As the wholesale price of energy is pushed downward, the reduced cost of
22 energy purchased by retail providers is passed along to the customer. An

1 additional benefit to the customer is achieved when independent power is
2 included as a contributor to Reserve Margin because the independent
3 developer assumes all the financial risk of development, construction, and
4 operation of generating plants. If additional generation were to be built by the
5 utility, the financial risk for such plants would be borne by the ratepayer
6 through increases in rate base.

7 **Q. WHAT IS TO PREVENT TOO MUCH GENERATING CAPACITY FROM**
8 **BEING INSTALLED?**

9 A. Market forces will constrain unbridled power plant development.

10 **Q. HOW WILL MARKET FORCES CONSTRAIN POWER PLANT**
11 **DEVELOPMENT?**

12 A. In a robust wholesale market, competitive market forces will act to restrict the
13 amount of capacity installed. As more generators are built, competition for
14 business among these suppliers will apply downward pressure on the prices
15 of energy and generation-based services provided from those facilities. At
16 some point, market prices will be pushed low enough to discourage further
17 development until economic and/or population growth result in an increase in
18 demand, or there are technological advances allowing energy and services
19 to be provided with sufficiently greater efficiency to justify the investment in
20 new facilities. Over time, as demand increases erode the Reserve Margin,
21 increasing pressure on energy and service prices will encourage additional
22 generation development to meet the growing demand.

1 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

2 A. There should *not* be a *maximum* amount of Reserve Margin mandated for the
3 State of Florida. Allowing wholesale market forces to react to the amount of
4 capacity available relative to the demand will promote construction of
5 adequate yet reasonable amounts of generating resources. Competitive
6 market forces will operate to encourage development of adequate generating
7 resources, while limiting construction of excess generation.

8 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

9 A. Yes.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the Testimony of Lance Muckelroy on behalf of Reliant Energy Power Generation, Inc. has been furnished by U.S. mail and by hand-delivery* on this 16th day of August, 1999 to the following:

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