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

ORIGINAL
Matthew M. Childs, P.A.

February 18, 2000

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

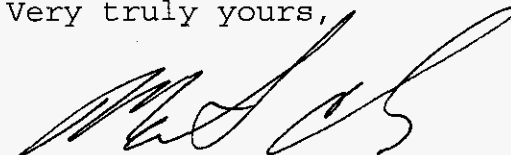
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RECORDS AND REPORTING

RE: DOCKET NO. 991462-EU

Dear Ms. Bayó:

Enclosed for filing please find the original and twenty (20) copies of the Direct Testimony of John H. Landon filed on behalf of Florida Power & Light Company in the above referenced docket.

Very truly yours,



Matthew M. Childs, P.A.

MMC:ml

Enclosure

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CERTIFICATE OF SERVICE
DOCKET NO. 991462-EU

I HEREBY CERTIFY that a true and correct copy of Florida Power & Light Company's Direct Testimony of John H. Landon has been furnished by Hand Delivery* or Federal Express**, this 18th day of February, 2000 to the following:

William Cochran Keating IV, Esq.*
Division of Legal Services
FPSC
2540 Shumard Oak Blvd.
Room 370
Tallahassee, FL 32399-0850

Jon C. Moyle, Jr., Esq.*
Moyle, Flannigan, Katz,
Kollins, Raymond & Sheehan, P.A.
The Perkins House
118 North Gadsden Street
Tallahassee, FL 32301

Robert Scheffel Wright, Esq.*
John T. LaVia, III
Landers and Parsons, P.A.
310 West College Avenue
Post Office Box 271
Tallahassee, FL 32302

James A. McGee, Esq.**
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733-4042

Gary L. Sasso, Esq.**
Carlton, Fields, Ward,
Emmanuel, Smith & Cutler, P.A.
P.O. Box 2861
St. Petersburg, FL 33731

Lee L. Willis, Esq.*
James D. Beasley, Esq.
Ausley & McMullen
P.O. Box 391
Tallahassee, FL 32302

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

Sanford Hartman, Esq.**
V.P. and General Counsel
Okeechobee Generating
Company, L.L.C.
c/o PG&E Generating Co.
7500 Old Georgetown Rd.
Bethesda, MD 20814

Mr. Sean Finnerty**
Mgr., Project Development
One Bowdin Squaren Road
Boston, MA 02114-2910

By: 

Matthew M. Childs, P.A.

ORIGINAL

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

**DOCKET NO. 991462-EU
Florida Power & Light Company**

**Petition for Determination of Need
For an Electrical Power Plant
In Okeechobee County by
Okeechobee Generating Company, L.L.C.**

**Testimony & Exhibits of
John H. Landon**

DOCUMENT NUMBER-DATE

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ORIGINAL

TESTIMONY OF JOHN H. LANDON
ON BEHALF OF FLORIDA POWER & LIGHT COMPANY

PRINCIPAL AND DIRECTOR,
ENERGY AND TELECOMMUNICATIONS PRACTICE,
ANALYSIS GROUP/ECONOMICS

DOCUMENT NUMBER-DATE

02270 FEB 188

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TABLE OF CONTENTS

I.	INTRODUCTION & QUALIFICATIONS.....	1
II.	BACKGROUND OF THE CASE	7
III.	THE OKEECHOBEE GENERATION COMPANY'S PETITION FOR DETERMINATION OF NEED AND SUPPORTING TESTIMONY.....	14
IV.	OGC'S CLAIMS REGARDING CONSUMER BENEFITS ARE MISLEADING	22
V.	OGC DOES NOT PRESENT A COMPARATIVE ANALYSIS OF THE IMPACT ON CUSTOMERS OF ALTERNATIVE GENERATION PROJECTS.....	25
A.	A FRAMEWORK FOR THE ECONOMIC EVALUATION OF COST EFFECTIVENESS TO UTILITY CUSTOMERS ..	30
B.	THE EFFECT ON CUSTOMERS OF THE OGC PROJECT IS NOT TRIVIAL	33
VI.	OGC DOES NOT EVALUATE THE ALLEGED RISK BENEFITS OF THE PROJECT...	37
VII.	OGC'S ASSERTION THAT OUTPUT FROM THE PROJECT WILL BE DEDICATED TO THE FLORIDA MARKET IS QUESTIONABLE	42
A.	PLANT WILL BE OPERATED COMPETITIVELY TO MAXIMIZE PROFITABILITY	42
B.	PROPOSED PLANT CAPACITY FACTOR WILL VARY FROM 93 PERCENT	53
VIII.	OGC'S GENERAL DISCUSSION OF MERCHANT POWER PLANTS IS IRRELEVANT TO THIS PROCEEDING	54
IX.	MARKET POWER	56

1 **I. INTRODUCTION & QUALIFICATIONS**

2

3 **Q. Please state your name and business address.**

4

5 A. My name is John H. Landon, and my business address is Two Embarcadero
6 Center, Suite 1160, San Francisco, California, 94111.

7

8 **Q. What is your current position?**

9

10 A. I am a Principal and Director of the Energy and Telecommunications practice
11 of Analysis Group/Economics, an economic consulting firm. My resume is
12 attached to this testimony as Exhibit JHL-1.

13

14 **Q. Please outline your educational background.**

15

16 A. I received a B.A. degree with highest honors from Michigan State University
17 with a major in economics in 1964. I subsequently attended graduate school
18 at Cornell University, where I was awarded an M.A. in economics in 1967 and
19 a Ph.D. in the same field in 1969.

20

21 **Q. Where were you employed after leaving Cornell University?**

1 A. I served on the faculty of Case Western Reserve University from 1968 to
2 1973, rising from the rank of assistant professor to associate professor, and on
3 the faculty of the University of Delaware from 1973 to June 1977 as an
4 associate professor.

5
6 **Q. What subjects did you teach during this period?**

7
8 A. I taught microeconomics, industrial organization, antitrust economics,
9 regulatory economics and economic forecasting.

10
11 **Q. Where were you employed after leaving the University of Delaware?**

12
13 A. I was employed by National Economic Research Associates (NERA) from
14 1977 to 1997 as a Senior Consultant, Vice President, Senior Vice President,
15 and member of the Board of Directors.

16
17 **Q. When did you join Analysis Group/Economics?**

18
19 A. I joined Analysis Group/Economics in March of 1997.

1

2 **Q. What has been the nature of your assignments at NERA and Analysis**
3 **Group/Economics?**

4

5 A. Much of my work over the last twenty years has been on issues relating to the
6 application of economic principles to the electric utility industry. I have
7 participated in numerous projects addressing economic and related antitrust
8 issues before the Federal Energy Regulatory Commission (FERC), the Nuclear
9 Regulatory Commission (NRC), the Securities and Exchange Commission
10 (SEC), state regulatory commissions, and federal and state district courts.

11

12 **Q. Please briefly outline your electric utility related background.**

13

14 A. I studied regulatory economics both as an undergraduate (Michigan State with
15 Professor Joel Dirlam) and as a graduate student (Cornell University with
16 Alfred Kahn). I was one of the graduate assistants who provided research
17 assistance for Professor Kahn as he wrote his *Economics of Regulation*. As a
18 faculty member at Case Western Reserve University and the University of
19 Delaware, I taught regulatory economics and authored or co-authored several
20 articles and book chapters focused on economic aspects of the electric utility
21 industry. In my more than 20 years of practice as an economic consultant, I
22 have spent the majority of my time on issues involving electric utilities.

1

2 **Q. Have you previously testified?**

3

4 A. Yes. I have testified on many occasions before state and federal courts and
5 regulatory agencies on a variety of matters. Please see Appendix 1 for my
6 curriculum vitae.

7

8 **Q. Have you testified before the Florida Commission?**

9

10 A. Yes. I have testified before the Commission on several occasions on a variety
11 of issues relating to the electric utility industry.

12

13 **Q. What is the purpose of your testimony?**

14

15 A. I have been asked by Florida Power & Light Company ("FPL" or "Company")
16 to review the Petition for determination of need ("Petition") filed by the
17 Okeechobee Generating Company ("OGC"), and the testimony of witnesses
18 Nesbitt, Kordecki, Finnerty, and Vaden. I have been asked to evaluate OGC's
19 estimate of the economic impact of the Okeechobee Generating Project
20 ("Project"). I have also been asked to review other relevant material,
21 including statutory and regulatory guidelines and prior Florida Public Service
22 Commission ("FPSC" or "Commission") decisions.

1

2 **Q. Are you experienced in making or assessing cost-effectiveness among**
3 **alternatives as they relate to regulated utilities?**

4

5 A. Yes. I have assisted in making economic comparisons of alternatives faced by
6 utilities relating to power plants, transmission lines, fuel sources, power
7 contracting, mergers and environmental programs. I have, for example,
8 testified previously before the Commission in a determination of need
9 proceeding on issues related to conservation cost-effectiveness and power
10 plant siting (Docket No. 920520-EQ).

11

12 **Q. What are your conclusions?**

13

14 A. My conclusions are as follows:

15 1. Based upon economic theory and regulatory practice, the Commission
16 should evaluate the relative impact on utility customers of the OGC Project
17 and reasonable alternatives.

18 2. Given the cost effective criteria that the Commission previously has
19 relied upon in determination of need proceedings, there is substantial evidence
20 to suggest that alternative projects may be more cost effective than the OGC
21 Project.

1 3. OGC has improperly calculated the purported benefits of the Project by
2 applying its wholesale price suppression effect to Florida's regulated retail
3 load. This results in a gross overstatement of Project benefits even if the price
4 suppression were properly calculated.

5 4. OGC has failed to establish the relative cost-effectiveness to utility
6 customers of the Project because it has not properly compared the Project with
7 reasonable alternatives.

8 5. The risk-related benefits that OGC alleges are unsubstantiated. A
9 more thorough evaluation of the risks associated with the Project and
10 reasonable alternatives suggests that consumers may benefit more if a similar
11 plant were built by a utility than they would if OGC built the Project.

12 6. OGC's claim that the Project will be dedicated to serving Florida
13 consumers is not supported by wholesale market conditions in Florida or by
14 the Project's status as a merchant plant.

15 7. OGC's claim that the Project will mitigate the exercise of market
16 power by incumbent utilities in Florida is not supported by the facts.
17 Moreover, ad hoc introduction of merchant plants into Florida is a sub-optimal
18 approach to mitigating market power.

1 **II. BACKGROUND OF THE CASE**

2

3 **Q. What is your understanding of the principal question to be addressed in**
4 **this case?**

5

6 A. OGC has filed a Petition for determination of need before the Commission
7 asking it to determine that there is a need for additional generating capacity in
8 Florida and that customers will benefit from the Project.

9

10 **Q. Have you reviewed any rules or statutes related to a petition for**
11 **determination of need?**

12

13 A. Yes. Upon the advice of counsel, I have reviewed Florida Statute §§403.501-
14 403.518, Florida Statute §403.519, Florida Statute §366.04(5), and Florida
15 Administrative Code Rule 25-22.081.

16

17 **Q. Do the rules and statues you have reviewed for this case refer to any**
18 **economic issues to be considered in a determination of need proceeding?**

19

20 A. Yes. Florida Statute §403.519 states that

21 In making its determination [of need] the Commission shall take into
22 account the need for electric system reliability and integrity, the need

1 for adequate electricity at a reasonable cost; and whether the
2 proposed plant is the most cost-effective alternative available. The
3 Commission shall also expressly consider the conservation measures
4 taken by or reasonably available to the applicant or its members
5 which might mitigate the need for the proposed plant and other
6 matters within its jurisdiction which it deems relevant.

7
8 **Q. Are there any other passages in the rules and statutes you have reviewed**
9 **for this case that refer to the economic issues to be considered in a**
10 **determination of need proceeding?**

11
12 **A. Yes. Florida Administrative Code Rule 25-22.081 states that any petition for**
13 **determination of need must contain the following:**

14 “(1) A general description of the utility or utilities primarily
15 affected...(2) A general description of the proposed electrical power
16 plant...(3) A statement of the specific conditions, contingencies or
17 other factors which indicate a need for the proposed electrical power
18 plant including the general time within which the generating units will
19 be needed...(4) A summary discussion of the major available
20 generating alternatives which were examined in arriving at the decision
21 to pursue the proposed generating unit...and an evaluation of each
22 alternative in terms of economics, reliability, long-term flexibility and

1 usefulness, and any other relevant factors...(5) A discussion of viable
2 non-generating alternatives...(6) An evaluation of the adverse
3 consequences which will result if the proposed electrical power plant is
4 not added in the approximate size sought or in the approximate time
5 sought.”

6 Rule 25-22.081 also obliges the Commission to “take into account the
7 need for electric system reliability, the need for adequate reasonable cost
8 electricity, and the need to determine whether the plant is the most cost
9 effective alternative available...”

10

11 **Q. Did you review any other Florida statutes?**

12

13 **A.** Yes, I reviewed Florida Statute §366.04(5). This section states that “The
14 Commission shall further have jurisdiction over the planning, development,
15 and maintenance of a coordinated electrical power grid throughout Florida to
16 assure an adequate and reliable source of energy for operational and
17 emergency purposes in Florida and the avoidance of further uneconomic
18 duplication of generation, transmission, and distribution facilities.”

19

 I also have reviewed Florida Statute §§403.501-403.518.

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21

Q. Why would the consideration of such economic factors be important to the Commission's determination of a need for a generating plant?

A. Under the regulated market structure in Florida, electric utilities have an obligation to serve all customers in their service territory in the most cost-effective manner possible. It is the Commission's responsibility to verify that utilities make the appropriate investments to meet their service obligations and to review and approve proposed actions that may affect regulated rates to ensure that the cost-effectiveness criterion is met. In order to do this, the Commission previously has assessed the need for additional generating capacity, determined what impact a proposed project would have on rates, and evaluated whether an alternative project, conservation measures, or a combination of the two might be the most cost effective alternative given the environmental impact of the proposed project. In order to draw conclusions about the cost-effectiveness of alternatives, the Commission will need to review and assess a thorough, comparative economic evaluation of a proposed project relative to alternatives.

Q. What economic concerns should guide the Commission in making a comparison of the cost-effectiveness of alternatives?

1 A. The Commission's guiding economic concern should be on the overall effect
2 of any proposed project on the costs and benefits received by utility customers.
3 This necessarily requires identifying and assessing the benefits of a project
4 with respect to the relevant alternatives. Properly implemented, this approach
5 requires performing a comparative, not an absolute, assessment of a project
6 that considers both the size and distribution of benefits.

7
8 **Q. Has the Florida Commission previously followed the economic criteria**
9 **outlined in §403.519 and Rule 25-22-081 in a manner that is consistent**
10 **with your view as an economist?**

11
12 A. Yes. The Commission has previously evaluated the relative cost-effectiveness
13 of numerous proposed projects in its rulings on determination of need. The
14 Commission has long exercised regulatory oversight to ensure that Florida
15 utilities invest appropriately to meet their service obligations in a cost-
16 effective manner.

17
18 **Q. How does the Commission determine the proposed plant is the most cost-**
19 **effective alternative?**

20
21 A. In the past, the Commission has posed two questions in the determination of
22 cost-effectiveness:

1 (1) Would the proposed plant help to meet the need for electricity at a
2 reasonable cost?

3 (2) Is the proposed plant the most cost-effective alternative available?
4

5 **Q. How has the Commission determined whether a proposed plant is the**
6 **most cost-effective alternative available?**

7
8 A. The Commission has evaluated the cost of the plant to customers and
9 considered the terms and conditions underlying supply of power from the
10 plant to the grid. In order to perform this analysis, the Commission has
11 determined that cost-effectiveness must be evaluated relative to a utility's
12 other options for the supply.¹ As discussed above, a review of the alternatives
13 to the proposed plant clearly must be taken from the perspective of the utility
14 and its customers. The Commission has further determined that if parties with
15 alternative interests have information regarding the cost-effectiveness aspects

¹ Order No. PSC-92-1355-FOF-EQ, November 23, 1992 In Re: Joint Petition to determine need for electric power plant to be located in Okeechobee County by Florida Power & Light Company and Cypress Energy Partners, Limited Partnership:

We have evaluated the Cypress pulverized coal project and find it to be a well engineered, well thought out, mature project. It is not however, the most cost-effective alternative available.

1 of a particular petition, it is incumbent on them to present the information in
2 the course of a determination of need proceeding.²

3
4 **Q. Does the Commission have established criteria for evaluating the cost-**
5 **effectiveness portion of a petition for a determination of need?**

6
7 A. Yes. The Commission requires that the petition include an evaluation of
8 plant-specific and site specific information such as construction costs, fuel
9 availability and cost, interconnection costs and so on, for the proposed project
10 and alternatives.³

11
12 **Q. Does the Commission evaluate the inputs and assumptions made in cost-**
13 **effectiveness analyses contained in petitions for determination of need?**

² Order No. PSC-92-1355-FOF-EQ, November 23, 1992 In Re: Joint Petition to determine need for electric power plant to be located in Okeechobee County by Florida Power & Light Company and Cypress Energy Partners, Limited Partnership:

...it is incumbent upon competing alternatives to come forward at a need determination to demonstrate that the applicant's project is not the most cost-effective alternative.

³ Order No. 23080, June 15, 1990, In re: Florida Power and Light, Martin Expansion Project (units 3 and 4):

Further, the cost-effectiveness of the bid must be evaluated not only from the perspective of the other bidders...but also in terms of the utility's other options for the supply of that capacity: purchased power,

1 A. Yes. For example, the Commission has reviewed the cost and availability of
2 fuel supplies as presented in several petitions in the past, evaluated fuel price
3 forecasts, and compared the advisability of relying on forecasted prices with
4 relying on firm supply offers and contracts.⁴ The Commission previously has
5 declined to certify determination of need for plants whose economics were
6 dependent upon fuel price forecasts that the Commission determined were less
7 reliable than the firm commitments for fuel submitted to it by alternative plant
8 proposals.⁵

9
10 **III. THE OKEECHOBEE GENERATION COMPANY'S PETITION FOR**
11 **DETERMINATION OF NEED AND SUPPORTING TESTIMONY**

12
13 **Q. What is your understanding of the salient features of the Okeechobee**
14 **Project?**

demand-side reduction programs, cogeneration and utility
construction.

⁴ Order No. PSC-92-1355-FOF-EQ, November 23 1992, In Re: Joint Petition
to determine need for electric power plant to be located in Okeechobee County
by Florida Power & Light Company and Cypress Energy Partners, Limited
Partnership

...we must consider fuel price forecasts in order to determine cost-
effectiveness.

⁵ Order No. PSC-92-1355-FOF-EQ.

1 A. OGC has proposed to build a nominally rated 550 MW natural gas-fired,
2 combined cycle power plant in Okeechobee County, Florida. The Project
3 would be connected to the FPL's transmission system along FPL's 230 kV
4 Sherman-Martin transmission line. OGC has estimated "direct" construction
5 costs for the Project to be approximately \$190 million but has not reported
6 "total" construction costs for the Project. Direct costs account for the cost of
7 the engineering and plant construction contract and may or may not include
8 certain site improvement, transmission interconnection, and other
9 infrastructure costs, depending on the nature of the contract. The total cost
10 measure includes all costs incurred to develop the project, build the project,
11 connect it to the grid, and begin operation. It would also include capital
12 carrying costs incurred from the development phase until operation began.
13 Financing for the Project will be arranged through PG&E Generating
14 Company. Natural gas will be transported to the Project using the as-yet
15 unpermitted and unconstructed Gulfstream Natural Gas System. The Project
16 is expected to begin commercial operation in April 2003.

17

18 **Q. Has OGC indicated how it plans to operate the plant?**

19

20 A. Yes. OGC has stated that it intends to operate the plant exclusively for the
21 production of energy to be sold on wholesale markets. It has indicated that it

1 may consider firm contracts in the future, but has no plans to enter into any
2 firm contracts at present.

3
4 **Q. In what context should the Commission evaluate OGC's Petition?**

5
6 A. Because OGC has indicated that it plans to operate the plant exclusively for
7 the wholesale or non-firm energy market, the Commission has no option but
8 to evaluate it in this context. Based on OGC's characterization, the
9 Commission, for the purpose of evaluating the Petition, should not expect that
10 the Project will supply firm power or capacity to any entity in Florida or
11 elsewhere.

12
13 **Q. How has the Commission approached petitions for determination of need**
14 **in the past?**

15
16 A. In the past, the Commission has adopted the position that the petitioner for a
17 determination of need must be either a utility with a statutory obligation to
18 serve customers or an entity with a contractual commitment to sell power to a
19 utility that will be used to meet the utility's service obligation.⁶ From an
20 economist's point of view, the very concept of "need" is an artifact of the

1 regulatory regime. It arises from a utility's obligation to serve and customers'
2 reciprocal obligation to pay for the costs of investments made on their behalf.
3 As the Commission has previously stated, "It is this need, resulting from a
4 duty to serve customers, which the need determination proceeding is designed
5 to examine."⁷ This position was affirmed by the Florida State Supreme
6 Court.⁸

7
8 **Q. Does the concept of need have the same economic meaning in a market**
9 **that is not regulated?**

10
11 **A.** No. In an unregulated market the interplay between suppliers and consumers
12 determines prices and production levels. Economists observe over time the
13 varying levels of goods and services that are available and purchased at
14 varying prices. In this dynamic market model, the concept of need is captured
15 in the prices that consumers are willing to pay for a product. The market price
16 reconciles what consumers are willing to pay for products with what suppliers
17 are willing to supply, and actual levels of consumption fall out of this process.

⁶ See e.g., Order No. PCS-92-1210-FOF-EQ, October 26, 1992 and Nassau Power Corporation v. J. Terry Deason etc. et al., (Supreme Court of Florida) August 11, 1994.

⁷ Order No. PCS-92-1210-FOF-EQ, October 26, 1992.

⁸ Nassau Power Corporation v. J. Terry Deason etc. et al.,(Supreme Court of Florida), August 11, 1994.

1 In contrast, in a regulated market, the regulator's job is to oversee
2 investment, production, and pricing to ensure that customers obtain the level
3 of goods and services that they require and to ensure that these goods and
4 services are produced cost-effectively. In a regulated market it is the
5 regulators' job to evaluate need and see that it is met in the most cost-effective
6 manner.

7
8 **Q. Does the way in which OGC plans to operate the Project present any**
9 **problems to the Commission in evaluating the Petition?**

10
11 A. Yes. As I have discussed, determination of need proceedings are one way in
12 which the Commission ensures that regulated utilities meet their obligation to
13 serve in the most cost-effective manner. However, the OGC Project would
14 have no obligation to serve customers and no contractual obligations to
15 provide Florida utilities with firm energy. Furthermore, OGC has not
16 demonstrated whether the Project—operating exclusively in the wholesale
17 market—would enable Florida utilities to meet their customers' need in the
18 most cost-effective manner. The Commission should evaluate the cost
19 effectiveness of the OGC Project from the perspective of utility customers.
20 Customers would be ill served if the Commission were to abandon past
21 practices in an ad hoc fashion.

1

2 **Q. On what basis does OGC argue the Project should be approved?**

3

4 A. OGC asserts that the Project will enhance system reliability. OGC also asserts
5 that the Project is cost-effective to OGC and that consumers will benefit from
6 the Project.

7

8 **Q. On what basis does OGC assert that the Project meets the criteria that it
9 is the most cost-effective alternative?**

10

11 A. OGC bases its cost-effectiveness assertion on three arguments. One argument
12 is that the combined cycle technology that would be employed by the project
13 “represents the most cost effective alternative available to Okeechobee
14 Generating Company.” (Exhibits, p. 64) A second argument is that for certain
15 limited measures the Project compares favorably with other previously
16 proposed generating units. A third argument is that the Project necessarily
17 would be cost-effective because entities would purchase power from the
18 Project only when it was less costly to the purchasers than other short-term
19 alternatives.

20

21 **Q. In what ways does OGC assert consumers will benefit from the Project?**

22

1 A. OGC asserts that the Project will suppress the wholesale price of power in
2 Florida. OGC also asserts that utility customers will benefit from the Project
3 because they will not bear the risk that it does not perform as well as expected.
4

5 **Q. In your opinion, has OGC presented an appropriate economic analysis?**
6

7 A. No. The Petition and supporting testimony do not present a complete,
8 comparative economic analysis to support the assertion that the Project is the
9 most beneficial alternative for utility customers. Furthermore, OGC does not
10 discuss how sensitive its estimates are to changes in the underlying
11 assumptions.
12

13 **Q. What are the defects in the OGC Petition and testimony?**
14

15 A. There are several defects in the Petition. First, OGC's claims regarding
16 economic benefits are inaccurate and misleading. Second, OGC does not
17 compare the cost to utility customers of the Project with the cost to customers
18 of a similar plant built by another entity. Third, whereas OGC relies heavily
19 on an argument that the Project is without risk to customers, it fails to quantify
20 these risk-related benefits and to compare them to risk-related benefits
21 consumers would receive from a similar plant built by another entity. Fourth,
22 although OGC does not compare costs and benefits to utility customers, it

1 does compare the Project with previously proposed generating alternatives for
2 construction cost and availability. However, that analysis is flawed and
3 incomplete. Fifth, OGC argues that benefits from the Project will flow
4 exclusively to customers in Peninsular Florida. However, the basis for this
5 argument, that the Project will not export power to the North, is unsupported
6 and unreasonable. Sixth, the benefits of merchant power, which are discussed
7 at great length in the Petition and testimony, are irrelevant to the comparative
8 economic analysis required to make a determination of need. Seventh, several
9 OGC witnesses make incorrect assertions regarding market power. I will
10 discuss each of these points in greater detail.

11
12 **Q. How should the Commission proceed in evaluating OGC's Petition?**

13
14 A. OGC would have the Commission depart from its historical approach in
15 considering determinations of need. OGC has not provided the Commission
16 with an analysis of relative cost-effectiveness similar to analyses relied upon
17 in previous determination of need proceedings. Furthermore, OGC's
18 application is predicated upon a world that is fundamentally different from the
19 regulated regime that prevails in Florida. If the Commission wishes to depart
20 from past regulatory approaches, it will need to make significant and
21 substantial changes in the institutional setting for provision of electric service
22 to Florida customers. It will also need to ensure an orderly transition to the

1 new environment and to ensure that both utility and customer interests are
2 fully considered in that transition. In the interim, the Commission should
3 proceed within the established regulatory framework for evaluating petitions
4 for determination of need.

5
6 **IV. OGC'S CLAIMS REGARDING CONSUMER BENEFITS ARE MISLEADING**

7
8 **Q. Does OGC offer a witness to provide estimates of benefits related to the**
9 **proposed project?**

10
11 **A.** Yes. OGC has several witnesses who testify in support of its application,
12 including Dr. Dale Nesbitt of Altos Management Partners, Inc. who quantifies
13 the projected benefits of the proposed project to consumers. In general, his
14 approach consists of estimating changes to wholesale prices as a result of the
15 addition of the proposed plant. He then calculates benefits to consumers by
16 multiplying his wholesale price effect by net energy for load in Florida.

17
18 **Q. How does Dr. Nesbitt estimate changes in wholesale power prices in**
19 **Florida that are attributed to the Project?**

20
21 **A.** Dr. Nesbitt uses the Altos NARE Model ("Altos Model" or "Model") to
22 estimate wholesale energy prices in Florida.

1

2 **Q. What criteria should apply to utilizing economic models to evaluate**
3 **proposals before regulators?**

4

5 A. In general, models should produce results that are independently verifiable by
6 analysts with commensurate skill levels. Ideally, the model itself would be
7 independently developed and publicly available, subject to licensing
8 conditions or similar conditions of purchase.

9

10 **Q. Does your testimony evaluate the results of Dr. Nesbitt's modeling efforts**
11 **that are presented in this proceeding?**

12

13 A. OGC and Dr. Nesbitt have not yet made the model available under reasonable
14 terms to interested parties in this case. However, I expect that I will have an
15 opportunity to review the Altos model and the assumptions that Dr. Nesbitt
16 relied upon in producing his estimate of price suppression. I may file
17 supplemental testimony at a later date that addresses Dr. Nesbitt's modeling
18 methods and results.

19

20 **Q. Do you have any concerns with Dr. Nesbitt's benefits estimate that you**
21 **are able to discuss currently?**

1 A. Yes. Although I am presently unable to determine how his price suppression
2 estimate is derived, it is clear that Dr. Nesbitt does not evaluate whether the
3 Project is the most cost-effective alternative for utility customers. He does not
4 estimate the impact of the Project on utility customers, nor does he evaluate
5 the customer impact of alternative projects built either by OCG or another
6 party such as a Florida utility. For this reason, Dr. Nesbitt's analysis does not
7 fulfill the Commission's requirement in a determination of need proceeding.

8
9 **Q. Are there other concerns that affect the benefits that utility customers**
10 **might receive?**

11
12 A. Yes. Dr. Nesbitt grossly overstates the benefit of a change in wholesale price
13 because he applies his estimate of the wholesale price suppression effect to all
14 retail load in the state, not just to energy transactions in the wholesale market.
15 The actual wholesale market in Florida is very small compared with the entire
16 Florida market, since most utilities with native load obligations have arranged
17 for firm supplies to serve their customers. Thus, the actual benefits that
18 customers would receive from any price suppression effect will be much less
19 than the benefits asserted by Dr. Nesbitt. The correct way to estimate the
20 cumulative effect of this benefit under the conditions prevailing in Florida
21 would be to evaluate the wholesale price suppression effect against utilities'
22 wholesale energy loads, not against the entire retail load. For example,

1 suppose that Florida utilities supplied 192 million MWh to customers in a
2 typical year and that 2.5 percent of this amount was purchased on the
3 wholesale energy market. The appropriate multiplier for determining the
4 benefit to customers of a reduction in the price of wholesale energy of
5 \$0.85/MWh would be $192,000,000 * .025 = 4,800,000$ not 192,000,000 that
6 would be used by Dr. Nesbitt. The customer benefit would be
7 $4,800,000 * \$0.85 = \$4,080,000$ and not the \$163,200,000 that Dr. Nesbitt would
8 calculate.

9 Although I currently am not able to evaluate the methodology and
10 assumptions that Dr. Nesbitt relied upon to produce his price estimate, I have
11 used the figure that he reports—\$0.85/MWh—to illustrate the order of
12 magnitude by which he has overstated benefits. In the previous example, Dr.
13 Nesbitt's approach would result in an overstatement of benefits by 3,900
14 percent. A thorough evaluation of the approach that Dr. Nesbitt used to
15 produce his price suppression effect may reveal that he has further overstated
16 the benefits attributable to the Project.

17
18 **V. OGC DOES NOT PRESENT A COMPARATIVE ANALYSIS OF THE IMPACT ON**
19 **CUSTOMERS OF ALTERNATIVE GENERATION PROJECTS**

20
21 **Q. Does OGC assess the impact on utility customers of the proposed project?**

1 A. No. OGC asserts that because the project is a merchant plant with no captive
2 customers, it can only benefit customers, not harm them, and that, therefore,
3 no analysis of customer effects is necessary. OGC does not quantify the net
4 impact that the Project would have on regulated rates. Nor has it compared
5 this impact with the consequences for regulated rates if another entity built a
6 similar project.

7
8 **Q. What sort of analysis and data does OGC present in the Petition and**
9 **testimony.**

10
11 A. The Petition includes a comparison of the cost to OGC of alternative
12 generation technologies for the Project. (See Supporting Exhibits, Table 12, p.
13 67.) OGC also compares the direct construction costs and the expected
14 availability factor for the Project with several alternative generating projects.
15 (See Supporting Exhibits, Table 9, p. 61.)

16
17 **Q. Why is OGC's analysis insufficient for the Commission's purpose in this**
18 **determination of need proceeding?**

19
20 A. OGC's limited comparative analysis is incomplete and potentially misleading
21 in the context of this proceeding because it does not address the effect of
22 alternatives on Florida customers.

1

2 **Q. Does OGC present information that could be used by another party to**
3 **perform a comparative analysis of the Project and alternatives?**

4

5 A. No. These data are insufficient to evaluate the relative cost effectiveness of
6 the project in a comprehensive manner. Furthermore, there are several
7 deficiencies in the data presented by OGC.

8

9 **Q. Are there any problems with OGC's comparisons of construction costs?**

10

11 A. Yes. There are at least three defects with OGC's comparison of construction
12 costs. First, OGC did not account for inflation in presenting direct
13 construction cost estimates. For this reason, the costs presented are not
14 comparable from one project to the next. Before we can draw any meaningful
15 conclusions about relative construction costs, we must convert the cost
16 estimates to real dollar terms (e.g., 1999 dollars).

17

18 **Q. What is the second defect in OGC's comparison of construction costs?**

19

20 A. OGC did not treat the cost of two repowering projects correctly. Specifically,
21 OGC calculated direct construction costs on a \$/kW basis using direct
22 construction costs for the entire project in the numerator and incremental

1 capacity in the denominator. Because this approach does not associate a
2 portion of construction costs with the efficiency gains to existing capacity in a
3 repowering project, it will overstate the true direct construction cost associated
4 with the incremental capacity. Efficiency gains from repowering come not
5 only from adding additional combined cycle capacity but also from converting
6 existing capacity to the more efficient combined cycle technology.

7
8 **Q. What is the third defect in OGC's comparison of construction costs?**

9
10 **A.** OGC does not report the Project's total construction cost and therefore cannot
11 compare its proposal with alternatives for this measure. Total costs are
12 important because they provide a much more uniform and comprehensive
13 measure of construction costs than direct costs. Direct costs only account for
14 the cost of the engineering and plant construction contract and may or may not
15 include certain site improvement, transmission interconnection, capital
16 carrying costs, and other infrastructure costs, depending on the nature of the
17 contract. The total cost measure includes all costs incurred to build the
18 project, connect it to the grid, and begin operation.

19
20 **Q. Does OGC compare the project to alternative proposed facilities in any**
21 **other way than construction cost?**

1 A. Yes. OGC compares the project's expected availability to that of 19
2 alternative proposed projects, which are displayed in Table 9 of the Exhibits.

3
4 **Q. How does OGC's availability factor compare with the other projects?**

5
6 A. The Okeechobee Project's availability factor is 93 percent. One alternative
7 project also has an availability factor of 93 percent. Seven projects have an
8 availability factor of 96 percent and two have a factor of 97 percent. Thus,
9 almost 50 percent of the alternative projects in OGC's sample have a higher
10 availability factor than the Okeechobee Project.

11
12 **Q. Do you have any other concerns about OGC's comparison of availability**
13 **factors?**

14
15 A. Yes. It is meaningless to compare availability factors between plants without
16 taking into account other, related considerations. For example, there is a
17 tradeoff between a project's construction costs and O&M costs, on the one
18 hand, and its availability factor, on the other. The higher the availability
19 factor, the more O&M and construction costs will be incurred to achieve that
20 level of availability. OGC presents no discussion of how to evaluate this
21 tradeoff. It is, however, an important issue. The Commission must evaluate

1 the tradeoff between maintenance costs and availability across alternative
2 projects. OGC has not done such a comparison.

3
4 **Q. Do you have any additional concerns about OGC's limited comparative
5 analysis?**

6
7 A. Yes. OGC has stated that the Okeechobee Project would begin operating in
8 April 2003. Any comparison of the project with alternatives must account for
9 different in-service dates. The in-service dates of the alternatives OGC
10 presents range from 1999 to 2008.

11
12 **A. *A framework for the economic evaluation of cost effectiveness to
13 utility customers***

14
15 **Q. Please describe the analysis that the Commission should require to
16 evaluate the relative cost effectiveness of the OGC Project?**

17
18 A. As in previous determination of need proceedings, the Commission should
19 require a comprehensive comparative analysis of the cost effectiveness to
20 utility customers of the Okeechobee Project and alternatives.

1

2 **Q. How would you perform such an analysis?**

3

4 A. One approach would be to compare the effect on Florida customers if a utility
5 such as FPL were to build a plant similar to the OGC Project with the effect
6 on customers of OGC's proposal. While I use FPL for the purposes of this
7 example, similar analyses should be undertaken for all Florida utilities. In this
8 case, I would estimate the impact on FPL's revenue requirement of the OGC
9 Project and alternatives, including a similar plant constructed by FPL. For a
10 merchant plant such as the Okeechobee Project, I would estimate the impact
11 on wholesale prices from the entry of the proposed project.⁹ I would use a
12 modeling technique that represents the regulated Florida market rather than
13 the stylized wholesale market Dr. Nesbitt relied upon. We would expect the
14 Project to have two impacts on FPL's revenue requirement. First, to the
15 extent that the Project lowered the price of energy on the wholesale market,
16 FPL's cost to procure wholesale energy would fall. Second, the Project might
17 displace some of FPL's sales into the wholesale market. The net impact of the
18 Project would be savings from wholesale energy purchases less lost profits
19 from displaced wholesale sales.

⁹ As I have discussed, the techniques and assumptions that Dr. Nesbitt has used to estimate a "price suppression effect" from the project are unclear at the moment. For this reason, I reserve comment on the 85¢/MWh estimate

1 To complete the appropriate comparative analysis, I would then
2 estimate the impact on FPL's revenue requirement of alternative projects. For
3 example, one alternative is that FPL builds a similar plant. In that case, the
4 plant would enter into rate base on the in-service date. A similar FPL project
5 would be expected to displace higher cost generation, producing fuel savings
6 and possibly non-capital cost savings that would offset the increase in rate
7 base. Such a plant might also increase FPL's off-system sales, the proceeds of
8 which would be passed through the fuel clause to customers. The net impact
9 on customers from a scenario in which FPL builds a similar plant would be the
10 fuel savings, plus net changes in non-capital costs, plus any increase in
11 revenues from off-system sales, less the cost of the increase in rate base.
12 Given the magnitude of fuel savings estimated by Dr. Nesbitt, it is reasonable
13 to assume that a similar plant built by FPL might not only be more beneficial
14 to customers than the OGC project, but might also result in an absolute
15 reduction in regulated rates.

presented by Dr. Nesbitt and OGC until I am able to file supplemental
testimony.

1 **B. *The effect on customers of the OGC Project is not trivial***

2

3 **Q. Is there any reason to expect that customers might be harmed if the**
4 **Project is built by OGC, rather than by a regulated utility?**

5

6 A. Yes. If a regulated utility—for example FPL—built a similar plant, it would
7 sell the output to its customers at cost. All fuel displacement benefits would
8 flow directly to FPL customers. If, on the other hand, the Project is built, FPL
9 would buy the Project’s output at the prevailing market price, which would
10 almost always be greater than cost.

11

12 **Q. Can you explain the risk of overpayment that you discussed earlier?**

13

14 A. Yes. I will illustrate this point with a simple example. Suppose
15 hypothetically that as a result of OGC’s construction of its proposed plant,
16 market prices in Florida fall from \$31 per MWh to \$30 per MWh. Suppose
17 also that OGC’s costs (capital and operating) are \$24 per MWh on a rolled in
18 basis. If OGC is able to sell its output at the market price of \$30 per MWh, it
19 will reap a profit of \$6 per MWh (that is, revenue of \$30 per MWh less costs
20 of \$24 per MWh). This profit is after paying its equity and borrowing costs.
21 If the plant were able to make sales at an average \$30 during all hours in
22 which it were available for operation, its profits over and above equity and

1 borrowing costs would equal \$26.9 million annually (that is, a plant operating
2 8,150 hours per year (Finnerty, p. 11) earning a profit of \$6 per MWh). If FPL
3 purchased energy from OGC on the wholesale market, the \$30 per MWh price
4 would be rolled into the price charged to retail customers.

5 Now consider what would happen if, instead, FPL (or another supplier
6 with native load obligations) constructed the power plant. As a first
7 approximation it is reasonable to assume that FPL's costs to construct and
8 operate the plant will be the same or nearly the same as those of OGC. If FPL
9 constructed the plant, the \$24 per MWh costs would be included in the rate
10 FPL charges to its retail customers (along with the costs for all of FPL's other
11 facilities) and FPL would not have to purchase energy in the market at \$30 per
12 MWh. Its customers therefore would save \$6 per MWh from building rather
13 than purchasing in the market. In effect therefore, if OGC is able to construct
14 its power plant and displace a similar utility-owned power plant, \$26.9 million
15 annually could be transferred from FPL's customers to OGC's shareholders.

16
17 **Q. This argument about money being transferred from utility customers to**
18 **OGC's shareholders depends on the assumption that OGC's construction**
19 **of its plant will displace construction of another plant by an entity with**
20 **native load responsibilities. Is such an assumption reasonable?**

1 A. In my example, I assume that FPL can build a plant similar to the Project that
2 is more cost-effective to utility customers. In such a scenario, if the
3 Commission performs a thorough, comparative evaluation of cost-
4 effectiveness, the Project would not meet the criteria necessary for a
5 determination of need and would therefore not be authorized. However, if the
6 Commission chooses to authorize the Project without a comparative analysis
7 of cost-effectiveness, the Project may displace a more cost-effective
8 alternative.

9
10 **Q. In the event that the Commission authorizes OGC to build the Project,**
11 **but it is not the most cost effective alternative for FPL customers, could**
12 **not FPL build its alternative project anyway?**

13
14 A. Possibly not. Florida Statute §366.04(5) requires the Commission to prevent
15 "uneconomic duplication" of resources and could be invoked by OGC or
16 others to attempt to block FPL or other utilities from building alternative
17 projects. "The Commission shall further have jurisdiction over the planning,
18 development, and maintenance of a coordinated electrical power grid
19 throughout Florida to assure an adequate and reliable source of energy for
20 operational and emergency purposes in Florida and the avoidance of further
21 uneconomic duplication of generation, transmission, and distribution
22 facilities."

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Q. Are there other reasons why utility customers may be harmed if OGC constructs its proposed plant?

A. Yes. Under ratemaking processes in Florida, most or all (in the case of FPL) of the profits from utility off-system sales are returned to customers through the fuel clause. If OGC constructs its proposed plant, it is reasonable to assume that the Project will displace some of FPL's off-system sales. If OGC makes transactions that otherwise might have been made by FPL, then FPL's retail customers lose the benefits of the profits on the off-system sales that otherwise they would have received. This would constitute a transfer from FPL's customers to OGC's shareholders.

Finally, retail competition at some point might come to Florida as it has to several other jurisdictions in this country. At such point in time it might be necessary to make a determination of the stranded costs of FPL and other investor-owned utilities in order to determine the competitive transition charge or the equivalent that shopping customers must pay. The magnitude of the stranded costs is determined chiefly by the difference between the forecast of the market price for generation and the unbundled price of generation as embodied in the regulated price. If OGC's construction of its new plant causes the forecast market price for electricity in Florida to fall from the level that it otherwise would be, then stranded cost obligations may rise. If that is

1 the case, some portion of the supposed near-term benefits from the Project—
2 the wholesale market price reductions—will be offset by higher stranded
3 investment costs over the long term. This is another reason why the price
4 benefits of the Project are likely to be much less than its proponents claim.

5
6 **VI. OGC DOES NOT EVALUATE THE ALLEGED RISK BENEFITS OF THE PROJECT**

7
8 **Q. What arguments do OGC, Dr. Nesbitt, and other witnesses make about**
9 **risk?**

10
11 A. Dr. Nesbitt asserts that, "...the Project will reduce ratepayer risk because OGC
12 is bearing 100 percent of the capital cost risk of entry and 100 percent of the
13 price and marketability risk." However he does not attempt to place a value
14 on this reduction in risk.

15
16 **Q. Is there risk to utility customers from the Okeechobee Project?**

17
18 A. Yes. In a regulated market such as Florida, the risk to utility customers of the
19 Okeechobee Project is that they will end up overpaying for electricity. It is
20 precisely this risk that a comparative evaluation of cost-effectiveness would
21 mitigate. If the Commission fails to identify the most cost-effective

1 alternative for customers, it may approve a more costly project, thereby
2 depriving customers of an alternative that would provide greater benefits.

3 Risks associated with the Project and alternatives can and should be
4 considered by the Commission in the context of a comparative evaluation of
5 cost-effectiveness.

6
7 **Q. What kinds of risk should the Commission evaluate in its comparison of**
8 **alternative projects?**

9
10 A. There are several types of risk associated with a generation project. These
11 risks are typically evaluated by credit rating agencies, among others, and may
12 be similarly evaluated by the Commission. Risk categories include:
13 construction risk, technology risk, operating risk, and financing risk.

14
15 **Q. Please describe the construction risk associated with the proposed project**
16 **or an alternative.**

17
18 A. Any entity investing in a new power plant faces the risk that the engineering
19 firm contracted will not complete the project in the expected timeframe, or
20 will default, leaving the project unfinished. This construction risk includes the
21 risk of delay or of failure to complete. However, these risks are typically
22 mitigated through performance and liquidated damages clauses in the

1 engineering and plant construction contract. This may not help the customer
2 in the case of the OGC Project. While a performance clause may protect
3 OGC's lost profit, it would be unlikely to compensate customers for the
4 failure of wholesale prices to go down as projected upon completion of the
5 Project.

6
7 **Q. Please describe the technology risk associated with the proposed project**
8 **or an alternative.**

9
10 A. The project will employ combined cycle generation technology. Broadly
11 speaking, combined cycle is a commercially proven and low-risk technology.
12 Specific risks associated with a particular equipment manufacturer or model
13 can only be evaluated once the choice has been made. Technology risk—e.g.,
14 cracking in the gas turbine or some other catastrophic failure—can be
15 mitigated through performance clauses in the equipment purchase contract.
16 As in the case of construction risk, this protection would not likely extend to
17 customers for an unregulated project such as that proposed by OGC.

18
19 **Q. Please describe the operating risk associated with the proposed project or**
20 **an alternative.**

1 A. Operating risk is the risk that the plant will not perform as well as expected.
2 One indication of the operating risk of a project is the previous experience the
3 firm responsible for plant O&M has had with similar plants.
4

5 **Q. Please describe the financing risk associated with the proposed project or
6 an alternative.**
7

8 A. Financing risk is the risk that the project will not be able to obtain financing
9 within a reasonable period of time and on reasonable terms. Customers and
10 shareholders bear the risk associated with a delay in the Project if OGC finds
11 financing difficult.
12

13 **Q. How does OGC characterize the risk associated with the Project?**
14

15 A. OGC describes the Project as being very low-risk and that the combined cycle
16 technology is mature and the “technology of choice” for similar projects.
17 (Petition, p. 14) OGC does not indicate that it expects any significant
18 construction, operating, or finance risk associated with the plant.
19

20 **Q. How would you characterize the risks associated with a utility project
21 similar to the OGC Project?**

1 A. I would expect the risks associated with an alternative project to be similar in
2 nature and also very small. Combined cycle plants tend to be built by a core
3 group of competent engineering firms. The technology is mature,
4 commercially proven, and supplied by a limited number of competent
5 manufacturers. Financing risk should also be minimal. Moreover, an
6 alternative project developed by a regulated entity would use performance
7 clauses in contracts that would act to protect customer interest.

8

9 **Q. Are there any areas in which you would expect risk to differ between the**
10 **OGC project and an alternative?**

11

12 A. Yes. Availability factors for some alternative plants proposed by FPL are
13 higher than that of the OGC project. This would suggest that operating risk
14 for an FPL-constructed project may be less than for the OGC project.

15

16 **Q. Should the Commission evaluate the risk to customers from the OGC**
17 **Project and alternatives?**

18

19 A. Yes. As part of a comparative analysis of cost-effectiveness, the Commission
20 should consider any and all risks associated with the OGC Project and
21 alternatives. The Commission should weigh any additional risk to customers
22 against additional benefits. The Commission may very well conclude that it is

1 in customers' best interest to assume a small amount of risk in order to obtain
2 substantial benefits.

3

4 **VII. OGC'S ASSERTION THAT OUTPUT FROM THE PROJECT WILL BE**
5 **DEDICATED TO THE FLORIDA MARKET IS QUESTIONABLE**

6

7 *A. Plant will be Operated Competitively to Maximize Profitability*

8

9 **Q. What factors would determine the availability of the output of the Project**
10 **to customers in Florida?**

11

12 A. OGC has indicated that the proposed plant would be operated as a merchant
13 plant, selling wholesale, non-firm energy. This assumption has a potentially
14 large effect on the availability of the plant to customers in Florida, since the
15 predominant financial goal for merchant plant owners is to maximize profits.
16 For a merchant plant without obligations to serve customers, generating
17 electricity for Florida customers is only one of the many opportunities that the
18 plant owners will select from in determining its operation. Thus, whether the
19 plant is used to serve Florida customers will depend upon how profitable this
20 is compared with alternative uses for the plant.

1

2 **Q. Is all generation in Florida operated to maximize profitability?**

3

4 A. No. Utilities such as FPL must first meet their native load obligations in a
5 least-cost manner, i.e., FPL's cheapest, most efficient Florida plants are
6 dedicated to its retail utility customers. More expensive plants that are not
7 required to cover these obligations are managed as efficiently as possible. For
8 example, if possible, i.e., if plant variable costs lie below the price of
9 wholesale energy, the plants will be operated and their output sold at
10 wholesale. The profits from these sales are returned to FPL customers through
11 the fuel adjustment clause.

12

13 **Q. What alternative opportunities are there for a merchant plant in Florida?**

14

15 A. There are several alternatives available to the merchant plant in addition to
16 selling wholesale energy in Florida. For example, OGC could elect to sell
17 power outside of Florida when other regions experience price spikes;
18 alternatively, a merchant plant could be used to "play the spark spread", i.e., to
19 arbitrage the difference between electricity and fuel prices. In addition, it is
20 important to understand that merchant plants including the proposed Project
21 are elements in a portfolio of power supply options. Owners typically manage
22 the portfolio to maximize its value taken in the aggregate. Since individual

1 units in the portfolio have unique physical characteristics, the owner can, by
2 careful, coordinated management, maximize the total value of the portfolio.
3 As a result, an individual plant such as that proposed by OGC, may operate in
4 what appears to be a non-optimal manner if considered on a stand alone basis.
5 The bottom line is that merchant power plants are operated to maximize
6 profits for owners, not to provide energy and capacity in a cost-effective
7 manner for the benefit of customers.
8

9 **Q. In light of these alternatives, do you consider it likely that the proposed**
10 **plant will sustain a 93 percent capacity factor in Florida and be dedicated**
11 **exclusively to the Florida market as assumed by the petitioners?**

12
13 A. No. The operating scenario developed by OGC, in which the Project operates
14 at the 93 percent capacity factor cited by petitioners, is based upon full-time
15 operation of the plant for the Florida wholesale market without consideration
16 of alternative, and possibly more profitable uses. While it is impossible to
17 predict with certainty what effect the competing uses for the plant will have on
18 plant availability, it is disingenuous to argue unequivocally that a merchant
19 plant will be dedicated to Florida markets.

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Q. Under what conditions would a merchant plant in Florida export power outside of the state?

A. Merchant plants will sell power in the most profitable market available, subject to transmission costs and constraints. That means that plant operators will be tracking prices in markets outside of Florida and comparing them with the price in Florida markets. In order to make the comparison, they will verify the availability of transmission capacity to distant markets and include the costs of transmission and losses to deliver into those markets in their evaluation of a potential sale. While imports into Florida frequently are transmission constrained, there is substantial unconstrained transmission capacity to export out of Florida. Florida utilities sell wholesale power to the Southern Company and to entities beyond Southern when prices are favorable. FPL, for example, has recorded wholesale sales as far as six transmission systems (six wheels) away.

Q. Why would prices in distant markets be more attractive than those in Florida?

A. There are several reasons why prices in markets to the north may be higher than wholesale prices in Florida. For example, severe weather in another part

1 of the country, or plant outages (and transmission constraints into the affected
2 region) may also lead to high prices. These conditions alone or in
3 combination can create attractive opportunities for sales outside of Florida.
4 Also, many utilities must purchase power in order to ensure system reliability
5 under even mildly stressful conditions.

6
7 **Q. Is Peninsular Florida a reasonable location for a plant that intends to**
8 **export power out of state?**

9
10 **A.** Yes. Taken at face value, Peninsular Florida may seem to be an odd location
11 for a plant that is intended to serve other than the local markets. However, the
12 design of the transmission system and the nature of energy flows in the eastern
13 United States sometimes results in transmission constraints between power
14 markets. Florida, however, generally has physical access to SERC and to the
15 north as well as to the Midwest. A merchant plant located in Florida has a
16 "locational option": it can sell into the local market at fairly attractive prices,
17 and it can track prices in distant markets and take advantage of opportunities
18 that present themselves there.

19
20 **Q. Are there other reasons that a merchant plant may find it attractive to**
21 **export power out of Florida in the future?**

1 A. Yes. There are two additional factors that bear mentioning. First, the electric
2 industry is changing rapidly; new markets, such as those for ancillary services,
3 are emerging in several jurisdictions. With time these new markets may
4 represent profit opportunities for merchant plants in Florida. Depending upon
5 the institutional arrangements supporting these markets, the prices for selected
6 services can lie well above those for electric service. Second, it is quite likely
7 that environmental regulations regarding generating plant emissions will
8 become more stringent over the next few years. If so, the costs of complying
9 with environmental requirements is likely to fall disproportionately on low-
10 cost, coal-fired generation like that utilized by utilities in states which are
11 Florida's near neighbors. One outcome of this is that prices in these adjacent
12 markets likely will rise relative to their historic levels and relative to those in
13 Florida, thereby creating a more attractive export market for merchant plants
14 in Florida.

15
16
17 **Q. OGC argues that it would be economically and physically impractical for**
18 **the Project to export power. Do you agree?**

19
20 A. No. As I mentioned above, electricity presently is exported from Florida to
21 areas north at certain times. Moreover, the Southern Company jointly owns
22 the Intercession City combustion turbine plant with FPL. During the summer

1 months, capacity from this plant is used by Southern. All Florida investor-
2 owned utilities have exported energy out of Florida in the past twelve months.
3

4 **Q. What would be the effect on utility customers if, contrary to OGC's**
5 **assertion, the power from the Project was exported out of state?**

6
7 A. The effects of OGC export are two-fold. First, since the merchant plant is no
8 longer serving the Florida market, more expensive units must be brought
9 online, increasing generation costs to regulated retail utilities like FPL, and in
10 due course, the customers. Second, the net revenue from FPL's off-system
11 sales are returned to the customers while the profits realized by OGC flow to
12 the OGC shareholder pockets. For example, in 1999, FPL returned
13 \$54,945,102 in profit from off-system, out-of-state, sales to its customers. In
14 contrast, when OGC exports power, the net proceeds of the sales will flow to
15 the owners of the OGC plant, instead of to customers. The effect on
16 customers is illustrated by the following example.

17 Suppose as before, that the rolled in cost of power produced by the
18 proposed plant is \$24 per MWH and that the market price for power in Florida
19 is \$30 per MWH. In addition, the price for electricity, net of delivery costs,
20 outside of Florida is \$31 per MWH. Recall that the market price is the cost of
21 fuel plus variable O&M costs for the marginal generation source, i.e., the last
22 plant "in the money," but does not include return on or of sunk capital costs.

1 If the plant proposed by OGC is owned by a regulated utility in
2 Florida, it will serve Florida customers at a rolled in cost of \$24 per MWH. In
3 addition, displaced capacity in the marginal plant will generate power at a
4 variable cost of \$30, i.e., the in-state market price, which can be sold outside
5 Florida for \$31 or a net of \$1 per MWH. This \$1 is credited back to
6 customers via the utility's fuel cost adjustment clause, further reducing the cost
7 of power. The cost effect of this approach on customers is \$24 less \$1 or \$23.

8 On the other hand, if the plant is not utility owned and is operated as a
9 merchant plant, existing plants at the margin will be used to serve Florida
10 customers. There will be no displacement effect; the need to use marginal
11 plants to serve Florida customers will reduce the power available for out-of-
12 state sales. The cost to Florida customers of running these plants is \$30, i.e.
13 the in-state market price. The OGC plant owners in contrast, will generate
14 power for a rolled-in price of \$24 and sell their output out-of-state for \$31 for
15 a clear profit of \$7, all of which will be retained by the plant owners.

16
17 **Q. You mentioned that this plant will be operated as part of a portfolio of**
18 **plants, how might this affect its availability in the Florida market?**

19
20 **A.** The owners of the proposed plant already own a number of other generating
21 plants in several geographic regions, as well as other investments. While the
22 petition for a determination of need evaluates the OGC plant on a stand alone

1 basis in the Florida market, it would be naïve to assume that a merchant plant
2 would be operated independently of the owner's other interests elsewhere.
3 The owner's incentive is to maximize the profitability of and value of its
4 portfolio of interests. It is not possible to determine how this would play out
5 regarding the proposed plant, but there is presently no mechanism to represent
6 Florida customers interests in the process. While the same incentives to
7 maximize profitability apply to any owner, including regulated utilities, until
8 other institutional arrangements are in place to support full competition,
9 regulation serves to ensure that Florida customers interests are fully
10 considered by utilities in managing the their portfolios.

11
12 **Q. Please explain what is meant by the term you used above, "play the spark**
13 **spread."**

14
15 **A.** The spark spread refers to the difference between the cost of the fuel required
16 to generate electricity and the price of the electricity itself. For example,
17 market prices for natural gas fluctuate through time as do prices for electricity.
18 Furthermore, because there are alternative uses for natural gas, such as home
19 heating, gas prices will not stay at a constant conversion ratio to electricity
20 prices. This price ratio will be larger or smaller depending on relative value
21 placed on each commodity. Owners and operators of plants are becoming
22 increasingly sophisticated in tracking whether their fuel supplies are more

1 valuable to use in generating electricity or whether they should ramp down
2 plants and sell the fuel that would otherwise be used to generate power.
3 Profit-seeking merchant plants without firm obligations to serve customers
4 have the maximum incentive and opportunity to "play the spread."
5

6 **Q. What does a plant operator have to consider when deciding whether to**
7 **generate power or to sell his fuel.**
8

9 A. One of the primary considerations is the efficiency of the generating plant
10 relative to the market. If the plant in question is so efficient that it is generally
11 "deep in the money," chances are slight that plant owners will choose to play
12 the spread, since it is likely to be more profitable to generate electricity.
13 However, when a plant is close to the marginal unit, in cost terms, it may be
14 profitable to play the spark spread.
15

16 **Q. How do market conditions in Florida affect whether it will be profitable**
17 **to play the spark spread?**
18

19 A. While the scenario analyzed by OGC presumes that markets, not regulation,
20 prevail in setting price so that price always reflects the cost of the most
21 efficient marginal plant absent any operational constraints, in Florida, utilities
22 such as FPL and FPC are precluded from selling their output into the Florida

1 wholesale market at a price above a regulated level. In addition, market
2 activity is characterized by bilateral transactions, including pre-existing
3 emergency interchange agreements, rather than centralized establishment of
4 market-clearing prices. As one result, instead of a single, market-clearing
5 price such as that assumed by OGC, Florida wholesale prices represent
6 discrete points along the supply curve for each transaction in the state and are
7 subject to the operational constraints of running the system for maximum
8 overall efficiency. Under these conditions, it is quite possible that even a very
9 efficient plant such as that proposed by OGC will find opportunities to play
10 the spark spread.

11
12 **Q. How would the decision to manage the OGC Project to the spark spread**
13 **affect its availability to serve customers in Florida?**

14
15 A. Clearly, during the times that it is more attractive for OGC to reduce
16 production from the proposed plant in order to release natural gas for sale on
17 the open market, the plant's production capacity will not be available to serve
18 Florida. Playing the spark spread precludes reliably generating power for the
19 Florida market.

1 **B. Proposed Plant Capacity Factor will Vary from 93 Percent**

2
3 **Q. Are there any other factors to consider when evaluating the Project's**
4 **estimated capacity factor claim of 93 percent?**

5
6 **A. Yes. In addition to my observations regarding the plant's availability to**
7 **Florida customers if it is operated competitively as detailed above, there are**
8 **several problems with the 93 percent capacity factor used by OGC. First, the**
9 **capacity factor will vary systematically from one year to the next to reflect**
10 **planned outages for maintenance. Every third year, the plant will be shut**
11 **down for 30 days. We can not know if this pattern of availability is reflected**
12 **in Dr. Nesbitt's benefit calculations, since we do not have access to his model.**
13 **Second, in a regulated setting, market price is not the only driver of when**
14 **plants are kept available. Plants that otherwise are in the money may ramp**
15 **down to accommodate system reliability considerations and other operational**
16 **constraints. These considerations have not been reflected in establishing the**
17 **93 percent capacity factor. Third, presently there is no incentive to coordinate**
18 **operation of the proposed plant with that of existing plants so that system**
19 **reliability is maintained at least cost to customers. The 93 percent capacity**
20 **factor under these conditions is less meaningful than if plant outages were**
21 **coordinated with those throughout the system.**

1 **Q. Is the OGC Project the most cost-effective alternative for customers to**
2 **improve system reliability?**

3
4 **A.** We don't know. OGC has not demonstrated that the Project is the most cost-
5 effective alternative for improving system reliability. I have already discussed
6 the fact that were the OGC plant built by a utility the cost to customers would
7 in all likelihood be lower. In addition, a similar plant built by a regulated
8 utility would supply firm power to cover its obligation to serve Florida
9 customers. Thus, all of the output of the plant would go to improving
10 reliability for system planning purposes, as reflected in improvement in both
11 loss of load probabilities and system reserve margins. Furthermore, Florida
12 customers would have first priority for the least-cost resources available to the
13 utility. Since the plant likely would be one of the least cost plants to operate,
14 its output would be dedicated to serving Florida customers.

15
16 **VIII. OGC'S GENERAL DISCUSSION OF MERCHANT POWER PLANTS IS IRRELEVANT**
17 **TO THIS PROCEEDING**

18
19 **Q. Is the OGC discussion of the benefits of additional merchant capacity**
20 **relevant to meeting the requirements for economic analysis in this**
21 **proceeding?**

1 A. No. OGC's discussion of the generic benefits of merchant capacity is not
2 properly or correctly quantified and, in any event, is irrelevant to a
3 comparative economic evaluation the Project's impact on customers. The
4 question that the Commission should answer in the course of this proceeding
5 is, "How would utility customers be affected by the current proposal?" — not
6 "Are merchant plants desirable?"

7
8 **Q. OGC argues that merchant plants have lower costs than do regulated**
9 **electric utilities and that, as a result, customers will benefit if merchant**
10 **plants are constructed instead of traditional utility plants. How do you**
11 **respond?**

12
13 A. OGC only asserts that its argument is true but does not provide any evidence
14 in support. This is surprising, and a major omission, because of the legislative
15 and administrative requirements that the need petitions be accompanied by a
16 specific comparison of the costs of alternatives, not merely assertions that the
17 chosen one is best. One would have thought, for example, that OGC would
18 have accompanied its petition with specific evidence of what customers would
19 pay if its project proceeds and how that compares with what customers would
20 pay if alternatives (including similar plants constructed by investor owned-
21 utilities) were constructed. OGC failed to do so. Absent this type of

1 comparative information, it is difficult to see how the Commission can reach a
2 conclusion that OGC's project is the most cost-effective.

3
4 **Q. Dr. Nesbitt states that "Entry of merchant plants is a good way to**
5 **discipline the incumbent utility to which a monopoly was granted without**
6 **having to attack monopolization directly." What is your reaction to this**
7 **statement?**

8
9 **A.** I am concerned that Dr. Nesbitt is advocating a change in market structure in
10 Florida. This backhand advocacy of partial deregulation is not appropriate or
11 relevant to a determination of need proceeding. If policy makers in Florida
12 wish to change the structure of the electricity market, a change should be
13 considered in a comprehensive fashion, rather than allowing one type of entity
14 to enter unregulated, while others are tied down by regulation. The costs and
15 benefits to all shareholders should be weighed carefully. The Commission
16 should disregard Dr. Nesbitt's advocacy of ad hoc restructuring.

17
18 **IX. MARKET POWER**

19
20 **Q. Do OGC witnesses make claims about market power?**

1 A. Yes. OGC witnesses claim that Florida utilities not only possess market
2 power which is not at issue, but that they exercise it to obtain artificially high
3 prices in the wholesale market. For example, OGC witness Vaden testifies:
4 "It is my opinion that without wholesale merchant power competitors like
5 Duke New Smyrna and Okeechobee Generating Company, municipalities like
6 New Smyrna will continue to suffer under artificially high, monopolistically-
7 controlled fuel and purchased power costs." In addition, Dr. Nesbitt indirectly
8 makes much the same argument, "The Peninsular Florida energy market is
9 dominated by three investor-owned utilities that individually and collectively
10 own a significant quantity of the on-peak capacity"... "The prospect for the
11 existence and exercise of market power appears to be at least as large in
12 Florida as it could be other jurisdictions." (Testimony of Dr. Nesbitt, p.125)

13
14 **Q. Does Dr. Nesbitt offer evidence that market power has been exercised in**
15 **other jurisdictions?**

16
17 A. Yes. He supports his case by citing high prices experienced by the Midwest in
18 summer 1998 as evidence of utilities' ability to exercise market power.
19 "During the June 1998 price spike episode, the wholesale energy market
20 exploded with spot prices reaching as high as \$7,000/MWH in the MAIN
21 (Mid America Interconnected Network) reliability region. Prospects for spot
22 prices this astronomical during the peak period lie at the heart of the market

1 power issue. Can some key Florida player withhold capacity and drive up
2 price during peak and thereby garner monopoly rents? Can some player with
3 multiple plants feign an "emergency shutdown" of one of them and, using the
4 other plants, make more money than it could have earned by running all
5 capacity?." (Testimony of Dr. Nesbitt, p. 126-127) It is interesting to note
6 that the incident Dr. Nesbitt refers to was investigated by FERC staff who
7 found no evidence of wrongdoing.¹⁰

8
9 **Q. Can Florida utilities exercise market power in the Florida wholesale**
10 **market?**

11
12 **A.** It seems unlikely. The two largest owners of generation in Florida, FPL and
13 FPC, are required to sell wholesale energy at regulated, cost-based prices.
14 Access to the utility transmission systems and rates for transmission and
15 ancillary services are likewise regulated by FERC with the objective of
16 ensuring that the owners do not exercise market power to distort wholesale
17 prices for power.

¹⁰ "Staff Report to the Federal Energy Regulatory Commission on the Causes of Wholesale Electric Pricing Abnormalities in the Midwest during June 1998", September 22, 1998

1 Q. OGC witness Nesbitt asserts that "The entry of the Project would
2 decrease whatever market power and market concentration that would
3 otherwise exist in Florida." Do you agree with his statement?

4
5 A. While it is true that measures of market concentration may decrease if the
6 OGC Project is built, the key issue here is the extent to which participants in
7 the market are presently able to exercise market power in the Florida's
8 wholesale markets. Dr. Nesbitt's argument is fundamentally meaningless for
9 entities such as FPL that are restricted to cost-based pricing. As I explained
10 above, the two largest utilities in Florida are required to sell wholesale energy
11 within the state at cost-based prices, thereby precluding their ability to
12 exercise market power.

13
14
15 Q. Does this conclude your testimony?

16
17 A. Yes.

EXHIBITS

JOHN H. LANDON

John Landon specializes in the application of economic and statistical principles to firms, industries and markets. His work has spanned many industries including electric and gas utilities, computer equipment, computer software, pharmaceuticals, hospitals, medical implants, publishing, transportation, and manufacturing. He has provided reports and testimony on issues including mergers, antitrust actions, contract disputes, regulatory rule determinations, and labor market disputes.

Dr. Landon has testified more than 100 times before federal district courts, state courts, the Securities and Exchange Commission, the Federal Energy Regulatory Commission, and various state commissions, and has prepared numerous expert reports and affidavits. He has authored or co-authored more than 20 articles published in academic and trade journals, two book chapters, and several monographs. His research areas include electric utilities, labor markets, vertical integration, and technological change.

Prior to joining Analysis Group Economics, Dr. Landon was Senior Vice President at NERA, Inc. Previously, he held positions as Associate Professor of Economics at the University of Delaware and Case Western Reserve University. Dr. Landon holds a Ph.D. in Economics from Cornell University.

PROFESSIONAL ACTIVITIES

Member of the Governor of Delaware's Economic Advisory Committee

Director of the Center for Policy Studies at the University of Delaware

A Director of the Delaware Econometric Model Group

Senior Research Associate in the Research Program in Industrial Economics at Case Western Reserve University

Member of the American Economic Association

Associate Member of the American Bar Association

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