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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Joint petition for determination) DOCKET NO.  
of need for an electrical power plant ) 981042-EM  
in Volusia County by the Utilities )  
Commission, City of New Smyrna Beach, )  
Florida, and Duke Energy New Smyrna )  
Beach Power Company Ltd., L.L.P. )  
)

VOLUME 8  
Pages 1016 through 1157

PROCEEDINGS: HEARING  
BEFORE: CHAIRMAN JULIA L. JOHNSON  
COMMISSIONER J. TERRY DEASON  
COMMISSIONER SUSAN F. CLARK  
COMMISSIONER JOE GARCIA  
COMMISSIONER E. LEON JACOBS  
DATE: Friday, December 4, 1998  
TIME: Commenced at 9:30 a.m.  
PLACE: Betty Easley Conference Center  
Room 148  
4075 Esplanade Way  
Tallahassee, Florida  
REPORTED BY: NANCY S. METZKE, RPR, CCR

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BUREAU OF REPORTING  
RECEIVED 12-14-98

(APPEARANCES AS HERETOFORE NOTED)

DOCUMENT NUMBER-DATE  
14007 DEC 14 98  
FPSC-RECORDS/REPORTING

INDEX

	<u>PAGE NO.</u>
1	
2	
3	MARTHA O. HESSE
4	Continued Cross Examination by Mr. Guyton . . . 1019
5	Redirect Examination by Mr. Wiggins. . . 1026
6	KENNIE SANFORD
7	Direct Prefiled Testimony Inserted . . . 1029
8	MARK LOCASCIO
9	Direct Examination by Mr. Wright . . . 1039
10	Prefiled Direct Testimony Inserted . . . 1044
11	Cross Examination by Mr. Guyton . . . 1057
12	Redirect Examination by Mr. Wright . . . 1080
13	MICHEL P. ARMAND
14	Direct Examination by Mr. McGlothlin . . 1082
15	Direct Prefiled Testimony Inserted . . . 1084
16	Cross Examination by Mr. Moyle . . . 1102
17	Cross Examination by Mr. Guyton . . . 1103
18	LARRY A. WALL
19	Direct Examination by Mr. McGlothlin . . 1105
20	Direct Prefiled Testimony Inserted . . . 1107
21	JEFFREY L. MELING
22	Direct Examination by Mr. Dee . . . 1119
23	Direct Prefiled Testimony Inserted . . . 1122
24	Cross Examination by Mr. Moyle . . . 1139
25	Cross Examination by Ms. Jaye . . . 1142
	Redirect Examination by Mr. Dee . . . 1148
	Cross Examination by Mr. Butler . . . 1153

## INDEX OF EXHIBITS

NUMBER		ID	ADMTD
#22	Composite exhibit of Kennie Sanford, P.E. . . . .	1037	1037
#23	Composite exhibit of Mark Locascio, P.E. . . . .	1055	1081
#24	Michel Armand composite Exhibits MPA-1 through 5 . . . .	1100	1104
#25	Exhibit LAW-1 . . . .	1115	1118
#26	Exhibit JLM-1 . . . .	1121	1154
#27	Deposition of Meling and attachments . . . .	1141	1154
#28	FPL's interrogatory responses to Petitioners . . . .	1156	1157
#29	FPL's response to Petitioner's production requests . . . .	1156	1157

P R O C E E D I N G S

1  
2  
3 (Whereupon, the transcript continues in sequence  
4 from Volume 7)

5  
6 CHAIRMAN JOHNSON: We're going to go back on the  
7 record.

8 MARTHA O. HESSE  
9 continues her testimony under oath from Volume 7:

## CONTINUED CROSS EXAMINATION

10  
11 BY MR. GUYTON:

12 Q Ms. Hesse, before lunch we were discussing the  
13 sources of Federal Energy Policy that you had cited in your  
14 testimony, the PURPA, the Order 888 --

15 COMMISSIONER GARCIA: I don't think you are  
16 coming through on the mikes. It could be that the Chairman  
17 doesn't have it on. No, she does.

18 MR. GUYTON: Is that any better? No?

19 (DISCUSSION OFF THE RECORD)

20 BY MR. GUYTON (Continuing):

21 Q Before lunch, Ms. Hesse, we were talking about  
22 three specific sources of Federal Energy Policy that you  
23 cite, PURPA, Order 888 and the Energy Policy Act. Do you  
24 recall that?

25 A Yes.

1 Q Where in PURPA does it state that requiring a QF  
2 to have a contract with a purchasing utility for the QF to  
3 be able to demonstrate need in a state power plant siting  
4 or licensing proceeding would be inconsistent with Federal  
5 Energy Policy?

6 A I can't answer that.

7 Q Where in Order 888 did the FERC state that  
8 requiring a merchant plant to have a contract with a  
9 purchasing utility for the merchant plant to be able to  
10 demonstrate need in a state power plant siting or licensing  
11 proceeding would be inconsistent with Federal Energy  
12 Policy?

13 A I don't believe that it does.

14 Q Where in the Energy Policy Act did congress state  
15 that requiring a merchant plant to have a contract with a  
16 purchasing utility for the merchant plant to be able to  
17 show need in a state power plant siting or licensing  
18 proceeding would be inconsistent with Federal Energy  
19 Policy?

20 A It's silent.

21 Q At Page 22 of your testimony at Lines 7 through  
22 9, you make the following statement, quote, The argument  
23 that the obligation to serve vests control over access to  
24 the wholesale market in existing retail-serving utilities  
25 is a red herring. Do you recall that?

1 A Yes.

2 Q Ms. Hesse, is there any wholesale load in Florida  
3 that doesn't have corresponding retail load?

4 A I can't answer that. That wasn't the --  
5 certainly wasn't the intent of my statement. It was not  
6 anything specific to Florida. It was really a statement  
7 that I follow up with the next sentence, and it says that  
8 utilities gave up this argument when they started buying  
9 and selling power between and among themselves.

10 Q Well, let's make it a little broader. Are you  
11 aware of any wholesale load that doesn't have underlying  
12 retail load anywhere?

13 A Yes.

14 Q And where is that?

15 A I think that would be in a number of states  
16 that -- in which there are merchant plants that have the  
17 power available for sale that is not necessarily dedicated  
18 to a contract.

19 Q Well, now I wasn't asking about capacity. I was  
20 asking about load. Are you aware of any wholesale load  
21 that doesn't have a corresponding retail load?

22 A No, I'm not.

23 Q All right. Do you consider the following  
24 statement a red herring: "It is need resulting from a duty  
25 to serve customers which the need determination proceeding

1 is designed to examine?"

2 A Would you repeat that?

3 Q Yes. The entire question or just the quote?

4 A The entire question.

5 Q Okay. I asked you if you considered the  
6 following statement a red herring, and the statement is  
7 this: "It is need resulting from a duty to serve customers  
8 which the need determination proceeding is designed to  
9 examine."

10 MR. WIGGINS: I'm going to object to the question  
11 to the extent Mr. Guyton is asking for Ms. Hesse's view of  
12 what this need determination hearing is addressing, and so  
13 I just want to make sure we're not bordering on -- veering  
14 into asking her for legal opinion as to what the siting  
15 proceeding is about, Charlie.

16 MR. GUYTON: I'm not asking for a legal opinion.  
17 I'm asking her if she considers the following statement a  
18 red herring.

19 WITNESS HESSE: Not necessarily. I would have to  
20 know the context, but not necessarily.

21 BY MR. GUYTON (Continuing):

22 Q Okay. Is that statement that I just quoted to  
23 you, inconsistent with Federal Energy Policy?

24 A Well, I think you perhaps are asking me for an  
25 opinion on Florida Statute or Florida regulation or some

1 law and, you know, as I've said, I'm not here as an  
2 attorney or I'm not qualified to render a legal opinion on  
3 the meaning of those terms. You know, I can't talk to you  
4 also about the specifics of Florida's power, you know,  
5 Florida's various regulations and laws; but what I can tell  
6 you, is that I believe that the -- that what congress had  
7 in mind when it passed the Energy Policy Act was that they  
8 were attempting to encourage competition in the wholesale  
9 power market, and they were attempting to remove barriers  
10 from entry, and that any barrier to entry that might be  
11 erected or might be presumed to be erected in the state  
12 would be contrary to what is their intent.

13 Q Now you've testified at great length as to  
14 Federal Energy Policy, haven't you, ma'am?

15 A No, to great length.

16 Q Well, you've testified here today as to Federal  
17 Energy Policy, haven't you?

18 A Yes, I'm here as a resource.

19 Q Yes. I don't think I got an answer to my earlier  
20 question. I want to restate it again. Is the following  
21 sentence inconsistent with Federal Energy Policy: "It is  
22 need resulting from a duty to serve customers which the  
23 need determination proceeding is designed to examine?"

24 A I don't -- I would say, no, it's not inconsistent  
25 because it doesn't necessarily -- it's not covered by the



1 Energy Policy Act.

2 Q Is the following statement inconsistent with  
3 Federal Energy Policy: "It is the utility's need for power  
4 to serve its customers which must be evaluated in a need  
5 determination proceeding?"

6 A The federal policy -- the federal -- I'm sorry,  
7 the Energy Policy Act is silent on that.

8 Q So you don't believe that that is inconsistent --  
9 that sentence is inconsistent with Federal Energy Policy?

10 A On the face, I would say, no, because the Act is  
11 silent.

12 Q Is the following sentence inconsistent with  
13 Federal Energy Policy: "A non-utility generator has no such  
14 need because it is not required to serve customers?"

15 A Would you say that again?

16 Q "A non-utility generator has no such need because  
17 it is not required to serve customers."

18 A Could you give me the context of that?

19 Q Sure. It's the sentence that follows after the  
20 one I read to you before. Let me read both of them  
21 together and ask --

22 A Well, why don't you give me the context of that  
23 too, please.

24 Q Oh, sure. It's out of a Florida Public Service  
25 Commission decision involving ARC and Nassau. Have you

1 been familiarized at all with that decision?

2 A No, I have not read any Florida cases.

3 Q Well, let me ask you about this sentence then.  
4 Did you consider this sentence to be, or would you consider  
5 this sentence to be inconsistent with Federal Energy  
6 Policy: "Non-utility generators have no similar need  
7 because they are not required to serve customers?"

8 A Well, I have to talk about the pieces of it. I  
9 mean it's clear that non-utility generators don't have an  
10 obligation to serve customers.

11 Q At Page 13 of your testimony you talk about  
12 limiting merchant plants by requiring contracts. Do you  
13 recall that discussion at Lines 8 through 14?

14 A I'm reading it now.

15 Q Okay.

16 A Uh-huh.

17 Q And that discussion was about merchant plants. I  
18 want to change the context just a little bit and get your  
19 view on this: In your opinion, would it be inconsistent  
20 with Federal Energy Policy to condition the building of a  
21 qualifying facility on the requirement that the qualifying  
22 facility enter into a contract with a purchasing utility?

23 A No.

24 Q Thank you, Ms. Hesse.

25 MR. GUYTON: Thank you.

1 CHAIRMAN JOHNSON: Mr. Sasso.

2 MR. SASSO: Mr. Guyton, has covered it. Thank  
3 you.

4 CHAIRMAN JOHNSON: Good. Staff.

5 MS. PAUGH: Staff has no questions.

6 CHAIRMAN JOHNSON: Commissioners?

7 (NO RESPONSE)

8 CHAIRMAN JOHNSON: Redirect?

9 MR. WIGGINS: Yes, ma'am.

10 REDIRECT EXAMINATION

11 BY MR. WIGGINS (Continuing):

12 Q Ms. Hesse, since it wasn't that long ago, do you  
13 recall a series of questions from Mr. Guyton about  
14 sentences being compatible or not compatible with the  
15 Federal Energy Policy?

16 A Sentences, yes.

17 Q Let me -- and earlier today before lunch do you  
18 recall that Mr. Guyton asked you to -- asked you whether  
19 the Energy Policy Act allowed states to have authority over  
20 environmental and siting?

21 A Yes.

22 Q And as I recall your answer, was that it, in  
23 fact, does?

24 A Yes.

25 Q And I think you admitted to Mr. -- or

1 acknowledged to Mr. Guyton that the Florida Power Plant  
2 Siting Act would, therefore, fall under that exception or  
3 that conclusion?

4 A Conclusion, yes.

5 Q Conclusion?

6 A Yes.

7 Q Okay. Let me ask you this: In your opinion, if  
8 any environmental siting -- environmental or siting act  
9 were applied in a way by any state to erect barriers to the  
10 introduction of merchant plants or the development of  
11 wholesale generation, would that be compatible or  
12 incompatible with Federal Policy?

13 A It would be incompatible with Federal Policy in  
14 the sense that the intent of congress is to diminish,  
15 reduce, eliminate barriers to entry.

16 Q I have no further questions.

17 MR. WIGGINS: Thank you.

18 CHAIRMAN JOHNSON: Okay.

19 WITNESS HESSE: Thank you.

20 CHAIRMAN JOHNSON: Thank you very much.

21 WITNESS HESSE: Thanks.

22 MR. WRIGHT: Madam Chairman, Mr. Locascio has  
23 gone down the hall for a moment. I might be able to take  
24 care of a couple of housekeeping matters in this  
25 intervening two or three minutes.

1                   CHAIRMAN JOHNSON: Okay.

2                   MR. WRIGHT: By agreement, as discussed from the  
3 bench on Wednesday evening at the conclusion of that long  
4 day, I think everyone, all parties in the room agreed to  
5 the stipulated entry of the testimony of Kennie Sanford  
6 Jr., P.E. into the record as though read without cross  
7 examination and also to the admission of the exhibits to  
8 Mr. Sanford's testimony.

9                   CHAIRMAN JOHNSON: Okay. We'll show the  
10 testimony inserted into the record as though read.

11

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**IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION OF NEW SMYRNA BEACH  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM**

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 **Q: Please state your name and business address.**

2 A: My name is Kennie Sanford, Jr., and my business address is  
3 Duke/Fluor Daniel, Inc., One Fluor Daniel Drive, Sugar Land,  
4 Texas 77478.

5

6 **Q: By whom are you employed and in what position?**

7 A: I am employed by Duke/Fluor Daniel ("D/FD") as a Principal  
8 Electrical Engineer.

9

10 **Q: Please describe your duties with Duke/Fluor Daniel.**

11 A: I am responsible for the scope definition of electrical  
12 facilities to support proposals, sales, and permitting for  
13 electrical power plants. My duties and responsibilities  
14 include preparing electrical estimates, one-line diagrams,  
15 scope of work and estimate basis documents, layout of  
16 electrical equipment and substations, and preliminary  
17 electrical system analyses.

18

19

**QUALIFICATIONS AND EXPERIENCE**

20 **Q: Please summarize your educational background and experience.**

21 A: I have a Bachelor of Science degree in Mathematics and  
22 Physics from Stephen F. Austin State University and a

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 Bachelor of Science in Electrical Engineering degree from  
2 the University of Houston. I have completed many courses  
3 and training seminars, including training in protective  
4 relay applications, electrical system calculations, and  
5 computer applications.

6

7 **Q: What is your experience in power plant engineering,**  
8 **construction, operations, permitting, and licensing?**

9 A: I have 25 years of experience as an electrical engineer.  
10 My work experience has included preparing construction  
11 drawings, construction subcontracts, engineering and  
12 construction cost estimates, engineering schedules,  
13 specifications and protective relay coordination studies  
14 for electric power generation and power distribution for  
15 cogeneration, refinery, and petrochemical plants. In  
16 addition, I have field experience in startup of  
17 electrical systems for cogeneration facilities.

18 In my career, I have worked for Duke/Fluor Daniel, Inc.  
19 (1998-present), Fluor Daniel, Inc. (1996-1998), Kvaerner  
20 John Brown (1994-1996), Destec Engineering, Inc. (1986-  
21 1994), and Fluor Engineers, Inc. (1973-1986). My resume' is  
22 included as Exhibit \_\_\_\_ (KS-1) to my testimony.

23

24 **Q: Are you a registered professional engineer?**

25 A: Yes. I am a registered professional engineer in the State  
26 of Texas.

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.****SUMMARY AND PURPOSE OF TESTIMONY**

1

**2 Q: What is the purpose of your testimony?**

3 A: I am testifying on behalf of the Utilities Commission of the  
4 City of New Smyrna Beach, Florida ("UCNSB"), and Duke Energy  
5 New Smyrna Beach Power Company Ltd., L.L.P. ("Duke New  
6 Smyrna"), the joint applicants for the Commission's  
7 determination of need for the New Smyrna Beach Power Project  
8 ("the Project"). My testimony describes the electrical  
9 system of the Project, including the major electrical system  
10 components, startup and standby power supplies, electrical  
11 design considerations, and systems control.

12

**13 Q: What are your responsibilities with respect to the New  
14 Smyrna Beach Project that is the subject of this proceeding?**

15 A: Duke/Fluor Daniel is the engineering, procurement, and  
16 construction ("EPC") contractor for the New Smyrna Beach  
17 Project. I am working on the Project as Principal  
18 Electrical Engineer with responsibility for preliminary  
19 electrical design of the Project.

20

**21 Q: Please summarize your testimony.**

22 A: The New Smyrna Beach Power Project includes a state-of-the-  
23 art 500 MW (nominal) combined cycle power plant using  
24 advanced combustion turbine technology and the electrical  
25 interconnection facilities that will connect the power plant  
26 to the Smyrna Substation of the UCNSB. The Project features



**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 high thermal efficiency (a heat rate of approximately 6,832  
2 Btu per kWh based on the Higher Heating Value of natural  
3 gas) and low emissions. The Project also features proven  
4 electrical systems and technologies.

5  
6 **Q: Are you sponsoring any exhibits to your testimony?**

7 **A:** Yes. I am sponsoring the following exhibits.

8 KS-1. Resume' of Kennie Sanford, Jr., P.E.

9 KS-2. Electrical One-Line Diagram of the New Smyrna  
10 Beach Power Project.

11 KS-3. New Smyrna Beach Power Project, Electrical  
12 Facilities Description, which includes an  
13 electrical system overview of the Project,  
14 descriptions of the major electrical components of  
15 the Project, description of the Project's startup  
16 and standby power supplies, listing of applicable  
17 electrical design considerations (codes and  
18 standards), and description of systems controls  
19 for the Project.

20

21 **THE NEW SMYRNA BEACH POWER PROJECT**

22 **Q: Please give an overview of the electrical system of the New**  
23 **Smyrna Beach Power Project.**

24 **A:** The New Smyrna Beach Power Project is a natural gas fired  
25 combined cycle generating unit consisting of two combustion  
26 turbine generators ("CTGs"), two heat recovery steam

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 generators ("HRSGs"), one steam turbine generator ("STG"),  
2 and a cooling tower. The Project's rated output is 500 MW  
3 (nominal); its projected summer capacity is 476 MW and its  
4 projected winter capacity is 548 MW. A step-up transformer  
5 will be provided for each generator for a 115 kV connection  
6 to the Smyrna Substation owned by the UCNSB.

7 The overall electrical one-line diagram for the Project  
8 is included as Exhibit \_\_\_\_\_ (KS-2).

9  
10 **Q: Please summarize the major components of the electrical**  
11 **systems of the Project.**

12 **A:** The major electrical system components include the  
13 following.

- 14 1. New 115 kV Take-off Towers.
- 15 2. New 115 Transmission Conductor.
- 16 3. New 115 kV Breaker Bays at the Smyrna Substation.
- 17 4. Main Generator Step Up Transformers.
- 18 5. Isolated Phase Bus System.
- 19 6. High Current Isolated Phase Generator Circuit Breakers.
- 20 7. Switchgear.
- 21 8. Plant Motor Control Centers.
- 22 9. 120 VAC UPS Inverter.
- 23 10. 125VDC Station Service Batteries with Chargers.
- 24 11. Generators.

25 Please refer to Section 2.1 of Exhibit \_\_\_\_\_ (KS-3) for  
26 a more detailed description of these major electrical system

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 components.

2

3 **Q: Please summarize the starting and emergency power supplies**  
4 **for the Project.**

5 A: Normal starting of the Project's combustion turbine  
6 generators will be achieved by means of a load-commutating  
7 inverter adjustable frequency drive, which uses the  
8 generator as a synchronous motor for variable speed control  
9 during startup of the CTG system. Normal starting of the  
10 STG will be accomplished by controlling the input of steam  
11 to the STG.

12 The Project is not designed to have black start  
13 capability. Startup power will be provided by the  
14 generating plants of the Utilities Commission of New Smyrna  
15 Beach.

16 Standby power requirements will be supplied by a 500 kW  
17 diesel engine driven generator for backup to the UPS  
18 ("uninterruptible power supply") system and other critical  
19 loads.

20 Please refer to Section 2.2 of Exhibit \_\_\_\_ (KS-3) for  
21 a more detailed description of the startup and standby power  
22 supplies for the Project.

23

24 **Q: Please summarize the electrical design considerations**  
25 **applicable to the New Smyrna Beach Power Project.**

26 A: The electrical system of the Project will be designed in

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 accordance with the applicable provisions of the following  
2 codes and standards.

- 3 1. American National Standards Institute (ANSI).
- 4 2. Institute of Electrical and Electronics Engineers  
5 (IEEE).
- 6 3. National Electrical Manufacturers Association (NEMA).
- 7 4. American Society for Testing and Materials (ASTM).
- 8 5. Insulated Cable Engineers Association (ICEA).
- 9 6. National Fire Protection Association (NFPA).
- 10 7. National Electrical Safety Code (NESC).
- 11 8. National Electrical Code (NEC).
- 12 9. Illuminating Engineering Society (IES).

13

14 **Q: Please give a brief description of the control systems for**  
15 **the New Smyrna Beach Power Project.**

16 **A:** The instrumentation and control systems for the New Smyrna  
17 Beach Power Project will be designed to provide state-of-  
18 the-art monitoring and control of the plant's operations.  
19 The control system will consist of a Distributed Control  
20 System ("DCS") with microprocessor based controllers, an  
21 operator console, and an engineering console.

22 The DCS will provide the main control functions of the  
23 plant. The various plant subsystems will be controlled from  
24 the operator console. Control of the generators will be  
25 performed by a packaged control system, which will enable  
26 the operator to perform setpoint and monitoring functions of

**DIRECT TESTIMONY OF KENNIE SANFORD, JR., P.E.**

1 the CTGs and STG. Local control equipment will enable the  
2 operator to perform the following functions: start, stop,  
3 raise and lower load, raise and lower vars, and duct burner  
4 control. The circuit breakers, transformers, and switchgear  
5 will be monitored and controlled by the DCS.

6 Please refer to Section 4 of Exhibit \_\_\_\_ (KS-3) for a  
7 more detailed description of the Project's control systems.

8

9 **Q: Does this conclude your direct testimony?**

10 **A: Yes, it does.**

1 CHAIRMAN JOHNSON: And the exhibits -- Could  
2 you give me a short title? It will be marked as 22.

3 MR. WRIGHT: Thank you, and also --

4 CHAIRMAN JOHNSON: And a short title for his  
5 exhibits?

6 MR. WRIGHT: Composite exhibit of Kennie Sanford,  
7 P.E.

8 CHAIRMAN JOHNSON: Composite. It will be so  
9 entitled.

10 (SO MARKED EXHIBIT NUMBER 22)

11 MR. WRIGHT: Thank you. Also, as a housekeeping  
12 matter, Madam Chairman, yester --

13 CHAIRMAN JOHNSON: Oh, wait, let me go ahead, and  
14 you want me to admit it at this time? Because it's  
15 already -- Admit his --

16 MR. WRIGHT: Exhibits into evidence? Yes, I  
17 would move the admission of those -- reception of those  
18 exhibits into evidence, 22.

19 CHAIRMAN JOHNSON: Okay. Show those admitted.

20 MR. WRIGHT: Okay. And you did approve his  
21 testimony into the record?

22 CHAIRMAN JOHNSON: Yes, I already did that.

23 MR. WRIGHT: Thank you, ma'am.

24 The other housekeeping matter was the admission  
25 of our exhibits that were filed with the petition on August

1 19th. As I recall the discussion at that time, there was  
2 some objection to limited parts of that by Florida Power &  
3 Light Company to exhibits that were being sponsored --  
4 parts of this that are being sponsored by Doctor Nesbitt.  
5 As I understand it, their objection was overruled and those  
6 exhibits were allowed in. If there are no further  
7 objections or no other objections to the content of this  
8 exhibit, it might help the process to just go ahead and  
9 move the whole thing into evidence at this time as Exhibit  
10 16.

11 CHAIRMAN JOHNSON: Mr. Guyton.

12 MR. GUYTON: Florida Power & Light may well have  
13 an objection to another part of the exhibit. I would  
14 suggest that we move it as we go through the witnesses.

15 CHAIRMAN JOHNSON: Okay.

16 MR. WRIGHT: Madam Chairman, the Joint  
17 Petitioners would call Mr. Mark Locascio, Professional  
18 Engineer, to the stand. And Madam Chairman with your  
19 permission I'm going to hand the -- Mr. Locascio had some  
20 minor corrections to his testimony and exhibits. I'm going  
21 to hand the court reporter a corrected copy.

22 CHAIRMAN JOHNSON: Was this witness sworn? Were  
23 you here the first day?

24 MR. LOCASCIO: Yes, ma'am.

25 CHAIRMAN JOHNSON: Okay.

1           COMMISSIONER GARCIA: Mr. Locascio, can I ask you  
2 a quick question while they do that?

3           MR. LOCASCIO: Certainly.

4           COMMISSIONER GARCIA: Who was Harvey Mudd.

5           MR. LOCASCIO: Who was Harvey Mudd?

6           COMMISSIONER GARCIA: Right. I know he was a  
7 character from Star Trek, but I wondered --

8           MR. LOCASCIO: That was Henry Mudd.

9           COMMISSIONER GARCIA: Henry Mudd, okay.

10          MR. LOCASCIO: Also two Ds. Harvey Mudd was a  
11 part owner in Cypress Mines Corporation who gave heavily to  
12 colleges and universities in California, and those colleges  
13 and universities got together and created an engineering  
14 school in California called Harvey Mudd in respect of his  
15 memory.

16          COMMISSIONER GARCIA: Thank you very much. I  
17 appreciate that.

18          MR. LOCASCIO: You're welcome. I had forgotten  
19 all about that completely.

20

21

22

\* \* \* \*

23

24 Whereupon,

25

MARK LOCASCIO



1 was called as a witness by the Joint Petitioners and, after  
2 being first duly sworn, testified as follows:

3

4

DIRECT EXAMINATION

5 BY MR. WRIGHT:

6

Q Good afternoon, Mr. Locascio.

7

A Good afternoon.

8

Q Are you the same Mark Locascio who prepared and  
9 caused to be filed in this proceeding prefiled direct  
10 testimony consisting of 11 pages?

11

A Yes, I am.

12

Q And did you also prepare and cause to be filed  
13 together with your exhibit certain exhibits designated in  
14 your filing as Exhibits ML-1 through ML-11?

15

A Yes, I am.

16

Q And according to your testimony, you are also  
17 sponsoring certain parts of the filing exhibit book that I  
18 held up a few minutes ago, and those parts are identified  
19 on Page 4, Lines 14 through 16 of your testimony; is that  
20 correct?

21

A Yes, I am. That's correct.

22

Q If I were -- Oh, do you have any changes and  
23 corrections to make to your testimony and exhibits?

24

A Yes, I do.

25

Q Would you please explain those to the

1 Commissioners and the parties?

2 A On Page 8, line 20, the words, "Part Roman  
3 Numeral II of," need to go before the word "exhibit," and  
4 that would be ML-9, so only Part II of Exhibit ML-9.  
5 That's all the testimony.

6 In the exhibits, Exhibit ML-2, Page 2, there's  
7 two minor changes, "CO" should read 12, down in the middle  
8 of the page, "Expected plant air emissions." And "water  
9 requirements" down near the bottom should read, 3.8 instead  
10 of 3.9.

11 In exhibit ML-6, the table is the same except for  
12 the line under SOX as SO2. All the numbers are slightly  
13 lower, less than one, and I don't -- would you like me to  
14 read them all to you? I can if you'd like, but --

15 Q No, I think that's okay.

16 A Okay, they are all just slightly lower.

17 And in Exhibit ML-8, which is the design basis,  
18 there are a few minor changes. On Page 1, "Ambient  
19 Conditions" should now read: Max 102F 63% RH. Min, 15F,  
20 78% RH.

21 On Page 3, Paragraph 12, "Cooling Water System."  
22 Cooling tower approach was 16, should read 11. Range was  
23 20, should read 12. Condenser will operate at a nominal  
24 1.68 instead of 2.46.

25 And the last change, on Page 4, Paragraph 15, it

1 should say two million gallons per day instead of 900  
2 thousand gallons per day, and a slight change to the  
3 sentence in that paragraph should read, "which will flow  
4 through a clarifier and a pressure filter then into a  
5 separate raw water storage tank." And those are all the  
6 changes.

7 MR. GUYTON: Mr. Locascio, could I get you to  
8 read that last one? I couldn't find where the sentence was  
9 changed.

10 MR. LOCASCIO: Sure. Paragraph 15.

11 MR. GUYTON: Yes, sir.

12 MR. LOCASCIO: Right in the middle, it says, "The  
13 secondary source of well water supplied by the city water  
14 utility --"

15 MR. GUYTON: Yes.

16 MR. LOCASCIO: "-- which will flow through," new  
17 words, "a clarifier and a pressure filter then into a  
18 separate raw water storage tank."

19 MR. GUYTON: Thank you, sir.

20 MR. LOCASCIO: You're welcome.

21 Those are all the changes.

22 BY MR. WRIGHT (Continuing):

23 Q And with the one change that you noted to the  
24 actual testimony, if I were to ask you the same questions  
25 contained in your testimony today, would your answers be

1 the same?

2 A Yes, they would.

3 Q And do you adopt this testimony as your sworn  
4 testimony to the Florida Public Service Commission in this  
5 proceeding?

6 A Yes, I do.

7 MR. WRIGHT: Madam Chairman, I would request that  
8 Mr. Locascio's prefiled direct testimony be entered into  
9 the record as though read.

10 CHAIRMAN JOHNSON: It will be entered into the  
11 record.

12

13

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**IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM**

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 **Q: Please state your name and business address.**

2 A: My name is Mark Locascio, and my business address is  
3 Duke/Fluor Daniel, One Fluor Daniel Drive, Sugar Land, Texas  
4 77478.

5

6 **Q: By whom are you employed and in what position?**

7 A: I am employed by Fluor Daniel as Manager of Engineering of  
8 the Houston Duke/Fluor Daniel ("D/FD") office.

9

10 **Q: Please describe your duties with Duke/Fluor Daniel.**

11 A: I am responsible for supervision and management of all  
12 aspects of the engineering group within D/FD's Houston  
13 office.

14

15

**QUALIFICATIONS AND EXPERIENCE**

16 **Q: Please summarize your educational background and experience.**

17 A: I have a Bachelor of Science in Engineering degree from  
18 Harvey Mudd College (one of the Claremont colleges) in  
19 Claremont, California. I also have a Master of Engineering  
20 degree in Chemical Engineering from Carnegie-Mellon  
21 University, and a Master of Business Administration degree

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 from the University of California at Irvine.

2

3 **Q: What is your experience in power plant engineering,**  
4 **construction, operations, permitting, and licensing?**

5 A: I have 19 years of experience in the electric power  
6 industry, working as a process engineer, mechanical  
7 engineer, field engineer, project controls engineer,  
8 estimating project engineer, project manager, and  
9 engineering manager. Exhibit \_\_\_\_ (ML-1) is my current  
10 resume'.

11

12 **Q: Are you a registered professional engineer?**

13 A: Yes. I am a registered professional engineer in Mechanical  
14 Engineering in the State of California.

15

16

**SUMMARY AND PURPOSE OF TESTIMONY**

17 **Q: What is the purpose of your testimony?**

18 A: I am testifying on behalf of the Utilities Commission of New  
19 Smyrna Beach, Florida ("UCNSB"), and Duke Energy New Smyrna  
20 Beach Power Company Ltd., L.L.P. ("Duke New Smyrna"), the  
21 joint applicants for the Commission's determination of need  
22 for the New Smyrna Beach Power Project (or "the Project").  
23 My testimony describes D/FD, the New Smyrna Beach Power  
24 Project, and the power plant itself. My testimony also  
25 describes the performance characteristics and environmental

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 profile of the Project, and presents the engineering,  
2 procurement, and construction schedule for the Project.

3

4 **Q: What are your responsibilities with respect to the New**  
5 **Smyrna Beach Power Project that is the subject of this**  
6 **proceeding?**

7 A: Duke/Fluor Daniel is the engineering, procurement, and  
8 construction ("EPC") contractor for the New Smyrna Beach  
9 Power Project. I am the engineering manager overseeing the  
10 preliminary engineering effort and permit support activities  
11 associated with the Project. D/FD's Operations and  
12 Maintenance ("O&M") Division will also be the operating and  
13 maintenance contractor for the Project.

14

15 **Q: Please summarize your testimony.**

16 A: The New Smyrna Beach Power Project includes a state-of-the-  
17 art 500 MW (nominal) combined cycle power plant using  
18 advanced firing temperature combustion turbine technology  
19 and the electrical interconnection facilities that will  
20 connect the power plant to the Smyrna Substation of the  
21 UCNSB. The Project features high thermal efficiency (a heat  
22 rate of approximately 6,832 Btu per kWh on an HHV basis, ISO  
23 temperature and relative humidity) and low emissions.

24

25

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 **Q: Are you sponsoring any exhibits to your testimony?**

2 **A:** Yes. I am sponsoring the following exhibits.

3 ML-1. Current resume' of Mark Locascio.

4 ML-2. New Smyrna Beach Power Project, Project Profile.

5 ML-3. New Smyrna Beach Power Project Site Plan.

6 ML-4. New Smyrna Beach Power Project, Proposed Plot Plan.

7 ML-5. CAD Renderings of the power plant and site layout.

8 ML-6. Estimated Plant Performance and Emissions.

9 ML-7. New Smyrna Beach Power Project, Process Flow Diagram.

10 ML-8. Summary of the Design Basis for the Project.

11 ML-9. Generation Alternatives Considered for the Project.

12 ML-10. Preliminary Water Balances for the Project.

13 ML-11. EPC Schedule for the Project.

14 I am also sponsoring Tables 1, 2, and 15 and Figures 4,  
15 5, 6, 7, 9, 10, 11, and 14 in the Exhibits filed on August  
16 19, 1998, and the text that accompanies those exhibits.

17

18 **DUKE/FLUOR DANIEL AND THE NEW SMYRNA BEACH PROJECT**

19 **Q: Please describe Duke/Fluor Daniel and its business.**

20 **A:** Duke/Fluor Daniel is a legal partnership that provides  
21 comprehensive engineering services for the electric power  
22 industry. Duke/Fluor Daniel provides power plant  
23 engineering, power plant construction, and operating and  
24 maintenance services. D/FD also provides comprehensive  
25 engineering, procurement, and construction ("EPC") services



**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 for new and refurbished power plant projects. The partners  
2 of Duke/Fluor Daniel are Duke Project Services, Inc. and FD  
3 Illinois, Inc.

4

5 **Q: Please describe D/FD's role with respect to the New Smyrna**  
6 **Beach Power Project.**

7 **A:** Duke/Fluor Daniel is the EPC contractor for the New Smyrna  
8 Beach Power Project. In this role, D/FD will be responsible  
9 for permit support, engineering, design, construction,  
10 procurement, and startup of the Project. Duke/Fluor Daniel  
11 will also be the operating and maintenance contractor for  
12 the New Smyrna Beach Power Project. In this role, under  
13 contract to Duke Energy New Smyrna Beach Power Company,  
14 Ltd., L.L.P., D/FD will maintain and operate the Project in  
15 accord with the terms of that contract.

16

17 **Q: With what similar projects has Duke/Fluor Daniel been**  
18 **involved, and in what capacity?**

19 **A:** At the present time, Duke/Fluor Daniel is providing  
20 engineering services for the Bridgeport Energy Project, a  
21 520 MW gas-fired combined cycle unit being constructed by  
22 Duke Energy Power Services in Bridgeport, Connecticut. D/FD  
23 is also providing EPC services for OxyChem Corporation's  
24 Corpus Christi, Texas power generation project, as well as  
25 other projects.

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 Duke/Fluor Daniel is also the operating and maintenance  
2 contractor for the Bridgeport Energy Project, which recently  
3 began delivering power to wholesale customers, operating in  
4 simple cycle mode. D/FD operates and maintains more than  
5 2,000 MW of electric generation facilities worldwide.

**PROJECT DESCRIPTION AND ENGINEERING DESIGN**

7  
8 **Q: Please summarize the New Smyrna Beach Power Project.**

9 A: The New Smyrna Beach Power Project will include a 500 MW  
10 (nominal) natural gas fired combined cycle generating plant  
11 and the transmission facilities connecting the power plant  
12 to the Florida transmission grid at the Smyrna Substation of  
13 the UCNSB. Exhibit \_\_\_\_\_ (ML-2) presents a profile of the  
14 Project.

15  
16 **Q: Please give a brief description of the site for the New  
17 Smyrna Beach Power Project.**

18 A: The site for the Project consists of approximately 30.5  
19 acres located to the northwest of the intersection of  
20 Interstate Highway 95 and State Road 44 in New Smyrna Beach,  
21 in Volusia County. A detailed description of the Project  
22 site is presented in the testimony and exhibits of Mr.  
23 Jeffrey L. Meling, P.E. in support of the Project.

24  
25

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 **Q: Please describe the general arrangement and layout of the**  
2 **Project on the site.**

3 A: The general arrangement of the Project is shown on the Site  
4 Plan at Exhibit \_\_\_\_ (ML-3). Exhibit \_\_\_\_ (ML-4) shows a  
5 detailed layout of the main Project structures on the site,  
6 and Exhibit \_\_\_\_ (ML-5) presents CAD ("computer-assisted  
7 design") drawings of the power plant.

8

9 **Q: Please describe the generating technology of the New Smyrna**  
10 **Beach Power Project.**

11 A: The New Smyrna Beach Power Project will include a 500 MW  
12 (nominal) combined cycle generating plant, including two  
13 advanced firing temperature technology ("F" series)  
14 combustion turbine generators ("CTGs"), two heat recovery  
15 steam generators ("HRSGs"), and one steam turbine generator  
16 ("STG").

17

18 **Q: Please summarize the performance characteristics of the New**  
19 **Smyrna Beach Power Project.**

20 A: The heat rate for the generating plant at ISO temperature  
21 and humidity conditions (59°F. and 60% RH) is projected to  
22 be 6,832 Btu per kWh, reflecting a primary fuel efficiency  
23 of approximately 50 percent based on the Higher Heating  
24 Value ("HHV") of natural gas. Results of the Project's  
25 estimated heat balances are shown on the Estimated Plant

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 Performance and Emissions Data table, Exhibit \_\_\_\_ (ML-6).

2

3 **Q: Please summarize the process flow of the Project.**

4 **A:** The process flow of the Project is depicted on Exhibit \_\_\_\_  
5 (ML-7).

6

7 **Q: Please summarize the design basis for the Project.**

8 **A:** The design basis for the Project is summarized in Exhibit  
9 \_\_\_\_ (ML-8).

10

11

**GENERATION ALTERNATIVES CONSIDERED**

12 **Q: Please summarize the generation technologies and**  
13 **configurations that were considered for the Project.**

14 **A:** Duke/Fluor Daniel considered both "one-on-one" and "two-on-  
15 one" combined cycle configurations for the Project. (A one-  
16 on-one combined cycle unit has one CTG, one HRSG, and one  
17 STG; a two-on-one unit has two CTGs, two HRSGs, and one  
18 STG.) The two-on-one design was selected for the Project  
19 because it affords significant economies of scale as  
20 compared to smaller one-on-one designs. Part II of Exhibit  
21 \_\_\_\_ (ML-9) summarizes the alternatives that D/FD considered.

22 Duke Energy Power Services and D/FD considered  
23 proposals from four vendors, including General Electric,  
24 Siemens, Westinghouse, and ASEA Brown-Boveri ("ABB"). DEPS  
25 and D/FD selected General Electric as the vendor for the

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 CTGs and the STG, and ABB as the vendor for the HRSGs. As  
 2 a result, Duke Energy Global Asset Development has entered  
 3 into letters of intent with the suppliers of the CTGs,  
 4 HRSGs, and STG.

**ENVIRONMENTAL PROFILE**

7 **Q: Please summarize the environmental profile of the New Smyrna**  
 8 **Beach Power Project.**

9 A: The Project will be fueled by natural gas. It will utilize  
 10 dry low-NOx combustors for nitrogen oxides emissions  
 11 control. The Project's emissions of critical pollutants are  
 12 projected to be approximately as follows (on an annual  
 13 average basis, 71°F., 78% relative humidity):

14 Sulfur Dioxide	negligible, less than 20 lbs. per hour (less than 88 Tons per year)
16 Nitrogen Oxides	12 parts per million dry volume, or 149 17 lbs. per hour (650 Tons per year)
18 Particulate Matter	18 lbs. per hour (80 Tons per year)
19 Carbon Monoxide	12 parts per million dry volume

21 **Q: Please summarize the projected water requirements and water**  
 22 **supply plan for the New Smyrna Beach Power Project.**

23 A: At full load, the Project will require approximately 3.8  
 24 million gallons of water per day, calculated on an annual  
 25 average basis. Approximately one-half of the Project's

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1       makeup water, or approximately 2.0 million gallons per day,  
2       will be reuse water from the wastewater treatment plant of  
3       the Utilities Commission, City of New Smyrna Beach. It is  
4       expected that the amount of reuse water available for use by  
5       the Project will increase over time. The remainder of the  
6       makeup water will be obtained from groundwater sources,  
7       either on-site or off-site or a combination of both.  
8       Discharge from the power plant will be returned to the  
9       wastewater treatment plant for processing for reuse in the  
10      power plant. Preliminary water balances for the Project are  
11      shown in Exhibit \_\_\_\_ (ML-10).

12

13

**PROJECT SCHEDULE**

14      **Q: Please describe the engineering, procurement, and**  
15      **construction schedule for the Project.**

16      **A: The engineering, procurement, and construction schedule (the**  
17      **"EPC schedule") for the Project, Exhibit \_\_\_\_ (ML-11)**  
18      **provides for the Project to be designed and brought into**  
19      **commercial service -- i.e., "on-line" -- by October, 2001.**  
20      **Engineering design has already begun. The project schedule**  
21      **is approximately 23 months from project release to**  
22      **commercial operation.**

23

24

25

**DIRECT TESTIMONY OF MARK LOCASCIO, P.E.**

1 **Q: What is the current status of the engineering design work**  
2 **for the New Smyrna Beach Power Project?**

3 **A: Conceptual engineering is complete. A site plan, plot plan,**  
4 **process flow diagram, electrical one-line diagram, water**  
5 **balance, capital cost estimate, and operation and**  
6 **maintenance estimate are also complete.**

7

8 **Q: Does this conclude your direct testimony?**

9 **A: Yes, it does.**

1 MR. WRIGHT: Thank you. And we have  
2 identified -- oh, no, we haven't. I'd request that we  
3 identify Mr. Locascio's Exhibits ML-1 through ML-11 as  
4 Exhibit 23. Short title, composite exhibit of Mark  
5 Locascio, P.E.

6 CHAIRMAN JOHNSON: It will be marked 23, and  
7 identified as stated.

8 (SO MARKED EXHIBIT NUMBER 23)

9 MR. WRIGHT: And I would also request that for  
10 identification purposes those components of the filing  
11 exhibits identified at Page 4, Lines 14 through 16 of  
12 Mr. Locascio's testimony be identified at this time as part  
13 of what is Exhibit 16.

14 CHAIRMAN JOHNSON: Very well.

15 MR. WRIGHT: Thank you.

16 BY MR. WRIGHT (Continuing):

17 Q Mr. Locascio, have you prepared a brief summary  
18 of your testimony for the Commissioners?

19 A Yes, I have.

20 Q Please deliver it.

21 A Thank you.

22 Madam Chairman, Commissioners, the New Smyrna  
23 Beach Power Project will have a state-of-the-art nominal  
24 500 megawatt power plant having a heat rate of  
25 approximately 6,832 BTUs per kilowatt hour, HHV, higher



1 heating value, at ISO temperature and pressure. The plant  
2 will use GE Frame 7FA, advanced firing temperature  
3 combustion turbines in a combined cycle configuration.

4           The project features two combustion turbines  
5 firing natural gas, each generating approximately 165  
6 megawatts. The hot exhaust from each turbine flows into  
7 its own dedicated heat recovery steam generator. The steam  
8 generated in these two steam generators is then sent to a  
9 steam turbine which generates approximately 180 megawatts.  
10 The steam leaves the steam turbine and flows into a  
11 condenser where the steam is condensed and then used as  
12 boiler feed water to make steam. The steam in the  
13 condenser is cooled by water from a 12-cell mechanical  
14 draft cooling tower.

15           Makeup water to the plant is required to replace  
16 water lost via steam losses such as in the de-aerator or  
17 from boiler blow down or from evaporation in the cooling  
18 tower. This makeup water will be supplied by the City of  
19 New Smyrna Beach. Initially, approximately half of the  
20 makeup water, or about two million gallons a day, will be  
21 reuse water supplied from the new wastewater treatment  
22 plant that is currently under construction adjacent to the  
23 power plant site. It is anticipated that over time the  
24 quantity of reuse water used for plant makeup will grow.

25           Emissions from this plant will be low based on

1 the state of the art low NOX combustion system supplied on  
2 the GE combustion turbines. NOX and CO emissions are  
3 expected to be 12 parts per million on a volume dry basis.  
4 SOX and particulates are expected to be under 20 pounds per  
5 hour or approximately 84 tons a year at ISO temperature and  
6 pressure. These emissions are as low or lower than any  
7 other form of fossil fuel power generation.

8 In summary, the Duke New Smyrna Beach Power Plant  
9 will be designed and constructed to be a clean, safe,  
10 reliable and efficient power generator. Thank you.

11 MR. WRIGHT: Madam Chairman, the Joint  
12 Petitioners would tender Mr. Locascio for cross  
13 examination.

14 MR. GUYTON: Thank you, Madam Chairman.

15 CROSS EXAMINATION

16 BY MR. GUYTON:

17 Q Mr. Locascio, good day, sir.

18 A Good day.

19 Q Would you turn to Page 5 of your testimony,  
20 please?

21 A Certainly.

22 (WITNESS REVIEWED DOCUMENTS)

23 A Yes, sir.

24 Q And I'm looking at the question now and answer  
25 that run between Lines 5 and 15. You state that Duke/Fluor

1 Daniel is the EPC contractor for the project and the O&M  
2 contractor, correct? Correct?

3 A That is correct.

4 Q Has Duke/Fluor Daniel entered into a final  
5 contract to be either the EPC contractor or the O&M  
6 contractor for the project?

7 A Not at this time.

8 Q All right, sir. Have they been selected as the  
9 EPC contractor and the O&M contractor at this time?

10 A I'm not exactly sure how to answer that, sir. By  
11 the nature of the relationship between Duke Energy  
12 affiliates, we are intending to be the EPC contractor.  
13 There is not a formal selection process.

14 Q Well, let me ask it this way: Is there any chance  
15 that any other entity besides Duke/Fluor Daniel might be  
16 the EPC contractor for this project?

17 A In my opinion, no.

18 Q All right. And what's your opinion based on,  
19 sir?

20 A Previous historical data, recent data on work  
21 that we are doing with the Duke Energy entities, including  
22 other EPC contracts, and the fact that our president and  
23 the president of the Duke entities all report to the same  
24 person.

25 Q Did Duke/Fluor Daniel prepare the

1 160-million-dollar direct construction cost estimate for  
2 this project?

3 A Yes, we did, sir.

4 Q And that particular estimate assumes that  
5 Duke/Fluor Daniel performs the engineering procurement and  
6 construction management, doesn't it?

7 A Yes, it does.

8 Q Now that estimate of 160 million dollars, it was  
9 based on construction mobilization by May of 1998, correct?

10 A The 160 million dollars is not necessarily  
11 predicated on a specific construction mobilization date.  
12 That is the estimated, as-of-today construction  
13 mobilization date; however, our estimate uses escalation  
14 such that it is in present-day dollars.

15 Q Was the 160-million-dollar estimate prepared in  
16 February of 1998?

17 A I believe so, yes.

18 Q And in the preparation of that estimate, isn't it  
19 true that costs were based on executing the engineering and  
20 procurement phase of the project utilizing D/FD's standards  
21 and specifications, major equipment procurement costs are  
22 based on full project release, notice to proceed January  
23 2000, and construction mobilization May 1998?

24 A Not entirely. Some of the costs that are in the  
25 estimate are independent of time. So some of the costs are

1 based on those dates, and some of those costs are not based  
2 on those dates.

3 Q And which costs are independent of time?

4 A Duke Energy has a memo of understanding with  
5 certain vendors on pricing, and some of that pricing is  
6 independent of time.

7 Q Are those memos of understanding related to your  
8 major equipment costs?

9 A Yes, they are, sir.

10 Q And so the price that you have under that memo of  
11 understanding is independent of time, it won't change over  
12 time?

13 A I believe that is correct, sir, yes.

14 Q All right. You say you have a memo of  
15 understanding. You don't have a contract with your  
16 purchasers?

17 A Sir, I never said that we had a memo of  
18 understanding. The memo is with Duke Energy.

19 Q I'm sorry. You said you being who has a memo  
20 with Duke Energy?

21 MR. WRIGHT: I object to the form.

22 MR. GUYTON: I'm just trying to get him to  
23 clarify his last statement.

24 MR. WRIGHT: Madam Chairman, the problem is in  
25 his question Mr. Guyton is using "you" and then referring

1 to one or another of Duke entities. If he'll just ask  
2 which Duke entity, I think that will get there.

3 BY MR. GUYTON (Continuing):

4 Q Would you clarify your last statement, please?

5 A Certainly. I believe it's Duke Energy Global  
6 Asset Development has the memo of understandings with the  
7 major equipment manufacturers.

8 Q Now that is a memo of understanding, not a  
9 contract?

10 A I do not know the current today standing of that  
11 memo of understanding versus a contract. I have been here  
12 in Florida all week, and I don't know what the status is as  
13 of today.

14 Q But your understanding is, is that the costs  
15 under those memos of understanding will not change over  
16 time?

17 A That is my understanding, yes, sir. According to  
18 the period in the memo of understanding, of course.

19 Q What's the period in the memo of understanding?

20 A I do not know, sir.

21 Q And you're not in a position to share with us the  
22 cost of the major equipment either, are you?

23 A That is correct, sir.

24 Q Does the memo of understanding envision a  
25 delivery date for the major equipment?

1           A     No, sir. Excuse me, not for this project  
2 specifically, sir. It may for other projects.

3           Q     If Duke/Fluor Daniel becomes the EPC contractor  
4 for this project as you anticipate, will that be a  
5 fixed-price contract?

6           A     Yes, sir.

7           Q     Will it be a turnkey contract?

8           A     Yes, sir.

9           Q     Would you turn to your ML-6, please?

10          A     I'm there, sir.

11          Q     Do you consider yourself to be an expert as to  
12 the Duke New Smyrna plant operating characteristics?

13          A     I am familiar with them. I'm not sure I'd be an  
14 expert. I'm knowledgeable in it.

15          Q     All right. But you don't consider yourself an  
16 expert as to ML-6.

17                MR. WRIGHT: Madam Chairman, I object to the  
18 extent I think he's not being clear with the witness as to  
19 what he means by "expert," and I'm afraid he may be using  
20 it as a term of art and the witness may not be  
21 understanding that.

22                CHAIRMAN JOHNSON: Okay.

23 BY MR. GUYTON (Continuing):

24          Q     Well, let me ask it this way: Did you prepare  
25 ML-6?

1 A I did not personally, no.

2 Q All right. Was it prepared under your direction  
3 and supervision?

4 A Yes, it was.

5 Q All right. Is ML-6 your opinion as to how the  
6 Duke New Smyrna unit will operate?

7 A Yes, it is.

8 Q All right. And is it in your mind, your expert  
9 opinion, as to how the Duke New Smyrna unit will operate?

10 A Yes, it is.

11 Q Now this is the same exhibit that is Table 2 in  
12 the joint petition, correct?

13 A I don't have the joint petition in front of me,  
14 sir.

15 Q If you would, if your counsel would be kind  
16 enough to share it with you.

17 MR. GUYTON: Do you have that, Scheff? If you  
18 don't, I do.

19 (DOCUMENT TENDERED TO THE WITNESS)

20 WITNESS LOCASCIO: Give me one second to make  
21 sure that the copy I have in front of me is the same.

22 (WITNESS REVIEWED DOCUMENT)

23 WITNESS LOCASCIO: It appears that it's the same  
24 except for the SOX numbers look like they are the old  
25 values.



1 BY MR. GUYTON (Continuing):

2 Q Which you've corrected but you haven't given us  
3 on the record yet?

4 A I have corrected. I don't know anything about  
5 the record.

6 Q All right.

7 MR. WRIGHT: Madam Chairman, he offered to give  
8 them on the record, and if Mr. Guyton wants them now, I'm  
9 sure Mr. Locascio would be happy to read them.

10 Q Well, all I'm really trying to establish is right  
11 now on the record, ML-6, is the same as Table 2. We  
12 understand that there are some values, but we don't know  
13 what the new values are for the SOX?

14 A That is correct.

15 Q All right. Now Florida Power & Light Company  
16 asked Duke New Smyrna for the documents supporting this  
17 exhibit, did they not?

18 A I believe so.

19 Q And Duke New Smyrna's response was that that  
20 information was proprietary and confidential, correct?

21 A That is correct.

22 Q Proprietary to whom, sir?

23 A Proprietary to Duke/Fluor Daniel.

24 Q Mr. Locascio, would you provide for me the facts  
25 and the underlying data that you relied upon to develop

1 ML-6, please?

2 A In general, the data that we relied on in this  
3 exhibit is supplied by manufacturers of major equipment for  
4 performance and emissions data. We take that data and put  
5 it into commercially available software with proprietary  
6 inputs as to the performance of that equipment, and that is  
7 how we get the output that is listed in this table.

8 Q Yes, sir, and would you provide that for me? Do  
9 you have it here?

10 A No, I do not.

11 Q You don't have the facts upon which you relied to  
12 draw your expert opinion here?

13 A They were computer models, sir.

14 Q So you don't have them here today?

15 A No, I did not bring them.

16 Q So I can't cross you on that, can I?

17 A I do not know, sir.

18 Q Well, if you don't have them and you can't share  
19 them with me, I can't ask you about them, can I?

20 A I believe that's correct.

21 MR. WRIGHT: Madam Chairman, I object. This is a  
22 lot like discovery. Mr. Guyton had the opportunity to  
23 notice Mr. Locascio for deposition and declined. He had  
24 the opportunity to move to compel production of certain  
25 things. He never sent such a motion. I think this is

1 unfair cross trying to impeach the witness on the basis  
2 that he doesn't have information that was either not asked  
3 for, not asked for in deposition or that was never the  
4 subject of a motion to compel discovery.

5 COMMISSIONER GARCIA: Scheff, but isn't this part  
6 of what he is suppose to defend here, his position and the  
7 models that he ran? I mean --

8 MR. WRIGHT: Well, he explained the basis for  
9 this. I don't think he is required to bring his computer  
10 to this room for this purpose at this time. That's really  
11 something that should have been done in discovery.

12 COMMISSIONER GARCIA: No, that part I agree, but  
13 Mr. Guyton is simply asking for facts that were put as part  
14 of the model, is he not?

15 MR. WRIGHT: Again, I don't think he's required  
16 to bring those here. He brought his testimony. He filed  
17 his testimony. Mr. Guyton had ample opportunity to ask  
18 about it in discovery.

19 MR. GUYTON: Madam Chairman, I don't intend to  
20 ask any more questions in this regard. I can short-circuit  
21 this discussion.

22 CHAIRMAN JOHNSON: All right.

23 MR. GUYTON: I do, however, move to exclude from  
24 the record ML-6 and Table 2 of the joint petition. Under  
25 the Florida Rules of Evidence, 90.705, an expert may give

1 his opinion or inference and give the reasons without prior  
2 disclosure of the underlying facts or data, but on cross  
3 examination the expert shall be required to specify the  
4 facts or data. Mr. Locascio not only has declined to do  
5 so, he says he cannot do so, and on that basis, I ask that  
6 this exhibit be excluded.

7           COMMISSIONER GARCIA: Let me ask you a question,  
8 Mr. Guyton. If we held Mr. Locascio until next Friday and  
9 he showed up here with 30 boxes of documents that were used  
10 as inputs, that would be -- that would satisfy you?  
11 Because I mean I don't understand the specificity of what  
12 you're asking him to produce, and perhaps that's my own  
13 ignorance about what you asked of him; but I want to try to  
14 understand because I think you made sense, and now I  
15 don't -- after Scheff responded, I don't know. What did  
16 you ask of him?

17           MR. GUYTON: Okay. Well, I asked --

18           COMMISSIONER GARCIA: And this, knowing that the  
19 chairman is going to make the decision. I'm just curious  
20 about it.

21           MR. GUYTON: I asked for the data and the facts  
22 underlying his opinions that he says are represented on  
23 ML-6. These are the proposed operating characteristics of  
24 this unit. I asked for them in discovery. I was told that  
25 they were proprietary. I did not pursue it further. I

1 asked for them, as I am entitled to ask for them, at trial  
2 because this witness is testifying as an expert; and he is  
3 obligated under the rules of evidence to provide the facts  
4 at the time of trial.

5 I don't know what it's going to reveal. I may  
6 get them and find out that every one of these calculations  
7 are absolutely right, or I may find that there are a number  
8 of fallacies in the analyses; but what I do know is that  
9 they were under an obligation to put him on -- if they  
10 wanted to rely on his expert testimony, as they want to do,  
11 to provide the facts, and they haven't done that.

12 MR. WRIGHT: Madam Chairman, we have invoked  
13 privilege as to these. Mr. Guyton could have, and I think  
14 should have, moved to compel. There is a procedure set  
15 forth in the prehearing order and in the procedural orders  
16 governing this case pertaining to the treatment of  
17 confidential information. Had that procedure been  
18 followed, we'd be in a position to answer that. If you  
19 want to continue Mr. Locascio until next Friday or some  
20 other date and give us some kind of general  
21 confidentiality, confidential protective order, we'd  
22 probably be in a position to respond. I don't think it's  
23 appropriate. I think he's an expert. He's intimately  
24 familiar with this, and I think you can allow this and  
25 should.

1           COMMISSIONER GARCIA: Scheff -- Then I'll ask  
2 the question. What's Mr. Guyton supposed to do? I mean  
3 here is the expert. You're right, it may be a broad  
4 question, but he's asking a question on it, and your  
5 witness says he doesn't have that information, that that  
6 information was proprietary. Well -- But it was the basis  
7 of his whole testimony.

8           MR. WRIGHT: Well, I think he could have and  
9 should have moved to compel or pursued this further rather  
10 than letting it go. And if that's where we are today and  
11 you all want the facts or you think he should have further  
12 access to the facts, you can handle that today by telling  
13 us to provide them pursuant to confidential protection.  
14 When we come back to the hearing, if --

15           COMMISSIONER GARCIA: Is this the same argument  
16 that was made when your witness, Doctor Nesbitt, and his  
17 computer pro -- his famous computer program that Mr. Guyton  
18 realized over Thanksgiving Day weekend and was kind enough  
19 not to bother me over the weekend, that he realized that he  
20 didn't have? So is it -- are you making the same argument  
21 in this case?

22           MR. WRIGHT: No, we're not making the same  
23 argument because, although FPL had the opportunity to  
24 depose Mr. Locascio, they never -- declined it. I  
25 discussed the possibility of their taking his deposition

1 with Mr. Guyton, and he ultimately decided not to. I had  
2 identified dates upon which Mr. Locascio could be  
3 available, and the answer I got was that they decided not  
4 to take his deposition.

5 MR. GUYTON: I --

6 CHAIRMAN JOHNSON: Mr. Guyton, I thought in your  
7 argument you stated that you had requested the information  
8 or that you knew the information was available and did not  
9 request it during --

10 MR. GUYTON: No, I did request the information.  
11 I got a response back that it was proprietary and  
12 confidential and wouldn't be shared with me. But I also  
13 knew that the rules of evidence required this witness, if  
14 he was going to testify to that as to expert opinion, be  
15 prepared to share the facts underlying it. There was  
16 nothing that required me under the rules of evidence to  
17 file a motion to compel, to pursue this matter in  
18 discovery?

19 CHAIRMAN JOHNSON: To the --

20 MR. GUYTON: This really is a fundamental  
21 question of failure to meet a burden of proof by the  
22 petitioners.

23 CHAIRMAN JOHNSON: To the extent that the  
24 information that you've requested is proprietary  
25 information, then that will -- I mean then it would not be

1 proper for him, without the proper protections, to provide  
2 that information to us in this forum at this time. So  
3 certainly we do have a process by which we could, and I  
4 hear the witness saying -- I don't know if the witness said  
5 he didn't have the information and couldn't provide the  
6 information or didn't want to discuss it because it was  
7 proprietary.

8 MR. LOCASCIO: Are you asking me, ma'am?

9 CHAIRMAN JOHNSON: Yeah.

10 MR. LOCASCIO: I would rather not discuss it  
11 because it's proprietary, but I don't have it with me.

12 CHAIRMAN JOHNSON: Okay.

13 MR. LOCASCIO: I mean if there is some specific  
14 question he would like to ask, I'll certainly entertain it;  
15 but some of the inputs into the program are proprietary,  
16 some of them are commercially available.

17 COMMISSIONER GARCIA: Mr. Guyton, why don't you  
18 respond to Scheff's point? I mean clearly if you were  
19 going to ask about this you could have deposed him. You  
20 clearly understand that the inputs that are -- if he said  
21 they were proprietary, you could have compelled him to  
22 provide them and you didn't.

23 MR. GUYTON: Well, I see little purpose in  
24 convening a deposition that would inquire about matters  
25 which I'd been told that are not only proprietary and



1 confidential but they wouldn't provide to me under a  
2 nondisclosure agreement.

3 COMMISSIONER GARCIA: But, Mr. Guyton, you --

4 MR. GUYTON: An option that I suggested to Duke  
5 New Smyrna.

6 MR. WRIGHT: Madam Chairman, I want to set this  
7 straight right now. Mr. Guyton and I discussed a  
8 confidential protective agreement. In the last  
9 conversation that we had on this subject, I said to him,  
10 Charlie, who do you want to see the information, and what  
11 terms do you propose for a confidentiality agreement? His  
12 response was, I'll have to get back to you on that. That  
13 was the last conversation we had on this subject.

14 COMMISSIONER GARCIA: Mr. Guyton, I would assume  
15 that you are quite used to people --

16 MR. WRIGHT: In deposition he indicated that, if  
17 we weren't able to work it out, he would take it to the  
18 prehearing officer.

19 COMMISSIONER GARCIA: But, Mr. Guyton, I mean I'm  
20 sure you are quite used to this. I mean people ask for all  
21 sorts of information that you are reluctant to give in many  
22 occasions, and we have a process set forth here, and I know  
23 you don't give the information because you want to, you  
24 give it because we sort of force it. Within the confines  
25 of this Commission, you provide that information which is

1 necessary for your adversaries to cross your witnesses.  
2 And in this case, you could have done the same thing when  
3 he -- when they claimed confidentiality.

4 MR. GUYTON: Commissioner, I certainly could  
5 have. I don't dispute that. I could have filed a motion  
6 to compel, and I can't say insist, but at least ask for  
7 your permission and burden the prehearing officer with  
8 that. I don't understand the rules of evidence, however,  
9 if I choose not to do that of relieving this entity of  
10 meeting its burden of proof. And an expert witness has to  
11 be prepared when he gives an expert opinion, as this  
12 witness has done, to provide the underlying facts.

13 CHAIRMAN JOHNSON: Let me, let me --

14 MR. WRIGHT: Madam --

15 CHAIRMAN JOHNSON: Hold on one second.

16 MR. WRIGHT: Yes, ma'am.

17 CHAIRMAN JOHNSON: One of the things that we may  
18 need to do or we may be able to do, it's obvious to me that  
19 we will be back next Friday, we're not going to be able to  
20 wrap this up today. There may be a way -- To the extent  
21 that the parties can get together and determine what  
22 information needs to be provided, and if it's proprietary,  
23 we can take care of that. This witness may have to,  
24 indeed, come back. Now I don't want to make Friday, this  
25 thing go beyond next Friday, but I'm sure -- we've already

1 reserved that day and set that aside. Admittedly if the  
2 information were available, I think it would be beneficial  
3 for the Commissioners and for all of the parties  
4 concerned. So perhaps that may be a way that we can try to  
5 work through this.

6 Mr. Moyle, I know you wanted to say something,  
7 and Mr. Wright; but Mr. Moyle.

8 MR. MOYLE: Just briefly. Hearing Mr. Guyton, it  
9 seems to me that there are two issues, one is the duty of  
10 an expert with respect to information upon which the expert  
11 relies in providing the testimony; and I think Mr. Guyton  
12 is correct in that, you know, you need to know what the  
13 expert is relying on; and then it's Mr. Guyton's obligation  
14 to get that and look at it.

15 For instance, a treatise, an expert can say I  
16 relied on this treatise. I don't think the expert has to  
17 come up and show up at the hearing with a copy of that  
18 treatise. He just simply has to say, you know, it's a  
19 treatise that I've read and I rely on in formulating my  
20 opinion; and then it's Mr. Guyton's obligation to get the  
21 treatise and say on Page 32, this, that and the other; so I  
22 think there may be some confusion in that respect. But  
23 with regard to the confidentiality, I mean that's another  
24 can of worms that, as we discussed last night, you know  
25 there are mechanisms and procedures by which

1 confidentiality can be assured and that Mr. Guyton can have  
2 access to information provided he doesn't disclose it to  
3 others and what not; and it appears he didn't attempt to  
4 avail himself of any of those mechanisms.

5 CHAIRMAN JOHNSON: Thank you, Mr. Moyle.  
6 Mr. Wright.

7 MR. WRIGHT: Madam Chairman, two points:  
8 Mr. Guyton's right to cross examination does not in and  
9 itself override the privilege that we have asserted. There  
10 is a procedure for dealing with that privilege. There is  
11 specifically a procedure for dealing with confidential  
12 information in the context of this hearing as set forth in  
13 this order. Mr. Guyton knew that we had asserted, as of  
14 probably sometime in early October when we responded to  
15 their initial discovery request, that we considered this  
16 information to be confidential; therefore, he should have  
17 known that what he wanted to ask Mr. Locascio about today  
18 was confidential. Your order requires that any party  
19 wishing to use or introduce confidential information into  
20 this record shall notify the prehearing officer and all  
21 parties of record by the time of the prehearing conference;  
22 or if not known at that time, no later than seven days  
23 prior to the beginning of the hearing. Mr. Guyton has not  
24 complied with that provision of the order. Now I will say  
25 if it's your pleasure and it's the Commission wish to have

1 access to this information, we'll be happy to provide it;  
2 and I'll get with Charlie, and we'll work out a  
3 confidentiality agreement that I'm sure will be acceptable  
4 to both of us.

5 MR. GUYTON: Madam Chairman, I don't want to drag  
6 this out. I don't want to drag the hearing out, and I  
7 certainly don't want to get counsel as irritated as I  
8 appear to have done. It's not my intention in that  
9 regard. In the interest of time and some comity here, I'll  
10 simply withdraw my motion.

11 CHAIRMAN JOHNSON: Okay. Show the motion  
12 withdrawn. Did you have any other questions?

13 MR. GUYTON: No.

14 Thank you, Mr. Locascio.

15 CHAIRMAN JOHNSON: Mr. Sasso.

16 (MR. SASSO SHAKES HEAD NEGATIVELY)

17 COMMISSIONER DEASON: Excuse me just a second. I  
18 take it then there is no objection to exhibit ML-6.

19 MR. GUYTON: No.

20 COMMISSIONER DEASON: Okay. I have a few  
21 questions about that. If you'll indulge me for just a  
22 moment, I'm trying to understand some of the dynamics  
23 here. And I'm looking at the ambient temperature, and it  
24 appears that the lower the temperature the greater the  
25 output, everything else being equal?

1 MR. LOCASCIO: That is correct.

2 COMMISSIONER DEASON: I'm sure there is some  
3 engineering reason for that. Could you explain what that  
4 is?

5 MR. LOCASCIO: Certainly. Lower temperatures  
6 mean denser air. Denser air basically means higher mass  
7 through the turbines which gives more power.

8 COMMISSIONER DEASON: Okay. I'm also looking at  
9 the load levels, and you have three different levels: 100%,  
10 75%, and 50%. And the load -- I'm sorry, the output at 50%  
11 load is more than half of the output at 100% load. Why is  
12 that?

13 WITNESS LOCASCIO: It's an aberration of the  
14 steam cycle and the heat recovery steam generator, and it's  
15 kind of technical, but the bottom line is that the heat  
16 gets picked up in different places of the metal in the heat  
17 recovery steam generator, and it cannot be characterized as  
18 linear, if you will, so that's the problem.

19 COMMISSIONER DEASON: And that's not something  
20 unique to your plant; that is something that -- it's just  
21 that is an accepted engineering phenomenon or the dynamics  
22 of this type technology?

23 MR. LOCASCIO: Sir, we engineers would call that  
24 thermodynamics, yes, sir.

25 COMMISSIONER DEASON: I'm looking at the heat

1 rate. You have two net plant heat rates and then two net  
2 CTG heat rates.

3 MR. LOCASCIO: Yes, sir.

4 COMMISSIONER DEASON: And apparently there is a  
5 different basis for -- I don't want a lot of detail, but  
6 could you just briefly explain to me why there are four  
7 different heat rates here and what they represent?

8 MR. LOCASCIO: Yes, sir. There's two heat rates,  
9 as you say, for the plant and two for the gas turbine. In  
10 the gas turbine business, we use LHV. In the gas business,  
11 they use HHV. And the basic difference between LHV, which  
12 is called lower heating value, and HHV, which is called  
13 higher heating value, is that there are parts of the fuel  
14 which are not efficiently burned in a turbine and don't  
15 actually create power, and you value that -- you ignore  
16 that part of the energy and call it lower heating value.  
17 You'll find that the difference is approximately 10% for  
18 gas.

19 COMMISSIONER DEASON: And here again, that's  
20 nothing unique to this plant, that's generally accepted?

21 MR. LOCASCIO: That is generally accepted, yes.  
22 Just to continue, the difference is in the gas turbine  
23 itself, and it reflects both in the CTG heat rate and in  
24 the net plant heat rate. I was trying to give you an  
25 answer for both reasons at once.

1           COMMISSIONER DEASON: And it appears that the  
2 heat rate improves as temperature declines except until you  
3 reach 15 degrees, and I'm talking about net plant heat  
4 rate.

5           MR. LOCASCIO: Yes, sir.

6           COMMISSIONER DEASON: Whereas the heat rate  
7 continues to improve all across the entire temperature  
8 spectrum for the CTG heat rate. Could you explain that?

9           MR. LOCASCIO: Just quickly, at freezing  
10 temperatures, you have to actually heat the air as it goes  
11 into the combustion turbine because you get icing on the  
12 inlet of the turbine, so you get no further advantage of  
13 the colder air below a certain temperature. That  
14 temperature is specific to each gas turbine manufacturer  
15 and the way that they heat the air.

16           COMMISSIONER DEASON: So that's why there is a  
17 reversal of that generally favorable trend?

18           MR. LOCASCIO: Yes, sir.

19           COMMISSIONER DEASON: But then why does that  
20 trend continue for the CTG heat rate? Because the  
21 temperature is already -- the air is already heated, you're  
22 not worried about reheating cold air? Is that -- Or I  
23 don't want to put -- You explain it to me.

24           MR. LOCASCIO: Can you restate the question?

25           COMMISSIONER DEASON: Well, you look at CTG heat



1 rate, that continues to improve across the entire spectrum  
2 of temperatures.

3 MR. LOCASCIO: That's correct.

4 COMMISSIONER DEASON: And my question is that  
5 it's the best at 15 degrees temperature.

6 MR. LOCASCIO: There is still some benefit to the  
7 denser air even though you're heating up the inlet air.  
8 There's the -- Outside temperature does force a cooling  
9 on the turbine itself, so there is some benefit; it's just  
10 restricted to very little.

11 COMMISSIONER DEASON: Thank you.

12 MR. LOCASCIO: Sure.

13 MR. WRIGHT: I think it's staff's turn for cross  
14 if they want to do it.

15 CHAIRMAN JOHNSON: Staff.

16 MS. PAUGH: Staff has no questions.

17 CHAIRMAN JOHNSON: Commissioners, any other  
18 ones?

19 (NO RESPONSE)

20 CHAIRMAN JOHNSON: Redirect.

21 MR. WRIGHT: I think just one.

22 REDIRECT EXAMINATION

23 BY MR. WRIGHT:

24 Q Mr. Locascio, you were asked some questions  
25 regarding the possible changes or the possibility of

1 changes in costs depending on a change in the mobilization  
2 date for the construction of the project. Do you recall  
3 that?

4 A Yes, I do.

5 Q Is there any reason, based on your understanding  
6 of the progress that the project to date and its future  
7 expected activities, to expect that any changes due to a  
8 change in the mobilization date would be significant?

9 A No, I do not.

10 MR. WRIGHT: Madam.

11 CHAIRMAN JOHNSON: Yes.

12 MR. WRIGHT: That's all the redirect I have. And  
13 if there is nothing further, I'd move the admission of the  
14 exhibits as identified. I do want to clarify that  
15 Mr. Locascio's ML-6 and the revised version that I've given  
16 to the court reporter does contain the correct numbers. We  
17 will furnish a revised Table 2 that also contains the  
18 correct numbers. Table 2 in the book that we filed on  
19 August 19th has the non-updated sulfur dioxide emission  
20 numbers.

21 CHAIRMAN JOHNSON: Okay. Show 23 admitted.

22 MR. WRIGHT: And those parts of 16.

23 CHAIRMAN JOHNSON: And those parts of 16.

24 MR. WRIGHT: Thank you, madam.

25 CHAIRMAN JOHNSON: Thank you, sir.

1 MR. LOCASCIO: Thank you.

2

3

4

\* \* \* \*

5

6 Whereupon,

7

MICHEL P. ARMAND

8

was called as a witness by the Joint Petitioners and, after  
9 being first duly sworn, testified as follows:

10

11

DIRECT EXAMINATION

12

BY MR. MCGLOTHLIN:

13

Q Sir, please state your name and your business  
14 address.

15

A My name is Michel Armand, and my business address  
16 is 3100 Zinfandel Drive, Suite 600, Sacramento, California,  
17 95670.

18

Q By whom are you employed?

19

A I'm employed by Resource Management International  
20 in Sacramento.

21

Q Mr. Armand, for whom do you appear in this  
22 proceeding?

23

A I am appearing in support of the application of  
24 the New Smyrna Beach and Duke Energy New Smyrna Beach Power  
25 Company.

1 Q Did you prepare and submit prefiled direct  
2 testimony in this proceeding?

3 A Yes, I did.

4 Q Do you have any changes or corrections to make to  
5 that prefiled testimony?

6 A Yes. On Exhibit MPA-5 --

7 Q Excuse me, sir, let's talk about the testimony  
8 prior --

9 A The direct testimony?

10 Q Yes.

11 A No.

12 Q Do you adopt the questions and answers as your  
13 testimony today?

14 A Yes, sir.

15 MR. MCGLOTHLIN: I ask that the prefiled  
16 testimony of Mr. Armand be inserted.

17 CHAIRMAN JOHNSON: It will be inserted as though  
18 read.

19

20

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22

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**IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION OF NEW SMYRNA BEACH  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM**

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 **Q: Please state your name and business address.**

2 A: My name is Michel Armand, and my business address is 3100  
3 Zinfandel Drive, Suite 600, Sacramento, California 95670.

4

5 **Q: By whom are you employed and in what position?**

6 A: I am employed as Principal Executive Consultant by Resource  
7 Management International, Inc. ("RMI").

8

9 **Q: Please describe your duties with RMI.**

10 A: I am responsible for conducting transmission planning and  
11 operations studies for RMI clients. These studies cover  
12 proposed generating plants and their associated transmission  
13 interconnections, actual system performance based on  
14 projected seasonal loading conditions, and the determination  
15 of potential operating constraints necessary to insure  
16 reliable operation of the bulk transmission system.

17

18

**QUALIFICATIONS AND EXPERIENCE**

19 **Q: Please summarize your educational background and experience.**

20 A: I graduated from the City College of the City University of  
21 New York in June 1968, with the degree of Bachelor of  
22 Engineering - Electrical. In June 1971, I graduated from

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 the Bernard Baruch College of the City University of New  
2 York with the degree of Master of Business Administration.

3 In 1971, I attended the General Electric Company's one-  
4 year course in Advanced Power System Engineering, in  
5 Schenectady, New York. In 1978, I attended the one-month  
6 Public Utility Executive Program of the Graduate School of  
7 Business Administration of the University of Michigan. In  
8 1983, I attended the two-month Executive Program of the  
9 Colgate Darden Graduate School of Business Administration of  
10 the University of Virginia.

11 Upon graduation, I was employed by the Consolidated  
12 Edison Company of New York. I was assigned to the  
13 Distribution Engineering, Station Design, and System  
14 Planning Departments. My permanent assignment was in the  
15 Transmission Planning Section of the System Planning  
16 Department.

17 In April 1974, I was employed by Florida Power & Light  
18 Company (FPL) in the System Planning Department. In April  
19 1976, I was put in charge of the Reliability and System  
20 Security Section, responsible for testing and assessing the  
21 dynamic performance of the planned generation and  
22 transmission system, and for making recommendations based on  
23 our tests and assessments. In June 1984, I was transferred  
24 to the Power Supply Department as Manager of Technical  
25 Services responsible for daily analysis of system

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 performance, monitoring the adequacy of performance of  
2 transmission protective systems, and coordinating the  
3 protection and control settings of FPL's generation,  
4 transmission, and distribution systems. In May 1991, I  
5 became Director of Protection and Control Systems  
6 responsible for the design, engineering, installation, and  
7 maintenance of all protections and control systems for the  
8 generation, transmission, and distribution systems of FPL.  
9 In October 1993, I took early retirement from FPL.

10 From December 1994 to December 1996, I was employed as  
11 Energy Consultant in the Office of the Prime Minister of  
12 Haiti. In 1997, I assumed my present position as Principal  
13 Executive Consultant with RMI.

14 I am a registered professional engineer in the State of  
15 Florida, and I am a member of the Institute of Electrical  
16 and Electronic Engineers and a member of the Power  
17 Engineering Society.

18  
19 **Q: What is your experience in power plant engineering,  
20 construction, operations, permitting, and licensing?**

21 **A:** As Supervisor of Reliability and System Security,  
22 responsible for modeling the dynamic response of the  
23 system to disturbances, I was involved with the Power  
24 Plant Engineering Department in specifying the  
25 electrical parameters of new generators such as power

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 factor, short circuit ratio, high initial response  
2 exciter, power system stabilizer, generator step-up and  
3 auxiliary transformers, tap ratio coordination, and  
4 switchyard connections. I also initiated studies to add  
5 power system stabilizers and modify relay protection  
6 schemes for existing high capacity generating units (600  
7 MW and above) on the FPL system.

8 I was heavily involved in the licensing of FPL's St.  
9 Lucie Unit No. 2, a nuclear unit. In this activity, I  
10 participated in the Final Safety Analysis Report for the  
11 unit's operating license and testified at the evidentiary  
12 hearing in Miami, in November 1979, on the issue of grid  
13 reliability.

14

15 **Q: What is your experience in generation planning, transmission**  
16 **planning, transmission design, and load flow studies?**

17 **A:** In my professional work, the size and location of  
18 generation was always a given. My responsibility was  
19 the integration of the generators in the transmission  
20 grid for optimum delivery of the power under all  
21 postulated transmission outages.

22 I have extensive professional experience in  
23 transmission planning. At Consolidated Edison of New York,  
24 I was responsible for transmission planning for the borough  
25 of Manhattan, representing at that time about 45 percent of



**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 ConEd's total system demand. At FPL, I was responsible for  
2 transmission planning in Dade and Broward Counties,  
3 representing, at that time, about 60 percent of FPL's total  
4 system demand. While not involved in the physical design of  
5 transmission lines, studies initiated and conducted by me  
6 resulted in the partial transposition of the 500 kV  
7 transmission corridor on the East Coast of Florida. The  
8 deleterious effects of unbalanced, negative sequence  
9 currents on the generators along the corridor were  
10 considerably reduced.

11 Load flow and transient stability studies were the  
12 principal tools used to assess the seasonal, yearly, and  
13 long-range performance of the Florida Grid. Such studies  
14 were conducted by me and by my section internally for FPL,  
15 and in participation with the Florida Electric Power  
16 Coordinating Group (FCG). Such tools were also used to  
17 update the Florida under-frequency load shedding program and  
18 to establish the various remedial action systems on FPL's  
19 system to mitigate loss of heavily loaded transmission  
20 corridors.

21

22 **Q: Have you previously testified before regulatory authorities**  
23 **or courts?**

24 **A:** I have testified before the Atomic Safety and Licensing  
25 Appeal Board of the U.S. Nuclear Regulatory Commission, in

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 an evidentiary hearing on the alleged inadequacy of electric  
2 power systems for St. Lucie Unit No. 2. The operating  
3 license was granted after it was clearly demonstrated that  
4 the planned transmission grid would provide adequate and  
5 reliable off-site power in an emergency. I have also  
6 testified in court in an eminent domain proceeding for the  
7 condemnation of property for transmission line right-of-way.  
8

9 **Q: Are you a registered professional engineer?**

10 **A:** Yes. I am a registered professional engineer in the State  
11 of Florida.  
12

**SUMMARY AND PURPOSE OF TESTIMONY**

13  
14 **Q: What is the purpose of your testimony?**

15 **A:** I am testifying on behalf of the Utilities Commission of New  
16 Smyrna Beach, Florida ("UCNSB"), and Duke Energy New Smyrna  
17 Beach Power Company Ltd., LLP ("Duke New Smyrna"), the joint  
18 applicants for the Commission's determination of need for  
19 the New Smyrna Beach Project (or "the Project"). My  
20 testimony describes the transmission interconnection  
21 facilities that will connect the proposed power plant to the  
22 Smyrna Substation of the UCNSB and the downstream  
23 transmission facilities that will be constructed in  
24 conjunction with the New Smyrna Beach Project. My testimony  
25 also presents and describes the load flow analyses that RMI

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 conducted to evaluate the transmission impacts of the New  
2 Smyrna Beach Project under various power delivery scenarios.

3

4 **Q: Please summarize your testimony.**

5 A: The New Smyrna Beach Project will be connected to the Smyrna  
6 Substation of the Utilities Commission of New Smyrna Beach.  
7 This interconnection, together with associated downstream  
8 transmission upgrades, will enable power from the Project to  
9 be delivered to virtually any retail-service utility in  
10 Peninsular Florida under almost all conditions on the  
11 Florida transmission grid. The Project's output will not  
12 adversely affect any of the "constrained transmission paths"  
13 identified by the Florida Reliability Coordinating Council  
14 ("FRCC").

15

16 **Q: Are you sponsoring any exhibits to your testimony?**

17 A: Yes. I am sponsoring the following exhibits:

18 MPA-1. Qualifications of Michel P. Armand, P.E.

19 MPA-2. Summary of Transmission Project Experience,

20 Resource Management International, Inc.;

21 MPA-3. Transmission Interconnection Map for the New

22 Smyrna Beach Power Project (Figure 12 in the

23 Exhibits filed on August 19, 1998);

24 MPA-4. New Smyrna Beach Power Project, Results of Power

25 Flow Studies - 2001; and

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 MPA-5. New Smyrna Beach Power Project, Results of Power  
2 Flow Studies - 2004.

3

4

**RMI'S ROLE IN THE NEW SMYRNA BEACH PROJECT**

5 **Q: Please describe Resource Management International and its**  
6 **business.**

7 A: Resource Management International, Inc. provides  
8 comprehensive consulting and engineering services to a wide  
9 range of clients, including the electric power industry.  
10 RMI provides consulting and engineering services on power  
11 system design, power plant design, and transmission and  
12 distribution system design and operations.

13

14 **Q: What are your responsibilities with respect to the**  
15 **electrical power plant project that is the subject of this**  
16 **proceeding?**

17 A: RMI has been retained to evaluate the transmission  
18 impacts of the New Smyrna Beach Project's operation as a  
19 merchant power plant selling wholesale power to other  
20 utilities that provide retail electric service in  
21 Peninsular Florida. I have the primary responsibility  
22 for conducting the studies by which we have analyzed the  
23 Project's transmission impacts.

24

25

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 **Q: With what similar projects has RMI been involved, and in**  
2 **what capacity?**

3 A: RMI has conducted numerous evaluations of the load flow  
4 impacts of planned and proposed interconnections of  
5 generating units, including merchant power plants, with  
6 high-voltage transmission systems, including projects in  
7 Oregon, Minnesota, New York, Hawaii, Texas, California, and  
8 the ECAR Region. More detail regarding RMI's role in these  
9 projects is contained in Exhibit \_\_\_\_ (MPA-2).

10

11 **TRANSMISSION INTERCONNECTION AND ASSOCIATED DOWNSTREAM**  
12 **TRANSMISSION FACILITIES FOR THE NEW SMYRNA BEACH PROJECT**

13

14 **Q: Please describe the transmission facilities by which the New**  
15 **Smyrna Beach Project will be connected to the Florida**  
16 **transmission grid.**

17 A: The New Smyrna Beach Project will be connected to the  
18 existing Smyrna Substation (a 115 kV "breaker-and-a-half"  
19 substation) of the Utilities Commission of New Smyrna Beach,  
20 which will be expanded to accommodate an additional  
21 transmission circuit and three generator connections. The  
22 interconnection will include switchgear, circuit breakers,  
23 and related equipment appropriate for this type of  
24 interconnection.

25

26 **Q: Please describe any downstream transmission system upgrades**  
27 **that will be made in connection with the Project.**

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 A: In order to support the delivery of wholesale power from the  
2 Project to utilities providing retail service in Florida,  
3 the following additional downstream transmission upgrades  
4 are expected to be made:

- 5 1. Addition of a second 115 kV transmission circuit on the  
6 existing 115 kV Smyrna to Cassadaga transmission line;  
7 and
- 8 2. Addition of a new 115 kV transmission line,  
9 approximately 7.5 miles in length, from the Cassadaga  
10 substation to the Lake Helen substation.

11 Additionally, my analyses assume the completion of a  
12 project re-routing the existing Debary to Altamonte 230 kV  
13 transmission circuit and connecting that circuit to the  
14 Sanford 230 kV bus. This project is scheduled to be  
15 completed in 1998. A map showing the transmission  
16 interconnection and the transmission facilities in the New  
17 Smyrna Beach area is included here as Exhibit \_\_\_\_ (MPA-3).

18

**19 TRANSMISSION SYSTEM IMPACTS OF THE NEW SMYRNA BEACH PROJECT**

20 **Q: How did you and RMI evaluate the capability of the New**  
21 **Smyrna Beach Project to deliver wholesale power to other**  
22 **retail-service utilities in Florida?**

23 A: We evaluated the transmission system impacts of the Project  
24 by conducting power flow studies (also know as load flow  
25 studies or load flow analyses) in which we simulated the

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 power flows that would result from sales from the Project to  
2 other key utilities in Peninsular Florida. Our power flow  
3 studies utilized standard transmission modeling techniques  
4 and assumptions. Basically, as discussed in more detail  
5 below, we compared the simulated operations of the Florida  
6 transmission system with and without the Project's output  
7 being delivered to Florida Power & Light Company ("FPL"),  
8 Florida Power Corporation ("FPC"), Tampa Electric Company  
9 ("TECO"), Jacksonville Electric Authority ("JEA"), and  
10 Seminole Electric Cooperative ("Seminole" or "SEC").

11 We reviewed and utilized the following documents and  
12 reports in preparing our power flow studies.

- 13 1. Florida Reliability Coordinating Council ("FRCC"), 1997  
14 Ten Year Plan - State of Florida.
- 15 2. Florida Public Service Commission, Review of Electric  
16 Utility 1996 Ten Year Site Plans.
- 17 3. FPL's 1998 Ten Year Site Plan.
- 18 4. Florida Municipal Power Authority, 1998 Ten Year Site  
19 Plan.
- 20 5. Other Ten Year Site Plans prepared by other generating  
21 utilities in Florida.
- 22 6. FRCC, 1997 Final Transmission System Constraint Maps.
- 23 7. FRCC, 1997 Transfer Capability Study: FLA/SOU  
24 Interface, dated June 27, 1997.
- 25 8. FRCC, 1999 Reliability Study, dated January 29, 1997.

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 **Q: What are the relevant import and export capabilities of the**  
2 **transmission interface between Peninsular Florida and the**  
3 **Southeastern Electric Reliability Council region?**

4 A: Peninsular Florida has the capability of importing  
5 approximately 3,600 MW of power from the SERC region, and  
6 the capability of exporting approximately 1,900 MW of power  
7 to the SERC region. This difference exists because the  
8 transmission system in southern Georgia becomes constrained,  
9 on a first-order contingency basis, at lower loads than does  
10 Peninsular Florida.

11

12 **Q: Did you evaluate the Project's capability to deliver power**  
13 **outside Florida?**

14 A: No. I understand from Duke New Smyrna that Duke New  
15 Smyrna's intent is to sell wholesale power within Peninsular  
16 Florida, and accordingly, RMI was not asked to perform any  
17 power flow studies for sales outside Peninsular Florida.

18

19 **Q: Please describe the power flow studies that you performed in**  
20 **conducting your evaluation.**

21 A: We studied seven load cases or scenarios. First, we  
22 conducted power flow studies for four cases in the year  
23 2001, as follows.

24 1. The 2001. (base case) which includes power flows at the  
25 time of the projected Summer 2001 peak demand, with



**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1           2,400 MW of power being imported from Georgia into  
2           Peninsular Florida.

3           2.    Case 2001-PI, representing projected Summer 2001 peak  
4           demand and in which imports were increased to 3,600 MW  
5           and FPL generation in the southern part of the  
6           Peninsula was decreased by 1,200 MW.

7           3.    Case 2001-60, in which loads in Florida and Georgia  
8           were scaled down to 60 percent of peak load levels and  
9           imports were maintained at 2,400 MW

10          4.    Case 2001-40, in which loads in Florida and Georgia  
11          were scaled down to 40 percent of peak load levels and  
12          imports were reduced to 1,500 MW.

13                We also conducted power flow studies for three cases or  
14                scenarios in the year 2004, as listed below. The principal  
15                difference between the 2001 power flow studies and the 2004  
16                power flow studies is that the 2004 studies incorporate  
17                consideration of two repowering projects proposed by FPL for  
18                its existing Sanford and Ft. Myers steam generation plants.

19           1.    The 2004. (base case) which includes power flows at the  
20           time of the projected Summer 2004 peak demand, with  
21           2,400 MW of power being imported from Georgia into  
22           Peninsular Florida.

23           2.    Case 2004-PI, representing projected Summer 2004 peak  
24           demand and in which imports were increased to 3,600 MW  
25           and FPL generation in the southern part of the

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 Peninsula was decreased by 1,200 MW.

2 3. Case 2004-60, in which loads in Florida and Georgia  
3 were scaled down to 60 percent of peak load levels and  
4 imports were maintained at 2,400 MW.

5 Under each load scenario, the sale of 500 MW from the  
6 New Smyrna Beach Power Project to FPL, FPC, TECO, JEA, and  
7 Seminole was simulated and the effects on the transmission  
8 system were evaluated.

9 A more detailed description of the development of the  
10 cases is contained in the two volumes comprising the power  
11 flow studies, Exhibit \_\_\_\_ (MPA-4), which presents the 2001  
12 studies, and Exhibit \_\_\_\_ (MPA-5), which presents the 2004  
13 studies.

14

15 **Q: What do your power flow studies show with respect to the**  
16 **transmission impacts of power sales from the Project?**

17 **A:** RMI's power flow studies show that under normal operating  
18 conditions, i.e., with no significant transmission line or  
19 generator outages, the Florida transmission system can  
20 accommodate delivery of 500 MW of power from the Project to  
21 FPL, FPC, TECO, JEA, or Seminole without any adverse effect,  
22 i.e., without causing any facilities to exceed their maximum  
23 rated capacity.

24 The same result is obtained under almost all single-  
25 outage conditions analyzed. However, in the system summer

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 peak demand cases, a simulated outage of the Smyrna-to-  
2 Edgewater section of the Smyrna-to-Volusia 115 kV line  
3 causes the Smyrna-to-Taylor section of the same line to load  
4 slightly above 100 percent of its rated capacity for some  
5 sales scenarios. If necessary, this deficiency can be  
6 corrected easily by replacing a short segment of  
7 transmission line with higher-rated conductors. RMI's  
8 simulation analyses indicate that no transmission  
9 limitations are expected under any outage scenarios for the  
10 2001-60 and 2001-40 cases. However, all of the 2004  
11 analyses showed no overloads under any scenario. Upon  
12 investigation, it was determined that FPL's projected load  
13 for the area has been reduced by approximately 30 percent,  
14 alleviating any concern regarding transmission line  
15 overloading due to the Project's operation.

16 Detailed descriptions of these cases, and the  
17 simulation results, are presented in Exhibit \_\_\_\_ (MPA-4)  
18 and Exhibit \_\_\_\_ (MPA-5).

19

20 **Q: There have recently been some announcements regarding**  
21 **acceleration of the in-service dates of FPL's Sanford and**  
22 **Ft. Myers repowering projects. Does, or would, the**  
23 **acceleration of these repowering projects have any effect on**  
24 **the results of your power flow studies?**

25 **A: No.**

**DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.**

1 **Q: Does this conclude your direct testimony?**

2 **A: Yes, it does.**

3

4

5

1 BY MR. MCGLOTHLIN (Continuing):

2 Q Mr. Armand, did you also prepare some exhibits  
3 that were attached to your prefiled direct testimony?

4 A Yes, sir, I did.

5 Q Do you have any changes or corrections to the  
6 exhibits?

7 A Yes. Exhibit MPA-5, on Page ES-4, the executive  
8 summary, the last paragraph, at loading levels of 60%  
9 modeled for the year, it should be 2004 rather than 2006.  
10 And the next section has result of power flow studies on  
11 Page 1-2, the second or third paragraph where it says  
12 Number 2, add six new combustion turbine, 837 megawatts, it  
13 should be an M rather than an N. Those are the  
14 corrections, sir.

15 MR. MCGLOTHLIN: I ask that an exhibit number be  
16 assigned to Mr. Armand's composite exhibits.

17 CHAIRMAN JOHNSON: It will be marked as 24, and  
18 the short title?

19 MR. MCGLOTHLIN: Michel Armand composite  
20 exhibits.

21 CHAIRMAN JOHNSON: Okay.

22 BY MR. MCGLOTHLIN (Continuing):

23 Q Mr. Armand, have you prepared a summary?

24 A Yes, sir, I did.

25 Q Please proceed, sir.

1           A     Certainly.

2                     Good evening to the Commission chair and members  
3 of the Commission. It is my pleasure to be here. The  
4 purpose of my testimony is to describe the transmission  
5 facility that will interconnect the Duke New Smyrna Beach  
6 project to the Florida Transmission grid and also to report  
7 the result of analysis my firm conducted to assess the  
8 adequacy of the transmission system to accommodate the  
9 project.

10                    The project will connect at the New Smyrna Beach  
11 substation. The plant upgrades are the addition of a  
12 second 115 kv transmission circuit on the existing Smyrna  
13 to Cassadaga line, and approximately 7.5 miles of 115 kv  
14 transmission line from the Cassadaga substation to the Lake  
15 Helen substation.

16                    To evaluate the impact of the project on the  
17 transmission grid of Florida, RMI used standard  
18 transmission modeling techniques to simulate the power  
19 flows from the project to several key utilities in  
20 Florida. We modeled several scenarios for the years 2001  
21 and 2004. These scenarios were designed to test the  
22 adequacy of the system under a variety of assumptions. The  
23 2004 studies incorporate FPL's plant repowering projects at  
24 Sanford and Ft. Myers.

25                    In all scenarios that assume normal condition,

1 and in nearly all scenarios that assume single contingency  
2 conditions, the system can accommodate the delivery of 500  
3 megawatt from the project without adverse effect. The one  
4 exception noted in the exhibits can be remitted easily by  
5 replacing a short segment of line with higher rated  
6 conductors. I conclude that the transmission system with  
7 the addition of the improvements I have identified is  
8 adequate to transmit the full output of the Duke New Smyrna  
9 project without any adverse effect on reliability or  
10 safety. That is the conclusion of my summary.

11 MR. MCGLOTHLIN: Mr. Armand is available for  
12 cross.

13 CHAIRMAN JOHNSON: Thank you. Mr. Moyle.

14 MR. MOYLE: Just a quick question.

15 CROSS EXAMINATION

16 BY MR. MOYLE:

17 Q Are you familiar with the Florida Reliability  
18 Coordinating Council?

19 A Yes, sir.

20 Q Do you know whether Duke New Smyrna is a member  
21 of that group?

22 A Duke New Smyrna per se is not, but one of the  
23 Duke affiliates is a member of the FRCC.

24 Q Do you know which affiliate that is?

25 A I can't recall the exact name.

1 Q But you do know it is an affiliate?

2 A It is a member of the FRCC.

3 Q Okay. I appreciate that.

4 MR. MOYLE: I have nothing further.

5 CHAIRMAN JOHNSON: Okay. Mr. Guyton.

6 CROSS EXAMINATION

7 BY MR. GUYTON:

8 Q Good day, Mr. Armand.

9 A Good afternoon.

10 Q Do you know if the Duke affiliate was at the FRCC  
11 board meeting when the FRCC voted to adopt the 1998  
12 reliability assessment?

13 A No, sir, I'm not aware of that.

14 Q At Page 10 of your testimony you describe  
15 downstream transmission upgrades that you have concluded  
16 are necessary to support the delivery of the power project  
17 to Florida utilities, correct?

18 A I'm looking at it, yes.

19 Q Who would own those transmission facilities?

20 A The transmission facilities would probably be  
21 owned by the utility that is part of this project.

22 Q Anyone else?

23 A I don't think so.

24 Q All right. Now those two downstream transmission  
25 upgrades that you conclude are necessary, they're not part



1 of this application, are they?

2 A Not to my knowledge.

3 Q The load flow studies that you describe on Pages  
4 12 through 14 of your testimony, they all assume the  
5 downstream transmission upgrades that you describe at Page  
6 10, don't they?

7 A That's correct, sir.

8 Q And your conclusions on Page 14 and 15, they also  
9 assume that the downstream transmission upgrades on Page 10  
10 have been made, do they not?

11 A That's correct.

12 Q Thank you, Mr. Armand.

13 CHAIRMAN JOHNSON: Mr. Sasso.

14 MR. SASSO: No questions. Thank you.

15 CHAIRMAN JOHNSON: Staff.

16 MS. PAUGH: Staff has no questions.

17 CHAIRMAN JOHNSON: Commissioners?

18 (NO RESPONSE)

19 CHAIRMAN JOHNSON: Exhibits or redirect?

20 MR. MCGLOTHLIN: No redirect. I move Exhibit  
21 24.

22 CHAIRMAN JOHNSON: Show that admitted without  
23 objection.

24 Thank you, Mr. Armand.

25 MR. ARMAND; Thank you, ma'am.

1 CHAIRMAN JOHNSON: We are ready for the next  
2 witness.

3 MR. GUYTON: Commissioners, in the interest of  
4 time, we'll waive cross examination and stipulate  
5 Mr. Wall's testimony into the record.

6 MR. SASSO: Agreed.

7 MR. McGLOTHLIN: No objection.

8 CHAIRMAN JOHNSON: Staff.

9 MS. PAUGH: Staff has questions, Madam Chairman.

10 MR. GUYTON: I tried.

11 CHAIRMAN JOHNSON: Okay. Let's go ahead.

12  
13

14 \* \* \* \*

15

16 Whereupon,

17 LARRY A. WALL

18 was called as a witness by the Joint Petitioners and, after  
19 being first duly sworn, testified as follows:

20 DIRECT EXAMINATION

21 BY MR. McGLOTHLIN:

22 Q Please state your name and address.

23 A My name is Larry Wall. My business address is  
24 5400 Westheimer Court, Houston, Texas, 77056.

25 Q By whom are you employed, Mr. Wall?

1 A Duke Energy Power Services.

2 Q Have you prepared and submitted prefiled direct  
3 testimony in this proceeding?

4 A Yes, I have.

5 Q Do you have any changes or corrections to make?

6 A I do not.

7 Q And did you also -- are you also sponsoring an  
8 exhibit that's attached to your prefiled testimony?

9 A Yes, I am.

10 Q Any changes or corrections to that?

11 A No.

12 Q I ask that the -- Well, Do you accept the  
13 prefiled testimony as your testimony here today?

14 A Yes.

15 MR. MCGLOTHLIN: I ask that the prefiled  
16 testimony be inserted at this point.

17 CHAIRMAN JOHNSON: It will be so inserted.

18

19

20

21

22

23

24

25

**IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM**

**DIRECT TESTIMONY OF LARRY A. WALL**

1 **Q: Please state your name and business address.**

2 A: My name is Lawrence Alexander Wall, and my business address  
3 is 5400 Westheimer Court, Houston, Texas 77056.

4

5 **Q: By whom are you employed and in what position?**

6 A: I am employed by Duke Energy Power Services, L.L.C. as Vice  
7 President, Southeast Region.

8

9 **Q: Please describe your duties with Duke Energy Power Services,  
10 L.L.C.**

11 A: My duties include responsibility for all power generation  
12 development efforts in the southeast United States. My  
13 group takes control of power generation projects after  
14 preliminary business terms have been finalized and a  
15 consensus of local management approves further development.  
16 We continue to manage the business aspects of each project  
17 through the date on which commercial operation is achieved.

18

19 **Q: What are your responsibilities with respect to the New  
20 Smyrna Beach Power Project?**

21 A: My group within Duke Energy Power Services, L.L.C. ("DEPS")  
22 is responsible for developing the New Smyrna Beach Power

**DIRECT TESTIMONY OF LARRY A. WALL**

1 Project. In that role, we generally function as Duke New  
2 Smyrna's agent for arranging the various contracts that will  
3 support the Project's design, development, permitting,  
4 construction, and operation.

5

6

**QUALIFICATIONS AND EXPERIENCE**

7 **Q: Please summarize your educational background and experience.**

8 A: I graduated from Texas A&M University in 1981 with a  
9 Bachelor of Science degree in Mechanical Engineering.

10

11 **Q: Please summarize your employment history and work  
12 experience.**

13 A: Immediately upon graduation, I was employed by Mobil Oil  
14 Corporation and spent seven years in various engineering  
15 positions, focusing on oil and gas production and  
16 ranging in responsibility from field engineer to  
17 supervisor of offshore operations. From these  
18 engineering positions I moved into Mobil's natural gas  
19 marketing group, with assignments in gas transportation,  
20 gas operations, gas trading, long term marketing, and  
21 risk management. My last assignment with Mobil's  
22 marketing group included responsibility for all U.S.  
23 trading activities. In 1996, I moved into a natural gas  
24 marketing company formed through a joint venture between  
25 Mobil and PanEnergy, where my responsibilities included  
26 all trading and operations activities for the southeast

**DIRECT TESTIMONY OF LARRY A. WALL**

1 United States. I continued in that position until  
2 December, 1997, at which time I moved into my current  
3 position.

4

5

**SUMMARY AND PURPOSE OF TESTIMONY**

6 **Q: Please summarize your testimony.**

7 **A:** I am testifying on behalf of the Utilities Commission, City  
8 of New Smyrna Beach, Florida ("UCNSB"), and Duke Energy New  
9 Smyrna Beach Power Company Ltd., L.L.P. ("Duke New Smyrna"),  
10 the joint applicants for the Commission's determination of  
11 need for the New Smyrna Beach Power Project (or "the  
12 Project"). My testimony describes both the physical and the  
13 contractual arrangements by which Citrus Trading Corp.  
14 ("Citrus") will supply delivered firm gas to the New Smyrna  
15 Beach Power Project.

16 In summary, Florida Gas Transmission Company ("FGT")]  
17 will obtain the permits for and construct a lateral gas  
18 pipeline approximately 42 miles in length that will serve  
19 the Project. This lateral gas pipeline will be placed into  
20 service by October 2001, the scheduled commercial in-service  
21 date of the Project. Pursuant to a long-term gas supply  
22 contract entered into by Citrus and Duke Energy Power  
23 Services, Citrus will provide firm delivered gas supply to  
24 the Project for an initial term of 20 years commencing on  
25 the Project's commercial in-service date. After the initial  
26 20-year term, the gas supply contract is renewable from year

**DIRECT TESTIMONY OF LARRY A. WALL**

1 to year. If the contract is terminated, Duke Energy Power  
2 Services, Duke New Smyrna's agent for purposes of the gas  
3 contract, has the right to acquire Citrus's gas  
4 transportation capacity on FGT's system.

5

6 **Q: Are you sponsoring any exhibits to your testimony?**

7 A: Yes. I am sponsoring Exhibit \_\_\_\_ (LAW-1), the Transaction  
8 Agreement between Duke Energy Power Services, L.L.C. and  
9 Citrus Trading Corp., pursuant to which Citrus will supply  
10 delivered firm gas to the Project.

11

**12 PIPELINE FACILITIES TO SERVE THE NEW SMYRNA BEACH POWER PROJECT**

13 **Q: Please describe the lateral gas pipeline by which the New**  
14 **Smyrna Beach Power Project's gas supply will be delivered.**

15 A: Gas will be delivered to the Project by a 16-inch lateral  
16 pipeline approximately 42 miles in length. This line will  
17 run from a point on the existing main gas pipeline of  
18 Florida Gas Transmission Company ("FGT") near Mt. Plymouth,  
19 in Lake County, Florida, through Lake County, Seminole  
20 County, and Volusia County to the Project.

21

**22 GAS SUPPLY ARRANGEMENTS FOR THE NEW SMYRNA BEACH POWER PROJECT**

23 **Q: Please describe the basic provisions of the gas supply**  
24 **contract between Citrus Trading Corp. and Duke Energy Power**  
25 **Services, L.L.C.**

26 A: Citrus is contractually obligated to deliver gas to the

**DIRECT TESTIMONY OF LARRY A. WALL**

1 inlet of the Project, up to the required maximum daily  
2 quantity. Citrus's obligations include the nomination,  
3 scheduling, and management of all issues related to the  
4 delivery of the gas. A copy of the gas supply contract  
5 between Citrus and DEPS (redacted to avoid disclosure of  
6 proprietary, confidential, competitively sensitive business  
7 information) is included as Exhibit \_\_\_\_ (LAW-1) to my  
8 testimony.

9  
10 **Q: What is the character of the firm gas supply provided for in**  
11 **the Citrus-DEPS gas supply contract?**

12 **A:** Pursuant to the Citrus-DEPS gas supply contract, Citrus will  
13 deliver a firm supply of gas to the Project's gas inlet,  
14 consistent with FTS-2 transportation service under Florida  
15 Gas Transmission Company's FERC Gas Tariff.

16  
17 **Q: What would happen if, for some reason, Citrus should**  
18 **fail to procure sufficient gas to meet its firm**  
19 **delivered gas supply obligation to the New Smyrna Beach**  
20 **Power Project under the Citrus-DEPS contract? What**  
21 **rights does DEPS or Duke New Smyrna have to procure gas**  
22 **and have it delivered to the Project if Citrus fails to**  
23 **do so?**

24 **A:** If Citrus fails to deliver gas, Citrus must compensate Duke  
25 Energy Power Services (Duke New Smyrna's agent for gas  
26 procurement purposes) for the cost of any replacement gas or



**DIRECT TESTIMONY OF LARRY A. WALL**

1 electric energy that DEPS or Duke New Smyrna acquires to  
2 meet its contractual obligations. Pursuant to the contract,  
3 the form or mode of replacement is at Duke Energy Power  
4 Services' and Duke New Smyrna's sole discretion. Duke New  
5 Smyrna has the option to obtain gas on its own and recover  
6 any cost difference from Citrus.

7 Absent extremely rare force majeure events, gas supply  
8 is available at a price and gas transportation is available  
9 at a price. Duke New Smyrna is committed to meeting all of  
10 its contractual power sales obligations, and will,  
11 accordingly, obtain the necessary gas supply (or replacement  
12 electric power) to do so. The key link in the Project's  
13 ability to obtain gas to operate the Project is FGT's  
14 pipeline system. In the last thirty years, there has been  
15 one unscheduled outage on FGT's system that would have  
16 prevented the Project from obtaining gas to operate.

17

18 **Q: What, if any, plans does Duke New Smyrna have to acquire or**  
19 **install backup fuel supply capability on-site for the**  
20 **Project?**

21 **A:** The question becomes one of identifying those contingencies  
22 against which it is prudent to plan. Two such contingencies  
23 are the failure of Citrus to provide either natural gas, the  
24 commodity, or natural gas transportation. As I have  
25 described, Duke New Smyrna has negotiated contractual  
26 provisions requiring Citrus to compensate Duke New Smyrna

**DIRECT TESTIMONY OF LARRY A. WALL**

1 for the cost of replacing gas or the cost of substitute  
2 ("backup," if you will) electrical generation in the event  
3 Citrus fails to perform. The ability to obtain and  
4 substitute gas, at Citrus's cost, addresses one contingency  
5 (failure to supply commodity); the ability to purchase  
6 short-term electrical energy from other wholesalers and  
7 deliver it in satisfaction of Duke New Smyrna's obligations  
8 (again at Citrus's cost) actually addresses a double  
9 contingency--that Citrus may fail to provide gas, or gas  
10 transportation, or both.

11 Given these extensive "contractual back-up"  
12 arrangements, the only additional contingency that on-site  
13 fuel storage would guard against is the possibility of a gas  
14 pipeline force majeure event occurring simultaneously with a  
15 significant electric generating shortfall so severe that  
16 Duke New Smyrna would not be able to acquire short-term  
17 electrical energy at any price. We have evaluated several  
18 options, including compressed natural gas storage at a site  
19 located on the lateral that serves the Project, propane, and  
20 No. 2 fuel oil. When the capital and O & M costs of on-site  
21 backup fuel systems are evaluated against the remote  
22 possibility of an unscheduled pipeline outage that would  
23 prevent delivery of gas to the Project (there has been one  
24 such event in the last 30 years), and against the even more  
25 remote possibility of such an outage occurring  
26 simultaneously with an electric capacity shortfall, none of

**DIRECT TESTIMONY OF LARRY A. WALL**

1 these options is cost effective.

2 This is apparently the conclusion reached by other  
3 Florida utilities that have existing gas-fired power plants  
4 without backup fuel capability and plans to construct  
5 significant amounts (approximately 3,000 MW) of gas-fired  
6 capacity without backup fuel.

7

8 **Q: Does this conclude your direct testimony?**

9 **A: Yes, it does.**

1           MR. McGLOTHLIN: And I ask that an exhibit number  
2 be assigned to Mr. Wall's LAW-1.

3           CHAIRMAN JOHNSON: It will be marked 25, and  
4 entitled as stated.

5           (SO MARKED EXHIBIT NUMBER 25)

6 BY MR. McGLOTHLIN (Continuing):

7           Q     Have you prepared a summary, Mr. Wall?

8           A     Yes, I have.

9           Q     Please proceed.

10          A     Good afternoon, I appreciate the opportunity to  
11 come before the Commission today in support of our proposed  
12 power project. My testimony describes the physical and  
13 contractual arrangements for supplying natural gas to the  
14 New Smyrna Beach project. Gas will be delivered via a 42  
15 mile long, 16-inch diameter lateral that the Florida Gas  
16 Transmission Company will construct. The lateral will run  
17 from Mt. Plymouth in Lake County to our project in Volusia  
18 County. Duke Energy Power Services acting as Duke New  
19 Smyrna's agent has negotiated a gas supply contract with  
20 Citrus Trading Corporation that covers the full needs of  
21 the project on a firm basis. In the event Citrus ever  
22 fails to meet its obligation to deliver gas, Duke can  
23 purchase replacement gas or substitute electric generation  
24 at its option, and Citrus must compensate Duke for any  
25 difference in cost.

1           In designing this plant, Duke has decided not to  
2 use backup fuel. When we compared the remoteness of a  
3 pipeline force majeure event, which has happened only once  
4 in the last 32 years, occurring at the same time purchased  
5 power is unavailable, we concluded, as have some regulated  
6 utilities in Florida, that providing backup fuel would not  
7 be cost effective. That is my summary.

8           MR. MCGLOTHLIN: Mr. Wall is available for cross.

9           COMMISSIONER CLARK: Mr. Wall, let me ask you a  
10 question: You've alluded to the fact that the utilities  
11 have concluded that they don't need backup fuel.

12          WITNESS WALL: Yes, commissioner.

13          COMMISSIONER CLARK: What do you base that  
14 conclusion on.

15          WITNESS WALL: I base that on Florida Power &  
16 Light's repowering project of the Ft. Myers and Sanford  
17 projects. It will be three thousand megawatts of similar  
18 generation with no backup fuel.

19          COMMISSIONER CLARK: Okay. And you surmise that  
20 the reason they're not worried about that is they'll be  
21 able to purchase power elsewhere?

22          WITNESS WALL: That would be my assumption, but I  
23 don't know all the issues that go into their decisions, but  
24 I would think so.

25          COMMISSIONER CLARK: Okay. Now what is the one

1 event in 32 years you were talking about?

2 WITNESS WALL: This is the event of the  
3 lightening strike of the Florida Gas Transmission pipeline  
4 four or five months ago.

5 COMMISSIONER CLARK: If that event occurred and  
6 we had an inability to correct that before we had to  
7 interrupt gas to all the plants in Florida that are now  
8 using it without any backup, would we have been able to  
9 meet the electric demand by buying electric elsewhere?

10 WITNESS WALL: I can't answer that question for  
11 that specific day. I believe you would have. Right now  
12 Florida has 34 thousand megawatts of generation that's  
13 either coal, nuclear or gas with backup fuel, and if the  
14 gas outage occurs on a day that is not a simultaneous peak  
15 load day for generation capacity, then there probably will  
16 be sufficient capacity in the state.

17 COMMISSIONER CLARK: Do you know if we had  
18 sufficient capacity then? Do you know how close we came to  
19 not having capacity?

20 WITNESS WALL: I don't know of any outages  
21 relative -- or related to that strike but I'm not positive.

22 COMMISSIONER CLARK: Okay.

23 MS. PAUGH: Commissioner.

24 CHAIRMAN JOHNSON: Mr. Butler.

25 MS. PAUGH: I'm sorry.

1 CHAIRMAN JOHNSON: I think -- are you going to  
2 ask questions, Mr. Butler?

3 MR. BUTLER: No.

4 CHAIRMAN JOHNSON: Okay. Mr. Sasso.

5 (NEGATIVE INDICATIONS)

6 MS. PAUGH: Commissioner Clark just asked all of  
7 staff's questions. Thank you.

8 CHAIRMAN JOHNSON: Redirect?

9 MR. MCGLOTHLIN: No redirect.

10 CHAIRMAN JOHNSON: Exhibit.

11 MR. MCGLOTHLIN: I move Mr. Wall's Exhibit 25.

12 CHAIRMAN JOHNSON: Show that admitted without  
13 objection.

14 Thank you.

15 WITNESS WALL: Thank you.

16 MR. WRIGHT: Madam chairman, I apologize for a  
17 slight inconvenience that's been occasioned by the speed  
18 that this proceeding has just picked up. The next witness  
19 is on his way here. He should be here in under 10 minutes.

20 COMMISSIONER CLARK: Why don't we go to the next  
21 one. I mean it strikes me -- are there three left after  
22 Mr. Meling?

23 MR. WRIGHT: This is -- Mr. Meling would be our  
24 last witness, Commissioner Garcia. I think -- I'm sorry?

25 CHAIRMAN JOHNSON: Ten minutes?

1 MR. WRIGHT: Less than. They're in the car on  
2 the way here.

3 CHAIRMAN JOHNSON: We'll stand in recess.

4 MR. WRIGHT: Thank you.

5 (BRIEF RECESS)

6 CHAIRMAN JOHNSON: We're going to go on the  
7 record.

8 MR. DEE: Yes, ma'am, my name is David Dee. I'd  
9 like to make an appearance at this time on behalf of the  
10 petitioners. I am with the Landers and Parsons law firm.

11 CHAIRMAN JOHNSON: Okay.

12 MR. DEE: At this time the petitioners would call  
13 as their next witness, Mr. Jeffrey L. Meling. Mr. Meling  
14 was not here yesterday morning, so he has not yet been  
15 sworn.

16 CHAIRMAN JOHNSON: Okay. Sir, if you could stand  
17 and raise your right hand.

18 (WHEREUPON, WITNESS MELING WAS DULY SWORN BY  
19 CHAIRMAN JOHNSON)

20

21

22

\* \* \* \*

23

24 Whereupon,

25

JEFFREY L. MELING



1 was called as a witness by the Joint Petitioners and, after  
2 being first duly sworn, testified as follows:

3 DIRECT EXAMINATION

4 BY MR. DEE:

5 Q Mr. Meling, would you please state your full name  
6 and business address for the record?

7 A My name is Jeffrey L. Meling, and my business  
8 address is 3701 Northwest 98th Street in Gainesville,  
9 Florida.

10 Q Are you the same Jeffrey L. Meling that prepared  
11 direct written testimony for filing in this case on behalf  
12 of the Utilities Commission and Duke?

13 A Yes, I am.

14 Q And did you also prepare an exhibit, JLM-12,  
15 which is entitled "New Smyrna Beach Power Project,  
16 Preliminary Evaluation of Site Features and Potential  
17 Impacts"?

18 A Yes, I did.

19 Q Have you reviewed your prefiled written testimony  
20 and Exhibit JLM-1 to ensure that they're accurate and  
21 correct?

22 A Yes, indeed I have.

23 Q At this time do you wish to make any changes or  
24 corrections to either one of those documents?

25 A No, sir.

1 Q If I were to ask you the questions contained  
2 within your prefiled written testimony, would your answers  
3 to those questions be the same as the answers that are set  
4 forth within your prefiled testimony?

5 A Yes, sir, they would.

6 Q Do you adopt the statements contained in your  
7 direct written testimony and Exhibit JLM-1 as part of your  
8 oral testimony here today before the Public Service  
9 Commission?

10 A Yes, sir.

11 MR. DEE: Madam Chairman, at this time the  
12 petitioners would request that Mr. Meling's direct written  
13 testimony be entered into the record as though read, and we  
14 would ask that Exhibit JLM-1 be marked for identification.

15 CHAIRMAN JOHNSON: The testimony will be inserted  
16 into the record as though read, and the exhibit will be  
17 marked as 26.

18

19

20

21

22

23

24

25

IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION OF NEW SMYRNA BEACH  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1    **Q:    Please state your name and business address.**

2    A:           My name is Jeffrey L. Meling, and my business address  
3           is 3701 Northwest 98th Street, Gainesville, Florida 32606.

4

5    **Q:    By whom are you employed and in what position?**

6    A:           I am employed as Vice President and Principal Engineer  
7           by Environmental Consulting & Technology, Inc.

8

9    **Q:    Please describe Environmental Consulting & Technology, Inc.  
10           and its business.**

11   A:           Environmental Consulting & Technology, Inc. ("ECT")  
12           provides multidisciplinary environmental services  
13           throughout the United States and worldwide. ECT's  
14           professional capabilities include a comprehensive range of  
15           consulting service areas focused on the environmental needs  
16           of its private and public sector clients. These diverse  
17           capabilities are provided throughout the following major  
18           service categories:

19           ●    Environmental monitoring, baseline descriptions, and  
20           impact assessments.

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

- 1       ●     Environmental siting, licensing, and permitting.
- 2       ●     Toxic and hazardous material management and control.
- 3       ●     Storage tank assessments and management.
- 4       ●     Environmental audit and liability management.
- 5       ●     Planning.
- 6       ●     Engineering services.
- 7       ●     Regulatory compliance services.
- 8       ●     Asbestos consultation.
- 9       ●     Industrial hygiene.

10

11   **Q:   Please describe your duties with ECT.**

12   A:           I have both staff and project management  
 13               responsibilities. First, I manage a group of three other  
 14               air quality engineers and scientists, and, as an officer, I  
 15               also have companywide responsibilities regarding air  
 16               quality staffing. Second, a majority of my time is spent  
 17               managing and working on projects, both air quality  
 18               permitting projects and multidisciplinary  
 19               licensing/permitting projects.

20

21                                   **QUALIFICATIONS AND EXPERIENCE**

22   **Q:   Please summarize your educational background and**  
 23               **experience.**

24   A:           I received my bachelor of science degree in civil

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 engineering in 1977 and a master of science degree in  
2 environmental engineering in 1979, both from the University  
3 of Illinois. In the fall of 1979, I began my professional  
4 consulting career, and I have been in this field since that  
5 time. During this approximately 19-year period, I have  
6 worked on a wide variety of environmental projects and  
7 studies across the United States and in several foreign  
8 countries. The clients I have worked with include  
9 governmental agencies (e.g., U.S. Environmental Protection  
10 Agency [EPA]), industrial companies, and power companies,  
11 both utility and nonutility.

12  
13 **Q: What is your experience in power plant siting and**  
14 **licensing?**

15 A: My experience in this area is extensive. I have  
16 worked on power plant siting, licensing, and  
17 permitting projects since early in my career. These  
18 projects have been located in many of the United  
19 States and a number of foreign countries. I will  
20 highlight a few examples. First, beginning in 1990, I  
21 managed the air quality tasks for Tampa Electric  
22 Company's 1,100-megawatt (MW) Polk Power Station,  
23 which was licensed through the Florida Electrical  
24 Power Plant Siting Act (FEPPSA). I was responsible for

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 all air quality aspects of this licensing effort,  
2 including a multistation, year-long ambient air  
3 monitoring program, control technology assessments,  
4 and rigorous air quality impacts studies.

5 Second, from 1991 through approximately 1994, I  
6 managed a site selection study and all environmental  
7 permitting for Mission Energy Company's 150-MW Auburndale,  
8 Florida, cogeneration plant. This project required a  
9 Prevention of Significant Deterioration (PSD) (air quality)  
10 permit, a water use permit, noise monitoring and predictive  
11 modeling, wetlands delineation and permitting, and other  
12 environmental studies and permits.

13 Third, from 1992 through approximately 1996, I managed  
14 the licensing of Panda Energy Corporation's 230-MW  
15 Brandywine, Maryland, cogeneration facility. The require-  
16 ments for this project were very similar to those just  
17 described for the Auburndale project. However, unlike the  
18 Auburndale project, the Brandywine licensing effort  
19 required approval from the Maryland Public Service  
20 Commission (PSC) via a process very similar to the certifi-  
21 cation process used here in Florida. Because of the  
22 project's location in the Washington, D.C., suburbs, we  
23 faced a number of complex issues and defended our analyses  
24 and conclusions in hearings conducted by a Maryland PSC

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 examiner. Brandywine was the first nonutility generating  
2 project successfully licensed by the PSC in Maryland.

3 I could give many more examples of similar projects.  
4 Let me conclude by saying that I have also managed or  
5 worked on power plant site selection studies in Florida  
6 (e.g., Seminole Electric Cooperative, Inc.) and elsewhere  
7 (e.g., Atlantic Electric [New Jersey]), and power plant  
8 environmental studies and permitting from Maine to Texas to  
9 Wyoming and in places like El Salvador and Pakistan.  
10 Besides the New Smyrna Beach Power Plant, I am currently  
11 managing a number of other power plant licensing/permitting  
12 projects in a number of locations.

13  
14 **Q: Have you previously testified before regulatory authorities**  
15 **or courts?**

16 A: Yes

17  
18 **Q: What are your responsibilities with respect to the**  
19 **electrical power plant project that is the subject of this**  
20 **proceeding?**

21 A: I am ECT's project manager, responsible to Duke  
22 Energy and UCCNSB for all aspects of the licensing  
23 efforts that have been assigned to ECT. My duties  
24 include:

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

- 1       ● Day-to-day management of technical, budgetary, and  
2       scheduling aspects of the Project.
- 3       ● Providing overall technical leadership.
- 4       ● Coordination of ECT's work activities and the  
5       preparation of all work products.

6

7       **Q: Are you a registered professional engineer?**

8       A:       Yes, I am a registered professional engineer in the  
9       State of Texas.

10

11      **Q: Are you sponsoring any exhibits to your testimony?**

12      A:       Yes. I am sponsoring Exhibit \_\_\_\_ (JLM-1), a report  
13      entitled "Preliminary Evaluation of Site Features and  
14      Potential Impacts." This report essentially comprises a  
15      summary of the analyses that ECT conducted in support of  
16      the site certification application.

17

18                   **THE NEW SMYRNA BEACH PROJECT - SITE EVALUATION**

19      **Q: Have you prepared an analysis of the proposed site for the**  
20      **New Smyrna Beach Power Project?**

21      A:       Yes, as mentioned above, I have prepared a preliminary  
22      analysis of the proposed Project site titled "Preliminary  
23      Evaluation of Site Features and Potential Impacts."

24



**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 **Q: Please describe the steps that ECT's analysis encompassed.**

2 A: The steps involved in the preliminary evaluation  
3 paralleled those in the licensing process: characterize the  
4 site and surrounding area; characterize the Project's  
5 conceptual features, especially discharges and emissions;  
6 and evaluate the extent to which the Project would affect  
7 its environment. By completing these steps, it has been  
8 possible to analyze the Project's anticipated environmental  
9 impacts and assess the viability of the site selected for  
10 the proposed Project.

11

12 **Q: What sources of information did you consult in gathering**  
13 **information for ECT's analysis?**

14 A: My project team and I have consulted a variety of  
15 available data and information on the site and its  
16 surroundings, including air quality monitoring data,  
17 information on site geology and hydrogeology, and  
18 information on land use, to cite a few examples. In  
19 addition, the ECT project team has completed several field  
20 studies of its own, including a thorough characterization  
21 of the site's ecological resources and a monitoring program  
22 to determine existing noise levels.

23

24 **Q: Please summarize the results of ECT's analyses.**

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 A: ECT has found that the proposed site is well-suited to  
2 its use for the New Smyrna Beach Power Project. Through the  
3 use of modern, state-of-the-art generation technology and  
4 clean natural gas fuel, air quality impacts will be  
5 minimal, and no sensitive receptors will be noticeably  
6 affected. To the extent that the Project's electrical  
7 generation displaces older, dirtier, less efficient  
8 facilities, its impact on regional air quality will be  
9 positive. The Project's use of treated effluent from the  
10 adjacent new wastewater treatment plant (WWTP), which will  
11 supply as much of the plant's water needs as possible, will  
12 reduce the amount of ground water withdrawals. And the  
13 Project's use of this WWTP effluent will significantly  
14 reduce—and possibly eliminate—the WWTP's discharges to the  
15 Indian River, another positive environmental aspect  
16 associated with the Project. Since wastewater discharges  
17 from the plant (except storm water) will be returned to the  
18 WWTP, there will be no impacts on surface water bodies.  
19 Most of the site's wetland areas will be avoided by placing  
20 the major equipment in predominantly upland areas. Impacts  
21 to other ecological resources will be minimized by the  
22 plant's relatively small land requirements and minimal  
23 emissions and discharges. Since the site is remote from  
24 residential areas, land use impacts will be minimal.

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 Proximity to two major highways, Interstate 95 (I-95) and  
2 State Road (SR) 44, will minimize any impacts on traffic  
3 during construction and operation. The Division of  
4 Historical Resources has informed us that the Project "will  
5 have no effect on historic properties . . . or [property  
6 having] historical, archaeological, or architectural  
7 value." Of course, from an economic perspective, the  
8 Project will have the positive impacts of jobs, economic  
9 activity to support construction and operation, and tax  
10 revenues.

11

12 **Q: What are the major findings of your analysis?**

13 A: The major findings of ECT's analysis of the site  
14 address air resources, water resources, ecology, and land  
15 use and socioeconomic aspects of the site and Project.  
16 These are discussed individually below.

17 Air Resources

18 The Project site is located in an attainment area for  
19 all criteria pollutants and a PSD Class II area for  
20 particulate matter, sulfur dioxide, and nitrogen dioxide.  
21 The nearest PSD Class I area to the site is the  
22 Chassahowitzka National Wildlife Refuge, which is located  
23 approximately 100 miles to the west. Ambient air pollutants  
24 have concentrations below ambient air quality standards at

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 the nearest locations for which data are available.

2           Given the exclusive use of clean natural gas for fuel,  
3 the New Smyrna Beach Power Project's combustion-related  
4 emissions are expected to result in air quality impacts  
5 that are less than the significant impact levels for sulfur  
6 dioxide, nitrogen dioxide, particulate matter, and carbon  
7 monoxide. The significant impact levels are well below the  
8 state and federal ambient air quality standards and the  
9 prevention of significant deterioration increments. The  
10 Project's air emissions are not expected to adversely  
11 affect the air quality related values in the Chassahowitzka  
12 PSD Class I area. Because of the use of natural gas and the  
13 distance of separation, the National Park Service staff has  
14 informed us that they have no concern regarding the  
15 Project's potential impacts on Chassahowitzka and that no  
16 analysis of impacts is therefore warranted.

17 Water Resources

18           The proposed site drains indirectly (i.e., via wetland  
19 areas) to an unnamed tributary, which eventually discharges  
20 into Spruce Creek. The portion of the proposed site on  
21 which the Project is to be constructed is located partially  
22 within the 100-year floodplain. Approximately the eastern  
23 third of the plant footprint area is at an elevation  
24 slightly below the 100-year flood elevation. This

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 relatively minor engineering matter will be remedied by  
2 filling that portion of the project site so that the plant  
3 equipment is out of the floodplain.

4 The site is within the jurisdiction of the St. John's  
5 River Water Management District. The Project's storm water  
6 management systems can and will be designed and constructed  
7 to meet the District's water quality and water quantity  
8 regulations.

9 Most of the Project's water use requirements will be  
10 met by using treated effluent from UCCNSB's WWTP, which is  
11 being constructed adjacent to the Project site. To the  
12 extent that the Project needs additional water, it is  
13 expected to be obtained from groundwater sources,  
14 potentially both on- and offsite. Productive zones in the  
15 Upper Floridan aquifer are capable of producing significant  
16 quantities of groundwater that meet the requirements of the  
17 proposed Project. Water treatment will be necessary prior  
18 to use; more pretreatment will be required for the reuse  
19 water than for ground water.

20 Cooling tower blowdown, process wastewater streams,  
21 and sanitary wastewater will be discharged back to the  
22 adjacent WWTP. No industrial or sanitary wastewater will be  
23 discharged to any surface waters. As a result, the Project  
24 will have little or no impact on surface waters, since no

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 wastewater streams (other than storm water runoff) will be  
2 discharged to the environment.

3 Overall, the Project's impacts on surface waters will  
4 be positive, as I mentioned earlier. The power plant will  
5 reuse treated effluent from the WWTP that otherwise could  
6 be discharged to the Indian River. The Utilities Commission  
7 is under a mandate to reduce discharges to the Indian  
8 River. The Project will help UCCNSB meet their objective.

9 Ecology

10 The ecology of the Project site is characterized by  
11 native Florida vegetation communities consisting of pine  
12 flatwoods, slash pine wetlands, cypress domes, and palmetto  
13 shrubland. No lakes, streams, or other aquatic resources  
14 exist onsite, except wetlands. Disturbed areas found onsite  
15 include roadways, electrical transmission lines, an  
16 electric substation, and borrow areas (scraped areas). The  
17 previously mentioned WWTP is under construction to the  
18 north.

19 Flora and fauna found onsite are typical of north  
20 Florida flatwoods/wetland community types. Two fern species  
21 listed by the Florida Department of Agriculture and  
22 Consumer Services as commercially exploited are found  
23 onsite, but no federally-listed plant species were found  
24 during field surveys. No wildlife species listed by the

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 Florida Game and Fresh Water Fish Commisison or the U.S.  
2 Fish and Wildlife Service were found onsite, although it is  
3 possible some species may forage on or traverse portions of  
4 the site. No areas characterized as ecologically unique or  
5 sensitive are found onsite. Additionally, only  
6 approximately 0.7 acre of state or federally jurisdictional  
7 wetlands will be impacted by the Project. In summary, the  
8 Project will not have significant ecological effects on the  
9 site or the region.

Land Use and Socioeconomics

11 The City of New Smyrna Beach has annexed the site.  
12 Land use currently consists of native vegetation  
13 communities with electric utility facilities, a road, and  
14 scraped borrow areas found onsite. Surrounding land uses  
15 are the WWTP undergoing construction to the north, a borrow  
16 pond and I-95 to the east, and more undisturbed forested  
17 and agricultural lands to the south and west. SR 44 and a  
18 gas station also lie to the south of the site. The site has  
19 been rezoned as Industrial-Planned Unit Development (I-  
20 PUD), which is compatible with electric generating  
21 stations. No residential or commercial development occurs  
22 on or near the site.

23 The site does not contain any parks, recreation areas,  
24 or natural resource areas. The State Division of Historical

**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 Resources has concluded that the proposed project will have  
2 no effect on known or proposed historical/archaeological  
3 resources.

4 The Project will have a positive effect on local  
5 economies. The need for the construction workforce will  
6 mean more employment opportunities and direct/indirect  
7 economic expenditures. Upon completion, the Project will  
8 provide an economic and reliable source of clean energy for  
9 New Smyrna Beach and Florida and provide the city and  
10 county with tax revenues. No significant impacts to  
11 existing infrastructure or essential services are  
12 anticipated due to the relatively small workforce required  
13 for plant operation.

14 In summary, the Project will be consistent with  
15 existing land use plans and zoning ordinances and will  
16 provide social and economic benefits, with minimal impact  
17 to the residents of New Smyrna Beach and Volusia County.

18

19 **Q: Do you still agree with the findings and conclusions of the**  
20 **analyses presented in Exhibit \_\_\_\_ (JLM-1)?**

21 **A: Yes, I do.**

22

23 **Q: What is the licensing schedule for the New Smyrna Beach**  
24 **Power Project?**



**DIRECT TESTIMONY OF JEFFREY L. MELING, P.E.**

1 A: The current plan is to submit the site certification  
2 application (SCA) in October. Project construction is  
3 anticipated to begin in early 2000, with commercial  
4 operation scheduled for the fourth quarter of 2001.

5

6 **Q: Do you have a conclusion with respect to the ability of the**  
7 **New Smyrna Beach Power Project to obtain all necessary**  
8 **licenses within the time frames described in the licensing**  
9 **schedule?**

10 A: Yes, I do.

11

12 **Q: What is your conclusion?**

13 A: Based on our analyses, ECT has concluded that the site  
14 is appropriate for the New Smyrna Beach Power Project, that  
15 the site can support the Project as proposed, and that the  
16 Project as proposed can obtain all necessary licenses and  
17 approvals within the times allotted in the licensing  
18 schedule.

19

20 **Q: Does this conclude your direct testimony?**

21 A: Yes, it does.

22

23

24 A: \MELING.420

1 BY MR. DEE (Continuing):

2 Q Mr. Meling, could you summarize for us the key  
3 points in your direct written testimony?

4 A Yes.

5 Madam Chairman, Commissioners, I have a master's  
6 degree in environmental engineering as well as 19 years of  
7 professional experience in the environmental engineering  
8 field. Twelve of those 19 years have been spent living and  
9 working here in Florida.

10 During my 19 years, I have worked on literally  
11 hundreds and hundreds of projects that involved the  
12 licensing or permitting or environmental study of an  
13 industrial facility, including a power generation  
14 facility. Of those projects, I would estimate that at  
15 least one to two hundred of them have directly involved  
16 environmental studies or efforts to support the permitting  
17 or licensing of power generation facilities much like the  
18 one that's the subject of this proceeding.

19 I am also the project manager for the  
20 environmental consulting and technology, ECT licensing team  
21 that's been working for Duke and the Utilities Commission  
22 to prepare the necessary documents to support the  
23 environmental licensing of the New Smyrna Beach Power  
24 Project. I have been heavily involved in this project  
25 since early this year.

1           Based, first, on my 19 years of professional  
2 experience, and second, on my specific experience on this  
3 particular project, I am pleased to testify that it is my  
4 belief that the site that has been selected for this  
5 project is well suited to it. And my reasons for  
6 testifying to that effect are that the site itself is  
7 proximate, adjacent actually, to the Smyrna substation. It  
8 is also adjacent to the new wastewater treatment plant that  
9 is being constructed to the north by the Utilities  
10 Commission, and it also is compatible with the surrounding  
11 land uses.

12           There are several environmental benefits,  
13 actually, from this project that I would like to highlight;  
14 and first, let me highlight the fact that most of the water  
15 to support the operation of the New Smyrna Beach Power  
16 Project will come from the adjacent wastewater treatment  
17 plant. That has a couple of benefits: One, it will reduce  
18 the amount of other ground -- other water, including ground  
19 water that will be needed to operate the project; and two,  
20 possibly even more important, is that it will reduce, if  
21 not eliminate the discharges of treated effluent that would  
22 otherwise result from the wastewater treatment plant. The  
23 Utilities Commission of New Smyrna Beach is under a  
24 regulatory mandate to achieve that goal, and the New Smyrna  
25 Beach Power Project is an integral part of their plan to

1 achieve that goal.

2           Also, the plant will have very minimal impact on  
3 air quality in the area. And to the extent that the  
4 generation from this plant will displace that from older  
5 dirtier less efficient plants, I think it's very arguable,  
6 if not a fact, that the air quality in this region and the  
7 state will be improved as a result of this project.

8           In closing, it is my professional opinion that  
9 the project can and will receive all the licenses and  
10 permits that are necessary for its construction to go  
11 forward within the schedule that was filed with the need  
12 application; that is, by the end of next year. That  
13 concludes my summary.

14           MR. DEE: Madam Chairman, at this time we would  
15 proffer Mr. Meling for cross examination.

16           CHAIRMAN JOHNSON: Okay. Mr. Moyle.

17           MR. MOYLE: Just a couple of real quick  
18 questions.

19   CROSS EXAMINATION

20 BY MR. MOYLE:

21           Q     You're an expert in environmental matters, isn't  
22 that right?

23           A     Yes, I am.

24           Q     Okay. And is it your expert testimony and  
25 opinion that this project will have a net environmental

1 benefit to the State of Florida?

2 A Yes, I believe that's a fair statement.

3 Q Thank you.

4 MR. MOYLE: Nothing further.

5 CHAIRMAN JOHNSON: Mr. Butler.

6 MR. BUTLER: Madam Chairman, in the interest of  
7 time and in lieu of live cross examination of Mr. Meling,  
8 we would like to introduce our deposition of him into the  
9 record, and I would propose its identification as Exhibit  
10 Number 27.

11 At the time of his deposition, we requested some  
12 information from him concerning the backup of his  
13 calculation of the differential environmental impacts of  
14 his project and what he calls proxy units. We were  
15 provided a copy of a memo to him from Richard Shine. I  
16 distributed during the break a copy of both Mr. Meling's  
17 deposition and this memorandum. I would propose that the  
18 memorandum be included as part of Exhibit 27, as a  
19 composite exhibit.

20 CHAIRMAN JOHNSON: You said you distributed that  
21 information?

22 MR. BUTLER: Yes, during the break. You should  
23 have it in front of you. If you don't, I can get you  
24 another copy. The memo starts out "Jeff, I have enclosed a  
25 copy of calculations for the emission savings."

1 CHAIRMAN JOHNSON: And you put it here on the  
2 bench?

3 MR. BUTLER: Yes. Would you like me to get you  
4 another copy?

5 CHAIRMAN JOHNSON: Oh, I see it. No, here it is.  
6 You want to identify these documents as a composite  
7 exhibit?

8 MR. BUTLER: Yes, Madam Chairman.

9 CHAIRMAN JOHNSON: Okay. It will be identified  
10 as Composite 27, a short title, deposition of Meling and  
11 attachments.

12 Now is there going to be any objection to this  
13 being admitted?

14 MR. DEE: We have no objection.

15 CHAIRMAN JOHNSON: No objections. Any other  
16 questions as to the document?

17 MR. BUTLER: No, I'm sorry. I have no further  
18 questions.

19 CHAIRMAN JOHNSON: Well, then I'll go ahead and  
20 show it admitted without objection.

21 MR. BUTLER: Thank you.

22 CHAIRMAN JOHNSON: Mr. Sasso?

23 MR. SASSO: No questions.

24 CHAIRMAN JOHNSON: Commissioners?

25 (NO RESPONSE)

1 CHAIRMAN JOHNSON: Staff.

2 MS. JAYE: Staff has a few questions, Madam  
3 Chairman.

4 CROSS EXAMINATION

5 BY MS. JAYE:

6 Q Mr. Meling, is it your understanding that the  
7 project costs include costs for environmental compliance?

8 A If by that you mean equipment that's integral to  
9 the plant that will result in environmental compliance, I  
10 believe the answer is yes. If you mean other services and  
11 activities that will be necessary to comply with permit  
12 conditions, that would not necessarily be the case. Those  
13 would be more operating costs and not capital costs.

14 Q Does a 514 megawatt facility have a greater  
15 environmental impact, in your opinion, than a 30 megawatt  
16 facility, all other things being equal?

17 A In other words, by your question you mean a 30  
18 megawatt plant of an identical design and nature as a 514  
19 megawatt plant?

20 Q Yes, sir.

21 A I think it's fair to say that the 514 megawatt  
22 plant would have greater impacts than an identical 30  
23 megawatt plant of the same design, yes.

24 Q Is it your understanding, Mr. Meling, that a  
25 best-available control technology analysis is appropriate

1 for this project?

2 A Yes, and, in fact, such an analysis was completed  
3 for the site certification application that was filed in  
4 October.

5 Q Mr. Meling, is there an approach called MACT or  
6 maximum available control technology analysis?

7 A Yes, there is.

8 Q Would an MACT or maximum available control  
9 technology analysis of the instant project result in  
10 substantially higher costs?

11 A To be clear, the MACT analysis that you are  
12 referring to, maximum available control technology  
13 analysis, is not really applicable to this project because  
14 those rules and regulations pertain to very specific types  
15 of facilities or air pollution emitting equipment and also  
16 pertain very specifically to hazardous air pollutants that  
17 will not be emitted from this project. So it's really not  
18 appropriate to indicate that a MACT analysis should or  
19 would be done for this project.

20 MS. JAYE: We have no further questions, Madam  
21 Chairman.

22 COMMISSIONER GARCIA: Let me ask you: Are there  
23 any negative environmental implications here now? I know  
24 it's a big -- it's a broad question. It's not specifically  
25 how you -- But what are the negatives here? If you were



1 here from the first day, and you may not have been here,  
2 one of the arguments by the companies, from the other  
3 parties, was that, well, there is a sort of negative  
4 environmental impact that is not needed if this plant is  
5 built. Do you see any in that? Can you give me an  
6 analysis -- If you can't -- if you don't have an answer  
7 to such a broad question, I would understand.

8 WITNESS MELING: Mr. Garcia -- Commissioner  
9 Garcia, that is a very broad question. Let me try to  
10 answer it the best I can and say that any project that you  
11 would propose to build of an industrial nature is likely to  
12 have some environmental impacts if you look at it all by  
13 itself; and this project would be no different. In fact,  
14 in my exhibits, I presented, for example, on Page 33 of my  
15 Exhibit JLM-1, the fact that the project will involve  
16 irreversible and irretrievable commitments of resources.  
17 It will use land. It will impact a small amount of  
18 wetlands. It will combust natural gas. It will use water,  
19 and it will emit air pollutants. However, I think that the  
20 point that is more important to consider is that this plant  
21 will be among the very top tier of clean efficient power  
22 generation facilities in the State of Florida, especially  
23 when it's compared to the older, dirtier less efficient  
24 plants that its power might displace. So if you look at it  
25 from the perspective of this plant displacing or causing

1 other older, dirtier less efficient plants to operate less,  
2 then I think that especially in the realm of air emissions  
3 and also in the context of the use of natural gas, this  
4 project represents a significant improvement. I hope I've  
5 been responsive to your question.

6 COMMISSIONER JACOBS: Let's take a little bit  
7 narrower view then and look at clean air issues. This  
8 may -- Well, let me ask you whether or not it's a  
9 reasonable assumption. It would appear to me that when you  
10 have a plant like this where only 30 -- or a very small  
11 percentage of the capacity is absolutely committed and the  
12 rest will go according to the market that the operating  
13 dynamics will fluctuate considerably, i.e., that plant will  
14 probably not operate at full load for very much of the  
15 day. Is that a correct assumption?

16 WITNESS MELING: Commissioner Jacobs, I don't  
17 want to present myself as an expert on load dispatching and  
18 all sorts of --

19 COMMISSIONER JACOBS: Okay. That's not really  
20 the point of my question, so don't worry about that. My  
21 concern is this: The environmental specifications on the  
22 plant have to do with the operating conditions; is that  
23 correct?

24 WITNESS MELING: Yes.

25 COMMISSIONER JACOBS: Okay. And very often it's

1 indicated that these type facilities operate at very, very  
2 modest requirements. Are those premised upon what -- the  
3 operating conditions at the moment so that if a plant is  
4 operating -- a plant with the capacity of 500 is only  
5 operating at 300, are we going to get the same kinds -- let  
6 me strike that.

7 If a plant that's capacity is 500 is operating at  
8 30 or 100, are we going to get same kind of environmental  
9 efficiencies that have not been described?

10 WITNESS MELING: Sir, the short answer to that  
11 question is yes, and let me expand on that a little bit.  
12 First, you need to consider the fact that this facility  
13 will actually be made up of two individual units. In other  
14 words, two combustion turbines paired with its own -- each  
15 of the combustion turbines will have its own heat recovery  
16 steam generator. So if you really want to look at it in  
17 that way, this 500 or so megawatt plant is made up of two  
18 250 megawatt plants. So under circumstances where only 200  
19 or 250 megawatts of power would be needed, only half of the  
20 plant would actually operate at full load to get those 250  
21 megawatts. If, for example, 300 or so megawatts were  
22 needed -- or let's use another number, say, four hundred  
23 megawatts, then one of the units would presumably be  
24 running at full load, the other unit at some partial load.  
25 But let me add to that further that this facility, this

1 type of technology is probably not going to operate at all,  
2 and our permit application represents that it will only  
3 operate, each individual CT, at 50% load and above. When  
4 you get below 50% load, it really doesn't probably make  
5 sense to operate it from -- certainly from a cost  
6 effectiveness standpoint and efficiency standpoint. And  
7 furthermore, the air emissions characteristics, when you  
8 get below 50% load on a combustion turbine, would be --  
9 they would -- The issue that I think you are trying to  
10 get at would actually occur where the emissions would be  
11 greater, at least in concentration, for that lower load.

12 COMMISSIONER JACOBS: So if -- let's say if I'm  
13 only going to be producing 30 or 50, you're telling me  
14 that -- are you telling me that it's not so efficient to be  
15 even running that unit?

16 WITNESS MELING: I believe that's correct. I  
17 would not expect, and actually I think our permit  
18 application would not allow, should we get permit  
19 conditions that are consistent with our application, which  
20 I would expect, that this facility would not operate unless  
21 at least one of the combustion turbines could operate at at  
22 least 50% load.

23 COMMISSIONER JACOBS: Which is --

24 WITNESS MELING: Under those circumstances, if it  
25 is operating under those parameters of 50 to 100% load,

1 then the answer to your original question is that the  
2 emission characteristics that you'd see, even down to 50%  
3 load, are going to be consistent with those characteristics  
4 at 100% load. Actually the emissions would be less in a  
5 roughly proportional manner. In other words, you'd have  
6 about half of the emissions in a mass level that you would  
7 at 100% load, but the concentrations would essentially be  
8 the same.

9 COMMISSIONER JACOBS: You don't lose anything?

10 WITNESS MELING: The performance of these  
11 combustion turbines is maintained from an emissions  
12 standpoint all the way down to 50% load. I hope I've  
13 answered your question.

14 COMMISSIONER JACOBS: Yes. Thank you.

15 CHAIRMAN JOHNSON: Redirect, David.

16 MR. DEE: Yes, ma'am, just very briefly.

17 REDIRECT EXAMINATION

18 BY MR. DEE:

19 Q Mr. Meling, if I could go back to the  
20 Commissioner's question. Isn't it true that ECT has  
21 performed a screening analysis in this instance to identify  
22 the worst-case operating characteristics for these units?

23 A Yes, indeed, we did; and what that evaluation  
24 involved is looking at all the possible operating  
25 characteristics of the plant over the range at which Duke

1 New Smyrna would intend to operate the facility and  
2 determine which of those circumstances produces the maximum  
3 impacts and then conduct all further analyses based on that  
4 worst-case situation.

5 Q So your opinion and the analyses that have been  
6 done are based on those worst-case operating conditions?

7 A Yes, indeed they are.

8 Q Thank you.

9 Let me go back for a moment to the deposition  
10 that was introduced or marked for identification. In that  
11 deposition you were asked some questions about the proxy  
12 units that you evaluated, and the question arose about the  
13 source of information that you used for your analysis.  
14 Could you explain to us what information you have  
15 subsequently obtained to further refine your analysis?

16 A Yes, sir. Subsequent to my deposition, I have  
17 gone back to the original sources of data that were cited  
18 in Mr. Shine's memo to me, and those sources of data  
19 include printouts from the Florida Department of  
20 Environmental Protection's air emissions inventory system,  
21 which is a computerized system that tracks actual emission  
22 rates for major sources in the state on an annual basis.  
23 That information is originally supplied by the sources  
24 themselves, such as Florida Power & Light and Florida Power  
25 Corp and others of course; and that information is then

1 entered into the database by Florida DEP.

2           So in part answer to your question, I did obtain  
3 copies of the actual printouts that Mr. Shine had relied  
4 upon, and in addition to that, I visited the Florida DEP  
5 office to verify that that information was, indeed,  
6 accurate and correct for the units that we had used in the  
7 evaluation of our proxies.

8           In addition to that, other information that was  
9 relied upon in Mr. Shine's memo or referenced in  
10 Mr. Shine's memo is included in FERC, F-E-R-C, Form One  
11 filings that the utilities themselves, I believe, file and  
12 have in record here in the Public Service Commission's  
13 office. I reviewed all that information and verified that  
14 the data was, indeed, correct and accurate as represented  
15 in those original sources of information.

16           Q     So based on your subsequent review of the  
17 original source data, do you have an opinion about the  
18 representativeness of the data you provided in your exhibit  
19 concerning the proxy units?

20           A     Yes, I do.

21           Q     And what is your opinion, sir?

22           A     My opinion is that the approximate emissions data  
23 for proxy units that I represented in my exhibit are indeed  
24 accurate and representative. Keeping in mind that they  
25 were never intended to say that these are specific,

1 precise, actual emission reductions that would indeed occur  
2 should the Duke New Smyrna Beach Project operate and  
3 displace these units, but that they are representative of  
4 at least an order of magnitude and provide the reader with  
5 some idea as to the levels of emission reductions that  
6 would be expected.

7 Q In your deposition you were also asked as to  
8 whether your calculations accounted for a scenario in which  
9 the Duke facility hypothetically might be using natural gas  
10 that would otherwise go to a dual fuel fired facility.  
11 Have you given further consideration to that question?

12 A Yes, I have. In my deposition, I believe, to  
13 paraphrase my answer, it was that it would potentially be  
14 possible that should the Duke New Smyrna Beach Project  
15 operate, that it could draw natural gas from another unit  
16 and cause that unit to burn oil. Essentially, I conceded  
17 at that point that that was a possibility.

18 Upon further thought and research, I would like  
19 to change my opinion offered to that question during  
20 deposition to something as follows: And that is, that there  
21 are several reasons why I think my answer in my deposition  
22 was in error; and the first part of that reasoning is that  
23 the Duke New Smyrna Beach Power Project will be more  
24 efficient than other units that it would displace. So if  
25 you want to look at an example, you could say, let's say



1 that the Duke project -- there is a demand for a hundred  
2 megawatts of power and there is gas available to provide  
3 that power. If the Duke project were to provide it, it  
4 would provide that power with less gas than would otherwise  
5 be needed should an older, less efficient unit provide that  
6 same megawattage of power so that in actuality you could  
7 look at it and say that the presence of the Duke New Smyrna  
8 Beach Project would free up additional gas that's  
9 represented by that 30% margin of greater efficiency that  
10 the project has and actually allow more power to be  
11 produced by gas which would, therefore, push the need for  
12 oil further down on the list. That's the first leg of my  
13 answer.

14           The second leg of my answer is that I am  
15 personally aware that FGT is preparing to expand what they  
16 call their Phase 4 expansion of the gas pipeline system  
17 here in the State of Florida, and their documents indicate  
18 that the purpose of this expansion specifically is to  
19 provide gas to two power plants. One of them is Duke New  
20 Smyrna; the other being FPL Ft. Myers. So that, I think,  
21 provides further rationale that the hypothesis of the  
22 original question, that being the operation of the Duke  
23 plant, would cause other plants to operate on oil is  
24 probably incorrect.

25           And the third element of my answer that I would

1 like to add is that I believe that firms, utilities  
2 including FPL and Florida Power Corp must certainly agree  
3 with the fact that there is going to be plenty of gas  
4 available given the fact that they are, one, either  
5 building new combined cycle gas-only generation capacity;  
6 or, two, repowering existing facilities that currently burn  
7 oil to burn gas only. If they felt that there was  
8 significant risks that not enough gas was available, it  
9 seems to me that that would be odd that they would be  
10 undertaking these types of projects.

11 MR. DEE: I have no further questions for  
12 Mr. Meling.

13 MR. BUTLER: Madam Chairman.

14 CHAIRMAN JOHNSON: Yes, sir.

15 MR. BUTLER: I have one follow-up question that  
16 was occasioned by Mr. Dee's cross -- or redirect  
17 examination of Mr. Meling.

18 CHAIRMAN JOHNSON: I'll allow you to ask it, and  
19 then I'll allow you to re-redirect.

20 CROSS EXAMINATION

21 BY MR. BUTLER:

22 Q Mr. Meling, do you have before you have a copy of  
23 Mr. Shine's memo to you regarding the calculation of the  
24 environmental impacts of your plant's operation?

25 A I can get one.

1 (DOCUMENT TENDERED TO THE WITNESS)

2 A Yes, sir.

3 Q Okay. Would you please turn to the second page  
4 of it, the one that is entitled "Emissions Savings from  
5 UCNSB Project"?

6 A I'm there.

7 Q Okay. Is FPL's Ft. Myers unit treated as a gas  
8 fired plant for the purpose of the proxy data that was used  
9 in your analysis?

10 A No, sir, it's not.

11 Q Which FPL unit was used as being gas fired for  
12 the purpose of the proxy comparison?

13 A That would be the Cutler plant.

14 Q Okay. Thank you.

15 MR. BUTLER: No further questions.

16 MR. DEE: Madam chairman, I have no further  
17 questions.

18 CHAIRMAN JOHNSON: Okay. Exhibits.

19 MR. DEE: Yes, we would like to move that into  
20 evidence.

21 CHAIRMAN JOHNSON: Show that admitted without  
22 objection.

23 Thank you, sir.

24 MR. BUTLER: Madam Chairman, just to clarify  
25 something for the record, Mr. Beasley had pointed this out

1 to me: The memorandum that I was just discussing and that  
2 was part of Exhibit 27 has some handwriting in it. That's  
3 the way that we received it.

4 CHAIRMAN JOHNSON: Okay. That will be noted for  
5 the record.

6 MR. MCGLOTHLIN: Chairman Johnson, a quick  
7 housekeeping detail, Exhibit 24 was received. I'd like to  
8 amend the short title to be more descriptive. It was  
9 Michel Armand Composite Exhibit MPA-1 through 5, if you'd  
10 make that additional reference.

11 CHAIRMAN JOHNSON: Okay. With that  
12 clarification.

13 MR. BUTLER: I'm sorry, Madam Chairman, one other  
14 point I would like to clarify. I think I heard you admit  
15 Exhibit 27, but staff was not sure, and I wanted to clarify  
16 that it was admitted.

17 CHAIRMAN JOHNSON: Yes, it was admitted.

18 MR. BUTLER: Thank you.

19 CHAIRMAN JOHNSON: Mr. Sasso.

20 MR. WRIGHT: Madam Chairman.

21 CHAIRMAN JOHNSON: Mr. Wright.

22 MR. WRIGHT: Two things: First, did you admit  
23 Exhibit 26?

24 CHAIRMAN JOHNSON: Yes.

25 MR. WRIGHT: Okay. And then before moving on, I

1 just want to hand out and have marked and offer into  
2 evidence two discovery responses of Florida Power & Light  
3 Company. Specifically, they are responses to our requests  
4 to produce, and they are responses to our interrogatories.

5 CHAIRMAN JOHNSON: You said -- will it be a  
6 composite, or do you have two separate exhibits?

7 MR. WRIGHT: I'd rather have them marked  
8 separately, Madam Chairman.

9 CHAIRMAN JOHNSON: Okay. And 28 will be which?  
10 You said there's -- Mr. Wright.

11 MR. WRIGHT: Let's have 28 be FPL's interrogatory  
12 responses to Petitioners.

13 CHAIRMAN JOHNSON: Interrogatory, okay.

14 MR. WRIGHT: And 29 would be FPL's responses to  
15 Petitioners' production requests.

16 CHAIRMAN JOHNSON: Okay, FP&L's responses to --  
17 Let me look at the document.

18 MR. WRIGHT: To Petitioners' production request,  
19 or --

20 CHAIRMAN JOHNSON: FP&L's responses to  
21 Petitioners' production request?

22 MR. WRIGHT: Yes, ma'am.

23 CHAIRMAN JOHNSON: Will be 29. I think we have  
24 both of them.

25 MR. WRIGHT: Okay. And they are what they are.

1 I would move that they be received into evidence.

2 CHAIRMAN JOHNSON: Okay. You said you wanted to  
3 move them right now?

4 MR. WRIGHT: Yes, ma'am.

5 CHAIRMAN JOHNSON: Okay. Show them admitted  
6 without objection.

7 MR. WRIGHT: Thank you.

8 CHAIRMAN JOHNSON: I think we're prepared,  
9 Mr. Sasso.

10 MR. SASSO: Florida Power Corporation calls  
11 Michael D. Rib.

12 (Transcript continues in sequence in Volume 9)

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<p>#23 1018:5 #25 1018:8 #26 1018:9 #27 1018:10 #29 1018:13</p>	<p>ask 1024:21 1025:3 1027:7 asked 1022:5 1026:18,18 asking 1021:19,20 1022:11, 14,16,17,24 attempting 1023:8,9 attorney 1023:2 authority 1026:19 available 1021:17 aware 1021:11,20</p>	<p><b>D</b> day 1028:4 DEASON 1016:11 decision 1024:25 1025:1 dedicated 1021:17 demonstrate 1020:3,10 Deposition 1018:10 designed 1022:1,8 1023:23 determination 1021:25 1022: 8,12 1023:23 1024:5 determination)DOCKET 1016:4 development 1027:10 diminish 1027:14 Direct 1017:6,8,11,14,16 discussed 1028:2 discussing 1019:12 DISCUSSION 1019:19 1025: 13,17 does 1019:17 1020:1,13 1026: 23 doesn't 1019:17 1021:3,11,21 1023:25 down 1027:23 Duke 1016:6 duty 1021:24 1022:7 1023:22</p>	<p>generator 1024:13,16 generators 1025:6,9 give 1024:18,22 Good 1026:4 got 1023:19 great 1023:13,15 Guyton 1017:4,12 1019:11,18, 20 1022:11,16,21 1025:25 1026:2,13,18 1027:1</p>
<p><b>1</b> 1016 1016:8 1019 1017:4 1029 1017:6 1037 1018:4,4 1044 1017:8 1080 1017:9 1084 1017:11 1100 1018:7 1103 1017:12 1104 1018:7 1107 1017:14 1115 1018:8 1118 1018:8 1121 1018:9 1122 1017:16 1142 1017:17 1153 1017:18 1154 1018:9 1156 1018:12 1157 1016:8 1018:12 13 1025:11 14 1025:13 148 1016:16</p>	<p><b>B</b> back 1019:6 barrier 1023:10 barriers 1023:9 1027:9,15 because 1023:25 1024:10,14, 16 1025:7 BEFORE 248:1 1019:12,21 1024:20 1026:17 believe 1020:13 1023:6 1024: 8 bench 1028:3 better 1019:18 between 1021:9 bit 1025:18 bordering 1022:13 both 1024:20 broader 1021:10 building 1025:20 Butler 1017:18 buying 1021:8</p>	<p><b>E</b> earlier 1023:19 1026:17 eliminate 1027:15 encourage 1023:8 Energy 1016:6 1019:13,22,23 1020:5,11,14,18 1022:23 1023: 7,14,17,21 1024:1,3,7,9,13 1025:5,20 1026:15,19 enter 1025:22 entire 1022:3,4 entry 1023:10,10 1027:15 1028:5 environmental 1026:20 1027: 8,8 erect 1027:9 erected 1023:11,11 evaluated 1024:4 evening 1028:3 everyone 1028:4 Examination 1017:9,12,17,18 1019:10 1026:10 1028:7 examine 1022:1,9 1023:23 exception 1027:2 exhibit 1018:5,8,9 EXHIBITS 1018:1,7 1028:7 existing 1020:24 extent 1022:11</p>	<p><b>H</b> hall 1027:23 hearing 1022:12 here 1023:1,16,18 HERETOFORE 1016:25 herring 1020:25 1021:24 1022:6,18 HESSE 1017:3 1019:8,12,21 1021:2 1022:19 1025:24 1026: 12 1027:19,21 Hesse's 1022:11 housekeeping 1027:24</p>
<p><b>2</b> 22 1020:21</p>	<p><b>C</b> can 1023:5 can't 1020:6 1021:4 1023:3 capacity 1021:19 care 1027:24 cases 1025:2 certainly 1021:5 CHAIRMAN 1019:6,16 1026: 1,4,6,8 1027:18,20,22 1028:1,9 change 1025:18 Charlie 1022:15 cite 1019:23 cited 1019:13 clear 1025:9 coming 1019:16 COMMISSION 1016:1 1024: 25 COMMISSIONER 1016:11,12 1019:15 Commissioners 1026:6 compatible 1026:14,14 1027: 11 competition 1023:8 Composite 1018:5 conclusion 1027:3,4,5 1028:3 condition 1025:20 congress 1020:14 1023:6 1027:14 consider 1021:23 1025:4,4 considered 1022:5 considers 1022:17 context 1022:20 1024:18,22 1025:18 CONTINUED 1019:10 continues 1019:3,9 Continuing 1019:20 1022:21 1026:11 contract 1020:2,8,15 1021:18 1025:22 contracts 1025:12 contrary 1023:12 control 1020:23 corresponding 1021:3,21 County 1016:5 couple 1027:24 covered 1023:25 1026:2 Cross 1017:12,17,18 1019:10 1028:6 customers 1021:25 1022:7 1023:22 1024:4,14,17 1025:7, 10</p>	<p><b>F</b> face 1024:10 facility 1025:21,22 fact 1026:23 fall 1027:2 familiarized 1025:1 Federal 1019:13,22 1020:4,11, 18 1022:23 1023:14,16,21 1024:3,6,6,9,13 1025:5,20 1026:15 1027:12,13 FERC 1020:7 FLORIDA 1016:1,6,17,22 1021:2,6 1022:25,25 1024:24 1025:2 1027:1 Florida's 1023:4,5 follow 1021:7 following 1020:22 1021:23 1022:6,17 1023:20 1024:2,12 follows 1024:19 FPL's 1018:13 further 1027:16</p>	<p><b>I</b> ID 1018:2 incompatible 1027:12,13 inconsistent 1020:4,11,18 1022:23 1023:21,24 1024:2,8, 9,12 1025:5,19 INDEX 1017:1 1018:1 Inserted 1017:6,8,11,14,16 1028:10 intent 1021:5 1023:12 1027:14 intervening 1027:25 introduction 1027:10 involving 1024:25</p>
<p><b>3</b> 32315-3093 1016:22</p>	<p><b>A</b> able 1020:3,9,16 1027:23 about 1019:21 1021:19,20 1022:15 1023:4 1025:3,8,11,17 1026:13 access 1020:23 acknowledged 1027:1 Act 1019:23 1020:14 1023:7 1024:1,7,10 1026:19 1027:2,8 addressing 1022:12 admission 1028:7 admitted 1026:25 ADMTD 1018:2 after 1024:19 again 1023:20 1024:15 ago 1026:12 agreed 1028:4 agreement 1028:2 allowed 1026:19 among 1021:9 answer 1020:6 1021:4 1023: 19 1026:22 anything 1021:6 anywhere 1021:12 APPEARANCES 1016:25 applied 1027:9 ARC 1024:25 argument 1020:22 1021:8 ARMAND 1017:10</p>	<p><b>G</b> GARCIA 1016:12 1019:15 gave 1021:8 generation 1027:11</p>	<p><b>J</b> Jaye 1017:17 JEFFREY 1017:15 JLM-1 1018:9 JOE 1016:12 JOHNSON 1019:6 1026:1,4,6, 8 1027:18,20 1028:1,9 Joint 1016:4 Jr 1028:6</p>
<p><b>5</b> 5 1018:7</p>			<p><b>K</b> Kennie 1028:5 know 1022:20 1023:1,3,4</p>
<p><b>7</b> 7 1019:4,9 1020:21</p>			<p><b>L</b> LARRY 1017:13 law 1023:1 LAW-1 1018:8 laws 1023:5 legal 1022:14,16 1023:2 length 1023:13,15 Let 1024:20 1025:3 1026:17 1027:7 let's 1021:10 licensing 1020:4,10,17 limiting 1025:12 Lines 1020:21 1025:13 little 1021:10 1025:18 load 1021:2,3,11,12,20,20,21 LOCASCIO 1017:7 1027:22 long 1026:12 1028:3 lunch 1019:12,21 1026:17</p>
<p><b>8</b> 8 1025:13 888 1019:14,23 1020:7</p>			<p><b>M</b> ma'am 1023:14 1026:9 Madam 1027:22 make 1020:22 1021:10 1022: 13 MARK 1017:7 1018:5 market 1020:24 1023:9 MARTHA 1017:3 1019:8 matters 1027:24 mean 1025:9 meaning 1023:3</p>
<p><b>9</b> 9 1020:22</p>			

MELING 1017:15 1018:10  
 merchant 1020:8,9,15,16  
 1021:16 1025:12,17 1027:10  
 MICHEL 1017:10  
 might 1023:10,11 1027:23  
 mikes 1019:16  
 mind 1023:7  
 minutes 1027:25  
 moment 1027:23  
 MPA-1 1018:7  
 Ms 1017:17 1019:12,21 1021:2  
 1022:11 1025:24 1026:5,12  
 much 1027:20  
 must 1024:4

**N**

Nassau 1024:25  
 necessarily 1021:17 1022:19,  
 20 1023:25  
 need 1020:3,10,17 1021:24,25  
 1022:7,8,12 1023:22,23 1024:  
 3,4,14,16 1025:6  
 New 1016:6  
 next 1021:7  
 non-utility 1024:13,16 1025:6,  
 9  
 NOTED 1016:25  
 now 1021:19 1023:13 1025:14  
 NUMBER 1018:2 1021:15

**O**

oath 1019:9  
 object 1022:10  
 obligation 1020:23 1025:10  
 OFF 1019:19  
 Oh 1024:24  
 Okay 1022:5,22 1025:15 1027:  
 7,18 1028:1,9  
 one 1024:20  
 opinion 1022:14,16,25 1023:2  
 1025:19 1027:7  
 Order 1019:14,23 1020:7  
 out 1024:24  
 over 1020:23 1026:19

**P**

P.E 1018:4 1028:6  
 Page 1020:21 1025:11  
 Pages 1016:8  
 parties 1028:4  
 passed 1023:7  
 PAUGH 1026:5  
 perhaps 1022:24  
 petition 1016:4  
 Petitioner's 1018:13  
 Petitioners 1018:12  
 pieces 1025:8  
 plant 1020:3,8,9,10,15,16,17  
 1027:1  
 plants 1021:16 1025:12,17  
 1027:10  
 please 1024:23  
 Policy 1019:13,22,23 1020:5,  
 12,14,19 1022:23 1023:7,14,  
 17,21 1024:1,3,6,7,9,13 1025:  
 6,20 1026:15,19 1027:12,13  
 power 1020:3,10,17 1021:9,17  
 1023:4,9 1024:3 1027:1  
 Prefiled 1017:6,8,11,14,16  
 presumed 1023:11  
 proceeding 1020:4,11,18  
 1021:25 1022:8,15 1023:23  
 1024:5  
 PROFESSIONAL 1016:21  
 PUBLIC 248:1 1024:24  
 purchasing 1020:2,9,16 1025:  
 22  
 PURPA 1019:14,23 1020:1

**Q**

QF 1020:1,2  
 qualified 1023:2

qualifying 1025:21,21  
 question 1022:3,4,10 1023:20  
 questions 1026:5,13 1027:16  
 quote 1020:22 1022:3  
 quoted 1022:22

**R**

Re 1016:4  
 read 1024:20,20 1025:2 1028:  
 6,10  
 reading 1025:14  
 really 1021:6  
 recall 1019:24 1020:25 1025:  
 13 1026:13,18,22  
 RECORD 1019:19 1028:6,10  
 red 1020:25 1021:24 1022:6,  
 18  
 Redirect 1017:9 1026:8,10  
 reduce 1027:15  
 REGISTERED 1016:21  
 regulation 1022:25  
 regulations 1023:5  
 remove 1023:9  
 render 1023:2  
 repeat 1022:2  
 REPORTERS 1016:21  
 required 1024:14,17 1025:7  
 requirement 1025:21  
 requiring 1020:1,8,15 1025:12  
 resource 1023:18  
 response 1018:13 1026:7  
 restate 1023:20  
 resulting 1021:24 1022:7  
 1023:22  
 retail 1021:3,12,21  
 retail-serving 1020:24  
 right 1021:23  
 Room 1016:16 1028:4

**S**

said 1023:1  
 sale 1021:17  
 Sanford 1018:4 1028:5  
 Sanford's 1028:8  
 Sasso 1026:1,2  
 say 1023:24 1024:10,15  
 says 1021:7  
 selling 1021:9  
 sense 1027:14  
 sentence 1021:7 1023:21  
 1024:9,12,19 1025:3,4,5  
 sentences 1026:14,16  
 sequence 1019:3  
 series 1026:13  
 serve 1020:23 1021:25 1022:7  
 1023:22 1024:4,14,17 1025:7,  
 10  
 SERVICE 1016:1 1024:24  
 show 1020:17 1028:9  
 silent 1020:20 1024:7,11  
 similar 1025:6  
 since 1026:12  
 siting 1020:3,10,17 1022:14  
 1026:20 1027:2,8,8  
 Smyrna 1016:6  
 some 1022:25  
 sorry 1024:6  
 sources 1019:13,22  
 specific 1019:22 1021:6  
 specifics 1023:4  
 Staff 1026:4,5  
 started 1021:8  
 state 1020:1,3,7,10,14,17  
 1023:11 1027:9  
 statement 1020:22 1021:5,6,  
 24 1022:6,6,17,22 1024:2  
 states 1021:15 1026:19  
 Statute 1022:25  
 stipulated 1028:5  
 such 1024:13,16  
 sure 1022:13 1024:19,24

**T**

take 1027:23  
 talk 1023:3 1025:8,11  
 talking 1019:21  
 Tallahassee 1016:17,22  
 tell 1023:5  
 terms 1023:3  
 TERRY 1016:11  
 testified 1023:13,16  
 Testimony 1017:6,8,11,14,16  
 1019:9,14 1020:21 1025:11  
 1028:5,8,10  
 Thank 1025:24,25 1026:2  
 1027:17,19,20  
 Thanks 1027:21  
 themselves 1021:9  
 therefore 1027:2  
 think 1019:15 1021:15 1022:  
 24 1023:19 1026:25 1028:4  
 those 1023:3  
 though 1028:6,10  
 three 1019:22 1027:25  
 today 1023:16 1026:17  
 together 1024:21  
 transcript 1019:3  
 two 1027:25

**U**

Uh-huh 1025:16  
 under 1019:9 1027:2  
 underlying 1021:11  
 up 1021:7,8  
 Utilities 1016:5 1020:24 1021:  
 8  
 utility 1020:2,9,16 1025:22  
 utility's 1024:3

**V**

various 1023:5  
 veering 1022:13  
 very 1027:20  
 vests 1020:23  
 view 1022:11 1025:19  
 Volume 1019:4,9  
 Volusia 1016:5

**W**

WALL 1017:13  
 want 1022:13 1023:20 1025:18  
 wasn't 1021:4,5,19 1026:12  
 way 1027:9  
 We'll 1028:9  
 We're 1019:6 1022:13  
 Wednesday 1028:3  
 Well 1021:10,19 1022:24  
 1023:16 1024:22 1025:3,8  
 Whereupon 1019:3  
 whether 1026:18  
 wholesale 1020:24 1021:2,11,  
 20 1023:8 1027:11  
 WIGGINS 1022:10 1026:9,11  
 1027:17  
 without 1028:6  
 WITNESS 1022:19 1027:19,21  
 Wright 1017:9 1027:22 1028:2



<p align="center"><b>&amp;</b></p> <p><b>&amp;</b> 1038:2,12</p> <p align="center"><b>*</b></p> <p><b>*</b> 1039:22,22,22,22</p>	<p>can 1039:1 1041:14</p> <p><b>cause</b> 1040:12</p> <p><b>caused</b> 1040:9</p> <p><b>certain</b> 1040:13,17</p> <p><b>Certainly</b> 1039:3</p> <p><b>CHAIRMAN</b> 13:1 1037:4,8,12, 13,19,22 1038:11,15,16,18,22, 25 1043:7,10</p> <p><b>change</b> 1041:25 1042:2,23</p> <p><b>changes</b> 1040:22 1041:7,18 1042:21</p> <p><b>character</b> 1039:7</p> <p><b>city</b> 1042:13</p> <p><b>clarifier</b> 1042:4,17</p> <p><b>CO</b> 1041:7</p> <p><b>colleges</b> 1039:12,12</p> <p><b>Commission</b> 1043:4</p> <p><b>COMMISSIONER</b> 1039:1,4,6, 9,16</p> <p><b>Commissioners</b> 1041:1</p> <p><b>Company</b> 1038:3</p> <p><b>completely</b> 1039:19</p> <p><b>Composite</b> 1037:6,8</p> <p><b>Condenser</b> 1041:23</p> <p><b>Conditions</b> 1041:19</p> <p><b>consisting</b> 1040:10</p> <p><b>contained</b> 1042:25</p> <p><b>content</b> 1038:7</p> <p><b>Continuing</b> 1042:22</p> <p><b>Cooling</b> 1041:21,22</p> <p><b>copy</b> 1038:21</p> <p><b>Corporation</b> 1039:11</p> <p><b>correct</b> 1040:20,21</p> <p><b>corrected</b> 1038:21</p> <p><b>corrections</b> 1038:20 1040:23</p> <p><b>couldn't</b> 1042:8</p> <p><b>court</b> 1038:21</p> <p><b>created</b> 1039:13</p> <p><b>Cypress</b> 1039:11</p>	<p align="center"><b>G</b></p> <p>gallons 1042:1,2</p> <p><b>GARCIA</b> 1039:1,4,6,9,16</p> <p><b>gave</b> 1039:11</p> <p><b>give</b> 1037:2</p> <p><b>Good</b> 1040:6,7</p> <p><b>got</b> 1039:13</p> <p><b>Guyton</b> 1038:11,12 1042:7,11, 15,19</p>	<p><b>Nesbitt</b> 1038:4</p> <p><b>new</b> 1042:16</p> <p><b>nominal</b> 1041:23</p> <p><b>noted</b> 1042:23</p> <p><b>now</b> 1041:19</p> <p><b>NUMBER</b> 1037:10</p> <p><b>numbers</b> 1041:12</p> <p><b>Numeral</b> 1041:3</p>
<p align="center"><b>1</b></p> <p>1 1041:18</p> <p>1.68 1041:24</p> <p>102F 1041:19</p> <p>11 1040:10 1041:22</p> <p>12 1041:7,21,23</p> <p>14 1040:19</p> <p>15 1041:25 1042:10</p> <p>15F 1041:19</p> <p>16 1040:19 1041:22</p> <p>19th 1038:1</p>	<p><b>change</b> 1041:25 1042:2,23</p> <p><b>changes</b> 1040:22 1041:7,18 1042:21</p> <p><b>character</b> 1039:7</p> <p><b>city</b> 1042:13</p> <p><b>clarifier</b> 1042:4,17</p> <p><b>CO</b> 1041:7</p> <p><b>colleges</b> 1039:12,12</p> <p><b>Commission</b> 1043:4</p> <p><b>COMMISSIONER</b> 1039:1,4,6, 9,16</p> <p><b>Commissioners</b> 1041:1</p> <p><b>Company</b> 1038:3</p> <p><b>completely</b> 1039:19</p> <p><b>Composite</b> 1037:6,8</p> <p><b>Condenser</b> 1041:23</p> <p><b>Conditions</b> 1041:19</p> <p><b>consisting</b> 1040:10</p> <p><b>contained</b> 1042:25</p> <p><b>content</b> 1038:7</p> <p><b>Continuing</b> 1042:22</p> <p><b>Cooling</b> 1041:21,22</p> <p><b>copy</b> 1038:21</p> <p><b>Corporation</b> 1039:11</p> <p><b>correct</b> 1040:20,21</p> <p><b>corrected</b> 1038:21</p> <p><b>corrections</b> 1038:20 1040:23</p> <p><b>couldn't</b> 1042:8</p> <p><b>court</b> 1038:21</p> <p><b>created</b> 1039:13</p> <p><b>Cypress</b> 1039:11</p>	<p align="center"><b>H</b></p> <p>hand 1038:19,21</p> <p><b>Harvey</b> 1039:4,5,10,14</p> <p><b>heavily</b> 1039:11</p> <p><b>held</b> 1040:18</p> <p><b>help</b> 1038:8</p> <p><b>Henry</b> 1039:8,9</p> <p><b>here</b> 1038:23</p> <p><b>housekeeping</b> 1037:11,24</p>	<p align="center"><b>O</b></p> <p>objection 1038:2,5,13</p> <p>objections 1038:7,7</p> <p><b>Oh</b> 1037:13 1040:22</p> <p><b>Okay</b> 1037:19,20 1038:15,25 1039:9 1041:15,16</p> <p><b>one</b> 1041:13 1042:8,23</p> <p><b>only</b> 1041:4</p> <p><b>operate</b> 1041:23</p> <p><b>other</b> 1037:24 1038:7</p> <p><b>overruled</b> 1038:5</p> <p><b>owner</b> 1039:11</p>
<p align="center"><b>2</b></p> <p>2 1041:6</p> <p>2.46 1041:24</p> <p>20 1041:2,23</p> <p>22 1037:2,10,18</p>	<p><b>Commissioners</b> 1041:1</p> <p><b>Company</b> 1038:3</p> <p><b>completely</b> 1039:19</p> <p><b>Composite</b> 1037:6,8</p> <p><b>Condenser</b> 1041:23</p> <p><b>Conditions</b> 1041:19</p> <p><b>consisting</b> 1040:10</p> <p><b>contained</b> 1042:25</p> <p><b>content</b> 1038:7</p> <p><b>Continuing</b> 1042:22</p> <p><b>Cooling</b> 1041:21,22</p> <p><b>copy</b> 1038:21</p> <p><b>Corporation</b> 1039:11</p> <p><b>correct</b> 1040:20,21</p> <p><b>corrected</b> 1038:21</p> <p><b>corrections</b> 1038:20 1040:23</p> <p><b>couldn't</b> 1042:8</p> <p><b>court</b> 1038:21</p> <p><b>created</b> 1039:13</p> <p><b>Cypress</b> 1039:11</p>	<p align="center"><b>I</b></p> <p>identified 1040:18</p> <p>II 1041:3,4</p> <p>instead 1041:9,24 1042:1</p>	<p align="center"><b>P</b></p> <p>Page 1040:19 1041:2,6,8,18, 21,25</p> <p>pages 1040:10</p> <p>Paragraph 1041:21,25 1042:3, 10</p> <p>part 1038:13 1039:11 1041:2,4</p> <p>parties 1041:1</p> <p>parts 1038:2,4 1040:17,18</p> <p>per 1042:1,2</p> <p>permission 1038:19</p> <p>petition 1037:25</p> <p>Petitioners 1038:17 1040:1</p> <p>plant 1041:8</p> <p>please 1040:25</p> <p>Power 1038:2,12</p> <p>prefiled 1040:9 1043:8</p> <p>prepare 1040:12</p> <p>prepared 1040:8</p> <p>pressure 1042:4,17</p> <p>proceeding 1040:9 1043:5</p> <p>process 1038:8</p> <p>Professional 1038:17</p> <p>Public 1043:4</p>
<p align="center"><b>3</b></p> <p>3 1041:21</p> <p>3.8 1041:9</p> <p>3.9 1041:10</p>	<p><b>Commissioners</b> 1041:1</p> <p><b>Company</b> 1038:3</p> <p><b>completely</b> 1039:19</p> <p><b>Composite</b> 1037:6,8</p> <p><b>Condenser</b> 1041:23</p> <p><b>Conditions</b> 1041:19</p> <p><b>consisting</b> 1040:10</p> <p><b>contained</b> 1042:25</p> <p><b>content</b> 1038:7</p> <p><b>Continuing</b> 1042:22</p> <p><b>Cooling</b> 1041:21,22</p> <p><b>copy</b> 1038:21</p> <p><b>Corporation</b> 1039:11</p> <p><b>correct</b> 1040:20,21</p> <p><b>corrected</b> 1038:21</p> <p><b>corrections</b> 1038:20 1040:23</p> <p><b>couldn't</b> 1042:8</p> <p><b>court</b> 1038:21</p> <p><b>created</b> 1039:13</p> <p><b>Cypress</b> 1039:11</p>	<p align="center"><b>J</b></p> <p><b>JOHNSON</b> 1037:1,4,8,13,19, 22 1038:11,15,22,25 1043:10</p> <p><b>Joint</b> 1038:16 1040:1</p>	<p align="center"><b>Q</b></p> <p>question 1039:2</p> <p>questions 1042:24</p> <p>quick 1039:2</p>
<p align="center"><b>4</b></p> <p>4 1040:19 1041:25</p>	<p align="center"><b>D</b></p> <p>day 1038:23 1042:1,2</p> <p>design 1041:17</p> <p>designated 1040:13</p> <p><b>DIRECT</b> 1040:4,9 1043:8</p> <p>discussion 1038:1</p> <p>Doctor 1038:4</p> <p>down 1041:7,9</p> <p>Ds 1039:10</p> <p>duly 1040:2</p>	<p align="center"><b>K</b></p> <p>Kennie 1037:6</p> <p>know 1039:6</p>	<p align="center"><b>R</b></p> <p>Range 1041:22</p> <p>raw 1042:5,18</p> <p>read 1041:7,9,14,19,22,23 1042:3,8 1043:9</p> <p>recall 1038:1</p> <p>reception 1037:17</p> <p>record 1037:21 1043:9,11</p> <p>reporter 1038:21</p> <p>request 1043:7</p> <p>requirements 1041:9</p> <p>respect 1039:14</p> <p>RH 1041:19,20</p> <p>Right 1039:6 1042:12</p> <p>Roman 1041:2</p>
<p align="center"><b>6</b></p> <p>63% 1041:19</p>	<p align="center"><b>E</b></p> <p>emissions 1041:8</p> <p>Engineer 1038:18</p> <p>engineering 1039:13</p> <p>entered 1043:8,10</p> <p>entitled 1037:9</p> <p>evidence 1037:16,18 1038:9</p> <p><b>EXAMINATION</b> 1040:4</p> <p>except 1041:11</p> <p>exhibit 1037:6,10 1038:8,9,13 1040:13,17 1041:3,4,6,11,17</p> <p>exhibits 1037:1,5,16,18,25 1038:3,6,20 1040:13,14,23 1041:6</p> <p>Expected 1041:8</p> <p>explain 1040:25</p>	<p align="center"><b>L</b></p> <p>last 1041:25 1042:8</p> <p>less 1041:13</p> <p>let 1037:13</p> <p>Light 1038:3,12</p> <p>like 1041:13,14</p> <p>limited 1038:2</p> <p>line 1041:2,12</p> <p>Lines 1040:19</p> <p>Locascio 1038:17,19,24 1039: 1,3,5,8,10,18,25 1040:6,8 1042:7,10,12,16,20</p> <p>Locascio's 1043:8</p> <p>lower 1041:13,16</p>	<p align="center"><b>S</b></p> <p>same 1040:8 1041:11 1042:24 1043:1</p> <p>Sanford 1037:6</p> <p>say 1042:1</p> <p>says 1042:12</p> <p>school 1039:14</p> <p>secondary 1042:13</p> <p>sentence 1042:3,8</p> <p>separate 1042:5,18</p> <p>Service 1043:4</p> <p>short 13:2 1037:4</p> <p>should 1041:7,9,19,22,23 1042:1,3</p>
<p align="center"><b>7</b></p> <p>78% 1041:20</p>	<p align="center"><b>F</b></p> <p>few 1040:18 1041:18</p> <p>filed 1037:25 1040:9,12</p> <p>filing 1040:14,17</p> <p>filter 1042:4,17</p> <p>find 1042:8</p> <p>first 1038:23 1040:2</p> <p>Florida 1038:2,12 1043:4</p> <p>flow 1042:3,16</p> <p>follows 1040:2</p> <p>forgotten 1039:18</p> <p>further 1038:6</p>	<p align="center"><b>M</b></p> <p>ma'am 1037:23 1038:24</p> <p>Madam 1037:12 1038:16,18 1043:7</p> <p>make 1040:23</p> <p>Mark 1038:17 1039:25 1040:8</p> <p>marked 1037:2,10</p> <p>matter 1037:12,24</p> <p>Max 1041:19</p> <p>may 1038:12</p> <p>memory 1039:15</p> <p>middle 1041:7 1042:12</p> <p>might 1038:8</p> <p>million 1042:1</p> <p>Min 1041:19</p> <p>Mines 1039:11</p> <p>minor 1038:20 1041:7,18</p> <p>minutes 1040:18</p> <p>ML-1 1040:14</p> <p>ML-11 1040:14</p> <p>ML-2 1041:6</p> <p>ML-6 1041:11</p> <p>ML-8 1041:17</p> <p>ML-9 1041:4,4</p> <p>move 1037:17 1038:9,14</p> <p>much 1039:16</p> <p>Mudd 1039:4,5,8,9,10,14</p>	<p align="center"><b>N</b></p> <p>near 1041:9</p> <p>need 1041:3</p>
<p align="center"><b>8</b></p> <p>8 1041:2</p>	<p align="center"><b>F</b></p>	<p align="center"><b>N</b></p>	<p align="center"><b>N</b></p>
<p align="center"><b>A</b></p> <p>about 1039:19</p> <p>according 1040:16</p> <p>actual 1042:24</p> <p>admission 1037:17,24</p> <p>admit 1037:14,15</p> <p>admitted 1037:19</p> <p>adopt 1043:3</p> <p>after 1040:1</p> <p>afternoon 1040:6,7</p> <p>ago 1040:18</p> <p>ahead 1037:13 1038:8</p> <p>air 1041:8</p> <p>allowed 1038:6</p> <p>already 1037:15,22</p> <p>Ambient 1041:18</p> <p>another 1038:13</p> <p>answers 1042:25</p> <p>appreciate 1039:17</p> <p>approach 1041:22</p> <p>approve 1037:20</p> <p>ask 1039:1 1042:24</p> <p>August 1037:25</p>		<p align="center"><b>N</b></p>	
<p align="center"><b>B</b></p> <p>basis 1041:17</p> <p>Because 1037:14</p> <p>before 1041:3</p> <p>book 1040:17</p> <p>bottom 1041:9</p>		<p align="center"><b>N</b></p>	
<p align="center"><b>C</b></p> <p>California 1039:12,14</p> <p>call 1038:17</p> <p>called 1039:14 1040:1</p>		<p align="center"><b>N</b></p>	

**Show** 1037:19  
**sir** 1042:11,19  
**slight** 1042:2  
**slightly** 1041:12,16  
**SO2** 1041:12  
**some** 1038:2,19  
**source** 1042:13  
**SOX** 1041:12  
**sponsored** 1038:3,4  
**sponsoring** 1040:17  
**stand** 1038:18  
**Star** 1039:7  
**storage** 1042:5,18  
**suggest** 1038:14  
**supplied** 1042:13  
**Sure** 1042:10  
**sworn** 1038:22 1040:2 1043:3  
**System** 1041:21

---

**T**

**table** 1041:11  
**tank** 1042:5,18  
**testified** 1040:2  
**testimony** 1037:21 1038:20  
 1040:10,16,19,23 1041:5 1042:  
 24,25 1043:3,4,8  
**Thank** 1037:3,11,23 1039:16  
 1042:19  
**That's** 1040:21 1041:5,15  
**there's** 1041:6  
**thing** 1038:9  
**think** 1041:15  
**those** 1037:17,17,19 1038:5  
 1039:12 1040:18,25 1042:5,21  
**though** 1043:9  
**thousand** 1042:2  
**time** 1037:14 1038:1,9  
**title** 1037:2,4  
**today** 1042:25  
**together** 1039:13 1040:13  
**tower** 1041:22  
**Trek** 1039:7  
**two** 1039:10 1041:7 1042:1

---

**U**

**under** 1041:12  
**understand** 1038:5  
**universities** 1039:12,13  
**up** 1040:18  
**utility** 1042:14

---

**V**

**very** 1039:16

---

**W**

**wait** 1037:13  
**want** 1037:14  
**water** 1041:8,21 1042:5,13,13,  
 18  
**welcome** 1039:18 1042:20  
**well** 1038:12 1042:13  
**Whereupon** 1039:24  
**whole** 1038:9  
**will** 1037:2,8 1041:23 1042:3,  
 16 1043:10  
**witness** 1038:22 1040:1  
**witnesses** 1038:14  
**wondered** 1039:7  
**word** 1041:3  
**words** 1041:2 1042:17  
**WRIGHT** 1037:3,6,11,16,20,23  
 1038:16 1040:5 1042:22 1043:  
 7

---

**Y**

**yester** 1037:12

<b>&amp;</b>	affiliates 1058:12	1078:11	14 1069:9 1070:17 1073:6
& 1064:15	afraid 1062:19	beyond 1073:25	compelled 1071:21
<b>*</b>	after 1067:15 1082:8	blow 1056:17	compiled 1075:24
* 1082:4,4,4,4	Again 1066:15 1078:19	boiler 1056:12,17	components 1055:10
<b>1</b>	agree 1066:12	book 1081:18	composite 1055:4
10% 1078:17	agreement 1072:2,8,11 1076:3	both 1076:4 1078:23,25	computer 1065:13 1066:9
100% 1077:9,11	air 1077:6,6 1079:10,13,15,21,22 1080:7,7	bother 1069:19	1069:17,17
12 1057:3	allow 1068:24	bottom 1077:15	concerned 1074:4
12-cell 1056:13	already 1073:25 1079:21,21	boxes 1067:9	condensed 1056:11
14 1055:11	although 1069:23	brief 1055:17	condenser 1056:11,13
15 1057:25 1079:3 1080:5	ambient 1076:23	briefly 1074:8 1078:6	conference 1075:21
16 1055:11,13 1081:22,23	ample 1066:17	bring 1065:15 1066:9,16	confidential 1064:20 1068:17,21 1069:13 1070:12 1072:1,8
160 1059:8,10	analyses 1068:8	broad 1069:3	1075:11,16,18,19
160-million-dollar 1059:1,15	another 1061:1 1074:23	brought 1066:16	confidentiality 1068:21 1072:11 1073:3 1074:23 1075:1
165 1056:5	answer 1057:24 1058:10	BTUs 1055:25	1076:3
180 1056:9	1068:18 1070:3 1078:25	burden 1070:21 1073:7,10	configuration 1056:3
1998 1059:9,16,23	answers 1083:12	burned 1078:14	confines 1072:24
19th 1081:19	anticipate 1062:4	business 1078:10,10 1082:13,15	confusion 1074:22
<b>2</b>	anticipated 1056:23	<b>C</b>	consider 1062:11,15
2 1063:11 1064:11 1066:24	anything 1064:4	calculations 1068:6	considered 1075:15
1081:17,18	apparently 1078:4	California 1082:16	constructed 1057:9
20 1057:4	appear 1076:8 1082:21	call 1077:23 1078:16	construction 1056:22 1059:1,6,9,11,12,23 1081:2
2000 1059:23	appearing 1082:23	called 1078:12,12 1082:8	contain 1081:16
23 1055:4,6,8 1081:21	appears 1063:23 1075:3 1076:24 1079:1	can 1065:16,19 1066:20 1068:24 1069:12 1073:21,23 1074:4,15,24 1075:1,1 1079:24	contains 1081:17
<b>3</b>	application 1082:23	can't 1065:16,18,19 1073:6	context 1075:12
30 1067:9	appropriate 1068:23	cannot 1067:5 1077:17	continue 1068:19 1078:22
3100 1082:16	approximately 1055:25 1056:5,9,19 1057:5 1078:17	care 1073:23	1079:20
32 1074:21	argument 1069:15,20,23 1070:7	case 1068:16 1069:21 1073:2	continues 1079:7 1080:1
<b>4</b>	ARMAND 1082:7,15,21 1083:16	certain 1060:5 1065:24 1079:13	Continuing 1055:16 1061:3
4 1055:11	art 1057:1 1062:20	Certainly 1057:21 1061:5	1062:23 1064:1
<b>5</b>	as-of-today 1059:12	1071:3,14 1073:4 1076:7 1077:5	contract 1058:5 1060:15
5 1057:19,25	aside 1074:1	CHAIRMAN 1055:6,14,22	1061:9,11 1062:5,7
50% 1077:10,10	ask 1058:14 1061:1 1062:24	1057:11,14 1060:24 1062:17,	contractor 1058:1,2,5,6,9,9,12,16 1062:3
500 1055:24	1065:19 1066:17,20 1067:5,7,16 1068:1 1069:1 1071:14,19	22 1064:7 1065:21 1066:19,22	contracts 1058:22
<b>6</b>	1072:20 1073:6 1075:17 1083:15	1067:19 1068:12 1070:6,19,23	convening 1071:24
6,832 1055:25	asked 1064:16 1066:2,3 1067:13,17,21,24 1068:1 1080:24	1071:9,12 1072:6 1073:13,15,17 1075:5,7 1076:5,11,15	conversation 1072:9,13
600 1082:16	asking 1066:13 1067:12 1069:4 1071:8	1080:15,17,20 1081:11,21,23,25 1083:17	cooled 1056:13
<b>7</b>	asserted 1075:9,13	chance 1058:14	cooling 1056:14,17 1080:8
75% 1077:10	Asset 1061:6	change 1060:11 1061:15	copy 1063:21 1074:17
7FA 1056:2	assume 1072:14	1081:1,8	correct 1058:2,2,3 1059:9
<b>8</b>	assumes 1059:4	changes 1080:25 1081:1,7	1060:13 1061:23 1063:12
84 1057:5	assured 1075:1	1083:4	1064:14,20,21 1065:20 1074:12 1077:1 1080:3 1081:16,18
<b>9</b>	attempt 1075:3	characteristics 1062:12 1067:23	corrected 1064:2,4
90.705 1066:25	August 1081:19	characterized 1077:17	corrections 1083:4
<b>A</b>	avail 1075:4	Charlie 1072:10 1076:2	cost 1059:1 1061:22
aberration 1077:13	available 1065:5 1070:3,8 1071:16 1074:2	choose 1073:9	costs 1059:19,21,24,25 1060:1,3,8 1061:14 1081:1
able 1072:17 1073:18,19	<b>B</b>	City 1056:18	couldn't 1071:5
about 1056:20 1064:4 1065:19	back 1069:14 1070:11 1072:12 1073:19,24	claimed 1073:3	counsel 1063:15 1076:7
1066:18 1067:13,20 1071:19,	based 1056:25 1058:18 1059:9,19,22 1060:1,1 1081:5	clarify 1060:23 1061:4 1081:14	course 1061:18
24 1075:17 1076:21 1079:3,22 1083:7	basic 1078:11	clean 1057:9	court 1081:16
absolutely 1068:7	basically 1077:6	clear 1062:18	create 1078:15
acceptable 1076:3	basis 1057:3 1066:1,8 1067:5 1069:6 1078:5	clearly 1071:18,20	cross 1057:12,15 1065:16
accepted 1077:21 1078:20,21	Beach 1055:23 1056:19 1057:8 1082:24,24	CO 1057:2	1066:1 1067:2 1073:1 1075:8 1080:13
access 1069:12 1075:2 1076:1	Because 1067:11,14 1068:2 1069:23 1071:6,11 1072:23,24 1079:11,20	cold 1079:22	CTG 1078:2,23 1079:8,20,25
According 1061:17	becomes 1062:3	colder 1079:13	curious 1067:19
across 1079:7 1080:1	beginning 1075:23	combined 1056:3	current 1061:10
activities 1081:7	believe 1059:17 1060:13 1061:5 1064:18 1065:20	combustion 1056:3,4 1057:1,2 1079:11	currently 1056:22
actually 1078:15 1079:10	below 1079:13	come 1069:14 1073:24 1074:17	cycle 1056:3 1077:14
address 1082:14,15	beneficial 1074:2	com 1069:14 1073:24 1074:17	<b>D</b>
adjacent 1056:22	benefit 1080:6,9	comity 1076:9	D/FD's 1059:20
admission 1081:13	besides 1058:15	commercially 1065:5 1071:16	Daniel 1058:1,4,15,25 1059:5
admitted 1081:21	best 1080:5	Commissioner 1072:25 1075:25	1062:3 1064:23
Admittedly 1074:1	between 1057:25 1058:11	COMMISSIONER 1066:5,12 1067:7,18 1069:1,15 1071:17 1072:3,14,19 1073:4 1076:17,20 1077:2,8,19,25 1078:4,19 1079:1,6,16,19,25 1080:4,11	data 1058:20,20 1064:25
adopt 1083:12		Commissioners 1055:18,22 1074:3 1080:17	1065:2,4,4 1067:2,4,21
advanced 1056:2		Company 1064:15 1082:25	date 1059:11,13 1061:25
advantage 1079:12		compel 1065:24 1066:4 1068:	1068:20 1081:2,6,8
adversaries 1073:1			dates 1060:1,2 1070:2

19,25 1080:4,11 decided 1070:1,3 decision 1067:19 declined 1065:23 1067:4 1069:24 declines 1079:2 dedicated 1056:7 defend 1066:6 degrees 1079:3 1080:5 deliver 1055:20 delivery 1061:25 denser 1077:6,6 1080:7 depending 1081:1 depose 1069:24 deposed 1071:19 deposition 1065:23 1066:3 1069:25 1070:4 1071:24 1072: 16 designed 1057:9 detail 1078:5 determine 1073:21 develop 1064:25 Development 1061:6 didn't 1069:20 1071:5,6,22 1075:3 difference 1078:11,17,22 different 1077:9,16 1078:5,7 dioxide 1081:19 direct 1059:1 1082:11 1083:1, 9 direction 1063:2 disclose 1075:2 disclosure 1067:2 discovery 1065:22 1066:4,11, 18 1067:24 1070:18 1075:15 discuss 1071:6,10 discussed 1069:25 1072:7 1074:24 discussion 1066:21 dispute 1073:5 Doctor 1069:16 DOCUMENT 1063:19,22 DOCUMENTS 1057:22 1064: 16 1067:9 does 1059:7 1061:24 1075:8 1079:19 1080:8 1081:16 doesn't 1059:6 1066:2 1069:5 1075:2 doing 1058:21 dollars 1059:8,10,14 done 1066:11 1068:11 1073:2, 12 1076:8 down 1056:17 draft 1056:14 drag 1076:5,6 draw 1065:12 Drive 1082:16 dry 1057:3 due 1081:7 Duke 1057:8 1058:11,21,23 1060:4,18,20 1061:1,2,5 1062: 12 1063:6,9 1064:16,19 1072:4 1082:24 Duke/Fluor 1057:25 1058:4, 15,25 1059:5 1062:3 1064:23 duly 1082:9 during 1070:9 duty 1074:9 dynamics 1076:22 1077:21	20 1061:5 1078:16 1082:24 engineering 1059:5,19 1077: 3,21 engineers 1077:23 enough 1063:16 1069:18 entered 1058:4 entertain 1071:14 entire 1079:7 1080:1 entirely 1059:24 entities 1058:21,23 1061:1 entitled 1068:1 entity 1058:15 1061:2 1073:9 envision 1061:24 EPC 1058:1,5,9,12,16,22 1062:3 equal 1076:25 equipment 1059:21 1060:8 1061:7,22,25 1065:3,6 escalation 1059:13 establish 1064:10 estimate 1059:1,4,8,13,15,18, 25 estimated 1059:12 evaporation 1056:17 even 1080:7 every 1068:6 everything 1076:25 Evidence 1066:25 1068:3 1070:13,16 1073:8 exactly 1058:10 examination 1057:13,15 1067: 3 1075:8 1080:22 1082:11 except 1063:24 1079:2 exclude 1066:23 excluded 1067:6 Excuse 1062:1 1076:17 1083: 7 executing 1059:19 exhaust 1056:6 Exhibit 1055:4,4,8,13 1063:11 1064:17 1065:3 1067:6 1076: 18 1083:6 Exhibits 1055:3,11 1081:14 expect 1081:7 expected 1057:3,4 1081:7 expert 1062:11,14,16,19 1063: 8 1065:12 1066:25 1067:3 1068:2,10,23 1069:3 1070:14 1073:10,11 1074:10,10,13,15, 16 explain 1077:3 1078:6 1079:8, 23 explained 1066:8 extent 1062:18 1070:23 1073: 20	follows 1082:9 force 1072:24 1080:8 form 1056:17 1057:7 1060:21 formal 1058:13 formulating 1074:19 forth 1068:15 1072:22 1075:12 forum 1071:2 fossil 1057:7 four 1078:6 FPL 1069:23 Frame 1056:2 freezing 1079:9 Friday 1067:8 1068:19 1073: 19,24,25 front 1063:13,21 fuel 1057:7 1078:13 full 1059:22 fundamental 1070:20 furnish 1081:17 further 1067:25 1069:9,11 1079:12 1081:13 future 1081:6	22 1076:9,23 1078:7,19 HHV 1055:25 1078:11,12 higher 1055:25 1077:6 1078: 13 himself 1075:4 historical 1058:20 Hold 1073:15 hot 1056:6 hour 1055:25 1057:5 how 1058:10 1063:5,9 1065:7 however 1059:13 1066:23 1073:8
each 1056:5,6 1079:14 early 1075:14 efficient 1057:10 efficiently 1078:14 either 1058:5 1061:22 1066:2 else 1076:25 emission 1081:19 Emissions 1056:25 1057:2,6 1065:4 employed 1082:18,19 Energy 1058:11,21 1060:4,18,	<b>F</b> fact 1058:22 facts 1064:24 1065:11 1066: 13 1067:2,4,21 1068:3,11 1069:11,12 1070:15 1073:12 failure 1070:21 fallacies 1068:8 familiar 1062:13 1068:24 famous 1069:17 favorable 1079:17 features 1056:4 February 1059:16 feed 1056:12 few 1076:20 file 1070:17 filed 1066:16 1073:5 1081:18 filing 1055:10 final 1058:4 find 1068:6,7 1078:17 firing 1056:2,5 first 1082:9 fixed-price 1062:5 Florida 1061:12 1064:15 1066: 25 flows 1056:6,10 followed 1068:18	<b>G</b> gallons 1056:20 GARCIA 1066:5,12 1067:7,18 1069:1,15 1071:17 1072:3,14, 19 gas 1056:5 1078:9,10,10,22 1079:14 GE 1056:2 1057:2 general 1065:2 1068:20 generally 1078:20,21 1079:17 generated 1056:8 generates 1056:9 generating 1056:5 generation 1057:7 generator 1056:7 1057:10 1077:14,17 generators 1056:8 gets 1077:16 Give 1063:20 1064:7 1066:25 1067:1 1068:20 1072:21,23,24 1078:24 given 1064:2 1081:15 gives 1073:11 1077:7 Global 1061:5 goes 1079:10 good 1057:17,18 got 1070:3,11 governing 1068:16 greater 1076:24 grow 1056:24 GUYTON 1057:14,16 1060:22, 25 1061:3 1062:23 1063:17 1064:1,8 1065:22 1066:13,17, 19,23 1067:8,17,21 1068:13 1069:2,17 1070:1,5,6,10,20 1071:17,23 1072:3,4,7,14,19 1073:4 1074:8,11 1075:1,13,23 1076:5,13,19 Guyton's 1074:13,20 1075:8	<b>I</b> I'd 1055:2 1062:13 1071:25 1081:13 icing 1079:11 identification 1055:10 identified 31:2 1055:7,11,12 1070:2 1081:14 identify 1055:3 ignorance 1067:13 ignore 1078:15 impeach 1066:1 improve 1079:7 1080:1 improves 1079:2 including 1058:21 indeed 1073:24 independent 1059:25 1060:3, 6,11 indicated 1072:16 indulge 1076:21 inference 1067:1 information 1064:20 1066:2 1068:17 1069:5,6 1070:7,8,10, 24,25 1071:2,5,6 1072:10,21, 23,25 1073:22 1074:2,10 1075: 2,12,16,19 1076:1 initial 1075:15 Initially 1056:19 inlet 1079:12 1080:7 inputs 1065:6 1067:10 1071: 15,20 inquire 1071:24 inserted 1083:16,17 insist 1073:6 instance 1074:15 intend 1066:19 intending 1058:12 intention 1076:8 interest 1076:9 International 1082:19 intimately 1068:23 introduce 1075:19 invoked 1068:12 irritated 1076:7 isn't 1059:18 1066:5 ISO 1056:1 1057:5 issues 1074:9 itself 1075:9 1078:23 1080:9
		<b>H</b> half 1056:19 1077:11 handle 1069:12 happy 1064:9 1076:1 having 1055:24 he'll 1061:1 HEAD 1076:16 hear 1071:4 hearing 1069:14 1074:8,17 1075:12,23 1076:6 heat 1055:24 1056:7 1077:14, 15,16,25 1078:1,2,7,8,23,24 1079:2,3,6,8,10,15,20,25 heated 1079:21 heating 1056:1 1078:12,13,16 1080:7 held 1067:8 here 1061:11 1065:9,12,14 1066:6,16 1067:9 1069:3 1072:	<b>J</b> January 1059:22 JOHNSON 1055:6,14 1062:22 1066:22 1070:6,19,23 1071:9, 12 1073:13,15,17 1075:5 1076: 11,15 1080:15,17,20 1081:11, 21,23,25 1083:17 Joint 1057:11 1063:12,13 1066:24 1082:8
		<b>K</b> kilowatt 1055:25 kind 1063:15 1068:20 1069:18 1077:15 knew 1070:8,13 1075:13 know 1061:10,12,20 1064:4,12 1065:17 1067:15 1068:5,8 1071:4 1072:22 1074:6,12,12, 18,24 knowing 1067:18 knowledgeable 1062:14	

known 1075:17,22  
**L**  
 last 1060:23 1061:4 1072:8,13 1074:24  
 later 1075:22  
 least 1073:6  
 leaves 1056:10  
 let 1058:14 1062:24 1067:7 1073:13,13  
 let's 1083:7  
 letting 1069:10  
 levels 1077:9,9  
 LHV 1078:10,11  
 Light 1064:15  
 like 1063:24 1065:22 1071:14  
 line 1077:15  
 linear 1077:18  
 Lines 1055:11 1057:25  
 listed 1065:7  
 little 1071:23 1080:10  
 load 1077:9,10,11,11  
 Locascio 1055:5,17 1057:12, 17 1063:20,23 1064:9,24 1065: 23 1067:4,8 1068:19 1069:24 1070:2 1071:8,10,13 1075:17 1076:14 1077:1,5,13,23 1078: 3,8,21 1079:5,9,18,24 1080:3, 6,12,24 1082:1  
 Locascio's 1055:3,12 1081:15  
 look 1063:24 1074:14 1079:25  
 looking 1057:24 1076:23 1077:8,25  
 losses 1056:16  
 lost 1056:16  
 lot 1065:22 1078:5  
 low 1056:25 1057:1,6  
 lower 1057:6 1076:24 1077:5 1078:12,16

**M**  
 ma'am 1071:8 1073:16  
 Madam 1055:22 1057:11,14 1060:24 1062:17 1064:7 1065: 21 1066:19 1068:12 1072:6 1073:14 1075:7 1076:5 1081: 10,24  
 made 1067:14 1069:16  
 major 1059:21 1060:8 1061:7, 22,25 1065:3  
 make 1056:12 1063:20 1067: 19 1073:24 1083:4  
 Makeup 1056:15,18,20,24  
 making 1069:20,22  
 management 1059:6 1082:19  
 manufacturer 1079:14  
 manufacturers 1061:7 1065:3  
 many 1072:21  
 Mark 1055:4  
 marked 1055:6,8  
 mass 1077:6  
 matter 1070:17  
 matters 1071:24  
 May 1059:9,23 1062:2,19,20 1066:25 1068:5,7 1069:3 1073: 17,18,20,23 1074:4,22  
 McGLOTHLIN 1082:12 1083: 15  
 mean 1066:7 1067:11 1069:2 1070:25 1071:13,18 1072:19, 20 1074:23 1077:6  
 means 1062:19 1077:6  
 mechanical 1056:13  
 mechanisms 1074:25 1075:4  
 meet 1070:21  
 meeting 1073:10  
 megawatt 1055:24  
 megawatts 1056:6,9  
 memo 1060:4,10,14,17,18,19 1061:6,8,11,18,19,24  
 memos 1060:7 1061:15  
 metal 1077:16

MICHEL 1082:7,15  
 might 1058:15  
 million 1056:20 1057:3 1059: 8,10  
 mind 1063:8  
 ML-1 1055:3  
 ML-11 1055:3  
 ML-6 1062:9,16 1063:5 1064: 11 1065:1 1066:24 1067:23 1076:18 1081:15  
 mobilization 1059:9,11,13,23 1081:1,8  
 model 1066:14  
 models 1065:13 1066:7  
 moment 1076:22  
 more 1066:20 1077:7,11  
 motion 1065:25 1066:4 1070: 17 1073:5 1076:10,11  
 move 1065:24 1066:23 1081: 13  
 moved 1068:14 1069:9  
 Moyle 1074:6,7,8 1075:5  
 MPA-5 1083:6  
 MS 1080:16

**N**  
 name 1082:13,15  
 natural 1056:5  
 nature 1058:11  
 necessarily 1059:10  
 necessary 1073:1  
 need 1073:18 1074:12  
 needs 1073:22  
 NEGATIVELY 1076:16  
 Nesbitt 1069:16  
 net 1078:1,1,24 1079:3  
 never 1060:17 1065:25 1066:3 1069:24  
 New 1055:22 1056:19,21 1057:8 1062:12 1063:6,9 1064: 13,16,19 1072:5 1082:24,24  
 next 1067:8 1068:19 1073:19, 25  
 night 1074:24  
 nominal 1055:23  
 non-updated 1081:19  
 nondisclosure 1072:2  
 nothing 1070:16 1078:20 1081:13  
 notice 1059:22 1065:23  
 notify 1075:20  
 now 1057:24 1059:8 1061:8 1063:11 1064:8,11,15 1067:14 1072:7 1073:24 1075:24  
 NOX 1057:1,2  
 NUMBER 1055:8 1068:7  
 numbers 1063:24 1081:16,18, 20

**O**  
 O&M 1058:1,5,9  
 object 1060:21 1062:17 1065: 21  
 objection 1076:18  
 obligated 1068:3  
 obligation 1068:9 1074:13,20  
 obvious 1073:18  
 occasions 1072:22  
 October 1075:14  
 offered 1064:7  
 officer 1072:18 1073:7 1075: 20  
 oh 1055:2  
 Okay 1062:22 1067:17 1071: 12 1076:11,20 1077:8 1081:21  
 old 1063:24  
 once 1078:25  
 one 1061:1 1063:20 1068:6 1073:15,17 1074:9 1080:21  
 ones 1080:18  
 only 1067:4 1071:25  
 operate 1063:6,9

operating 1062:12 1067:23  
 opinion 1058:17,18 1063:5,9 1065:12 1067:1 1070:14 1073: 11 1074:20  
 opinions 1067:22  
 opportunity 1065:22,24 1066: 17 1069:23  
 option 1072:4  
 order 1068:15,21 1075:13,18, 24  
 orders 1068:15  
 other 1057:7 1058:15,22 1062: 2 1068:20 1074:21 1076:12 1080:17  
 others 1075:3  
 out 1068:6 1072:17 1076:2,6,6  
 output 1065:7 1076:25 1077: 10,11  
 Outside 1080:8  
 over 1056:23 1060:11 1061:15 1069:18,19  
 override 1075:9  
 own 1056:7 1067:12

**P**  
 P.E 1055:5  
 Page 1055:11 1057:19 1074: 21  
 part 1055:12 1066:5,12,13 1078:16  
 particular 1059:4  
 particulates 1057:4  
 parties 1073:21 1074:3 1075: 21  
 parts 1057:3 1078:13 1081:22, 23  
 party 1075:18  
 PAUGH 1080:16  
 people 1072:15,20  
 per 1055:25 1057:3,4  
 performance 1065:4,6  
 performs 1059:5  
 perhaps 1067:12 1074:4  
 period 1061:18,19  
 permission 1073:7  
 person 1058:24  
 personally 1063:1  
 pertaining 1068:16  
 petition 1063:12,13 1066:24  
 Petitioners 1057:12 1070:22 1082:8  
 phase 1059:20  
 phenomenon 1077:21  
 picked 1077:16  
 places 1077:16  
 plant 1055:24 1056:1,15,22, 23,24,25 1057:8 1062:12 1077: 20 1078:1,9,20,24 1079:3  
 Please 1055:20 1057:20 1061: 4 1062:9 1065:1 1082:13  
 pleasure 1075:25  
 point 1071:18  
 points 1075:7  
 position 1061:21 1066:6 1068: 18,22  
 possibility 1069:25 1080:25  
 possible 1080:25  
 pounds 1057:4  
 Power 1055:23,24 1056:23 1057:7,8,10 1064:15 1077:7 1078:15 1082:24  
 predicated 1059:11  
 prefled 1083:1,5,15  
 prehearing 1068:15 1072:18 1073:7 1075:20,21  
 preparation 1059:18  
 prepare 1058:25 1062:24 1083:1  
 prepared 1055:17 1059:15 1063:2 1070:15 1073:11  
 present-day 1059:14  
 president 1058:22,23

**Q**  
 quantity 1056:24  
 question 1057:24 1060:25 1067:7 1069:2,4,4 1070:21 1071:14 1079:24 1080:4  
 questions 1066:20 1076:12,21 1080:16,24 1083:12  
 quickly 1079:9  
 quite 1072:15,20

pressure 1056:1 1057:6  
 Previous 1058:20  
 price 1060:10  
 pricing 1060:5,5  
 prior 1067:1 1075:23 1083:8  
 privilege 1068:13 1075:9,10  
 pro 1069:17  
 probably 1068:22 1075:14  
 problem 1060:24 1077:18  
 procedural 1068:15  
 procedure 1068:14,17 1075: 10,11  
 procedures 1074:25  
 proceed 1059:22  
 proceeding 1082:22 1083:2  
 process 1058:13 1071:3 1072: 22  
 procurement 1059:5,20,21  
 produce 1067:12  
 production 1065:24  
 program 1069:17 1071:15  
 progress 1081:6  
 Project 1055:23 1056:4 1058: 1,6,16 1059:2,20,22 1062:1,4 1081:2,6  
 projects 1062:2  
 proof 1070:21 1073:10  
 proper 1071:1,1  
 propose 1072:11  
 proposed 1067:23  
 proprietary 1064:20,22,23 1065:5 1067:25 1069:6 1070: 11,24 1071:7,11,15,21,25 1073:22  
 protection 1069:13  
 protections 1071:1  
 protective 1068:21 1072:8  
 provide 1064:24 1065:8 1068: 3,11 1069:13 1071:1,5,22 1072:1,25 1073:12 1076:1  
 provided 1073:22 1075:2  
 providing 1074:11  
 provision 1075:24  
 purchasers 1060:16  
 purpose 1066:10 1071:23  
 purposes 1055:10  
 pursuant 1069:13  
 pursue 1067:25 1070:17  
 pursued 1069:9  
 put 1065:4 1066:13 1068:9 1079:23

**Q**

**R**  
 ran 1066:7  
 rate 1055:24 1078:1,23,24 1079:2,6,8,20 1080:1  
 rates 1078:1,2,7,8  
 rather 1069:9 1071:10  
 reach 1079:3  
 read 1064:9 1074:19  
 realized 1069:18,19  
 really 1064:10 1066:10 1070: 20  
 reason 1077:3 1081:5  
 reasons 1067:1 1078:25  
 recall 1081:2  
 recent 1058:20  
 record 1064:3,5,8,11 1066:24 1075:20,21  
 recovery 1056:7 1077:14,17  
 Redirect 1080:20,22 1081:12  
 referring 1060:25

reflects 1078:23 regard 1066:20 1074:23 1076: 9 regarding 1080:25 reheating 1079:22 related 1060:7 relationship 1058:11 release 1059:22 reliable 1057:10 relied 1064:25 1065:2,11 1074:16 relies 1074:11 relieving 1073:9 reluctant 1072:21 rely 1068:10 1074:19 relying 1074:13 replace 1056:15 report 1058:23 reporter 1081:16 represent 1078:7 represented 1067:22 request 1055:2,9 1070:9,10 1075:15 requested 1070:7,24 required 1056:15 1066:9,15 1067:3 1070:13,16 requires 1075:18 reserved 1074:1 Resource 1082:19 respect 1074:10,22 respond 1068:22 1071:18 responded 1067:15 1075:14 response 1064:19 1070:11 1072:12 1080:19 restate 1079:24 restricted 1080:10 reuse 1056:21,24 reveal 1068:5 reversal 1079:17 REVIEWED 1057:22 1063:22 revised 1081:15,17 right 1058:8,18 1060:14 1062: 15 1063:2,5,8 1064:6,10,15 1066:22 1068:7 1069:3 1072:7 1075:8 room 1066:10 Rules 1066:25 1068:3 1070: 13,16 1073:8 run 1057:25	Short 1055:4 short-circuit 1066:20 should 1066:11 1068:14,25 1069:9,11 1075:16 show 1074:17 1076:11 1081: 21 showed 1067:9 significant 1081:8 simply 1066:13 1074:18 1076: 10 sir 1057:17,23 1058:8,10 1059: 3 1060:9,13,17 1061:17,20,23 1062:1,2,6,8,10 1064:22 1065: 8,13,17 1077:23,24 1078:3,8 1079:5,18 1081:25 1082:13 1083:7,14 site 1056:23 Smyrna 1055:22 1056:19 1057:8 1062:12 1063:6,9 1064: 16 1072:5 1082:24,24 Smyrna's 1064:19 software 1065:5 Some 1059:24,25 1060:1,5 1064:12 1068:19,20 1071:13, 15,16 1074:22 1076:9,22 1077: 2 1080:6,9,24 something 1066:11 1074:6 1077:19,20 sometime 1075:14 sorry 1060:19 1077:10 sort 1072:24 sorts 1072:21 SOX 1057:4 1063:24 1064:13 specific 1059:11 1071:13 1079:14 specifically 1062:2 1075:11 specifications 1059:21 specificity 1067:11 specify 1067:3 spectrum 1079:8 1080:1 Staff 1080:15,16 staff's 1080:13 standards 1059:20 standing 1061:10 state 1057:1,25 1082:13 state-of-the-art 1055:23 stated 1055:7 1070:7 statement 1060:23 1061:4 status 1061:12 steam 1056:7,7,8,9,10,10,11, 12,12,16 1077:14,14,17 still 1080:6 straight 1072:7 subject 1066:4 1072:9,13 submit 1083:1 such 1056:16 1059:14 1065: 25 suggested 1072:4 Suite 1082:16 sulfur 1081:19 summary 1055:17 1057:8 supervision 1063:3 supplied 1056:18,21 1057:1 1065:3 support 1082:23 supporting 1064:16 suppose 1066:6 supposed 1069:2 sure 1058:10 1062:13 1063:21 1064:9 1072:20 1073:25 1076: 3 1077:2 1080:12 sworn 1082:9 system 1057:1	technical 1077:15 technology 1077:22 telling 1069:12 temperature 1056:1,2 1057:5 1076:23,24 1079:2,7,13,14,21 1080:5,8 temperatures 1077:5 1079:10 1080:2 tender 1057:12 TENDERED 1063:19 term 1062:20 terms 1072:11 testified 1082:9 testify 1070:14 testimony 1068:2 testimony 1055:12,18 1057:19 1066:16,17 1068:10 1069:7 1074:11 1083:2,5,7,9,13,16 Thank 1055:1,15,21 1057:10, 14 1075:5 1076:14 1080:11 1081:24,25 1082:1 Thanksgiving 1069:18 that's 1065:20 1066:10 1067: 12 1069:10 1074:23 1077:18, 19 1078:19,20 1079:16 1080:3 1081:12 There's 1078:8 1080:8 therefore 1075:16 thermodynamics 1077:24 thing 1073:2,25 things 1065:25 1073:17 think 1061:2 1062:18 1065:25 1066:9,15 1067:14 1068:13,22, 23,24 1069:8,11 1074:2,11,16, 22 1080:13,21 those 1055:10 1060:1,1,2,7 1061:15 1066:16 1075:4 1081: 22,23 though 1080:7 1083:17 thought 1070:6 three 1077:9 time 1055:12 1056:23 1058:7, 9 1059:25 1060:3,6,11 1066:10 1068:4 1071:2 1075:21,22 1076:9 title 1055:4 today 1061:10,13 1065:14 1069:10,12 1073:20 1075:17 1083:13 together 1073:21 told 1067:24 1071:25 tons 1057:5 tower 1056:14,18 treatise 1074:15,16,18,19,21 treatment 1056:21 1068:16 trend 1079:17,20 trial 1068:1,4 true 1059:19 try 1067:13 1074:4 trying 1060:22 1064:10 1066:1 1076:22 1078:24 turbine 1056:6,9,10 1078:9,10, 14,22 1079:11,12,14 1080:9 turbines 1056:3,4 1057:2 1077:7 turn 1057:19 1062:9 1080:13 turnkey 1062:7 two 1056:4,8,20 1074:9 1075:7 1078:1,1,8,9 type 1077:22	19,24 1062:21 1081:5 understandings 1061:6 unfair 1066:1 unique 1077:20 1078:20 unit 1063:6,9 1067:24 until 1067:8 1068:19 1079:2 up 1067:9 1073:20 1074:17,17 1077:16 1080:7 upon 1064:25 1065:11 1070:2 1074:10 us 1061:21 1064:2 1068:20 1069:13 1071:2 1076:4 use 1056:2 1075:19 1078:10, 11 used 1056:11,24 1067:9 1072: 15,20 uses 1059:13 using 1060:25 1062:19 utilizing 1059:20
			<b>V</b>
			value 1056:1 1078:12,13,15,16 values 1063:25 1064:12,13 vendors 1060:5 version 1081:15 versus 1061:11 Very 1055:14 1080:10 via 1056:16 volume 1057:3
			<b>W</b>
			want 1067:13 1068:10,19 1069:11 1071:6 1072:6,10,23 1073:24 1076:5,6,7 1078:5 1079:23 1080:14 1081:14 wanted 1068:10 1074:6 1075: 17 wants 1064:8 wastewater 1056:21 water 1056:12,13,15,16,18,20, 21,24 way 1058:14 1062:24 1073:20 1074:4 1079:15 we'll 1076:1,2 we're 1069:22 1073:19 week 1061:12 weekend 1069:18,19 well 1055:14 1058:14 1062:24 1064:10 1065:18 1066:8 1067: 17 1069:6,8 1071:23 1079:25 what's 1058:18 1061:19 1069: 2 Whereas 1079:6 Whereupon 1082:6 whole 1069:7 whom 1064:22 1082:18,21 will 1055:6,23 1056:2,18,20, 24,25 1057:9 1061:2,15 1062: 4,7 1063:6,9 1070:25 1073:19 1075:24 1076:3 1077:18 1081: 17 1083:17 wish 1075:25 wishing 1075:19 withdraw 1076:10 withdrawn 1076:12 Within 1072:24 without 1067:1 1071:1 WITNESS 1057:22 1062:18,20 1063:19,20,22,23 1066:1 1068: 2 1069:5,16 1070:13 1071:4,4 1073:10,12,23 1077:13 1082:8 witnesses 1073:1 work 1058:20 1072:17 1074:5 1076:2 worms 1074:24 worried 1079:22 wouldn't 1070:12 1072:1 wrap 1073:20 WRIGHT 31:1 1055:9,15,16 1057:11 1060:21,24 1062:17 1064:7 1065:21 1066:8,15 1068:12 1069:8,22 1072:6,16
<b>S</b>			
Sacramento 1082:16,20 safe 1057:9 said 1060:17,19 1071:4,20 1072:9 same 1058:23 1063:11,21,23 1064:11 1069:15,20,22 1073:2 Sasso 1076:15,16 satisfy 1067:10 say 1060:14 1073:6 1074:6,15, 18,21 1075:24 1078:9 saying 1071:4 says 1067:5,22 1069:5 Scheff 1063:17 1066:5 1067: 15 1069:1 Scheff's 1071:18 second 1063:20 1073:15 1076:17 see 1071:23 1072:10 seems 1074:9 selected 1058:8 selection 1058:13 sense 1067:14 sent 1056:8 1065:25 set 1068:14 1072:6,22 1074:1 1075:12 seven 1075:22 SHAKES 1076:16 shall 1067:3 1075:20 share 1061:21 1063:16 1065: 18 1070:15 shared 1070:12			
			<b>T</b>
	Table 1063:11 1064:11 1065:7 1066:24 1081:17,18 take 1065:4 1070:4 1072:17 1073:23 1076:18 taking 1069:25 talk 1083:7 talking 1079:3		
			<b>U</b>
		ultimately 1070:1 under 1056:22 1057:4 1060:10 1061:15 1063:2 1066:24 1068: 3,9 1070:16 1072:1 underlying 1064:25 1067:2,22 1070:15 1073:12 understand 1064:12 1067:11, 14 1071:20 1073:8 1076:22 understanding 1060:4,7,11, 15,18 1061:8,11,14,15,17,18,	

1073:14,16 1074:7 1075:6,7  
1080:13,21,23 1081:10,12,22,  
24

**Y**

year 1057:5  
yet 1064:3  
yourself 1062:11,15

**Z**

Zinfandel 1082:16

<b>*</b>	chair 1101:2 <b>CHAIRMAN</b> 1100:17,21 1102: 13 1103:5 1104:13,15,17,19,22 1105:1,8,9,11 1106:17 <b>changes</b> 1100:5 1106:5,10 <b>circuit</b> 1101:12 <b>combustion</b> 1100:12 <b>Commission</b> 1101:2,3 <b>Commissioners</b> 1104:17 1105:3 <b>composite</b> 1100:16,19 <b>conclude</b> 1102:6 1103:25 <b>concluded</b> 1103:15 <b>conclusion</b> 1102:10 <b>conclusions</b> 1104:8 <b>condition</b> 1101:25 <b>conditions</b> 1102:2 <b>conducted</b> 1101:7 <b>conductors</b> 1102:6 <b>connect</b> 1101:10 <b>contingency</b> 1102:1 <b>Continuing</b> 76:1 1100:22 <b>Coordinating</b> 1102:18 <b>correct</b> 1103:17 1104:7,11 <b>corrections</b> 1100:5,14 1106:5, 10 <b>Council</b> 1102:18 <b>Court</b> 1105:24 <b>CROSS</b> 1102:15 1103:6 1105: 4	<b>G</b>	Good 1101:2 1103:8,9 <b>grid</b> 1101:6,17 <b>group</b> 1102:21 <b>Guyton</b> 1103:5,7 1105:3,10	<b>O</b>	<b>objection</b> 1104:23 1105:7 <b>Okay</b> 1100:21 1103:3,5 1105: 11 <b>one</b> 1102:3,22 <b>output</b> 1102:8 <b>own</b> 1103:19 <b>owned</b> 1103:21
<b>1</b>	1-2 1100:11 10 1103:14 1104:6,9 115 1101:12,13 12 1104:4 14 1104:4,8 15 1104:8 1998 1103:11	<b>H</b>	Helen 1101:15 here 1101:3 1106:13 higher 1102:5 Houston 1105:24	<b>P</b>	<b>Page</b> 1100:7,11 1103:14 1104: 5,8,9 <b>Pages</b> 1104:3 <b>paragraph</b> 1100:8,11 <b>part</b> 1103:21,25 <b>PAUGH</b> 1104:16 1105:9 <b>per</b> 1102:22 <b>Petitioners</b> 1105:18 <b>plant</b> 1101:11,23 <b>Please</b> 1100:25 1105:22 <b>pleasure</b> 1101:3 <b>point</b> 1106:16 <b>power</b> 1100:10 1101:18 1103: 16 1106:1 <b>prefiled</b> 1100:3 1106:2,8,13,15 <b>prepare</b> 1100:2 <b>prepared</b> 1100:23 1106:2 <b>probably</b> 1103:20 <b>proceed</b> 1100:25 <b>proceeding</b> 1106:3 <b>project</b> 1101:6,9,10,16,19 1102:3,9 1103:16,21 <b>projects</b> 1101:23 <b>purpose</b> 1101:4
<b>2</b>	2 1100:12 2001 1101:20 2004 1100:9 1101:21,23 2006 1100:9 24 1100:17	<b>I</b>	identified 1102:7 impact 1101:16 improvements 1102:7 incorporate 1101:23 inserted 1106:16,17 interconnect 1101:5 interest 1105:3	<b>Q</b>	<b>question</b> 1102:14 <b>questions</b> 1104:14,16 1105:9 <b>quick</b> 1102:14
<b>5</b>	500 1102:2 5400 1105:24	<b>J</b>	<b>JOHNSON</b> 1100:17,21 1102: 13 1103:5 1104:13,15,17,19,22 1105:1,8,11 1106:17 <b>Joint</b> 1105:18	<b>R</b>	<b>rated</b> 1102:5 <b>rather</b> 1100:9,13 <b>ready</b> 1105:1 <b>recall</b> 1102:25 <b>record</b> 1105:5 <b>redirect</b> 1104:19,20 <b>reliability</b> 1102:9,17 1103:12 <b>remitted</b> 1102:4 <b>replacing</b> 1102:5 <b>report</b> 1101:6 <b>repowering</b> 1101:23 <b>RESPONSE</b> 1104:18 <b>result</b> 1100:10 1101:7 <b>right</b> 1103:24 <b>RMI</b> 1101:17
<b>6</b>	60% 1100:8	<b>K</b>	key 1101:19 know 1102:20,24 1103:1,10 knowledge 1104:2 kv 1101:12,13	<b>S</b>	<b>safety</b> 1102:10 <b>Sanford</b> 1101:24 <b>Sasso</b> 1104:13,14 1105:6 <b>says</b> 1100:11 <b>scenarios</b> 1101:20,21,25 1102:1 <b>se</b> 1102:22 <b>second</b> 1100:11 1101:12 <b>section</b> 1100:10 <b>segment</b> 1102:5 <b>Services</b> 1106:1 <b>several</b> 1101:19,20 <b>short</b> 1100:18 1102:5 <b>should</b> 1100:9,13 <b>Show</b> 1104:22 <b>simulate</b> 1101:18 <b>single</b> 1102:1 <b>sir</b> 1100:4,14,24,25 1102:19 1103:13 1104:7 <b>six</b> 1100:12 <b>Smyrna</b> 1101:5,10,12 1102:8, 20,22 <b>some</b> 1100:2
<b>7</b>	7.5 1101:13 77056 1105:24	<b>L</b>	Lake 1101:14 <b>LARRY</b> 1105:17,23 last 1100:8 Let's 1105:11 levels 1100:8 line 1101:13,14 1102:5 load 1104:3 loading 1100:8 looking 1103:18		
<b>8</b>	837 1100:12	<b>E</b>	easily 1102:4 effect 1102:3,9 else 1103:22 employed 1105:25 Energy 1106:1 ES-4 1100:7 evaluate 1101:16 evening 1101:2 exact 1102:25 <b>EXAMINATION</b> 1102:15 1103: 6 1105:4,20 exception 1102:4 executive 1100:7 <b>Exhibit</b> 1100:7,15 1104:20 1106:8 <b>exhibits</b> 1100:2,6,16,20 1102: 4 1104:19 <b>existing</b> 1101:12		
<b>A</b>	accept 1106:12 <b>accommodate</b> 1101:8 1102:2 add 1100:12 <b>addition</b> 1101:11 1102:7 <b>address</b> 1105:22,23 <b>adequacy</b> 1101:8,22 <b>adequate</b> 1102:8 <b>admitted</b> 1104:22 <b>adopt</b> 1103:11 <b>adverse</b> 1102:3,9 <b>affiliate</b> 1102:24 1103:1,10 <b>affiliates</b> 1102:23 <b>after</b> 1105:18 <b>afternoon</b> 1103:9 <b>Agreed</b> 1105:6 <b>ahead</b> 1105:11 <b>analysis</b> 1101:7 <b>Anyone</b> 1103:22 <b>application</b> 1104:1 <b>appreciate</b> 1103:3 <b>approximately</b> 1101:13 <b>Armand</b> 1100:2,19,23 1102:11 1103:8 1104:12,24,25 <b>Armand's</b> 1100:16 <b>ask</b> 1100:15 1106:12,15 <b>assess</b> 1101:7 <b>assessment</b> 1103:12 <b>assigned</b> 1100:16 <b>assume</b> 1101:25 1102:1 1104: 4,9 <b>assumptions</b> 1101:22 <b>attached</b> 1100:3 1106:8 <b>available</b> 1102:11 <b>aware</b> 1103:13	<b>D</b>	<b>day</b> 1103:8 <b>delivery</b> 1102:2 1103:16 <b>describe</b> 1101:4 1103:14 1104:3,5 <b>designed</b> 1101:21 <b>direct</b> 1100:3 1105:20 1106:2 <b>downstream</b> 1103:15,24 1104:5,9 <b>Duke</b> 1101:5 1102:8,20,22,23 1103:10 1106:1 <b>duly</b> 1105:19		
<b>B</b>	<b>Beach</b> 1101:5,10 <b>board</b> 1103:11 <b>business</b> 1105:23	<b>F</b>	<b>facilities</b> 1103:19,20 <b>facility</b> 1101:5 <b>familiar</b> 1102:17 <b>firm</b> 1101:7 <b>first</b> 1105:19 <b>Florida</b> 1101:6,17,20 1102:17 1103:17 <b>flow</b> 1100:10 1104:3 <b>flows</b> 1101:19 <b>follows</b> 1105:19 <b>FPL's</b> 1101:23 <b>FRCC</b> 1102:23 1103:2,10,11 <b>Ft</b> 1101:24 <b>full</b> 1102:8 <b>further</b> 1103:4		
<b>C</b>	called 1105:18 can 1102:2,4 can't 1102:25 Cassadaga 1101:13,14 Certainly 1101:1	<b>M</b>	ma'am 1104:25 Madam 1105:9 made 1104:10 make 1106:5 marked 1100:17 <b>McGLOTHLIN</b> 76:1 1100:15, 19,22 1102:11 1104:20 1105:7, 21 1106:15 <b>meeting</b> 1103:11 <b>megawatt</b> 1102:3 <b>megawatts</b> 1100:12 <b>member</b> 1102:20,23 1103:2 <b>members</b> 1101:2 <b>Michel</b> 1100:19 <b>miles</b> 1101:13 <b>modeled</b> 1100:9 1101:20 <b>modeling</b> 1101:18 <b>move</b> 1104:20 <b>Moyle</b> 1102:13,14,16 1103:4 <b>MPA-5</b> 1100:7 <b>MS</b> 1104:16 1105:9 <b>Myers</b> 1101:24		
		<b>N</b>	name 1102:25 1105:22,23 nearly 1102:1 necessary 1103:16,25 new 1100:12 1101:5,10 1102: 8,20,22 next 1100:10 1105:1 normal 1101:25 noted 1102:4 nothing 1103:4 Now 1103:24 Number 1100:12,15		



**sponsoring** 1106:7  
**Staff** 1104:15,16 1105:8,9  
**standard** 1101:17  
**state** 1105:22  
**stipulate** 1105:4  
**studies** 1100:10 1101:23  
 1104:3  
**submitted** 1106:2  
**substation** 1101:11,14,15  
**summary** 1100:8,23 1102:10  
**support** 1103:16  
**sworn** 1105:19  
**system** 1101:8,22 1102:2,6

## T

**techniques** 1101:18  
**test** 1101:21  
**testified** 1105:19  
**testimony** 1100:3 1101:4  
 1103:14 1104:4 1105:5 1106:3,  
 8,13,13,16  
**Texas** 1105:24  
**Thank** 1102:13 1104:12,14,24,  
 25  
**That's** 1104:7,11 1106:8  
**think** 1103:23  
**third** 1100:11  
**Those** 1100:13 1103:19,24  
**time** 1105:4  
**title** 1100:18  
**today** 1106:13  
**transmission** 1101:4,6,8,12,  
 14,17,18 1102:6 1103:15,19,  
 20,24 1104:5,9  
**transmit** 1102:8  
**tried** 1105:10  
**turbine** 1100:12  
**two** 1103:24

## U

**under** 1101:22  
**upgrades** 1101:11 1103:15,25  
 1104:5,9  
**used** 1101:17  
**utilities** 1101:19 1103:17  
**utility** 1103:21

## V

**variety** 1101:22  
**voted** 1103:11

## W

**waive** 1105:4  
**WALL** 1105:17,23,25  
**Wall's** 1105:5  
**we'll** 1105:4  
**Well** 1106:12  
**Westheimer** 1105:24  
**Whereupon** 1105:16  
**whether** 1102:20  
**whom** 1105:25  
**will** 1100:17 1101:5,10 1106:  
 17  
**without** 1102:3,9 1104:22  
**witness** 1105:2,18

## Y

**year** 1100:9  
**years** 1101:20

<p><b>&amp;</b> &amp; 1116:15</p> <p><b>*</b> * 1119:22,22,22,22</p> <p><b>1</b> 10 1118:19 16-inch 1115:15</p> <p><b>2</b> 25 1115:3,5 1118:11 26 1121:17</p> <p><b>3</b> 32 1116:4 1117:1 34 1117:12 3701 1120:8</p> <p><b>4</b> 42 1115:14</p> <p><b>9</b> 98th 1120:8</p>	<p>5,17,22 1118:6,20 close 1117:18 coal 1117:13 come 1115:11 Commission 1115:11 1120:12 1121:9 COMMISSIONER 1116:9,12, 13,19,25 1117:5,17,22,23 1118:6,20,24 Company 1115:16 compared 1116:2 compensate 1115:24 concluded 1116:5,11 conclusion 1116:14 construct 1115:16 contained 1121:1,6 Continuing 1115:6 contract 1115:19 contractual 1115:13 Corporation 1115:20 correct 1117:6 1120:21 corrections 1120:24 cost 1115:25 1116:7 County 1115:17,18 covers 1115:20 cross 1116:8</p>	<p><b>G</b> Gainesville 1120:8 Garcia 1118:24 gas 1115:13,14,15,19,22,23 1117:3,7,13,14 generation 1115:23 1116:18 1117:12,15 Good 1115:10</p> <p><b>H</b> hand 1119:17 happened 1116:3 having 1117:19 here 1118:19,19 1119:2,14 1121:8 how 1117:18</p> <p><b>I</b> I'd 1119:8 identification 1121:14 impacts 1120:17 inability 1117:6 inconvenience 1118:17 indeed 1120:22 INDICATIONS 1118:5 inserted 1121:15 interrupt 1117:7 issues 1116:23</p>	<p><b>N</b> name 1119:8 1120:5,7 natural 1115:13 need 1116:11 needs 1115:20 NEGATIVE 1118:5 negotiated 1115:19 New 1115:14,18 1120:15 next 1118:18,20 1119:13 Northwest 1120:8 Now 1116:25 1117:7,11 nuclear 1117:13 number 1115:1,5</p> <p><b>O</b> objection 1118:13 obligation 1115:22 occasioned 1118:17 occurred 1117:5 occurring 1116:4 occurs 1117:14 Okay 1116:19,25 1117:22 1118:4 1119:11,16 once 1116:3 one 1116:25 1118:21 1120:24 only 1116:3 opportunity 1115:10 option 1115:24 oral 1121:8 outage 1117:14 outages 1117:20</p>
<p><b>A</b> able 1116:21 1117:8 about 1116:20 1117:1 accurate 1120:20 acting 1115:18 address 1120:6,8 admitted 1118:12 adopt 1121:6 after 1118:21 1120:1 afternoon 1115:10 agent 1115:19 ago 1117:4 alluded 1116:10 answer 1117:10 answers 1121:2,3 apologize 1118:16 appearance 1119:9 appreciate 1115:10 arrangements 1115:13 ask 91:1 1116:9 1118:2 1121: 1,14 asked 1118:6 assigned 1115:2 assumption 1116:22 available 1116:8</p>	<p><b>D</b> David 1119:8 day 1117:11,14,15 decided 1116:1 decisions 1116:23 DEE 1119:8,8,12 1120:4 1121: 11 deliver 1115:22 delivered 1115:14 demand 1117:9 describes 1115:12 designing 1116:1 diameter 1115:15 difference 1115:25 DIRECT 1120:3,11 1121:7,12 documents 1120:24 Duke 1115:18,18,22,24 1116:1 1120:12 DULY 1119:18 1120:2</p>	<p><b>J</b> Jeffrey 1119:13,25 1120:7,10 JLM-1 1120:20 1121:7,14 JLM-12 1120:14 JOHNSON 1115:3 1117:24 1118:1,4,8,10,12,25 1119:3,6, 11,16,19 1121:15 Joint 1120:1</p> <p><b>K</b> know 1116:23 1117:17,18,20</p> <p><b>L</b> Lake 1115:17 Landers 1119:10 last 1116:4 1118:24 lateral 1115:15,16 law 1119:10 LAW-1 1115:2 left 1118:21 Less 1119:1 let 1116:9 Light's 1116:16 lightening 1117:3 like 1119:9 load 1117:15 long 1115:15</p>	<p><b>P</b> Parsons 1119:10 part 1121:7 PAUGH 1117:23,25 1118:6 peak 1117:14 petitioners 1119:10,12 1120:1 1121:12 physical 1115:12 picked 1118:18 pipeline 1116:3 1117:3 plant 1116:1 plants 1117:7 Please 1115:9 1120:5 Plymouth 1115:17 positive 1117:21 Potential 1120:16 power 1115:12,18 1116:5,15, 21 1120:15 prefiled 1120:19 1121:2,4 Preliminary 1120:16 prepare 1120:14 prepared 1115:7 1120:10 probably 1117:15 proceed 1115:9 proceeding 1118:18 project 1115:12,14,17,21 1116:16 1120:15 projects 1116:17 proposed 1115:11 providing 1116:6 Public 1121:8 purchase 1115:23 1116:21 purchased 1116:4</p>
<p><b>B</b> backup 1116:2,6,11,18 1117: 8,13 base 1116:13,15 basis 1115:21 Beach 1115:14 1120:15 before 1115:11 1117:6 1121:8 behalf 1119:9 1120:11 believe 1117:11 BRIEF 1119:5 business 1120:6,7 Butler 1117:24 1118:2,3 buying 1117:9</p> <p><b>C</b> call 1119:12 called 1120:1 came 1117:18 can 1115:22 can't 1117:10 capacity 1117:15,16,18,19 car 1119:1 case 1120:11 CHAIRMAN 1115:3 1117:24 1118:1,4,8,10,12,16,25 1119:3, 6,11,16,19 1121:11,15 changes 1120:23 Citrus 1115:20,21,24 CLARK 1116:9,13,19,25 1117:</p>	<p><b>E</b> effective 1116:7 either 1117:13 1120:24 electric 1115:23 1117:9,9 elsewhere 1116:21 1117:9 Energy 1115:18 ensure 1120:20 entered 1121:13 entitled 1115:4 1120:15 Evaluation 1120:16 event 1115:21 1116:3 1117:1, 2,5 ever 1115:21 EXAMINATION 1120:3 exhibit 1115:1,5 1118:10,11 1120:14,20 1121:7,14,16</p> <p><b>F</b> fact 1116:10 fails 1115:22 Features 1120:16 filing 1120:11 firm 1115:21 1119:10 first 1120:2 five 1117:4 Florida 1115:15 1116:6,15 1117:3,7,12 follows 1120:2 force 1116:3 forth 1121:4 four 1117:4 Ft 1116:16 fuel 1116:2,6,11,18 1117:13 full 1115:20 1120:5</p>	<p><b>M</b> ma'am 1119:8 Madam 1118:16 1121:11 majeure 1116:3 make 1119:9 1120:23 marked 1115:3,5 1121:14,17 McGLOTHLIN 91:1 1115:6 1116:8 1118:9,11 mean 1118:21 meet 1115:22 1117:9 megawatts 1116:17 1117:12 Meling 1118:22,23 1119:13, 13,18,25 1120:5,7,10 Meling's 1121:12 mile 1115:15 minutes 1118:19,25 months 1117:4 morning 1119:14 move 1118:11 MS 1117:23,25 1118:6 Mt 1115:17 must 1115:24 Myers 1116:16</p>	<p><b>Q</b> question 1116:10 1117:10 questions 1118:2,7 1121:1,3</p> <p><b>R</b> raise 1119:17 read 1121:13,16 reason 1116:20 recess 1119:3,5 record 1120:6 1121:13,16 Redirect 1118:8,9 regulated 1116:5 related 1117:21 relative 1117:21 remoteness 1116:2</p>

<b>replacement</b> 1115:23 <b>repowering</b> 1116:16 <b>request</b> 1121:12 <b>reviewed</b> 1120:19 <b>Right</b> 1117:11 1119:17 <b>run</b> 1115:16	<b>We're</b> 1119:6 <b>WHEREUPON</b> 1119:18,24 <b>will</b> 1115:3,14,16,16 1116:17 1117:15 1121:15,16 <b>wish</b> 1120:23 <b>within</b> 1121:2,4 <b>without</b> 1117:8 1118:12 <b>WITNESS</b> 1116:12,15,22 1117:2,10,20 1118:15,18,24 1119:13,18 1120:1 <b>worried</b> 1116:20 <b>WRIGHT</b> 1118:16,23 1119:1,4 <b>written</b> 1120:11,19 1121:2,7, 12
<b>S</b>	<b>Y</b>
<b>same</b> 1116:4 1120:10 1121:3 <b>Sanford</b> 1116:16 <b>Sasso</b> 1118:4 <b>Service</b> 1121:8 <b>Services</b> 1115:18 <b>set</b> 1121:3 <b>should</b> 1118:19 <b>Show</b> 1118:12 <b>similar</b> 1116:17 <b>simultaneous</b> 1117:14 <b>Sir</b> 1119:16 1120:25 1121:5,10 <b>Site</b> 1120:16 <b>slight</b> 1118:17 <b>Smyrna</b> 1115:14 1120:15 <b>Smyrna's</b> 1115:19 <b>some</b> 1116:5 <b>sorry</b> 1117:25 1118:24 <b>specific</b> 1117:11 <b>speed</b> 1118:17 <b>staff's</b> 1118:7 <b>stand</b> 1119:3,16 <b>state</b> 1117:16 1120:5 <b>stated</b> 1115:4 <b>statements</b> 1121:6 <b>Street</b> 1120:8 <b>strike</b> 1117:3,21 <b>strikes</b> 1118:21 <b>substitute</b> 1115:23 <b>sufficient</b> 1117:16,18 <b>summary</b> 1115:7 1116:7 <b>supply</b> 1115:19 <b>supplying</b> 1115:13 <b>support</b> 1115:11 <b>surmise</b> 1116:19 <b>sworn</b> 1119:15,18 1120:2	<b>years</b> 1116:4 1117:1 <b>yesterday</b> 1119:14 <b>yet</b> 1119:14
<b>T</b>	
<b>talking</b> 1117:1 <b>Ten</b> 1118:25 <b>testified</b> 1120:2 <b>testimony</b> 1115:12 1120:11,19 1121:2,4,7,8,13,15 <b>Thank</b> 1118:7,14,15 1119:4 <b>that's</b> 1117:12 1118:17 <b>they'll</b> 1116:20 <b>think</b> 1116:24 1118:1,24 <b>those</b> 1120:24 1121:3 <b>though</b> 1121:13,16 <b>thousand</b> 1116:17 1117:12 <b>three</b> 1116:17 1118:21 <b>time</b> 1116:4 1119:9,12 1120: 23 1121:11 <b>today</b> 1115:11 1121:8 <b>Trading</b> 1115:20 <b>Transmission</b> 1115:16 1117:3	
<b>U</b>	
<b>unavailable</b> 1116:5 <b>under</b> 1118:19 <b>up</b> 1118:18 <b>use</b> 1116:2 <b>using</b> 1117:8 <b>utilities</b> 1116:6,10 1120:12	
<b>V</b>	
<b>via</b> 1115:14 <b>Volusia</b> 1115:17	
<b>W</b>	
<b>Wall</b> 1115:7 1116:8,9,12,15,22 1117:2,10,20 1118:15 <b>Wall's</b> 1115:2 1118:11 <b>way</b> 1118:19 1119:2 <b>We'll</b> 1119:3	

<b>&amp;</b>	13,21 1152:13,14,25 answered 1148:13 anything 1148:9 appear 1145:9 applicable 1143:13 application 1139:12 1143:3 1147:2,18,19 approach 1143:5 appropriate 1142:25 1143:18 approximate 1150:22 area 1139:3 arguable 1139:5 arguments 1144:2 Armand 1155:9 arose 1149:12 ask 1143:22 1145:8 1153:18 asked 1149:11 1151:7 assumption 1145:9,15 attachments 1141:11 available 1143:6,8,12 1152:2 1153:4,8 aware 1152:15	2,3,22,25 circumstances 1146:18 1147: 24 1149:2 cited 1149:17 clarification 1155:12 clarify 1154:24 1155:14,15 clean 1144:21 1145:7 clear 1143:11 closing 1139:8 combined 1153:5 combust 1144:18 combustion 1146:14,15 1147: 8,21 1148:11 come 1138:16 Commission 1137:21 1138: 10,23 Commission's 1150:12 COMMISSIONER 1143:22 1144:8 1145:6,16,19,25 1147: 12,23 1148:9,14 Commissioner's 1148:20 Commissioners 1137:5 1141: 24 commitments 1144:16 committed 1145:11 companies 1144:2 Company 1156:3 compared 1144:23 comparison 1154:12 compatible 1138:10 completed 1143:2 compliance 1142:7,9 comply 1142:11 composite 1140:19 1141:6,10 1155:9 1156:6 computerized 1149:21 conceded 1151:16 concentration 1147:11 concentrations 1148:7 concern 1145:21 concerning 1140:12 1150:19 concludes 1139:13 conditions 1142:12 1145:22 1146:3 1147:19 1149:6 conduct 1149:3 consider 1144:20 1146:12 considerably 1145:13 consideration 1151:11 consistent 1147:19 1148:3 constructed 1138:9 construction 1139:10 consulting 1137:20 context 1145:3 continues 1157:12 Continuing 1137:1 control 1142:25 1143:6,8,12 copies 1150:3 copy 1140:15,16,24,25 1141:4 1153:22 Corp 1149:25 1153:2 Corporation 1157:10 correct 1145:15,23 1147:16 1150:6,14 cost 1147:5 costs 1142:7,7,13,13 1143:10 couple 1138:17 1139:17 course 1149:25 cross 1139:15,19 1140:7 1142:4 1153:16,20 CT 1147:3 currently 1153:6 Cutler 1154:13 cycle 1153:5	19 Dee's 1153:16 degree 1137:6 demand 1152:1 DEP 1150:1,4 Department 1149:19 deposition 1140:8,11,17 1141:10 1149:9,11,16 1151:7, 12,20,21 described 1146:9 descriptive 1155:8 design 1142:18,23 detail 1155:7 determine 1149:2 different 1144:13 differential 1140:13 direct 1137:3 directly 1137:15 dirtier 1139:5 1144:23 1145:1 discharges 1138:21 discovery 1156:2 discussing 1155:1 dispatching 1145:17 displace 1139:4 1144:24 1151:3,24 displacing 1144:25 distributed 1140:16,20 document 1141:16 1154:1 1156:17 documents 1137:22 1141:6 1152:17 Does 1142:14 doesn't 1147:4 done 1143:19 1149:6 down 1148:2,12 1152:12 draw 1151:15 dual 1151:10 Duke 1137:21 1148:25 1151:2, 9,14,23 1152:1,3,7,19,22 During 1137:10 1140:16,22 1151:19 dynamics 1145:13
<b>*</b>			
* 1157:14,14,14,14			
<b>1</b>			
100 1146:8 100% 1147:25 1148:4,7 19 1137:6,8,10 1138:1			
<b>2</b>			
200 1146:18 24 1155:7 250 1146:18,19,20 26 1155:23 27 1140:10,18 1141:10 1155:2, 15 28 1156:9,11 29 1156:14,23			
<b>3</b>			
30 1142:15,17,22 1145:10 1146:8 1147:13 30% 1152:9 300 1146:5,21 33 1144:14			
<b>4</b>			
4 1152:16			
<b>5</b>			
5 1155:9 50 1147:13,25 50% 1147:3,4,8,22 1148:2,12 500 1146:4,7,17 514 1142:14,18,21			
<b>9</b>			
9 1157:12			
<b>A</b>			
about 1145:20 1148:6 1149: 11,12 1150:17 above 1147:3 absolutely 1145:11 according 1145:12 accounted 1151:8 accurate 1150:6,14,24 achieve 1138:24 1139:1 activities 1142:11 actual 1149:21 1150:3 1151:1 actuality 1152:6 actually 1138:7,13 1146:13,20 1147:10,17 1148:4 1152:10 add 1146:25 1153:1 addition 1150:4,8 additional 1152:8 1155:10 adjacent 1138:7,8,16 admit 1155:14,22 admitted 1141:13,20 1154:21 1155:16,17 1157:5 agree 1153:2 ahead 1141:19 air 1139:3,6 1143:15,16 1144: 19 1145:2,7 1147:7 1149:20 allow 1147:18 1152:10 1153: 18,19 amend 1155:8 among 1144:21 amount 1138:18 1144:17 analyses 1149:3,5 analysis 1142:25 1143:2,6,9, 11,13,18 1144:6 1148:21 1149: 13,15 1154:9 annual 1149:22 another 1140:24 1141:4 1146: 22 1151:15 answer 1142:10 1144:6,10 1146:10 1148:1 1150:2 1151:	<b>B</b>		
	back 1148:19 1149:9,17 backup 1140:12 Based 1138:1 1149:3,6 1150: 16 basis 1149:22 Beach 1137:23 1138:15,23,25 1151:2,14,23 1152:8 Beasley 1154:25 because 1143:13 before 1153:22 1155:25 belief 1138:4 believe 1140:2 1142:10 1147: 16 1150:11 1151:12 1153:1 below 1147:4,8 benefit 1140:1 benefits 1138:12,17 best 1144:10 best-available 1142:25 big 1143:24 bit 1145:6 1146:11 both 1140:16 1156:24 break 1140:16,22 briefly 1148:16 broad 1143:24 1144:7,9 build 1144:11 building 1153:5 built 1144:5 burn 1151:16 1153:6,7 Butler 1140:5,6,22 1141:3,8, 17,21 1153:13,15,21 1154:15, 24 1155:13,18		
	<b>C</b>		
	calculation 1140:13 1153:23 calculations 1140:25 1151:8 call 1152:16 called 1143:5 calls 1140:14 1157:10 can 1139:9 1140:23 1144:5,10 1153:25 can't 1144:6 capacity 1145:11 1146:4,7 1153:5 capital 1142:13 case 1142:12 cause 1151:16 1152:23 causing 1144:25 certainly 1147:5 1153:2 certification 1143:3 Chairman 1137:5 1139:14,16 1140:5,6,20 1141:1,5,8,9,15, 19,22,24 1142:1,3 1143:21 1148:15 1153:13,14,18 1154: 16,18,21,24 1155:4,6,11,13,17, 19,20,21,24 1156:5,8,9,13,16, 20,23 1157:2,5,8 change 1151:19 characteristics 1147:7 1148:		
	<b>D</b>		
	data 1149:17,18 1150:14,17, 18,22 1154:8 database 1150:1 David 1148:15 day 1144:1 1145:15 DEE 113:1 1139:14 1141:14 1148:16,18 1153:11 1154:16,	<b>E</b>	
		each 1146:14 1147:3 early 1137:25 ECT 1137:20 1148:20 effect 1138:6 effectiveness 1147:6 efficiencies 1146:9 efficiency 1147:6 1152:9 efficient 1139:5 1144:21,23 1145:1 1147:14 1151:24 1152: 5 effluent 1138:21 efforts 1137:16 either 1153:4 element 1152:25 eliminate 1138:21 emission 1140:25 1148:2 1149:21 1151:1,5 emissions 1145:2 1147:7,10 1148:4,6,11 1149:20 1150:22 1154:4 emit 1144:19 emitted 1143:17 emitting 1143:15 enclosed 1140:24 end 1139:12 engineering 1137:6,7 enough 1153:8 entered 1150:1 entitled 1154:4 environmental 1137:6,7,12, 16,20,23 1138:12 1139:21,25 1140:13 1142:7,9,15 1143:23 1144:4,12 1145:21 1146:8 1149:20 1153:24 equal 1142:16 equipment 1142:8 1143:15 error 1151:22 especially 1144:22 1145:2	

<b>essentially</b> 1148:7 1151:16 <b>estimate</b> 1137:14 <b>evaluated</b> 1149:12 <b>evaluation</b> 1148:23 1150:7 <b>even</b> 1138:20 1147:15 1148:2 <b>evidence</b> 1154:20 1156:2 1157:1 <b>examination</b> 1139:15,19 1140: 7 1142:4 1148:17 1153:17,20 <b>example</b> 1144:14 1146:21 1151:25 <b>Exhibit</b> 1140:9,18,19 1144:15 1150:18,23 1155:2,7,9,15,23 <b>exhibits</b> 1144:14 1154:18 1156:6 <b>existing</b> 1153:6 <b>expand</b> 1146:11 1152:15 <b>expansion</b> 1152:16,18 <b>expect</b> 1147:17,20 <b>expected</b> 1151:6 <b>experience</b> 1137:7 1138:2,2 <b>expert</b> 1139:21,24 1145:17 <b>explain</b> 1149:14 <b>extent</b> 1139:3	<b>greater</b> 1142:14,22 1147:11 1152:9 <b>ground</b> 1138:18,18	<b>JOHNSON</b> 1139:16 1140:5,20 1141:1,5,9,15,19,22,24 1142:1 1148:15 1153:14,18 1154:18, 21 1155:4,6,11,17,19,21,24 1156:5,9,13,16,20,23 1157:2,5, 8	1141:10 1142:6,24 1143:5 1144:8 1145:16,24 1146:10 1147:16,24 1148:10,19 1153: 12,17,22 <b>Meling's</b> 1140:16 <b>memo</b> 1140:15,24 1149:18 1150:9,10 1153:23 <b>memorandum</b> 1140:17,18 1155:1 <b>Michael</b> 1157:11 <b>Michel</b> 1155:9 <b>might</b> 1144:24 1151:9 <b>mind</b> 1150:24 <b>minimal</b> 1139:2 <b>modest</b> 1146:2 <b>moment</b> 1146:3 1149:9 <b>more</b> 1138:20 1142:13 1144: 20 1151:23 1152:10 1155:8 <b>most</b> 1138:14 <b>move</b> 1154:19 1157:1,3 <b>moving</b> 1155:25 <b>Moyle</b> 1139:16,17,20 1140:4 <b>MPA-1</b> 1155:9 <b>MS</b> 1142:2,5 1143:20 <b>much</b> 1137:17 1145:14 <b>must</b> 1153:2 <b>Myers</b> 1152:20 1154:7 <b>myself</b> 1145:17
<b>F</b>	<b>H</b>	<b>K</b>	<b>L</b>
<b>F-E-R-C</b> 1150:10 <b>facilities</b> 1137:17 1143:15 1144:22 1146:1 1153:6 <b>facility</b> 1137:13,14 1142:14,16 1146:12,25 1147:20 1149:1 1151:9,10 <b>fact</b> 1138:14 1139:6 1143:2 1144:13,15 1146:12 1153:3,4 <b>fair</b> 1140:2 1142:21 <b>felt</b> 1153:7 <b>FERC</b> 1150:10 <b>few</b> 1142:2 <b>FGT</b> 1152:15 <b>field</b> 1137:8 <b>file</b> 1150:11 <b>filed</b> 1139:11 1143:3 <b>filings</b> 1150:11 <b>fired</b> 1151:10 1154:8,11 <b>firms</b> 1153:1 <b>first</b> 1138:1,14 1144:1 1146:12 1151:22 1152:12 1155:22 <b>Florida</b> 1137:9 1140:1 1144:22 1149:19,24,24 1150:1,4 1152: 17 1153:2 1156:2 1157:10 <b>fluctuate</b> 1145:13 <b>follow-up</b> 1153:15 <b>follows</b> 1151:20 <b>Form</b> 1150:10 <b>forward</b> 1139:11 <b>four</b> 1146:22 <b>FP&amp;L's</b> 1156:16,20 <b>FPL</b> 1152:20 1153:2 1154:11 <b>FPL's</b> 1154:7 1156:11,14 <b>free</b> 1152:8 <b>front</b> 1140:23 <b>Ft</b> 1152:20 1154:7 <b>fuel</b> 1151:10 <b>full</b> 1145:14 1146:20,24 <b>further</b> 1140:4 1141:17 1143: 20 1146:25 1149:3,15 1151:11, 18 1152:12,21 1153:11 1154: 15,16 <b>furthermore</b> 1147:7	<b>half</b> 1146:19 1148:6 <b>hand</b> 1156:1 <b>handwriting</b> 1155:2 <b>hazardous</b> 1143:16 <b>heard</b> 1155:14 <b>heat</b> 1146:15 <b>heavily</b> 1137:24 <b>here</b> 1137:9 1141:1,5 1143:23, 25 1144:1,1 1150:12 1152:17 <b>higher</b> 1143:10 <b>highlight</b> 1138:13,14 <b>hope</b> 1145:4 1148:12 <b>housekeeping</b> 1155:7 <b>how</b> 1143:25 <b>However</b> 1144:19 <b>hundred</b> 1137:15 1146:22 1152:1 <b>hundreds</b> 1137:11,11 <b>hypothesis</b> 1152:21 <b>hypothetically</b> 1151:9	<b>Keeping</b> 1150:24 <b>key</b> 1137:2 <b>kind</b> 1146:8 <b>kinds</b> 1146:5 <b>know</b> 1143:23	<b>land</b> 1138:11 1144:17 <b>least</b> 1137:15 1147:11,21,22 1151:4 <b>leg</b> 1152:12,14 <b>less</b> 1139:5 1144:23 1145:1,1 1148:4 1152:4,5 <b>let</b> 1138:14 1143:22 1144:9 1145:8 1146:5,11,25 1149:9 1156:17 <b>Let's</b> 1145:6 1146:22 1147:12 1151:25 1156:11 <b>level</b> 1148:6 <b>levels</b> 1151:5 <b>licenses</b> 1139:9 <b>licensing</b> 1137:12,17,20,23 <b>lieu</b> 1140:7 <b>Light</b> 1149:24 1156:2 <b>like</b> 1137:17 1138:13 1140:8 1141:3 1145:10 1151:18 1153: 1 1154:19 1155:7,14 <b>likely</b> 1144:11 <b>list</b> 1152:12 <b>literally</b> 1137:10 <b>little</b> 1145:6 1146:11 <b>live</b> 1140:7 <b>living</b> 1137:8 <b>load</b> 1145:14,17 1146:20,24, 24 1147:3,4,8,11,22,25 1148:3, 4,7,12 <b>look</b> 1144:12,24 1145:7 1146: 16 1151:25 1152:7 1156:17 <b>looking</b> 1148:24 <b>lose</b> 1148:9 <b>lower</b> 1147:11
<b>F</b>	<b>I</b>	<b>M</b>	<b>N</b>
<b>G</b>	<b>J</b>	<b>O</b>	
<b>GARCIA</b> 1143:22 1144:8,9 <b>gas</b> 1144:18 1145:3 1151:9,15 1152:2,4,8,11,16,19 1153:3,7,8 1154:7,11 <b>gas-only</b> 1153:5 <b>generation</b> 1137:13,17 1139:4 1144:22 1153:5 <b>generator</b> 1146:16 <b>give</b> 1144:5 <b>given</b> 1151:11 1153:4 <b>goal</b> 1138:24 1139:1	<b>if'd</b> 1155:7 1156:7 <b>i.e</b> 1145:13 <b>idea</b> 1151:5 <b>identical</b> 1142:18,22 <b>identification</b> 1140:9 1149:10 <b>identified</b> 1141:9 <b>identify</b> 1141:6 1148:21 <b>impact</b> 1139:2 1142:15 1144: 4,17 <b>impacts</b> 1140:13 1142:22 1144:12 1149:3 1153:24 <b>implications</b> 1143:23 <b>important</b> 1138:20 1144:20 <b>improved</b> 1139:7 <b>improvement</b> 1145:4 <b>include</b> 1142:7 1149:19 <b>included</b> 1140:18 1150:10 <b>including</b> 1137:13 1138:18 1153:2 <b>incorrect</b> 1152:24 <b>indeed</b> 1148:23 1149:7 1150: 5,14,23 1151:1 <b>indicate</b> 1143:18 1152:17 <b>indicated</b> 1146:1 <b>individual</b> 1146:13 1147:3 <b>industrial</b> 1137:13 1144:11 <b>information</b> 1140:12,21 1149: 13,14,23,25 1150:5,8,13,15 <b>instance</b> 1148:21 <b>instant</b> 1143:9 <b>integral</b> 1138:25 1142:8 <b>intend</b> 1149:1 <b>intended</b> 1150:25 <b>interest</b> 1140:6 <b>interrogatories</b> 1156:4 <b>interrogatory</b> 1156:11,13 <b>introduce</b> 1140:8 <b>introduced</b> 1149:10 <b>inventory</b> 1149:20 <b>involve</b> 1144:15 <b>involved</b> 1137:11,15,24 1148: 24 <b>irretrievable</b> 1144:16 <b>irreversible</b> 1144:16 <b>isn't</b> 1139:21 1148:20 <b>issue</b> 1147:9 <b>issues</b> 1145:7 <b>itself</b> 1138:6 1144:13	<b>ma'am</b> 1148:16 1156:22 1157: 4 <b>MACT</b> 1143:5,8,11,18 <b>Madam</b> 1137:5 1139:14 1140: 6 1141:8 1142:2 1143:20 1153: 13 1154:16,24 1155:13,20 1156:8 <b>made</b> 1146:13,17 <b>magnitude</b> 1151:4 <b>maintained</b> 1148:11 <b>major</b> 1149:22 <b>make</b> 1147:4 1155:10 <b>manager</b> 1137:19 <b>mandate</b> 1138:24 <b>manner</b> 1148:5 <b>margin</b> 1152:9 <b>marked</b> 1149:10 1156:1,7 <b>market</b> 1145:12 <b>mass</b> 1148:6 <b>master's</b> 1137:5 <b>matters</b> 1139:21 <b>maximum</b> 1143:6,8,12 1149:2 <b>may</b> 1144:1 1145:8 <b>McGLOTHLIN</b> 1155:6 <b>mean</b> 1142:8,10,17 <b>megawatt</b> 1142:14,15,18,19, 21,23 1146:17,18 <b>megawattage</b> 1152:6 <b>megawatts</b> 1146:19,21,21,23 1152:2 <b>Meling</b> 113:2 1139:15 1140:7	<b>narrower</b> 1145:7 <b>natural</b> 1144:18 1145:3 1151: 9,15 <b>nature</b> 1142:18 1144:11 <b>necessarily</b> 1142:12 <b>necessary</b> 1137:22 1139:10 1142:11 <b>need</b> 1139:11 1146:12 1152: 11 <b>needed</b> 1138:19 1144:4 1146: 19,22 1152:5 <b>negative</b> 1143:23 1144:3 <b>negatives</b> 1143:25 <b>net</b> 1139:25 <b>never</b> 1150:25 <b>New</b> 1137:23 1138:8,15,23,24 1149:1 1151:2,14,23 1152:7,19 1153:5 <b>next</b> 1139:12 <b>north</b> 1138:9 <b>noted</b> 1155:4 <b>Nothing</b> 1140:4 <b>Now</b> 1141:12 1143:23 1157:3 <b>Number</b> 1140:10 1146:22
<b>G</b>	<b>J</b>	<b>O</b>	<b>O</b>
<b>GARCIA</b> 1143:22 1144:8,9 <b>gas</b> 1144:18 1145:3 1151:9,15 1152:2,4,8,11,16,19 1153:3,7,8 1154:7,11 <b>gas-only</b> 1153:5 <b>generation</b> 1137:13,17 1139:4 1144:22 1153:5 <b>generator</b> 1146:16 <b>give</b> 1144:5 <b>given</b> 1151:11 1153:4 <b>goal</b> 1138:24 1139:1	<b>JACOBS</b> 1145:6,16,19,25 1147:12,23 1148:9,14 <b>JAYE</b> 1142:2,5 1143:20 <b>Jeff</b> 1140:24 <b>JLM-1</b> 1144:15	<b>objection</b> 1141:12,14,20 1154: 22 1157:6 <b>objections</b> 1141:15 <b>obtain</b> 1150:2 <b>obtained</b> 1149:15 <b>occasioned</b> 1153:16 <b>occur</b> 1147:10 1151:1 <b>October</b> 1143:4 <b>odd</b> 1153:9 <b>offer</b> 1156:1 <b>offered</b> 1151:19 <b>office</b> 1150:5,13 <b>often</b> 1145:25 <b>Oh</b> 1141:5 <b>oil</b> 1151:16 1152:12,23 1153:7 <b>Okay</b> 1139:16,24 1141:9 1145: 19,25 1154:3,7,14,18 1155:4, 11,25 1156:9,13,16,25 1157:2, 5 <b>older</b> 1139:4 1144:23 1145:1 1152:5 <b>one</b> 1137:15,18 1138:17 1144: 2 1146:23 1147:21 1150:10 1152:19 1153:4,15,25 1154:4 1155:13 <b>only</b> 1145:10 1146:4,18,19	<b>objection</b> 1141:12,14,20 1154: 22 1157:6 <b>objections</b> 1141:15 <b>obtain</b> 1150:2 <b>obtained</b> 1149:15 <b>occasioned</b> 1153:16 <b>occur</b> 1147:10 1151:1 <b>October</b> 1143:4 <b>odd</b> 1153:9 <b>offer</b> 1156:1 <b>offered</b> 1151:19 <b>office</b> 1150:5,13 <b>often</b> 1145:25 <b>Oh</b> 1141:5 <b>oil</b> 1151:16 1152:12,23 1153:7 <b>Okay</b> 1139:16,24 1141:9 1145: 19,25 1154:3,7,14,18 1155:4, 11,25 1156:9,13,16,25 1157:2, 5 <b>older</b> 1139:4 1144:23 1145:1 1152:5 <b>one</b> 1137:15,18 1138:17 1144: 2 1146:23 1147:21 1150:10 1152:19 1153:4,15,25 1154:4 1155:13 <b>only</b> 1145:10 1146:4,18,19

1147:2,13 1153:7  
 operate 1138:19 1145:1,14  
 1146:1,20 1147:1,3,5,20,21  
 1149:1 1151:2,15 1152:23  
 operating 1142:13 1145:12,22  
 1146:3,4,5,7 1147:25 1148:22,  
 24 1149:6  
 operation 1138:15 1152:22  
 1153:24  
 opinion 1139:8,25 1142:15  
 1149:5 1150:17,21,22 1151:19  
 order 1151:4  
 original 1148:1 1149:17 1150:  
 15,17 1152:22  
 originally 1149:23  
 other 1138:18,18 1141:15  
 1142:10,16,17 1144:2 1145:1  
 1146:13,24 1148:5 1150:8  
 1151:24 1152:20,23 1155:13  
 others 1149:25  
 otherwise 1138:22 1151:10  
 1152:4  
 out 1140:24 1154:25 1156:1  
 over 1148:25  
 own 1146:14,15

**P**

Page 1144:14 1154:3  
 paired 1146:14  
 parameters 1147:25  
 paraphrase 1151:13  
 part 1138:25 1140:18 1150:2  
 1151:22 1155:2  
 partial 1146:24  
 particular 1138:3  
 parties 1144:3  
 percentage 1145:11  
 performance 1148:10  
 performed 1148:21  
 permit 1142:11 1147:2,17,18  
 permits 1139:10  
 permitting 1137:12,16  
 personally 1152:15  
 perspective 1144:25  
 pertain 1143:14,16  
 Petitioners 1156:12  
 Petitioners' 1156:15,18,21  
 Phase 1152:16  
 pipeline 1152:16  
 plan 1138:25  
 plant 1138:8,17,22 1139:2,4  
 1142:9,18,19,22,23 1144:4,20,  
 25 1145:10,13,22 1146:3,4,7,  
 17,20 1148:25 1152:23 1154:8,  
 13  
 plant's 1153:24  
 plants 1139:5 1144:24 1145:1  
 1146:18 1152:19,23  
 please 1154:3  
 pleased 1138:3  
 plenty 1153:3  
 point 1144:20 1145:20 1151:  
 17 1155:14  
 pointed 1154:25  
 points 1137:3  
 pollutants 1143:16 1144:19  
 pollution 1143:15  
 possibility 1151:17  
 possible 1148:24 1151:14  
 possibly 1138:20  
 potentially 1151:13  
 power 1137:13,17,23 1138:15,  
 25 1144:21,24 1146:19 1149:  
 24,24 1151:23 1152:2,3,4,6,10,  
 19 1153:2 1156:2 1157:10  
 precise 1151:1  
 premised 1146:2  
 prepare 1137:22  
 prepared 1157:8  
 preparing 1152:15  
 presence 1152:7  
 present 1145:17

presented 1144:14  
 presumably 1146:23  
 printouts 1149:19 1150:3  
 probably 1145:14 1147:1,4  
 1152:24  
 proceeding 1137:18  
 produce 1156:4  
 produced 1152:11  
 produces 1149:2  
 producing 1147:13  
 production 1156:15,18,21  
 professional 1137:7 1138:1  
 1139:8  
 proffer 1139:15  
 project 1137:19,24,24 1138:3,  
 5,13,16,19,25 1139:7,9,25  
 1140:14 1142:7 1143:1,9,13,  
 17,19 1144:10,13,15 1145:4  
 1151:2,14,23 1152:1,3,8,10  
 1154:5  
 projects 1137:11,14 1153:10  
 proportional 1148:5  
 propose 1140:9,17 1144:11  
 Protection's 1149:20  
 provide 1151:4 1152:2,3,4,5,  
 19  
 provided 1140:15 1150:18  
 provides 1152:21  
 proxies 1150:7  
 proximate 1138:7  
 proxy 1140:14 1149:11 1150:  
 19,23 1154:8,12  
 Public 1150:12  
 purpose 1152:18 1154:8,12  
 push 1152:11  
 put 1141:1

**Q**

quality 1139:3,6  
 question 1142:17 1143:24  
 1144:7,9 1145:5,20 1146:11  
 1148:1,13,20 1149:12 1150:2  
 1151:11,19 1152:22 1153:15  
 questions 1139:18 1141:16,  
 18,23 1142:2 1143:20 1149:11  
 1153:11 1154:15,17  
 quick 1139:17 1155:6

**R**

range 1148:25  
 rates 1149:22  
 rather 1156:7  
 rationale 1152:21  
 re-redirect 1153:19  
 reader 1151:4  
 real 1139:17  
 really 1143:13,17 1145:19  
 1146:16 1147:4  
 realm 1145:2  
 reasonable 1145:9  
 reasoning 1151:22  
 reasons 1138:5 1151:21  
 receive 1139:9  
 received 1155:3,7 1157:1  
 record 1140:9 1150:12 1154:  
 25 1155:5  
 recovery 1146:15  
 Redirect 1148:15,17 1153:16  
 reduce 1138:17,20  
 reductions 1151:1,5  
 reference 1155:10  
 referenced 1150:9  
 referring 1143:12  
 refine 1149:15  
 regarding 1153:23  
 region 1139:6  
 regulations 1143:14  
 regulatory 1138:24  
 relied 1150:3,9  
 repowering 1153:6  
 representative 1150:24 1151:  
 3

representativeness 1150:18  
 represented 1150:14,23 1152:  
 9  
 represents 1145:4 1147:2  
 request 1156:18,21  
 requested 1140:11  
 requests 1156:3,15  
 requirements 1146:2  
 research 1151:18  
 resources 1144:16  
 RESPONSE 1141:25  
 responses 1156:2,3,4,12,14,  
 16,20  
 responsive 1145:5  
 rest 1145:12  
 result 1138:22 1139:7 1142:9  
 1143:9  
 review 1150:16  
 reviewed 1150:13  
 Rib 1157:11  
 Richard 1140:15  
 right 1139:22 1157:3  
 risks 1153:8  
 roughly 1148:5  
 rules 1143:14  
 running 1146:24 1147:15

**S**

said 1140:20 1156:5,10 1157:2  
 same 1142:23 1146:5,8 1148:  
 8 1152:6  
 Sasso 1141:22,23 1155:19  
 1157:9,10  
 savings 1140:25 1154:4  
 say 1142:21 1144:10 1146:22  
 1147:12 1150:25 1151:25,25  
 1152:7  
 scenario 1151:8  
 schedule 1139:11  
 screening 1148:21  
 second 1138:2 1152:14 1154:  
 3  
 see 1141:5 1144:5 1148:2  
 seems 1153:9  
 selected 1138:4  
 sense 1147:5  
 separate 1156:6  
 separately 1156:8  
 sequence 1157:12  
 Service 1150:12  
 services 1142:10  
 several 1138:12 1151:21  
 Shine 1140:15 1150:3  
 Shine's 1149:18 1150:9,10  
 1153:23  
 short 1141:10 1146:10 1155:8  
 should 1140:22 1143:18 1147:  
 18 1151:2,14 1152:5  
 show 1141:20 1154:21 1157:5  
 significant 1145:4 1153:8  
 since 1137:25  
 sir 1142:20 1146:10 1149:16  
 1150:21 1153:14 1154:2,10,23  
 site 1138:4,6 1143:3  
 situation 1149:4  
 small 1144:17 1145:10  
 Smyrna 1137:23 1138:7,15,23,  
 24 1149:1 1151:2,14,23 1152:  
 7,20  
 some 1140:11 1144:12 1146:  
 24 1149:11 1151:5 1155:2  
 something 1151:20 1154:25  
 sorry 1141:17 1155:13  
 sort 1144:3  
 sorts 1145:18  
 source 1149:13 1150:17  
 sources 1149:17,18,22,23  
 1150:15  
 specific 1138:2 1143:14 1150:  
 25  
 specifically 1143:16,24 1152:  
 18 1156:3

specifications 1145:21  
 spent 1137:8  
 Staff 1142:1,2 1155:15  
 standpoint 1147:6,6 1148:12  
 starts 1140:24  
 state 1139:7 1140:1 1144:22  
 1149:22 1152:17  
 statement 1140:2  
 steam 1146:16  
 strike 1146:6  
 studies 1137:16  
 study 1137:12  
 subject 1137:18  
 Subsequent 1149:16 1150:16  
 subsequently 1149:15  
 substantially 1143:10  
 substation 1138:7  
 such 1143:2 1144:7 1149:24  
 suited 1138:5  
 summarize 1137:2  
 summary 1139:13  
 supplied 1149:23  
 support 1137:16,22 1138:15  
 sure 1155:15  
 surrounding 1138:10  
 system 1149:20,21 1152:16

**T**

take 1145:6  
 team 1137:20  
 technology 1137:20 1142:25  
 1143:6,9,12 1147:1  
 telling 1147:13,14  
 TENDERED 1154:1  
 testify 1138:3  
 testifying 1138:6  
 testimony 1137:3 1139:24  
 Thank 1140:3 1141:21 1148:  
 14 1149:8 1154:14,23 1155:18  
 1157:7  
 that's 1137:18,21 1140:2  
 1142:8 1145:19 1146:7 1147:  
 16 1152:8,12 1155:2  
 themselves 1149:24 1150:11  
 there's 1156:10  
 therefore 1152:11  
 things 1142:16 1155:22  
 think 1139:5 1142:21 1144:19  
 1145:2 1147:9,17 1151:21  
 1152:20 1155:14 1156:23  
 1157:8  
 third 1152:25  
 those 1137:8,14 1142:12  
 1143:14 1146:2,20 1147:24,25  
 1148:3 1149:2,6,18 1150:15  
 thought 1151:18  
 tier 1144:21  
 time 1139:14 1140:7,11  
 title 1141:10 1155:8  
 top 1144:21  
 tracks 1149:21  
 Transcript 1157:12  
 treated 1138:21 1154:7  
 treatment 1138:8,16,22  
 true 1148:20  
 try 1144:9  
 trying 1147:9  
 turbine 1147:8  
 turbines 1146:14,15 1147:21  
 1148:11  
 turn 1154:3  
 Twelve 1137:8  
 two 1137:15 1138:19 1146:13,  
 14,17 1152:19 1153:6 1155:22  
 1156:2,6  
 type 1146:1 1147:1  
 types 1143:14 1153:10

**U**

UCNSB 1154:5  
 under 1138:23 1146:18 1147:  
 24,25

**understand** 1144:7  
**understanding** 1142:6,24  
**undertaking** 1153:10  
**unit** 1146:24 1147:15 1151:15,  
 16 1152:5 1154:7,11  
**units** 1140:14 1146:13,23  
 1148:22 1149:12 1150:6,19,23  
 1151:3,24  
**unless** 1147:20  
**up** 1146:13,17 1152:8  
**upon** 1146:2 1150:4,9 1151:18  
**us** 1137:2 1149:14  
**use** 1144:17,18 1145:3 1146:  
 22  
**used** 1149:13 1150:6 1154:8,  
 11  
**uses** 1138:11  
**using** 1151:9  
**Utilities** 1137:21 1138:9,23  
 1150:11 1153:1

### V

**verified** 1150:13  
**verify** 1150:5  
**very** 1139:2,5 1143:14,16  
 1144:9,21 1145:10,14,25 1146:  
 1,1 1148:16  
**view** 1145:7  
**visited** 1150:4  
**Volume** 1157:12

### W

**want** 1141:6 1145:17 1146:16  
 1151:25 1156:1  
**wanted** 1155:15 1157:2  
**wastewater** 1138:8,16,22  
**water** 1138:14,18,19 1144:18  
**way** 1146:17 1148:12 1155:3  
**we're** 1157:8  
**well** 1137:6 1138:5 1141:19  
 1144:3 1145:8  
**wetlands** 1144:18  
**whether** 1145:8 1151:8  
**will** 1138:16,17,19,20 1139:2,  
 4,7,9,25 1141:9 1142:9,11  
 1143:17 1144:15,17,17,18,18,  
 19,21 1145:12,13,13 1146:13,  
 15 1147:2 1151:23 1155:4  
 1156:5,9,23  
**within** 1139:11  
**without** 1141:20 1154:21  
 1157:6  
**WITNESS** 1144:8 1145:16,24  
 1146:10 1147:16,24 1148:10  
 1154:1  
**words** 1142:17 1146:14 1148:  
 5  
**worked** 1137:10  
**working** 1137:9,21  
**worry** 1145:20  
**worst-case** 1148:22 1149:4,6  
**WRIGHT** 1155:20,21,22,25  
 1156:7,10,11,14,18,22,25  
 1157:4,7  
**written** 1137:3

### Y

**year** 1137:25 1139:12  
**years** 1137:6,8,10 1138:1