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**BEFORE THE  
FLORIDA PUBLIC SERVICE COMMISSION  
TALLAHASSEE, FLORIDA**

**IN RE:**

**Petition for Determination of Need for DeBary-  
Winter Springs 230 kV transmission line by  
FLORIDA POWER CORPORATION.**

**DOCKET NO. 910578-EI**

---

**RECEIVED**

**BEFORE:** Division of Records & Reporting

Chairman Thomas M. Beard  
Commissioner Michael Wilson  
Commissioner Betty Easley  
Commissioner J. Terry Deason

**JUL 15 1991**

**Florida Public Service Commission**

**PROCEEDINGS:**

**Public Hearing  
(Met pursuant to notice)**

**DATE:**

**Tuesday, July 8, 1991**

**TIME:**

**Commenced 9:30 a.m.  
Concluded 11:45 a.m.**

**PLACE:**

**106 Fletcher Building  
Tallahassee, Florida**

**REPORTED BY:**

**PATRICIA L. GOMIA  
Notary Public in and for the  
State of Florida at Large**

**\* \* \***

**GOMIA AND ASSOCIATES  
CERTIFIED COURT REPORTERS  
216 WEST COLLEGE AVENUE, ROOM 122  
TALLAHASSEE, FLORIDA 32301  
904-224-6200**

**1**

**DOCUMENT NUMBER-DATE**

**07112 JUL 15 1991**

**FSC-RECORDS/REPORTING**

1 **APPEARANCES:**

2 **FOR FLORIDA POWER CORPORATION**

3 **CHERYL G. STUART, Esquire**  
 4 **Hopping, Boyd, Green and Sams**  
 5 **123 South Calhoun Street**  
 6 **Post Office Box 6526**  
 7 **Tallahassee, Florida 32314**

8 **and**

9 **PAMELA I. SMITH, Esquire**  
 10 **Florida Power Corporation**  
 11 **Post Office Box 14042**  
 12 **St. Petersburg, Florida 33733**

13 **FOR FLORIDA PUBLIC SERVICE COMMISSION**

14 **ROBERT V. ELIAS, Esquire**  
 15 **Division of Legal Services**  
 16 **Room 226, 101 East Gaines Street**  
 17 **Tallahassee, Florida 32399-0863**

18 **FOR THE COMMISSIONERS**

19 **DAVID SMITH, Esquire**  
 20 **Division of Appeals**  
 21 **Room 212, 101 East Gaines Street**  
 22 **Tallahassee, Florida 32399-0863**

23 **ALSO PARTICIPATING**

24 **Patricia Brady, PSC Staff**

25 **I N D E X**

**WITNESSES**

**PAGE**

**MICHAEL B. FOLEY**

**Direct Examination by Ms. Stuart**  
**Cross Examination by Mr. Elias**

**5**  
**24**

**JOHN E. ODOM**

**Direct Examination by Ms. Stuart**  
**Cross Examination by Mr. Elias**

**49**  
**76**

**CERTIFICATE OF REPORTER**

**108**

## E X H I B I T S

	Number		Identified	Admitted
1	No. 1	(Foley) (MBF-1) General location map of Project	8	49
2	No. 2	(Odom) (JEO-1) Exhibit 1 to Petition to Determine Need	29	107
3	No. 3	(Odom) (JEO-2) Map of Project Study Area	52	107
4	No. 4	(Odom) (JEO-3) Load Flows Before and After Project	52	107
5	No. 5	(Odom) (JEO-4) Comparison of Alternatives	52	107
6	No. 6	(Foley) Summary Bullet Chart	8	49
7	No. 7	(Foley) Map of Service Territory	8	49
8	No. 8	(Foley) FPC's 1990 Ten Year Site Plan, Pages 50-55	25	49
9	No. 9	(Foley) FPC's 1991 Ten Year Site Plan, Pages 54-58	25	49
10	No. 10	(Odom) FPC's Response to Staff's Informal Data Requests Nos. 1-8	82	96
11	No. 11	(Odom) FPC's Response to Staff's Informal Request for Production of Document: Flow Diagrams	82	96
12	No. 12	(Odom) FPC's Response to Staff's Informal Data Requests Nos. 9-10	82	96
13	No. 13	(Odom) OUC's Electric Boundary and Transmission map	82	96
14				
15				

## P R O C E E D I N G S

1  
2           **CHAIRMAN BEARD:** Read the notice.

3           **MR. ELIAS:** Notice issued May 17th, 1991 by the  
4 Clerk advises that a public hearing will be held in  
5 Docket No. 910578-EI, that is the petition of Florida  
6 Power Corporation for determination of need for DeBary-  
7 Winter Springs 230 kV transmission line; said hearing  
8 to begin at 9:30 a.m. on July 8th, 1991 in Room 106 of  
9 the Fletcher Building, 101 East Gaines Street,  
10 Tallahassee, Florida.

11           **CHAIRMAN BEARD:** Take appearances.

12           **MS. STUART:** Cheryl Stuart of the Law Firm  
13 Hopping, Boyd, Green and Sams, P. O. Box 6526,  
14 Tallahassee, Florida, 32314, on behalf of Petitioner,  
15 Florida Power Corporation. With me at the counsel  
16 table is Pamela Smith of Florida Power Corporation,  
17 P. O. Box 14042, St. Petersburg, Florida, 33733.

18           **CHAIRMAN BEARD:** Okay.

19           **MR. ELIAS:** I'm Robert Elias, 101 East Gaines  
20 Street, Room 226, Tallahassee, Florida, appearing on  
21 behalf of the Commission staff.

22           **MR. SMITH:** I'm David Smith of the Commission's  
23 Division of Appeals, appearing as counsel to the  
24 Commissioners.

25           **CHAIRMAN BEARD:** Okay. Where are we? Here, I

1 know. Are you ready to go forward?

2 MS. STUART: We are ready.

3 CHAIRMAN BEARD: Okay.

4 MS. STUART: Florida Power calls Michael Foley.

5 CHAIRMAN BEARD: Is your other witness here as  
6 well?

7 MS. STUART: Yes, he is.

8 CHAIRMAN BEARD: Okay. Let's go ahead, if we can,  
9 and swear both at one time.

10 (Thereupon, Florida Power Corporation Witnesses Foley  
11 and Odom were sworn simultaneously by Chairman Beard.)

12 CHAIRMAN BEARD: Okay.

13 MICHAEL B. FOLEY, JR.

14 having been produced and first duly sworn as a witness on  
15 behalf of Florida Power Corporation was examined and  
16 testified as follows:

17 DIRECT EXAMINATION

18 BY MS. STUART:

19 Q Would you please state your name and business  
20 address.

21 A Michael B. Foley, Jr. My business address is 3201  
22 34th Street South, St. Petersburg, Florida.

23 Q And by whom are you employed and in what capacity?

24 A I am employed by Florida Power Corporation as the  
25 director of system planning.

GOMIA AND ASSOCIATES

1 Q Mr. Foley, have you prefiled direct testimony in  
2 this docket consisting of 11 pages?

3 A Yes.

4 Q And do you have any changes or corrections to that  
5 testimony?

6 A No, I do not.

7 Q If I were to ask you the questions contained in  
8 that prefiled direct testimony today, would your answers be  
9 the same?

10 A Yes, they would.

11 MS. STUART: Mr. Chairman, I would ask that Mr.  
12 Foley's prefiled direct telephone be inserted in to the  
13 record as though read.

14 CHAIRMAN BEARD: It will be so inserted.

15 BY MS. STUART:

16 Q Mr. Foley, was there attached to your testimony  
17 one exhibit identified in in the prehearing order as Exhibit  
18 No. 1?

19 A Yes.

20 Q And are you also sponsoring two additional  
21 exhibits, a Summary Bullet Chart and a map of the service  
22 territory which has been passed out here previously and  
23 identified in the prehearing order as Exhibits No. 6 for the  
24 bullet chart and No. 7 for the map?

25 A Yes.

1 Q And do you have any changes or corrections to any  
2 of those exhibits?

3 A No.

4 Q And is the information contained on those exhibits  
5 true and correct to the best of your knowledge and belief?

6 A Yes.

7 MS. STUART: Mr. Chairman I would ask that those  
8 exhibits be given the numbers identified in the  
9 prehearing order.

10 CHAIRMAN BEARD: Okay. Let's, help me just a  
11 minute here. I had it and then I put it aside.

12 I have -- in your prehearing statement I show JEOs  
13 1, 2, 3 and and 4. And this is different, and I show  
14 an MBF-1.

15 MS. STUART: MBF-1 in the prehearing order is a  
16 map with the dotted line on it, that is Exhibit 1.

17 CHAIRMAN BEARD: All right.

18 MS. STUART: And then I had handed out prior to  
19 the hearing Exhibit 6, which is the Summary Bullet  
20 Chart.

21 CHAIRMAN BEARD: We'll identify that as Exhibit 6.

22 MS. STUART: Six. It's in the prehearing order.

23 CHAIRMAN BEARD: Okay, and the other is seven?

24 MS. STUART: Correct, the green map.

25 CHAIRMAN BEARD: Okay.

(Exhibit Nos. 1, 6 and 7 identified)

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1                   **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**  
2                   **PREPARED DIRECT TESTIMONY OF**  
3                   **MICHAEL B. FOLEY, JR.**  
4                   **ON BEHALF OF FLORIDA POWER CORPORATION**  
5                   **DOCKET NO. 910578-EI**  
6                   **June 19, 1991**

7  
8                   **Introduction and Qualifications**

9                   **Q. Please state your name, business address and**  
10                   **occupation.**

11                   **A. My name is Michael B. Foley, Jr. My business**  
12                   **address is 3201 34th St. South, St. Petersburg,**  
13                   **Florida 33711. I am the Director of System**  
14                   **Planning for Florida Power Corporation.**

15

16                   **Q. What are your duties and responsibilities in that**  
17                   **position?**

18                   **A. My duties and responsibilities are to direct**  
19                   **generation and transmission facility planning for**  
20                   **Florida Power Corporation.**

21

22                   **Q. Please summarize your educational background.**

23                   **A. I have a Bachelor of Science in Mechanical**  
24                   **Engineering degree from the University of South**

1 Florida and a Master of Business Administration  
2 degree from the Florida Institute of Technology.

3

4 Q. Please summarize your professional experience.

5 A. I have over twenty-four years of experience in the  
6 utility industry, with twenty of those years at  
7 Florida Power Corporation. My professional  
8 experience includes approximately 14 years in  
9 power plant engineering, design, operations and  
10 maintenance and 7 years in system planning, with  
11 the remainder of my career in corporate staff  
12 positions.

13

14 Q. Are you a member of any professional  
15 organizations?

16 A. Yes, I am a registered Professional Engineer in  
17 the State of Florida.

18

19 Q. Have you previously testified before this  
20 Commission?

21 A. Yes. I have previously testified for Florida  
22 Power Corporation in both rate cases and  
23 generating performance incentive factor (GPIF)  
24 hearings.

25

1       **Purpose of Testimony**

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

3       **A.    The purpose of my testimony is to explain why the**  
4           **Commission should determine that FPC has a need**  
5           **for the proposed DeBary-Winter Springs 230 kV**  
6           **transmission line (the "Project") as the first**  
7           **step in licensing under the Transmission Line**  
8           **Siting Act ("TLSA"). In explaining the need for**  
9           **the Project, I will give an overview of FPC and**  
10          **will describe the reliability and strategic**  
11          **benefits that the Project will provide to FPC and**  
12          **its customers. Mr. Odom will provide more details**  
13          **on the technical analysis of the Project and the**  
14          **potential alternatives that we examined and**  
15          **rejected.**

16

17       **Q.    Are you sponsoring any exhibits as part of your**  
18           **testimony?**

19       **A.    Yes. A map showing the general location of the**  
20           **Project is attached to my testimony as Exhibit**  
21           **/   (MBF-1).**

22

1 **Overview of FPC and Project**

2 **Q. Please provide a brief description of FPC.**

3 **A. Florida Power Corporation (FPC) is Florida's**  
4 **second largest investor-owned electric utility.**  
5 **FPC provides electric service to more than 1.1**  
6 **million customers in 32 Florida counties. FPC's**  
7 **service territory extends along Florida's West**  
8 **Coast, from St. Petersburg in the south to the**  
9 **Florida-Georgia border in the north and the**  
10 **Appalachicola River in the west.**

11

12 **Q. Please describe the transmission line for which**  
13 **FPC is seeking a determination of need in this**  
14 **docket.**

15 **A. The DeBary-Winter Springs 230 kV transmission line**  
16 **will be approximately 18 to 22 miles in length.**  
17 **It will begin at FPC's DeBary Generating Plant**  
18 **near DeBary, in Volusia County, and will end at**  
19 **FPC's existing Winter Springs Substation in Winter**  
20 **Springs, in Seminole County. Engineering for the**  
21 **line is expected to begin in October, 1992 to**  
22 **support a December, 1995 in-service date.**  
23 **Exhibit   /   (MBF-1) shows the generalized**  
24 **location of the Project. The final length and**

1 routing of the line will depend on the result of  
2 further proceedings under the TLSA.

3

4 **Q. Why is FPC asking the Commission to approve the**  
5 **need for the Project?**

6 **A. FPC identified the Project as the best alternative**  
7 **to meet the twin needs of maintaining transmission**  
8 **reliability in the Greater Orlando Area and**  
9 **supporting future combustion turbine siting at the**  
10 **DeBary generating site in Volusia County. To meet**  
11 **these needs in a timely fashion, the licensing**  
12 **activity for the Project must begin now.**

13

14 **Reliability and Strategic Benefits of Project**

15 **Q. Please describe the reliability need for the**  
16 **Project.**

17 **A. The Project is needed by December, 1995 to enable**  
18 **FPC to continue to meet its reliability criteria**  
19 **for service to the Greater Orlando Area. The**  
20 **Project also provides a number of other**  
21 **reliability benefits. Specifically, the needs the**  
22 **Project satisfies and the benefits it provides are**  
23 **as follows:**

24 **1. The Project is needed by 1995 to maintain**  
25 **single contingency reliability in the event**

- 1 of the outage of the Sanford-North Longwood  
2 230 kV line. In its simplest terms, single  
3 contingency reliability means that FPC's  
4 transmission system must be able to operate  
5 without overloads in the event that any  
6 single transmission line is out of service.  
7 If this planning criteria is violated, then a  
8 single transmission line outage could result  
9 in loss of customer load.
- 10 2. By 1997, the Project is needed to maintain  
11 single contingency reliability in the event  
12 of the outage of the North Longwood-Winter  
13 Springs 230 kV line.
- 14 3. The Project reduces the severe overloading  
15 which would occur in the event of an outage  
16 of the double circuit segment of the Sanford-  
17 North Longwood and Sanford-Altamonte 230 kV  
18 lines.
- 19 4. The Project improves the power transfer  
20 capability into the Greater Orlando Area.
- 21 5. The Project provides an additional 230 kV  
22 source to the Winter Springs Substation that  
23 will support future extension of the  
24 transmission system in the eastern portion of  
25 FPC's service territory.

1 Mr. Odom will provide more detail about these  
2 reliability needs and benefits, and about the  
3 alternatives that FPC studied before concluding  
4 that the Project is the best solution for meeting  
5 these needs.

6

7 Q. Please describe the strategic need for the  
8 Project.

9 A. FPC needs to maintain the ability to add  
10 generating capacity to its system on short notice  
11 to respond to a number of planning contingencies.  
12 A study of FPC's combustion turbine siting (CT)  
13 options led to the decision to construct  
14 additional CTs at the DeBary Generating site in  
15 1992 and at the Intercession City Generating site  
16 in 1993. Once the 1992 CTs are added at DeBary,  
17 the transmission system at that site will be fully  
18 utilized. This means that the addition of any  
19 further CT capacity at DeBary without additional  
20 transmission would cause FPC to violate its  
21 transmission reliability criteria. The DeBary  
22 site is a back-up site to Intercession City for  
23 the 1993 CTs, and is a leading candidate to serve  
24 as a location for future CTs. Because the  
25 licensing and construction lead time for

1 transmission lines subject to the TLSA is longer  
2 than the licensing and construction lead time for  
3 CTs, it is prudent to add transmission that will  
4 overcome the DeBary site's transmission  
5 limitations. The Project will address this need  
6 by reliably supporting up to 450 MW of additional  
7 CTs at the DeBary site beyond those planned for  
8 1992.

9  
10 Mr. Odom will explain in more detail the Project's  
11 impact on overcoming this transmission limitation.  
12 I will address the strategic benefits of being  
13 able to use the DeBary site for additional CT  
14 capacity on short notice.

15

16 **Q. Why is having the ability to add CT capacity at**  
17 **the DeBary site on short notice important to FPC?**

18 **A.** The ability to add CT capacity at the DeBary site  
19 on short notice is important to FPC because it  
20 allows FPC to add new capacity in response to  
21 circumstances that may change unexpectedly. While  
22 most capacity additions are planned well in  
23 advance of construction, it is prudent for FPC to  
24 have a useable power plant site, such as DeBary,



1           that is acceptable for presently unplanned CT  
2           additions.

3

4       **Q.   What contingencies might require the addition of**  
5       **such CT capacity?**

6       **A.   There are several contingencies that could require**  
7       **the addition of such CT capacity.  A few examples**  
8       **are:**

- 9           1.   Contracted QF capacity may fail to come on  
10           line as expected.  In order to maintain  
11           system reliability, the addition of CT  
12           capacity may be the only available option.
- 13           2.   FPC's load growth may be higher than  
14           anticipated, resulting in the need for  
15           additional capacity.
- 16           3.   It may not be possible to construct CT  
17           capacity at Intercession City in December,  
18           1993, due to unforeseen problems in obtaining  
19           permits at that site.  In that event, a back-  
20           up site would be required.
- 21           4.   The 500 kV tie line from Florida to the  
22           Southern system may be delayed from its  
23           planned in-service date.  If this occurred,  
24           FPC might have to add CTs to maintain system  
25           reliability.

1       **Q. Will the Project have any impact on Peninsular**  
2       **Florida's ability to import power from the**  
3       **Southern System or other neighboring utilities**  
4       **outside the state?**

5       **A. No, this Project will have no impact on Peninsular**  
6       **Florida's ability to import power from Southern**  
7       **Company or other utilities outside Florida. It**  
8       **will, however, improve the power transfer**  
9       **capability into the Greater Orlando Area by**  
10       **providing a third transmission path from**  
11       **generation in the northern part of the area to**  
12       **load in the South.**

13  
14       **Q. Please summarize your testimony.**

15       **A. The DeBary-Winter Springs transmission line is**  
16       **needed by December, 1995 to maintain the ability**  
17       **of FPC's 230 kV transmission system to reliably**  
18       **withstand single contingency transmission outages.**  
19       **The Project also avoids another single contingency**  
20       **violation that would otherwise occur by December,**  
21       **1997. In addition, the line enhances transmission**  
22       **reliability by minimizing the effect of outages of**  
23       **double-circuit transmission lines in the Greater**  
24       **Orlando area; improves the power transfer**  
25       **capability into that load center; supports the**

1 future growth and extension of the transmission  
2 grid; and overcomes the transmission limitations  
3 at the DeBary site by supporting the installation  
4 of 450 MW of additional CT capacity at that site.  
5 The Project is the best alternative available to  
6 FPC to meet the needs of FPC's customers for  
7 transmission system reliability and integrity in  
8 the Greater Orlando Area, and to assure the  
9 availability of abundant, low-cost electrical  
10 energy to customers in our Eastern and Mid-Florida  
11 Divisions. We respectfully urge the Commission to  
12 make an affirmative determination of need for the  
13 proposed line as the first step in the licensing  
14 process under the TLSA.

15

16 **Q. Does that conclude your testimony?**

17 **A. Yes.**

18

19

20

21

22

23

24

25

1 BY MS. STUART:

2 Q Mr. Foley, would you would you please summarize  
3 your testimony for us?

4 A The purpose of my testimony --

5 CHAIRMAN BEARD: Let me stop right here. There is  
6 at least two of us that don't have a copy of the  
7 prehearing order. How about you all? I've got the  
8 prehearing statement I was working from that had four  
9 exhibits -- five exhibits.

10 MS. STUART: Sure.

11 (Document distributed to the Commission)

12 CHAIRMAN BEARD: Now, we are cooking. And we have  
13 identified Exhibits 1, 6 and 7.

14 MS. STUART: Yes, sir.

15 CHAIRMAN BEARD: Okay. Now I'm on your sheet of  
16 music.

17 MS. STUART: Thank you.

18 BY MS. STUART:

19 Q Mr. Foley, would you please summarize your  
20 testimony for us.

21 A The purpose of my telephone is to give an overview  
22 of the proposed project, and to explain the reasons we are  
23 seeking approval for the DeBary to Winter Springs 230 kV  
24 line.

25 If I could, Commissioners, I would like to use the

1 hand-held mike and go up to the exhibits.

2 Exhibit 7 is the map that you see here, which is  
3 the general area affected by the proposed transmission line.  
4 it depicts the general service territory of Florida Power  
5 Corporation in the Greater Orlando Area in the light shades  
6 of green. The Orlando Utility Commission service territory  
7 is shown as gray on this exhibit. The white areas  
8 surrounding it are other utilities. Primarily on the east  
9 is the Florida Power and Light Corporation service  
10 territory, Orlando Utilities to the south, and Sumter  
11 Electric Cooperative is to the west.

12 The line we are proposing to build connects the  
13 DeBary Power Plant substation, which is located in Volusia  
14 County to the Winter Springs substation, existing substation  
15 in Seminole County, approximately 20 miles long. The line  
16 serves a dual purpose need. The first is to support the  
17 transmission reliability in the area. It also serves  
18 another need of providing power plant citing flexibility by  
19 being able to add more capacity at the DeBary Plant should  
20 we have to do so.

21 We have summarized in Exhibit 6 six reasons why we  
22 need the project. The first on Exhibit 6 shows that we need  
23 the line by December 1995 to avoid a single contingency  
24 outage of the Sanford-North Longwood line. What that means  
25 is that Florida Power Corporation, like all the other

1 utilities in Florida, plans its transmission system so that  
2 the loss of any one transmission line will not result in any  
3 other transmission line overloading beyond its emergency  
4 rating. And by 1995 without this line, if we lose the  
5 Sanford-North Longwood line, another line will overload, and  
6 this proposed line will solve that problem.

7           There are, number one through number five on this  
8 chart are similar transmission reliability related reasons  
9 for the line that Mr. Odom, the second witness, will cover  
10 in more detail.

11           The last on the bullet chart is the second need  
12 that I said. It adds generation siting flexibility to  
13 Florida Power, because if we had this line we'll be able to  
14 add 450 more megawatts of generating capacity at the DeBary  
15 Plant than we can after 1992. After 1992 the transmission  
16 capability out of that site will be used up, and we can't  
17 add any more capacity there. It's a 2,000 acre site. By  
18 the end of '92 it will have 650 megawatts, so we could  
19 support with its existing infrastructure more capacity.

20           Our current plans don't call for us to add our  
21 next peaking capacity at DeBary. We are planning to do it  
22 at Intercession City, which is on the sound side of this  
23 Greater Orlando Area. It has excess transmission  
24 capability, and it has some other infrastructure reasons for  
25 making us want to go to Intercession City next. But

1 Intercession City has a land problem. It's a very wet area,  
2 and there's a risk from a licensing standpoint that we may  
3 not get the license to add the capacity there in time for  
4 '93. And having this transmission line in place will allow  
5 us a back-up site in DeBary, which is the next best place to  
6 put it. Adding the transmission line and making DeBary  
7 capable of adding more capacity will also cover other  
8 contingencies that we hope who don't happen, but might.

9           We may, we may have missed our load forecasts.  
10 The load forecasts may be higher than we anticipate. Our QF  
11 contracts that we've signed up, as you all know we have  
12 signed up quite a few, we don't know how successful the in-  
13 service dates will be. There may be some slippage, and if  
14 so, it's good to have a backup.

15           Our conservation and load management programs are  
16 also very aggressive, and should we undershoot our goals, we  
17 may have to add more peaking capacity, and this site is an  
18 ideal place to do it.

19           And also the third 500 kV line, as you all know  
20 Florida Power Corporation is planning to build, is scheduled  
21 for coming on line early in '97, and should there be a delay  
22 in that project we may need to have a place to add  
23 additional peaking capacity.

24           And for those reasons that summarizes -- concludes  
25 my summary of my testimony.

1 MS. STUART: The witness is available for cross.

2 CROSS EXAMINATION

3 BY MR. ELIAS:

4 Q Mr. Foley, would you refer to Page 7, Lines 21  
5 through 23 of your direct testimony.

6 A Yes, sir.

7 Q You state that the DeBary site is a backup to the  
8 Intercession City, to Intercession City for the 1993 CTs.  
9 In your summary you indicated that the main concern with the  
10 Intercession City site was the nature of the site itself,  
11 and the wetlands. Are there any other concerns as far as  
12 the licensing for that site?

13 A No particular ones. We'll have to add additional  
14 land at that site in order to -- we have to buy additional  
15 land in order to avoid some of the wetlands. The excess  
16 land we have available on the site are very wet and we'll  
17 have to acquire the additional land.

18 Q What is the likelihood at this point in time that  
19 FPC will have to use an alternative site to the Intercession  
20 City site?

21 A I believe that we'll be able to accomplish the  
22 Intercession City site. It's a matter of prudent planning  
23 we think to consider fallback options, should it be  
24 necessary.

25 MR. ELIAS: Okay. I would ask Ms. Brady to go



1 ahead and pass out exhibits, what have been marked as  
2 Exhibits No. 8 and 9.

3 COMMISSIONER EASLEY: Eight and nine, we don't  
4 have them.

5 CHAIRMAN BEARD: Okay. We'll identify FPC's 1990  
6 Ten Year Site Plan, Pages 50 to 55, as Exhibit 8. And  
7 FPC's 1991 Ten Year Site Plan, Pages 54 to 58, as  
8 Exhibit 9.

9 (Exhibit Nos. 8 and 9 Identified)

10 BY MR. ELIAS:

11 Q Mr. Foley, would you turn to Page 52 of the 1990  
12 site plan.

13 A All right.

14 Q It indicates that Anclote has been chosen as the  
15 alternative site for installation of combustion turbines.  
16 But in the 1991 site plan there is no mention of the Anclote  
17 site. What has changed from one year to the next to  
18 eliminate that site?

19 A In 1991 a re-look at all the possible sites,  
20 including Anclote, was done. And I would have to refer back  
21 to that study to get the specific reason. There was a  
22 ranking and a weighting of points for various attributes,  
23 and obviously Anclote didn't score well the last time we  
24 looked at it. Things, things do change. And I'm afraid I  
25 can't give you a definitive answer right now.

1           **COMMISSIONER EASLEY:** Would it have anything to do  
2 with the classification of Anclote as outstanding  
3 waters?

4           **WITNESS FOLEY:** I doubt it, Commissioner Easley.  
5 The peaking capacity would not normally have an effect  
6 on the surrounding water. There is no cooling water  
7 per se for the peaking unit like a steam plant would  
8 have.

9           I would venture to, without having benefit of  
10 actually looking at the study, the transmission  
11 capability out of the Anclote plant is not good. The  
12 fuel delivery modes to Anclote Plant are not extremely  
13 good. There is no port. We have to pipe by pipeline  
14 the fuel across county to the existing steam plant, and  
15 some of the other sites have a fuel delivery  
16 infrastructure that is preferable.

17           **COMMISSIONER WILSON:** Was Anclote the place where  
18 that cross-Gulf gas pipeline that was suggested a  
19 number of years ago, somebody was working on it, was  
20 that one of the places where it was going to come  
21 ashore?

22           **WITNESS FOLEY:** That is correct, Commissioner. I  
23 think it was the ANR Pipeline.

24           **COMMISSIONER WILSON:** Yeah.

25 **BY MR. ELIAS:**

1 Q Similarly on Page 53, towards the bottom of FPC's  
2 1990 site plans, it indicates that the P.L. Bartow site has  
3 been chosen as an alternative site for the installation of  
4 combustion turbines. But there is no mention of the Bartow  
5 site in the 1991 site plan. Are you able to tell us what  
6 has changed with respect to that site?

7 A Again, Bartow was evaluated in the 1991 along with  
8 the other sites and didn't score as well. What specific  
9 scoring attribute it didn't do as well on I can't say for  
10 sure. Again, transmission is a problem at Bartow. We are  
11 transmission limited at Bartow.

12 To bring additional generating capacity off of  
13 Weedon Island additional transmission circuits would have to  
14 be constructed, and that is one of the considerations  
15 obviously for the Intercession City being the prime location  
16 for the '93 is the transmission capability is already there  
17 and no additional transmission will be required. Also  
18 Intercession City has an existing oil pipeline from Tampa  
19 Bay, GATX I believe is the owner, and that is the way the  
20 fuel is delivered to the Intercession City site is by  
21 pipeline from Tampa Bay, and that is very cost effective.

22 Q Would using the DeBary site as an alternative to  
23 Intercession City instead of Anclote or Bartow make the  
24 DeBary site transmission limited?

25 A The DeBary site after '92 will have no additional

1 transmission capability, so therefore, it will be  
2 transmission limited. The addition of this proposed 230 kV  
3 line would add 450 megawatts of additional capability to be  
4 sited there before the transmission limit is reached.

5 Q If the additional CTs are added at DeBary, would  
6 the site then be transmission limited, after the 230 kV line  
7 is built?

8 A No, it would not. The proposed Intercession City  
9 CTs are 340 megawatts, and it would have the capability of  
10 450 after the line is in-service, leaving an excess of I  
11 think 110 megawatts.

12 Q All right. In Exhibit 2, which has been  
13 identified as JEO-1 --

14 MS. STUART: Mr. Elias, excuse me. Are you  
15 referring to the blue bounded documented?

16 MR. ELIAS: Yes.

17 MS. STUART: Which is the study.

18 MR. ELIAS: The Study.

19 CHAIRMAN BEARD: We haven't marked it for  
20 identification yet I don't think here, although it's in  
21 the prehearing statement. Do you want to do that now?

22 MR. ELIAS: That would be fine.

23 CHAIRMAN BEARD: It would actually be sponsored --

24 MS. STUART: By Mr. Odom.

25 CHAIRMAN BEARD: Okay. That will be identified as

1 Exhibit No. 2, and that is the, that is Exhibit 1 to  
2 the petition to determine need. All right.

3 (Exhibit No. 2 identified)

4 BY MR. ELIAS:

5 Q Turning to Page 24, it states, "It is possible  
6 that CTs could be needed at DeBary in late 1993 if the  
7 Intercession City site fails, but that the transmission  
8 necessary to support the generating capacity without  
9 violating single contingency criteria would not be in  
10 service until late 1995."

11 If this is the case how can DeBary be an  
12 alternative for Intercession City's 1993 need with a 1995  
13 transmission line in-service date?

14 A It's a matter of risk taking. The problem to  
15 which this refers would last two years and would mean that  
16 there would be limits on the output of the capacity at  
17 DeBary should the DeBary -- should the Sanford to North  
18 Longwood line, I believe is the one, if that should fail,  
19 should have an outage, and then the overload would occur and  
20 it would be for the period of time that that line is out.  
21 So it's a matter of being at risk for whatever period of  
22 time that line is out. It's not something that we would  
23 prefer to do. It's a matter of balancing other factors that  
24 make the DeBary site a good place to put generation from a  
25 cost standpoint, infrastructure standpoint. And that we

1 decided that we would probably take the risk for that two-  
2 year period recognizing that the outage window for a failed  
3 line should be of short duration, and hopefully it wouldn't  
4 occur, since these are peaking units, hopefully it wouldn't  
5 occur coincident with the time when the peaking units are  
6 needed to serve peak load.

7 Q If the DeBary site had to be used as a site for  
8 the 1993 Intercession City CTs, wouldn't any related  
9 transmission needs be associated transmission and handled  
10 other than through a transmission line siting, a corridor,  
11 a determination of need and approval? In other words, as  
12 part of the determination of need for the additional  
13 generating capacity?

14 A Peaking capacity is not covered under the Power  
15 Plant Siting Act. Steam units are over 75 megawatts. So  
16 that's one of the problems. It takes longer to get the  
17 transmission line permitted than it would to not permit it.  
18 It takes longer to get the whole project done for the  
19 transmission line, the permitting and the construction, than  
20 it does just to construct the peaking unit, because the  
21 peaking unit doesn't require the site act front-end process.

22 Q Setting aside for the moment consideration of any  
23 other need in this petition, such as the 1995 and 1997  
24 single contingency violations, if the DeBary site was needed  
25 for the 1993 CTs, would there be a more logical circuit for

1 the associated transmission, i.e., a more direct link to  
2 Intercession City?

3 A From DeBary?

4 Q Yes.

5 A No, that would not satisfy the other needs, the  
6 other transmission reliability needs that this project  
7 provides.

8 Q Setting adds those two contingencies, 1995 and  
9 '97, would there be a more logical circuit?

10 MS. STUART: Excuse me. Can I ask for  
11 clarification, because I'm not sure I understand the  
12 question. Are you asking a circuit to connect DeBary  
13 to Intercession City?

14 MR. ELIAS: As a back-up site for the CTs, in  
15 other words ignoring the other -- I have enumerated  
16 1995 and 1997 single contingency violations.

17 MS. STUART: Right.

18 MR. ELIAS: Just ignoring those two.

19 MS. STUART: Is the question would the Company  
20 then propose to build the line from DeBary to  
21 Intercession City?

22 MR. ELIAS: In other words, is there more logical  
23 circuit to serve this, that function than the one being  
24 proposed.

25 A My answer is no. Mr. Odom can cover in greater

1 detail than I. He has studied exhaustive alternatives, and  
2 the project that is proposed is the best alternative not  
3 only for the transmission but for the power plant citing  
4 aspect as well.

5 COMMISSIONER DEASON: How many miles is it from  
6 DeBary to Intercession City?

7 WITNESS FOLEY: I'm guessing, it's probably 45 to  
8 50 miles, and this line is a 20-mile line we are  
9 talking about.

10 COMMISSIONER DEASON: Thank you.

11 BY MR. ELIAS:

12 Q Would you turn to Page 7 of your direct testimony,  
13 starting on Line 21 through Page 8, Line 8. It states that,  
14 "The DeBary site is a leading candidate to serve as a  
15 location for future CTs because the licensing and  
16 construction lead time for transmission line subject to the  
17 Transmission Line Siting Act is longer than the licensing  
18 and construction lead time for CTs. It is prudent to add  
19 transmission that will overcome the DeBary site's  
20 transmission limitations. The project will address this  
21 need by reliably supporting up to 450 megawatts of  
22 additional CTs at the DeBary site beyond those planned for  
23 1992."

24 Question, does FPC consider by approving this need  
25 determination, which includes a strategic need for



1 generating expansion at the DeBary site that the Commission  
2 is implying prior approval for such expansion?

3 A Prior approval for peaker expansion?

4 Q Yes.

5 A No.

6 Q Okay. Turning to Page 9 of your direct testimony,  
7 starting with the Line 9, you list examples of possible  
8 contingencies for needing additional capacity at the DeBary  
9 site on short notice.

10 One, contracted QF capacity may fail --

11 COMMISSIONER EASLEY: Mr. Elias, excuse me. There  
12 really is not any need to read them in to the record.  
13 We've got them.

14 MR. ELIAS: Okay.

15 COMMISSIONER EASLEY: Thank you.

16 BY MR. ELIAS:

17 Q In FPC's recent petition for approval of eight  
18 negotiated contracts, the amount of negotiated capacity  
19 exceeded the expected need by 156 megawatts for this reason.  
20 Does FPC feel the reliability of those contracts is such  
21 that back-up generation is necessary in addition to over-  
22 solicited need?

23 A We don't know is the answer. We hope that all of  
24 the capacity that we have contracted for from the QFs will  
25 come on line. We believe the state needs the capacity. But

1 should it fail to come on line, and we don't know the  
2 likelihood of that, we are looking ahead for fallback  
3 positions. And Florida Power Corporation has to meet its  
4 customers' loads, demands, and we are just trying to plan  
5 ahead.

6 We really don't have a great deal of experience  
7 under our belts on getting a lot of QFs on line, not that  
8 they, many have failed, it's just that we are early in the  
9 process. We don't know what to expect.

10 Q On Page 12 of what has been marked as Exhibit No.  
11 2, which is the Study, it indicates that FPC as a base case  
12 uses a peak load forecast that is a hundred and 10 percent  
13 of the load forecast in the FCG databank, and that databank  
14 is used for modeling. Does FPC feel that a hundred and 10  
15 percent multiplier is still not conservative enough?

16 COMMISSIONER EASLEY: I want to ask you, compared  
17 to what? I don't understand the question.

18 MR. ELIAS: We are talking about Example No. 2 of  
19 the possible contingencies that are listed on your  
20 direct testimony.

21 COMMISSIONER EASLEY: Okay.

22 A I believe the way to answer that is that in the  
23 transmission planning studies we do use a hundred and 10  
24 percent of the forecast load for making sure that  
25 transmission lines can handle all the load that may be out

1 there. Back in my testimony where it's talking about we may  
2 need additional generating capacity because our forecasts  
3 may be wrong, we plan for generating capacity entirely  
4 different. We use a dual planning criteria of loss of load  
5 probability of a tenth of a day, and a winter reserve margin  
6 of 15 percent over our forecasted peak load. So we are  
7 actually planning on generating capacity having at least 15  
8 percent more than our forecasted peak, not just 10 percent.  
9 And a forecast, as the Commission is painfully aware, is a  
10 difficult thing to produce specially very far into the  
11 future, and this is merely pointing out the need for  
12 contingency response in case we are off with our forecasts  
13 more than we hope we are. I don't know whether that  
14 answered your question or not.

15 Q Example No. 4, you speak to the 500 kV tie line  
16 from Florida to the Southern System may be delayed from its  
17 planned in-service date. If this occurred FPC might have to  
18 add CTs to maintain system reliability. What kind of delays  
19 are anticipated such that new generation rather than short-  
20 term purchased power would be necessary?

21 A First of all, in our generation planning we are  
22 counting on the new transmission line adding sufficient  
23 reliability to our ability to serve our customers that we  
24 are avoiding 500 megawatts of generating capacity. We are  
25 saying we are not going to build 500 megawatts of generating

1 capacity we would have otherwise built had this 500 kV line  
2 not been here.

3           So if the 500 kV line is not here on time, we are  
4 short essentially 500 megawatts in our generation plan. And  
5 if the line is delayed for any number of reasons by a year,  
6 we could be the 500 megawatts short of being able to meet  
7 our customers demands, which is very significant. And  
8 purchased power in the state may or may not be available to  
9 the extent of 500 megawatts. If it is and if it looks like  
10 it's a short-term delay, that may very well be the prudent  
11 thing to do is to purchase in the state and only build part  
12 of that 500 megawatts.

13           But those are things that we can't know for  
14 certain what is going to happen. So we are merely pointing  
15 out that we need to be able to build peaking capacity if  
16 that is what is needed to make up the shortfall, if the 500  
17 kV line is delayed.

18           COMMISSIONER WILSON: What was the estimated in-  
19 service date of that 500 kV tie line?

20           WITNESS FOLEY: The current estimated in-service  
21 date or the -- I guess that is January '97. At one  
22 time I believe we told you all we were hoping to do it  
23 in January of '96.

24           COMMISSIONER WILSON: Why, what caused the  
25 slippage in that date?

1           WITNESS FOLEY: The complication of the process of  
2 getting a connection to the north.

3           COMMISSIONER WILSON: You mean a connection with  
4 Southern Company or --

5           WITNESS FOLEY: Yes.

6           COMMISSIONER WILSON: -- the route, the corridor?

7           WITNESS FOLEY: Well, the route is yet, the hurdle  
8 yet to be crossed. Florida Power has ownership of a  
9 railroad right-of-way from Monticello down to  
10 Dunnellen, generally along U.S. 19. We own it. It was  
11 an abandoned railroad right-of-way that we purchased on  
12 a contingency really anticipating that some day it  
13 might be used for something like this. We hope that  
14 that might be considered and be a potential corridor.  
15 That is a process that has yet to take place in the  
16 DER, and it may or may not wind up being the actual  
17 corridor. So that step has yet to take place.

18           CHAIRMAN BEARD: Your problem now is the  
19 Oglethorpe/Southern Company debate.

20           WITNESS FOLEY: Yes, I think we've got --

21           COMMISSIONER WILSON: Is that over?

22           WITNESS FOLEY: I believe it is. I can't say for  
23 certain. We've made some good strides. We've got a  
24 handshake, a verbal understanding between the Florida  
25 side, which is Florida Power and Florida Power and

1 Light, and also the Georgia side involving Oglethorpe  
2 and Georgia Power, and have reached agreement on the  
3 way to make the tie and the way that the export  
4 capability from Georgia will be split up. And that has  
5 been the complication, of when you build a connection  
6 to Georgia it creates the ability to export power out  
7 of Georgia, and they have what is called the integrated  
8 transmission system.

9 I'm telling you more than you probably want to  
10 know. But that's an agreement between the four  
11 utilities in Georgia, and that complicated the issue  
12 as to how to divide up the export capability, and that  
13 slowed us down.

14 COMMISSIONER EASLEY: Have you got anything in  
15 writing?

16 WITNESS FOLEY: We do not. That's why I say we  
17 have a handshake and a verbal agreement. We are --  
18 yes, fingers crossed, and we have a draft letter of  
19 intent that we are scheduled to share with the Georgia  
20 utilities for them to counter back with word changes  
21 next week. And our plan is, and the Georgia utilities  
22 have agreed to this kind of a deadline for the end of  
23 July to have a letter of intent signed.

24 Again, that is not a contract. That is one step  
25 better than a handshake in the -- and with that letter

1 of intent though, we feel that is strong enough to then  
2 come to the Commission with our need petition.

3 COMMISSIONER WILSON: That is your next step after  
4 you get that letter of intent, but before you get a  
5 contract, you will come to the Commission for  
6 certification of need for that. Now, will you have  
7 selected the corridor?

8 WITNESS FOLEY: No.

9 COMMISSIONER WILSON: When will that occur?

10 WITNESS FOLEY: That occurs in the process of  
11 proposing alternative corridors, and the DER process  
12 handles that, the selection of those corridors.

13 COMMISSIONER WILSON: And then after the DER  
14 finishes that process, you begin acquisition?

15 WITNESS FOLEY: That is correct.

16 COMMISSIONER WILSON: Does it follow, the projects  
17 scheduled as Appendix B, do all of your projects pretty  
18 much follow that kind of schedule in Appendix B in your  
19 Exhibit 2, which is Exhibit 1 to your petition?

20 WITNESS FOLEY: Yes, this is a very generic  
21 schedule that would apply as well to the 500 kV line, I  
22 believe.

23 COMMISSIONER WILSON: Where in this process on  
24 that schedule is the Public Service Commission's  
25 determination of need?

1           WITNESS FOLEY: December of '95 is the application  
2 to the DER, and July --

3           COMMISSIONER WILSON: You said '95.

4           WITNESS FOLEY: I'm sorry, your question was when  
5 is the application of need, it's not shown on here.

6           MS. STUART: Excuse me, Commissioner.

7           COMMISSIONER WILSON: Obviously we are here in the  
8 middle July, and I can pick out July, and then prepare  
9 and submit transmission line sitings.

10          MS. STUART: Are you asking about where we are in  
11 this hearing on this chart or on the 500?

12          COMMISSIONER WILSON: On this chart.

13          MS. STUART: Okay.

14          COMMISSIONER WILSON: On this chart it shows  
15 corridor selection as occurring prior to and  
16 contemporaneous with the line siting application  
17 process. But for the 500 kV line that is going north  
18 to Georgia, you will not do corridor selection prior to  
19 applying for or beginning the line certification  
20 process?

21          WITNESS FOLEY: We will, and I misspoke. The  
22 selection, the decision has not been made on the 500  
23 kV corridor. We are obviously gathering data, looking  
24 at alternative corridors, one of which I mentioned, the  
25 railroad right-of-way.



1           **COMMISSIONER WILSON:** By the time you come to us  
2 with that certification on the 500 kV, you will have  
3 selected alternative corridors going north to Georgia  
4 to tie in to the Southern System?

5           **WITNESS FOLEY:** I believe we will have most of  
6 those selected. There may be some additional work that  
7 crops up between the time of the need and the DER  
8 actual review of the work.

9           **COMMISSIONER WILSON:** And does site acquisition or  
10 land acquisition occur -- which phase of this that is  
11 shown on this chart will, would be where you would  
12 acquire the land for the 500 kV one going north if it  
13 follows this same pattern?

14           **WITNESS FOLEY:** It would happen after the bar  
15 shown in the middle of '92, the certification hearing  
16 and final action by siting board.

17           **COMMISSIONER WILSON:** Is that is considered part  
18 of the engineering, that phase that is labeled  
19 engineering here?

20           **WITNESS FOLEY:** That would be where, approximately  
21 where it would take place, yes, in that timeframe.  
22 It's just, it's not shown, the land acquisition as an  
23 item, but it would occur in overlap with the  
24 engineering.

25           **COMMISSIONER WILSON:** Do you have land acquisition

1 in this, this siting application?

2 WITNESS FOLEY: We have not begun land acquisition  
3 in this.

4 COMMISSIONER WILSON: Would it be necessary to  
5 acquire additional land?

6 WITNESS FOLEY: Depending on the corridor chosen,  
7 the obvious choices to try and utilize existing  
8 corridors, if possible, and those will be evaluated.

9 COMMISSIONER WILSON: Do you have existing  
10 corridors that would run between DeBary and --

11 WITNESS FOLEY: There are partial corridors that  
12 can be used. I'm not certain there is a --

13 COMMISSIONER WILSON: A continuous?

14 WITNESS FOLEY: -- a continuous, but Mr. Odom  
15 would be a better one to say definitively on that.

16 COMMISSIONER DEASON: The year slippage in the  
17 estimated time for the 500 kV line, would you attribute  
18 that to disagreements among the Georgia utilities,  
19 amongst themselves, or was that some type of problem  
20 between Florida and Georgia?

21 WITNESS FOLEY: The former, and I'm not sure that  
22 I would want to characterize it as a disagreement.  
23 It's an evolving process that the Georgia utilities  
24 have agreed how they are going to share ownership and  
25 use of the transmission network in Georgia. They had

1 never quite settled how they were going to treat the  
2 export capability out of Georgia, and in fact Georgia  
3 Power had it all, and they settled. They reached an  
4 agreement that they would share part of the existing  
5 export capability out of Georgia with the other owners  
6 in this ITS, Integrated Transmission System. The other  
7 owners are Oglethorpe, the major one, 22 percent.  
8 There is the City of Dalton, and the, it's MEAG,  
9 Municipal, it's the Municipal Utility Association in  
10 Georgia owns also a small portion.

11 So those four entities finally agreed how they  
12 would split up the export capability out of Georgia,  
13 and that hadn't happened at the time we were trying to  
14 identify where and how to make our interconnection in  
15 Georgia.

16 COMMISSIONER DEASON: But you believe at least  
17 verbally that that, an agreement has been reached and  
18 there is a sign of accord?

19 WITNESS FOLEY: And I'll have to qualify it and  
20 tell you that it's an accord between Georgia Power and  
21 Oglethorpe, MEAG and Dalton have listened favorably and  
22 have not yet come to a complete affirmation, but it's  
23 the Georgia utilities -- it's the Oglethorpe and  
24 Georgia Power's opinion that they will.

25 COMMISSIONER DEASON: Thank you.

1           MR. ELIAS: The staff has no further questions  
2 from Mr. Foley. We do have some questions that are  
3 directed to Mr. Odom that Mr. Odom is quite likely to  
4 say that Mr. Foley would be the most appropriate  
5 individual to answer those, and rather than ask them  
6 twice, we'll reserve the right to recall Mr. Foley.

7           CHAIRMAN BEARD: Don't leave town. Okay.

8 Redirect?

9           MS. STUART: None, thank you.

10          COMMISSIONER DEASON: I have just a few questions  
11 now that staff is finished.

12          CHAIRMAN BEARD: Go ahead.

13          COMMISSIONER DEASON: From the big picture  
14 perspective, what you are saying is that the main  
15 reasons for the construction of this line are a single  
16 phase, single line contingencies, and you enumerate  
17 two, one in the 1995 timeframe, and one in 1997  
18 timeframe, is that correct? They are the two main  
19 reasons for this particular line that we are discussing  
20 today?

21          WITNESS FOLEY: They are two main reasons. I hope  
22 that the others carry a lot of weight also.

23          COMMISSIONER DEASON: Well, let me ask you this  
24 question. If we were to assume hypothetically that all  
25 of the QF capacity which you have now subscribed to

1 actually comes on line and there is no need for CT  
2 capacity in the 1993 timeframe, regardless of whether  
3 it's Intercession City or DeBary, it's just not needed  
4 at all, would you still recommend that this line be  
5 built?

6 WITNESS FOLEY: Yes.

7 COMMISSIONER DEASON: And that's because of the  
8 single line contingencies which you discussed in 1995  
9 and 1997?

10 WITNESS FOLEY: And also the other three, number  
11 three, four and five that you haven't heard about yet  
12 that Mr. Odom is going to cover, and they are very  
13 important also.

14 COMMISSIONER DEASON: But as I understand item  
15 three on that list, the double contingency factor, this  
16 line would help but would not solve that problem.

17 WITNESS FOLEY: That is correct. What it will do  
18 will, I believe the number is a hundred and 69 percent  
19 of emergency rating is what occurs on the line that is  
20 overloaded. With this new line in place that drops  
21 significantly, and what it allows the dispatchers to do  
22 is to make some maneuvering attempts, some switching,  
23 some re-dispatching of generators.

24 A line is likely to withstand some overload over  
25 its emergency rating and the dispatcher is liable to

1 take a chance and allow it to do that if he knows it's  
2 only a small amount, and he has got time to do some  
3 other things. And we believe that that is a great  
4 benefit to avoid putting a large number of customers in  
5 the dark, which is what happens if this double  
6 contingency outage occurs.

7 COMMISSIONER DEASON: Okay. Thank you.

8 CHAIRMAN BEARD: A hundred and 69 percent over the  
9 rated capacity of the line?

10 WITNESS FOLEY: The emergency, it's a hundred and  
11 69 percent of the emergency rating. There's a normal  
12 rating and an emergency rating.

13 CHAIRMAN BEARD: And that is over what length of  
14 time?

15 WITNESS FOLEY: It's instantaneous. We just don't  
16 want to see it.

17 CHAIRMAN BEARD: Normally I thought your ratings  
18 though were based, you can withstand that kind of load,  
19 but only the higher the load the shorter the duration  
20 of time that you can withstand that kind of pressure.

21 WITNESS FOLEY: That's true. From an operating  
22 standpoint, there are operating limits that are  
23 different than our planning limits, and I think that's,  
24 I misspoke, I think you are exactly right. When we do  
25 our planning studies we look at them as instantaneous.

1           COMMISSIONER DEASON: The 1995 and 1997  
2 timeframes, which we were discussing, what is driving  
3 those timeframes? Just increased demand at certain  
4 load centers and being able to get the energy from one  
5 site to where it's needed, that is what is driving  
6 those timeframes?

7           WITNESS FOLEY: That's exactly it, the load growth  
8 in the area. The load growth is substantial.

9           COMMISSIONER DEASON: Of course, you also  
10 mentioned load growth as one of the reasons why you may  
11 need combustion turbine peaking capacity earlier than  
12 what is expected because growth could be higher than  
13 expected.

14          WITNESS FOLEY: Yes.

15          COMMISSIONER DEASON: Okay. Could that also, the  
16 growth in demand also necessitate the transmission  
17 capacity being needed earlier than the 1995 and 1997  
18 timeframes?

19          WITNESS FOLEY: It certainly could.

20          COMMISSIONER DEASON: Okay, thank you.

21          CHAIRMAN BEARD: Okay. Any other questions,  
22 Commissioners?

23          One last time, redirect?

24          MS. STUART: No, sir.

25          CHAIRMAN BEARD: Witness is excused.

1           **COMMISSIONER WILSON:** Let me ask one more  
2 question. The time slippage of one year from '96 to  
3 '97 on the 500 kV line north, was that timeframe that  
4 you originally had posited the result of when you  
5 thought you would need it, or when you thought you  
6 could get it built?

7           **WITNESS FOLEY:** The latter, when we thought we  
8 could get it built.

9           **COMMISSIONER WILSON:** When is it that you think  
10 you are going to need it?

11          **WITNESS FOLEY:** I think we need it right now.

12          **COMMISSIONER WILSON:** Is there any way that you  
13 can recapture any of that one-year delay that you have  
14 seen there?

15          **WITNESS FOLEY:** Commissioner, we are going to work  
16 as diligently and as hard as we can to make up any time  
17 lost. It's certainly a very high priority within our  
18 corporation. We've got a whole project team assigned  
19 to do nothing but that, a project manager and a lot of  
20 our resources, including my time, is aimed at getting  
21 that project accomplished.

22          **CHAIRMAN BEARD:** If you don't run in to a  
23 Kathleen/Tarpon problem?

24          **WITNESS FOLEY:** Please.

25          **CHAIRMAN BEARD:** Okay. The witness is excused.



1 (Witness Foley Excused)

2 CHAIRMAN BEARD: And while the next witness is  
3 getting ready, we are going to take a 10-minute break.

4 (Recess)

5 CHAIRMAN BEARD: Okay.

6 MS. STUART: Commissioner, I would move Exhibits  
7 1, 6 and 7.

8 CHAIRMAN BEARD: Okay.

9 MR. ELIAS: I move Exhibits 8 and 9.

10 CHAIRMAN BEARD: Okay. Thank you for reminding  
11 me.

12 (Exhibit Nos. 1, 6, 7, 8 and 9 received into evidence)

13 CHAIRMAN BEARD: Okay, and you have your next  
14 witness, and you were previously sworn.

15 JOHN E. ODOM, JR.

16 having been produced and previously duly sworn as a witness  
17 on behalf of Florida Power Corporation was examined and  
18 testified as follows:

19 DIRECT EXAMINATION

20 BY MS. STUART:

21 Q Would you please state your name and business  
22 address.

23 A Yes, I will. My name is John E. Odom, Jr. And my  
24 business address is 3201 34th Street South, St. Petersburg,  
25 Florida.

GOMIA AND ASSOCIATES

1 Q And by whom are you employed and in what capacity?

2 A I am employed by Florida Power Corporation, and  
3 I'm a senior transmission and distribution planning engineer  
4 in the system planning department.

5 Q Mr. Odom, have you prefiled direct testimony in  
6 this docket consisting of 19 pages?

7 A Yes, I have.

8 Q Do you have any changes or corrections to that  
9 testimony?

10 A Yes, I do.

11 Q Would you please identify those for us.

12 A Yes. On Page 15, Line 10, change the 12 to a 14.  
13 And then on the next page, Page 16, Line 3, change the 12 to  
14 a 14.

15 Q And, Mr. Odom, with those changes, if I were to  
16 ask you the same questions contained in your prefiled  
17 direct testimony today would your answers be the same?

18 A Yes, they would.

19 MS. STUART: Mr. Chairman, I would ask that Mr.  
20 Odom's prefiled direct testimony be inserted in to the  
21 record as though read.

22 CHAIRMAN BEARD: It will be so inserted.

23 BY MS. STUART:

24 Q Mr. Odom, are there also attached to your  
25 testimony three exhibits which have been identified in the

1 prehearing order as Exhibits 3, 4 and 5?

2 A Yes, there were.

3 Q And are you also sponsoring the document entitled  
4 Exhibit 1 to the Petition to Determine Need, which is the  
5 blue-bounded study book that has been identified in the  
6 prehearing order as Exhibit 2?

7 A Yes, I am.

8 Q And do you have any changes or corrections to any  
9 of those exhibits?

10 A Yes, I do. In Exhibit No. 2, Page 5, down two-  
11 thirds of the way under Item D, project cost estimate, the  
12 second line under project cost estimate, change the 12 to a  
13 14, and at the end of that same line change 1991 to 1995.  
14 And then two rows -- two lines down change 1991 to 1995.  
15 And in Appendix A right under the title it has 1991 dollars,  
16 that should also be 1995 dollars.

17 Q And with those corrections is the information  
18 contained on those exhibits true and correct to the best of  
19 your knowledge and belief?

20 A Yes, they are.

21 MS. STUART: And, Mr. Chairman, I would ask that  
22 the exhibits be given the numbers they have identified  
23 in the prehearing order.

24 CHAIRMAN BEARD: Okay. JEO-1, which was  
25 previously identified, as Exhibit 2. JEO-2 as Exhibit

1 3. JEO-3 as Exhibit 4. JEO-4 as Exhibit 5.

2 Do you want to go ahead and identify these other  
3 three while we are --

4 MR. ELIAS: Those are staff?

5 MS. STUART: Those aren't mine.

6 CHAIRMAN BEARD: Those are staff, okay. Never  
7 mind.

8 (Exhibit Nos. 3, 4 and 5 Identified)

9  
10  
11  
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1           **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2                   **PREPARED DIRECT TESTIMONY OF**

3                           **JOHN E. ODOM, JR.**

4                           **ON BEHALF OF FLORIDA POWER CORPORATION**

5                           **DOCKET NO. 910578-EI**

6                           **June 19, 1991**

7

8           **Introduction and Qualifications**

9           **Q.    Please state your name, business address and**  
10                   **occupation.**

11           **A.    My name is John E. Odom, Jr. and my business**  
12                   **address is 3201 34th St. South, St. Petersburg,**  
13                   **Florida 33711. I am a Senior Transmission &**  
14                   **Distribution Planning Engineer in the System**  
15                   **Planning Department at Florida Power Corporation.**

16

17           **Q.    What are your duties and responsibilities in that**  
18                   **position?**

19           **A.    As a planning engineer, I am responsible for**  
20                   **identifying the future transmission needs of FPC**  
21                   **with adequate lead time to allow for the**  
22                   **licensing, engineering and construction of new**  
23                   **transmission or substation projects. I am**  
24                   **currently the area planner responsible for**  
25                   **evaluating the transmission system within FPC's**

1 Mid-Florida Division, including interconnections  
2 with other divisions and utilities. In addition,  
3 I am involved in special projects on an as-needed  
4 basis.

5

6 **Q. Please summarize your educational background.**

7 **A. I graduated from Lake-Sumter Community College**  
8 **with an Associate of Arts Degree in 1975, and from**  
9 **University of Central Florida with a Bachelor of**  
10 **Science in Engineering Degree in 1979.**

11

12 **Q. Please summarize your professional experience.**

13 **A. I have approximately five years of Design**  
14 **Engineering experience and seven and one-half**  
15 **years of System Planning experience, all with**  
16 **Florida Power Corporation.**

17

18 **Q. Are you a member of any professional organizations**  
19 **or industry groups?**

20 **A. Yes, I am a registered Professional Engineer in**  
21 **the State of Florida. In addition, I am a member**  
22 **of the Power Engineering Society of the IEEE. I**  
23 **am also a member of the Application of Probability**  
24 **Methods Subcommittee of that Society's Power**  
25 **System Engineering Committee.**

1       **Q.    Have you previously testified before this**  
2       **Commission?**

3       **A.    Yes.  In August, 1987, I testified on substation**  
4       **and transmission issues in a territorial dispute**  
5       **between FPC and Suwannee Valley Electric**  
6       **Cooperative, Inc.  (Docket No. 870096-EU).**

7

8       **Purpose of Testimony**

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

10      **A.    The purpose of my testimony is to describe the**  
11      **technical aspects of the DeBary-Winter Springs**  
12      **230 kV transmission line (the "Project") and to**  
13      **demonstrate FPC's need for the Project.  I will**  
14      **explain FPC's transmission planning process,**  
15      **including our transmission reliability criteria.**  
16      **I will describe why additional 230 kV transmission**  
17      **is needed by the end of 1995 to maintain**  
18      **acceptable transmission reliability in the Greater**  
19      **Orlando Area and to enable FPC to reliably**  
20      **disperse power from future CTs that may be added**  
21      **at the DeBary Generating site.  I will explain how**  
22      **FPC determined that the Project is the best**  
23      **alternative to meet these needs, and will describe**  
24      **other benefits that the Project provides.  I will**  
25      **also explain the adverse consequences to FPC and**

1           its customers if approval of the Project is  
2           delayed or denied.

3

4       **Q.    Are you sponsoring any exhibits as part of your**  
5       **testimony?**

6       **A.    Yes.  Exhibit 2 (JEO-1) is the report titled**  
7       **"Determination of Need for DeBary-Winter Springs**  
8       **230 kV Transmission Project" that was filed in**  
9       **this docket on June 3, 1991.  I have also prepared**  
10      **Exhibits 3 (JEO-2) to 5 (JEO-4), which are**  
11      **attached to this testimony.**

12

13      **Planning Process**

14      **Q.    Please describe FPC's transmission planning**  
15      **process.**

16      **A.    FPC conducts a comprehensive transmission study**  
17      **each year to identify future transmission**  
18      **improvements needed to maintain acceptable**  
19      **transmission reliability.  In addition, we conduct**  
20      **special studies on an as-needed basis when**  
21      **significant changes occur that could impact the**  
22      **current plan.  FPC uses the Multiple Contingency**  
23      **Load Flow (MCLF) program to identify areas of**  
24      **concern.  This program models the outage of**  
25      **individual transmission lines or transformers at**



1 various load levels to identify areas that need  
2 further review. Once an area of concern has been  
3 identified, a planning engineer conducts an in-  
4 depth analysis of the area. This analysis  
5 determines the extent of the problem, identifies  
6 and evaluates possible solutions, and selects a  
7 recommended alternative for inclusion in FPC's  
8 capital facilities plan.

9

10 **Q. Please explain the reliability criteria used as**  
11 **the basis for planning FPC's transmission system.**

12 **A. FPC has developed various criteria, consistent**  
13 **with Florida Electric Power Coordinating Group**  
14 **(FCG) Planning Criteria, to ensure that the**  
15 **transmission system will perform in a reliable**  
16 **manner. FPC designs its transmission system so**  
17 **that, under normal conditions (i.e., with no**  
18 **transmission or transformer outages), the flow on**  
19 **any line or transformer will be below its normal**  
20 **rating. This criteria must be met for any**  
21 **reasonable generation dispatch, including**  
22 **situations where any single generating unit is out**  
23 **of service for scheduled maintenance. Therefore,**  
24 **a single generating unit outage is considered to**  
25 **be a normal condition.**

1           In addition, the system is designed so that no  
2           lines or transformers will exceed their emergency  
3           ratings in the event of the loss of any single  
4           transmission line or transformer (a "single  
5           contingency"). FPC's criteria also provide that  
6           the voltages at any bus that serves residential or  
7           commercial customers should not drop below 95% of  
8           its nominal voltage under single contingency  
9           conditions.

10

11       **Q.    What other factors are used in assessing**  
12       **transmission reliability?**

13       **A.    When FPC conducts a study of an area, the planner**  
14       **considers other factors that may be important to**  
15       **the specific area. These factors may include the**  
16       **likely duration of an outage, the remedial action**  
17       **that could be taken to react to an outage, the**  
18       **possibility that multiple contingencies could**  
19       **result from a single event, and the need to**  
20       **withstand events that could separate large load**  
21       **centers from the sources of generation.**

22

23       **Q.    What analyses did you perform in investigating the**  
24       **need for the Project?**

1       A.    The analysis included an in-depth study of all  
2            single 230 kV line outages and any double circuit  
3            line outages in the study area as shown on the map  
4            attached as Exhibit 3 (JEO-2). This analysis  
5            was performed using the FCG and FPC 1990/1991  
6            transmission data bases and our computerized load  
7            flow program.

8  
9            The analysis concentrated on line outages that  
10           would cause other lines in the area to overload.  
11           The voltage at each bus was also examined;  
12           however, this was not a significant factor in the  
13           study, since low voltages were not identified as a  
14           problem under any single contingency. The study  
15           included an examination of how the generation  
16           dispatch affected power flows on the transmission  
17           system in the study area.

18

19       **Need for Project**

20       Q.    What specific factors show a need for additional  
21            transmission in the study area by 1995?

22       A.    The study identified two items of concern that  
23            indicate a need for transmission improvements by  
24            1995. The first is a violation of single  
25            contingency criteria that occurs in 1995 when the

1           outage of the Sanford-North Longwood 230 kV line  
2           causes the Sanford-Sylvan-North Longwood line to  
3           overload and exceed its emergency rating (the  
4           "1995 single contingency"). Service to  
5           approximately 95,000 customers could be affected  
6           by this single contingency. This is the type of  
7           single contingency that FPC ordinarily designs its  
8           transmission system to withstand.

9  
10          The second item of concern is that an outage of  
11          the Sanford-Altamonte and Sanford-North Longwood  
12          lines, which share common structures for  
13          approximately 12 miles, causes a severe  
14          overloading of the Sanford-Sylvan-North Longwood  
15          line. This double contingency could totally  
16          separate the generation at DeBary and at FPL's  
17          Sanford Plant from the Greater Orlando Area, and  
18          has the potential to impact service to  
19          approximately 500,000 customers as the result of a  
20          single event (i.e., the loss of a single  
21          transmission structure). This particular double  
22          circuit outage is a problem that FPC believes  
23          should be addressed from a reliability viewpoint,  
24          even though our criteria do not require the  
25          transmission system to be able to withstand every

1 double contingency. The double-circuit outage  
2 problem and the 1995 single contingency are  
3 referred to together as the "DeBary-North Longwood  
4 corridor violations."  
5

6 **Q. Are there any other reliability problems in the**  
7 **area that must be addressed?**

8 **A. Yes.** By December, 1997, the outage of the North  
9 Longwood-Winter Springs line causes the Stanton-  
10 Rio Pinar line to reach its emergency rating (the  
11 "1997 single contingency" or the "Stanton-Rio  
12 Pinar violation"). Service to approximately  
13 16,000 customers could be affected by this single  
14 contingency. Again, this is the type of single  
15 contingency that FPC's system is typically  
16 **designed to withstand.**

17

18 Finally, by December, 1997, the single contingency  
19 loss of the Rio Pinar-Stanton line will cause the  
20 North Longwood-Winter Springs line to exceed its  
21 normal rating, requiring corrective action that  
22 could affect service to approximately 8,000  
23 customers.  
24

1       **Q.    How does the Project address these reliability**  
2       **problems?**

3       **A.    The Project strengthens the 230 kV system so that**  
4       **it can withstand either the 1995 or 1997 single**  
5       **contingency without causing any transmission line**  
6       **in the area to exceed its normal rating.  The**  
7       **Project also addresses the double circuit outage**  
8       **situation by significantly reducing the overload**  
9       **on the Sanford-Sylvan-North Longwood line.  While**  
10       **the overloading is not eliminated, the improvement**  
11       **will give FPC's system dispatchers more time to**  
12       **respond to such an outage in a controlled manner.**  
13       **The results of these studies, showing line**  
14       **loadings with and without the Project, are**  
15       **presented in the table attached as Exhibit 4**  
16       **(JEO-3).  Detailed load flow plots are contained**  
17       **in Appendices H and I of Exhibit 2 (JEO-1).**

18  
19       **Q.    How was the possible need to add CT capacity at**  
20       **the DeBary Generating site included in your**  
21       **analysis?**

22       **A.    As Mr. Foley has testified, FPC needs the ability**  
23       **to add combustion turbine (CT) capacity to its**  
24       **system on short notice.  The study therefore**  
25       **included an analysis of the impact of additional**

1 generation at DeBary, beyond the 340 MW being  
2 added at the site in 1992. The analysis showed  
3 that by 1992 the DeBary site will be transmission-  
4 limited, such that the addition of as little as  
5 150 MW of new generation at the site without  
6 transmission improvements would cause the system  
7 to violate single contingency criteria. By adding  
8 a third circuit from the site to the load area in  
9 the south, the Project enables up to 450 MW of  
10 generation to be added at the DeBary site without  
11 adverse transmission system consequences.

12

13 Mr. Foley discusses the various planning  
14 contingencies that could result in the need to  
15 locate additional combustion turbines at the  
16 DeBary site on short notice.

17

18 **Q. Does the Project provide any other benefits?**

19 **A. Yes, in addition to (1) solving the 1995 single**  
20 **contingency, (2) addressing the double circuit**  
21 **outage problem, (3) preventing the 1997 single**  
22 **contingency violation, and (4) supporting 450 MW**  
23 **of additional CT capacity at the DeBary site, the**  
24 **Project provides two other benefits. First, the**  
25 **Project provides the ability to reliably transfer**

1 more power from the electrical sources at DeBary  
2 and FPL's Sanford Plant into the Greater Orlando  
3 Area. Second, the Project makes the Winter  
4 Springs Substation a strong source that will  
5 support a 230 kV extension to the south and east  
6 to provide a new source for the underlying 69 kV  
7 network in the future.

8

9 **Alternatives**10 **Q. Did FPC examine any alternatives to the Project?**11 **A. Yes.**

12

13 **Q. Please summarize those alternatives.**14 **A. FPC identified transmission improvements that,**  
15 **singly or in combination, could meet all of the**  
16 **needs that are addressed by the Project. The**  
17 **alternatives fell into three groups:**18 **Group A: Alternatives that address the DeBary-**  
19 **North Longwood corridor violations, the Stanton-**  
20 **Rio Pinar violation, and support additional**  
21 **generation at the DeBary site.**22 **Group B: Alternatives that address the DeBary-**  
23 **North Longwood Corridor violations and support**  
24 **additional capacity at DeBary.**



1           **Group C:** Alternatives that correct the Stanton-  
2           Rio Pinar violation.

3           Each alternative is shown on the table attached as  
4           Exhibit 5 (JEO-4). The alternatives in Group B  
5           and Group C do not address all of the needs the  
6           line is designed to address. The only options  
7           that address all of the needs are the Project and  
8           the DeBary-Winter Park East line (Group A), and  
9           combinations of one project from Group B and one  
10          project from Group C.

11

12          **Q. How did you conclude that the Project is the best**  
13          **of the available alternatives?**

14          **A. Each alternative (or combination of alternatives)**  
15          **that meets all of the needs was evaluated based on**  
16          **cost and technical factors. The only single-line**  
17          **alternative that provided the same benefits is the**  
18          **DeBary-Winter Park East line. This alternative is**  
19          **essentially a longer and more expensive version of**  
20          **the Project. This alternative was rejected**  
21          **because the added cost did not provide any**  
22          **additional benefits. Each of the two-line**  
23          **alternatives was more expensive than the Project,**  
24          **and none of them were as desirable from a**  
25          **technical viewpoint. The Project was therefore**

1           selected as the best solution from both a  
2           technical and cost perspective.

3

4           **Project Details**

5           **Q.    What is the FPC's timetable for licensing, design  
6           and construction of the Project?**

7           **A.    FPC is presently evaluating corridors in  
8           anticipation of submitting an application under  
9           the Transmission Line Siting Act (TLSA) by  
10          December, 1991. The final action by the Siting  
11          Board is expected by October, 1992. Detailed  
12          design of the Project will begin as soon as a  
13          final corridor is approved. Construction is  
14          expected to begin in June, 1994 and to be  
15          completed by December, 1995. A licensing and  
16          construction timetable for the Project is  
17          contained in Appendix B of Exhibit 2 (JEO-1).**

18

19          **Q.    What is the current status of corridor selection  
20          for the Project?**

21          **A.    FPC's permitting team, in conjunction with its  
22          consultants, has examined a large number of  
23          possible corridors using a series of  
24          environmental, land use, cost, reliability, and  
25          other criteria. Although no final decision on the**

1 preferred corridor or corridors has been made, the  
2 most promising candidate corridors make extensive  
3 use of existing transmission line rights-of-way.  
4

5 **Q. Please provide FPC's capital cost estimate for the**  
6 **Project and describe the assumptions on which the**  
7 **estimate is based.**

8 **A. The Project is estimated to cost approximately**  
9 **\$14 million in 1995 dollars, although the cost**  
10 **could range from approximately \$<sup>14</sup>~~12~~ million to**  
11 **approximately \$16 million depending on the final**  
12 **corridor approved under the TLSA. This estimate**  
13 **incorporates all costs, including transmission**  
14 **design and construction, right-of-way acquisition,**  
15 **terminations at DeBary Substation and the Winter**  
16 **Springs Substation, and the cost to convert the**  
17 **Lake Emma Substation from a 115/13 kV substation**  
18 **to a 230/13 kV substation. This conversion cost**  
19 **is included because several of the possible siting**  
20 **options use an existing 115 kV transmission line**  
21 **right-of-way for a portion of the Project. If one**  
22 **of these corridors is selected, the existing line**  
23 **would be removed and the Lake Emma Substation**  
24 **would need to be converted. Many of the options**  
25 **that do not include routing through the Lake Emma**

1           Substation have other offsetting costs, and the  
2           estimated costs for the top ten routes are all  
3           within the \$~~12~~<sup>14</sup> to \$16 million range. This  
4           compares with an estimated cost of \$17 million to  
5           \$31 million for the alternatives discussed above  
6           and shown on Exhibit 5 (JEO-4).  
7

8           **Q.    What assurance can FPC give that the actual cost**  
9           **of the Project will not exceed the current**  
10           **estimate?**

11           **A.    FPC cannot give any absolute assurance as to the**  
12           **final installed cost of the line. While the**  
13           **estimate is the most accurate one possible at this**  
14           **time, the final route has not been selected and a**  
15           **number of factors beyond FPC's control can affect**  
16           **the final cost of the line. These include: the**  
17           **determination of the final length and routing of**  
18           **the line in further proceedings under the TLCA;**  
19           **any costs required to comply with unexpected**  
20           **conditions that may be imposed through the TLCA**  
21           **process; and unexpected changes in materials or**  
22           **labor costs.**

1       **Consequences of Delay or Denial**

2       **Q.    What would be the consequences to FPC and its**  
3           **customers if the approval of the Project was**  
4           **delayed?**

5       **A.    The consequences would depend in part on the**  
6           **length of the delay. Any delay of more than a few**  
7           **months in obtaining final approval by the Siting**  
8           **Board could delay the in-service date of the**  
9           **Project on a month-for-month basis. Any in-**  
10          **service delay would expose FPC's customers to the**  
11          **possibility of losing service in the event of the**  
12          **single contingency outage of the Sanford-North**  
13          **Longwood line beginning in winter 1995. In**  
14          **addition, such a delay would extend the period**  
15          **during which the double circuit outage could cause**  
16          **severe outages in the Greater Orlando Area, and**  
17          **would delay the date that CTs could be added at**  
18          **the DeBary site without violating single**  
19          **contingency criteria.**

20  
21          **An in-service delay of two years or more would**  
22          **expose FPC's customers to the possibility of**  
23          **losing service in the event of the outage of the**  
24          **Stanton-Rio Pinar 230 kV line, in addition to all**  
25          **of the consequences of a shorter delay.**

1       **Q.    What would be the impact if certification of the**  
2       **line was denied?**

3       **A.    Because FPC will violate single contingency**  
4       **criteria by 1995 without the Project, doing**  
5       **nothing is not an alternative.  If certification**  
6       **was denied, FPC would be required to address its**  
7       **customers' needs with a longer, more costly, less**  
8       **desirable alternative or combination of**  
9       **alternatives.**

10

11       **Summary**

12       **Q.    Please summarize your testimony.**

13       **A.    The DeBary-Winter Springs transmission line is**  
14       **needed for a variety of reasons.  By December**  
15       **1995, a single transmission line outage would**  
16       **cause a transmission line to overload.  In**  
17       **addition, by December 1997, a different single**  
18       **transmission line outage would result in a second**  
19       **transmission line overload.  The Project corrects**  
20       **both of these problems, as well as minimizing the**  
21       **effect of a double-circuit outage that would cause**  
22       **widespread outages.  In addition, the Project will**  
23       **allow FPC a great deal of flexibility in how it**  
24       **meets the energy needs of its customers.  This**  
25       **line provides that flexibility in two ways.  The**

1 first way is by eliminating the transmission  
2 limitation at the DeBary Generating Plant. This  
3 provides FPC with the option of installation of  
4 generation at DeBary on short notice if that is  
5 the most prudent, cost-effective thing to do.  
6 This Project also provides flexibility by  
7 providing a starting point for an extension of the  
8 230 kV transmission system to the south and east  
9 that will provide needed support for the existing  
10 and future 69 kV system.

11

12 Q. Does that conclude your testimony?

13 A. Yes.

14

1 BY MS. STUART:

2 Q Mr. Odom, would you please summarize your  
3 testimony for us?

4 A Yes, I will. The purpose of my testimony is to  
5 demonstrate that Florida Power Corporation has a need for a  
6 230 kV transmission line starting at our DeBary substation  
7 located at our DeBary Plant and continuing south to Winter  
8 Springs substation before the winter of 1995. As Mr. Foley  
9 has already testified this line addresses transmission  
10 reliability needs of the Greater Orlando Area.

11 I'll summarize each one of the items listed on the  
12 bullet chart, and show why each is a concern and how the  
13 project addresses each. If I may get up and use the  
14 exhibits.

15 Okay. Exhibit 3 is a map of the Greater Orlando  
16 Area. It shows the 230 kV lines that are run in the area  
17 and also it shows the power plants which are the square  
18 boxes. The power for this area is supplied by long  
19 transmission lines and the local generation. In 1995 the  
20 area of concern is the interconnection between the  
21 generation in the north and the load center in the south.  
22 There are two generation plants in the north, the DeBary  
23 Plant, which is FPC, and the Florida Power and Light Sanford  
24 Plant.

25 The first problem that we have is that in 1995 the



1 loss of the Sanford-North Longwood line will cause the  
2 Sanford-Sylvan-North Longwood line to exceed its emergency  
3 rating. The reason this happens is that there is a limited  
4 number of transmission lines between the generation in the  
5 north and the load center in the south, and when you lose  
6 this one line the power has to redistribute over the others.  
7 And with that redistribution of power the Sanford-Sylvan-  
8 North Longwood line overloads.

9           Well, with the new line shown here in orange from  
10 DeBary to Winter Springs, you have another path from the  
11 generation to the load center which will, the power will be  
12 redistributed over that line as well and remove the  
13 overloading of the Sanford-Sylvan-North Longwood line.

14           In 1997 there is another single contingency  
15 violation, which is another outage of a different line that  
16 will cause another line to overload, and that is down in the  
17 south. The North Longwood, the Winter Springs line, if that  
18 line goes out of service, the Stanton-Rio Pinar line will  
19 load up to its emergency rating. This overload is caused by  
20 -- the power is normally served from the south and from the  
21 north to serve the load in this area. That with the loss of  
22 the line to the north all of the power must be served from  
23 the south and the line overloads. With the new line in to  
24 Winter Springs this outage is no longer a consequence  
25 because you have a line from the north as well as a line

1 from the south.

2           The next area of concern is the double circuit  
3 section between Sanford and North Longwood and Sanford-  
4 Altamonte. These two lines that are right side by side are  
5 a double circuit line for approximately 12 miles. As Mr.  
6 Foley has already said that for the loss of this double  
7 circuit which could happen with a single event, the Sanford-  
8 Sylvan-North Longwood line will load to a hundred and 69  
9 percent of its emergency rating.

10           While the proposed project, DeBary to Winter  
11 Springs line, does not totally alleviate that overload it  
12 will reduce it down to a level where the dispatchers could  
13 intervene and prevent a cascading failure. There would be a  
14 loss of load, but it would not be a cascading transmission  
15 line failure because other lines would overload.

16           COMMISSIONER EASLEY: Explain cascading failure.

17           WITNESS ODOM: Okay. If you lost this line, this  
18 line loads up to a hundred and 69 percent, well, that  
19 would cause that line to go out of service because it  
20 exceed its emergency rating, and then another line to  
21 Indian River would overload and then another line would  
22 overload and another line.

23           COMMISSIONER EASLEY: Thank you.

24           WITNESS ODOM: Not a good situation.

25           A (Continuing) The next area is the power transfer

1 capability into the Greater Orlando Area. As I mentioned  
2 before, there is generation in the north and the load in the  
3 south. So by having another line going from the generation  
4 to the load center you have created another path for the  
5 power to flow in to the load center, and therefore you can  
6 bring more power in to the Greater Orlando Area.

7           And the next one is to provide for a future  
8 extension of the 230 kV section in to the eastern section of  
9 our eastern division. It's better to demonstrate it on this  
10 map, if you can see it. The area that I'm talking about is  
11 basically southeast of Winter Springs and north of the  
12 Orlando Utilities Commission service territory. So it's  
13 this area in here (indicating).

14           Presently that area is served by long 69 kV lines  
15 that go out of Winter Park East and Rio Pinar, and go out in  
16 to that area. And as the load out there continues to grow,  
17 there is going to be the need to get more power into that  
18 area than the existing transmission facilities can handle.  
19 So eventually we see a need for a 230 kV line out in to that  
20 area. And by providing another line into Winter Springs  
21 that will make that an appropriate starting point for that  
22 line to go out and to serve that load in the area.

23           The last item, as Mr. Foley has already testified,  
24 is the flexibility to site additional combustion turbines in  
25 the, at the DeBary site. There are many alternatives that

1 we evaluated. Some of them address all of the needs. Some  
2 address only part. But based on this analysis the DeBary to  
3 Winter Springs line is the one that best meets all of these  
4 needs.

5 This concludes my summary.

6 MS. STUART: Thank you. The witness is available  
7 for cross.

8 COMMISSIONER WILSON: Staff.

9 CROSS EXAMINATION

10 BY MR. ELIAS:

11 Q Mr. Odom, could you give a short explanation of  
12 what you mean by single contingency criteria?

13 A Yes, a single contingency criteria is one where  
14 any one single line outage would cause another to over -- to  
15 reach or exceed its emergency rating.

16 Q A double contingency?

17 A A double contingency is when there's two circuits  
18 affected.

19 Q Does this also include generating plants?

20 A Our, our single contingency criteria also states  
21 that -- well, let me back up a minute. Our normal planning  
22 criteria states that any reasonable dispatch must be  
23 obtained under normal conditions without overloading any  
24 lines above their normal rating. So what that means is that  
25 since any plant can go down either for maintenance or forced

1 outage that under normal circumstances you have to be able  
2 to withstand the loss of any one plant under normal  
3 conditions without violating the normal rating of the line.

4 Then the single contingency is for any reasonable  
5 dispatch you have to be able to not exceed the emergency  
6 rating.

7 Q This next series of questions refers to Exhibit 4,  
8 load flows before and after the project.

9 Would you explain the distinction between normal  
10 ratings, nominal voltage and emergency ratings as they are  
11 used on this chart?

12 A I'm sorry which chart was that?

13 Q I believe it's Table 1 on Exhibit 4.

14 MS. STUART: JEO-3, Mr. Elias, is that correct?

15 MR. ELIAS: Yes.

16 A JEO-3, which is Exhibit 2?

17 Q Four.

18 A Four. Wait --

19 Q It's the table on Page 16.

20 COMMISSIONER WILSON: That has been marked as  
21 Exhibit No. 4, and it is your JEO-3.

22 WITNESS ODOM: Okay, let me -- okay. Yes, thank  
23 you. Sorry.

24 BY MR. ELIAS:

25 Q The distinction between normal ratings, nominal

1 voltage and emergency ratings as they are used on this  
2 chart.

3 A Well, the normal rating is the rating that the  
4 line, the flow in the line has to be less than its normal  
5 rating under all reasonable dispatch, under all conditions.  
6 The emergency rating, you can go up to that rating for any  
7 single contingency criteria -- or any single outage.

8 Q What is meant by nominal voltage -- I'm sorry.

9 What are FPC's acceptable ranges for percentage of  
10 emergency rating and percentage of normal rating?

11 A I'm not sure I quite understand the question. Let  
12 me try to answer it. Is that under normal conditions you  
13 can, you cannot exceed its normal rating, reach or exceed  
14 its normal rating, so a hundred percent, and a hundred  
15 percent of the emergency rating is a violation also.

16 Q Exhibit 4 shows the percent of emergency and  
17 normal ratings of certain lines with and without this  
18 project. Could you please step through the calculation of  
19 these percentages and refer to where these numbers are  
20 located on the load flow diagrams attached to the petition?

21 A So you would like for me to go through an example?

22 Q Yes.

23 A Okay. The easiest thing to do is to go to Exhibit  
24 2, which is the blue study book, and let's look at the  
25 first, the first load flow map, which is the 11 by 17 map.

1 It's marked Appendix H, Page I, or Page 1, excuse me.

2 Does everybody have that page?

3 COMMISSIONER EASLEY: Appendix I, Page 1, right?

4 WITNESS ODOM: Appendix H, Page 1.

5 COMMISSIONER EASLEY: Be there in a minute. Got  
6 it.

7 WITNESS ODOM: The first big sheet.

8 A Okay, this is a power flow map that shows the  
9 outage of the Sanford-North Longwood line. If you look  
10 about three inches down from the top you will see a long  
11 line across there that has SN Plant with the number 469  
12 right below it, that is the designation for the Sanford  
13 Plant.

14 And you will see a short dashed line that runs  
15 straight down to another bus that is called N-Longwood that  
16 is our North Longwood. The fact that that line has short  
17 dashes means that it's been outaged in this case, and the  
18 fact that it doesn't have any numbers, that is the way you  
19 can tell it from the other dashed line.

20 Each line has a normal and an emergency rating.  
21 And the emergency rating of the Sanford Plant to Sylvan  
22 line, which goes diagonally across the page from bus 469  
23 down to bus 705, if you look at the top, you can see two  
24 numbers right at the Sanford Plant, one 654 and one 74.6.  
25 Okay. The 654 is the megawatts. 74.6 is the megavars.

1           And in order to convert that to MVA, which is what  
2 the line ratings are in, they aren't additive, so you have  
3 to use the Pythagorean Theorem. And that simply is the  
4 square of the megawatts, plus the square of the megavars,  
5 and you take the square root of that.

6           COMMISSIONER EASLEY: That's easy for you to say.

7           A     The main thing to remember is that they are not  
8 just additive. And so once you get the MVA flow on the  
9 line, you divide it by the emergency rating of the line,  
10 which in this case is 603 MVA, and you multiply it by a  
11 hundred and you come up with the hundred and nine percent  
12 shown on the Exhibit 4.

13          Q     That description that you just gave us, is that  
14 applicable to all the other load flows that are attached to  
15 the petition?

16          A     Yes, it is.

17          Q     So the same criterion and the same formula would  
18 be applicable to --

19          A     The same formula would be applicable that each  
20 line may have a different rating.

21          Q     Which would be duly noted on the load flow chart,  
22 correct?

23          A     No, the load flow charts are already busy enough.  
24 They don't have line ratings on them. The dashed lines  
25 indicate that it's over its rating, but the numbers aren't



1 there.

2 Q Why were low voltages not identified as a problem  
3 under any single contingency?

4 A Doing the analysis of our study we saw no low  
5 voltages occur in the area for any of the single outages  
6 that we ran.

7 Q What is the significance of designing flow to be  
8 below normal rating and for having voltages never drop below  
9 95 percent of their nominal voltage for single contingency  
10 conditions under the model, and how are these compatible?

11 A Let me, I hope I know exactly what your question  
12 is. Basically what you just read was, is the planning  
13 criteria that we have at FPC that also is used by FCG, and  
14 in order to ensure that we've got reliable service to our  
15 customers we plan to meet these criteria.

16 Q If low voltages will not be the cause of the  
17 criteria violations, what specifically will cause them?  
18 Demand, generation, dispatch, or both or all three?

19 A The criteria violations are the overloaded lines,  
20 which are a function of generation and demand.

21 Q Referring to what has been marked as Exhibit No.  
22 12, FPC's Responses to Staff's Informal Data Requests, Nos.  
23 9 and 10.

24 COMMISSIONER WILSON: All right, do you want to  
25 identify these?

1 MR. ELIAS: Yeah.

2 COMMISSIONER WILSON: Or have they been?

3 MS. STUART: They have not. I need to ask the  
4 witness. Do you have a copy of those?

5 WITNESS ODOM: Yes, I do.

6 MR. ELIAS: Exhibit No. 10 is Florida  
7 Power Corporation's June 25th, 1991 Response to Staff's  
8 Informal Data Requests, Nos. 1 through 8.

9 COMMISSIONER WILSON: All right.

10 MR. ELIAS: Exhibit No. 11 is FPC's 6/26/91  
11 Response to Staff's Informal Production of Documents  
12 Request, Stanton-Winter Springs Flow Diagrams.

13 COMMISSIONER WILSON: All right.

14 MR. ELIAS: Exhibit No. 12 is FPC's July 5th, 1991  
15 Response to Staff's Informal Data Request No. 9 and 10.  
16 And Exhibit No. 13 is Orlando Utility Commission's  
17 Electric Boundary and Transmission Map.  
18 (Exhibit Nos. 10, 11, 12 and 13 marked for  
19 identification)

20 COMMISSIONER EASLEY: And which one are you  
21 looking at?

22 MR. ELIAS: We are looking at No. 12, which is the  
23 Responses to Informal Data Requests No. 9 and 10.

24 BY MR. ELIAS:

25 Q For the area served by North Longwood, Winter

1 Springs and Winter Park East, approximately how many load  
2 management customers are currently signed up?

3 A The numbers that are provided on Request No. 9 are  
4 for FPC's customers in all of the Greater Orlando Area.

5 Q And my question to you is can you break that down  
6 any further to hone in on what is going to be served by this  
7 project?

8 A No, we keep, on history we keep that by our  
9 division. This area that we defined here is our eastern  
10 and mid-Florida division, but we can't break it down to the  
11 specific line because we don't keep our records that way.

12 COMMISSIONER WILSON: Do your dispatchers know  
13 where, do your dispatchers know where your load  
14 management customers are? Can they use load management  
15 customers to manage transmission line problems or  
16 concerns? Or is that usable for that purpose?

17 WITNESS ODOM: I don't believe that that is usable  
18 for that purpose. That is primarily for the generation  
19 side of it.

20 BY MR. ELIAS:

21 Q Would you summarize why Florida Power Corporation  
22 feels additional conservation and/or load management will  
23 not mitigate or delay the need for this project?

24 A Yes, I will. The, I ran some sensitivity studies  
25 that showed that even if we added 300 megawatts more of

1 conservation and load management just in this area, which is  
2 very unlikely to happen, just because of the pure size of  
3 the programs that would be necessary to do that, that the  
4 results of my study did not change even with an additional  
5 300 megawatts of load management conservation in this area.

6 Q On Page 7 of your direct testimony, Lines 14  
7 through 17, it states that the study included an examination  
8 of how the generation dispatch affected power flows on the  
9 transmission system in the study area.

10 A Can you repeat the page number and line?

11 Q Page 7, Lines 14 through 17.

12 A Yes.

13 Q What, specifically what generation dispatch  
14 variations were examined?

15 A We studied how the generation out of the DeBary  
16 Plant, Sanford Plant and the OUC Stanton Plant, how it  
17 affected the flows in this area.

18 Q Which criteria violations were affected by  
19 generation dispatch and how?

20 A Different criteria violations occurred with  
21 different generation dispatch. Basically you are looking at  
22 two separate problems that this line is going to address.  
23 One is in the north with the, from the power from DeBary and  
24 Sanford Plant coming in to the south. That is the first  
25 contingency, Item No. 1 on the bullet chart. With matched

1 generation at DeBary and Sanford that single contingency  
2 violation occurred.

3           On the south end with the OUC Stanton Plant, the  
4 other single contingency, Item No. 2, was affected. And  
5 what happens there is that with the Stanton Plant running at  
6 its maximum output, the line running from Stanton up to Rio  
7 Pinar overloaded for the loss of the North Longwood-Winter  
8 Springs line.

9           Q     Okay. Turning to Exhibit 2, which is the study  
10 document.

11           A     Yes.

12           Q     At the bottom of Page 11, continuing to the top of  
13 Page 12, FPC lists a major assumption impacting the analysis  
14 concerning a half a mile reconfiguration loop.

15           A     Yes.

16           Q     Where on the map in Exhibit 3 is this loop? Would  
17 you point out?

18           A     Okay, I need to get up to do that.

19           Q     Yes.

20           A     That area is right here at the Sanford Plant.

21           Q     What is the purpose of reconfiguring the  
22 transmission system to loop into the FPL Sanford Plant?

23           A     The purpose of that is that presently the DeBary  
24 to Sanford line, and there are two lines going in to the  
25 Sanford Plant on this map from DeBary. They currently

1 don't, in today's system don't go in to Sanford Plant. They  
2 go from DeBary to North Longwood. So this is one line, from  
3 DeBary to Sanford to North Longwood would be a straight line  
4 without going into Sanford, and then the DeBary to Altamonte  
5 line does not go into Sanford.

6 We are presently negotiating with Florida Power  
7 and Light to loop those lines into Sanford Plant to  
8 alleviate a problem that exists today that we are, that is  
9 the same line that is overloading. And so this is a  
10 remedial solution, if you will, that the effect of that is  
11 that it ties our two systems more strongly together, so that  
12 they act more as one system, and so that was the impact of  
13 that.

14 COMMISSIONER WILSON: I'm not sure I understand  
15 what the problem is today that you are curing by doing  
16 that?

17 WITNESS ODOM: Okay. You have to visualize this  
18 line going from DeBary to North Longwood as one line.  
19 DeBary to Altamonte is another line. And the only line  
20 that goes in to Sanford Plant is the one that goes out  
21 to Sylvan. Okay. What happens is if you lose the  
22 DeBary-North Longwood line, the same thing that happens  
23 on Bullet No. 1 happens, the Sanford-Sylvan-North  
24 Longwood line overloads because the power now, instead  
25 of going straight to North Longwood, you have the

1 DeBary-Altamonte, and then it goes from DeBary to  
2 Sanford, and then overloads this line.

3 So It's the same problem. We are just using that  
4 as the first step to the solution with this line being  
5 the next step in the progression.

6 BY MR. ELIAS:

7 Q Where would the Lake Emma substation be located on  
8 Exhibit 3 if it were a 230 kV substation?

9 A The Lake Emma substation is approximately right in  
10 here, and it's a 230 -- it's a 115 to 13 kV substation, and  
11 there's a 115 kV line that runs basically from, well, it  
12 runs from our Turner Plant down to North Longwood. And one  
13 of the many siting options that we are currently  
14 investigating includes using that 115 right-of-way for the  
15 230 kV line. And there's two options that would be  
16 available if that line, if that route was chosen. One would  
17 be to remove that 115 kV line and convert the Lake Emma  
18 substation to, to a 230 kV operation. The other would be to  
19 double circuit with the 115 and the 230 on the same  
20 structure and keep the Lake Emma substation at 115.

21 Q Referring to Appendix A of Exhibit 2 of the study  
22 document.

23 A Appendix A.

24 Q How much will the Lake Emma conversion cost and  
25 approximately what percentage is this of the total project

1 cost?

2           A     Well, as stated on Appendix A, the cost is \$2.3  
3 million for the conversion, and I can calculate what the  
4 percentage of that is. That is approximately 16 percent.

5           Q     Okay. Section 403.522 subsection 15 Florida  
6 Statutes refers, states, "if the proposed location of the  
7 corridor is affected by the applicant's proposed  
8 intermediate substation, then the general location of the  
9 proposed intermediate substation and not the permitting of  
10 each such substation shall be considered in the  
11 certification proceedings."

12                     Does FPC interpret this statute to mean just new  
13 construction or significant capital improvements and  
14 upgrades as well?

15           MS. STUART: Excuse me, Mr. Elias, could I have  
16 that citation again?

17           MR. ELIAS: 403.522 sub 15.

18           MS. STUART: And you are referring to the language  
19 that says, "if the proposed location of the corridor is  
20 affected by the intermediate substation"?

21           MR. ELIAS: That is correct.

22           MS. STUART: I that substation has been renumbered  
23 as subsection 21 and that language eliminated by the  
24 Legislature.

25           COMMISSIONER WILSON: That would certainly put



1 things in a different light, wouldn't it? Was that  
2 part of the revision in the last Session to that  
3 statute?

4 MS. STUART: In 1990.

5 COMMISSIONER WILSON: In 1990.

6 MS. STUART: Uh-huh. I have it here if you would  
7 like.

8 BY MR. ELIAS:

9 Q Would the proposed project share common structures  
10 for any part of its length?

11 A Maybe is the best answer. We are in the siting  
12 process or the corridor selection process right now, and  
13 part of it may be on existing structures, but we are not in  
14 a position right now to say definitively that it will be.

15 Q Would a Sanford-Winter Springs circuit provide the  
16 same, less or more reliability for the potential double  
17 circuit outage than the DeBary-Winter Springs line?

18 A A Sanford to Winter Springs line, is that what you  
19 are asking?

20 Q Yes.

21 A Okay, a Sanford-Winter Springs would provide a  
22 less reliable system because you would not have the same  
23 number of ties from the DeBary substation down in to the  
24 load center as you do now.

25 Q Was the possibility of a cascading failure known

1 to be a risk when FPC added the second circuit?

2 A I'm not sure when that, when those two circuits  
3 were put together, but one of the factors of any  
4 transmission line siting is as the load continues to grow  
5 the loading is going to grow heavier and heavier. And so I  
6 would suspect that the loss of that double circuit structure  
7 at the time it was put in was not, or it wasn't as severe as  
8 it is today.

9 Q Are there any other alternatives which would  
10 completely eliminate any customer impact as a result of a  
11 double outage?

12 A There are other things that could be done in  
13 addition to this, this line, that would eliminate any  
14 possibility of an outage.

15 Q In lieu of this line?

16 A No, in addition to this line.

17 Q Are there any in lieu of this line?

18 A No, there are not.

19 Q Are there any alternatives that could partially  
20 solve the problem?

21 A Well, we looked at various alternatives that could  
22 partially solve that problem, and all the problems, but none  
23 of them were as good to meet all of the needs of this  
24 project.

25 Q Since both of these circuits carry bulk power from

1 FPL's Sanford Plant, what is FPL's stake in seeing that the  
2 line outages and overloading do not occur?

3 A The customers that are affected by this line  
4 outage would be Florida Power Corporation's customers, that  
5 these, you know, if that double circuit outage was to  
6 happen, it would be Florida Power Corporation's customers  
7 that would be affected.

8 Q Referring to Pages 11 and 12 of your direct  
9 testimony, from Line 24 on Page 11 to Line 7 on Page 12.

10 A Yes.

11 Q It states that the first -- okay, what portion of  
12 the power transferred from generation in the north to load  
13 in the south is anticipated to be from FPL's Sanford Plant?

14 A Well, you really can't say what portion of the  
15 generation goes, because the -- with an interconnected grid  
16 the power will go where, the path of least resistance. And  
17 so you can't really say which electrons, if you will, were  
18 generated at the Sanford Plant.

19 Q Are there any benefits to FPL in terms of having a  
20 new source of expansion of the underlying grid eastward  
21 toward their service area?

22 A I don't know at this time whether there is or not,  
23 that when that expansion or extension is further studied  
24 those, those items will be addressed.

25 Q Would you refer to Exhibit 13, which I believe you

1 have a copy of in front of you, that is Orlando Utilities  
2 Commission electric boundary and transmission map.

3 A Yes.

4 Q Is the Stanton-Rio Pinar transmission line on this  
5 exhibit the same line referred to in this dockets?

6 A Yes.

7 Q Who owns this line?

8 A Florida Power Corporation owns part of the line,  
9 and OUC owns part of the line.

10 Q Okay. In what percentage?

11 A I'm not sure.

12 Q Why joint ownership of this line? In other words,  
13 what FPC needs does it serve, and what OUC needs does it  
14 serve?

15 A Okay, this line is primarily to serve FPC's  
16 customers, that the line, as you can see on the map here,  
17 goes through several substations and all of those  
18 substations, Rio Pinar and the ones to the north, are FPC  
19 load and FPC customers.

20 Q What is the benefit to OUC?

21 A Of this tie line?

22 Q Yes.

23 A It interconnects our systems more strongly  
24 together so that for the, as it does with any  
25 interconnection, when you have two utilities that are in

1 close proximity that it allows better power transfer  
2 between the utilities.

3 Q Will the Rio Pinar interconnect be important to  
4 OUC for transfer of power sales that will be available from  
5 the Stanton Unit 2 for approximately ten years after its in-  
6 service date in 1997?

7 A Well, I did a sensitivity study to see what would  
8 happen to the OUC system if this Rio Pinar line was not in,  
9 and they would be able to disburse their energy out of the  
10 Stanton Unit 1 and 2 without this line.

11 Q Did the project study model OUC's interfacing  
12 service area, or is it limited only to impact on FPC's  
13 customers?

14 A The specific study was designed to address how it  
15 impacted Florida Power Corporation customers, but one of the  
16 requirements when you are doing that kind of study is that  
17 you can't adversely affect your neighbor.

18 Q Would reinforcing the Stanton-Rio Pinar line,  
19 parts of which are owned by OUC South, pose any potential  
20 reliability problems for OUC in terms of growth or  
21 generation dispatch?

22 A I don't believe it would, no.

23 Q Is the Stanton-Winter Springs extension a natural  
24 extension of the DeBary-Winter Springs project?

25 A As I said before, that we eventually planned to

1 extend the line from Winter Springs. We have not conducted  
2 a study yet to show where the south end of the line would  
3 terminate. However, the Stanton Plant is, would definitely  
4 be considered an alternative.

5 Q At staff's request you performed a sensitivity  
6 analysis on FPC's transmission system with the addition of  
7 a 230 kV line from the Stanton Power Plant to the Winter  
8 Springs substation?

9 A Yes, I did.

10 Q Would you explain to the Commission why this  
11 alternative did not satisfy all of FPC's need criteria?

12 A Yes, I will. Do you know which line he is talking  
13 about, the line from Stanton up to our Winter Springs  
14 substation? That that line, than even with the line that  
15 long, which is 22 miles long, that the single contingency  
16 referred to as Bullet No. 1, the Sanford-North Longwood  
17 outage, that during my study it overloaded to a hundred and  
18 nine percent without any fix. With the addition of this 22-  
19 mile line, it lowered the rating to 105 percent. So it was  
20 still over its emergency rating, even with this new line,  
21 therefore, it is not an alternative to resolve Item 1 on  
22 the chart.

23 Q In Appendix A of Exhibit No. 2, and B, Appendix A  
24 and B.

25 A Yes.

1 Q Are the costs for this proceeding and the site, or  
2 certification proceeding at DER factored in to the overall  
3 project costs?

4 A Yes, they are.

5 Q Assuming that FPC opted not to go under the  
6 Transmission Line Siting Act, how much longer would it take  
7 to construct a transmission line?

8 A I'm not sure I understand the question.

9 Q How much longer does it take under the  
10 Transmission Line Siting Act than otherwise?

11 A Oh.

12 MS. STUART: Excuse me, Commissioner.

13 Mr. Elias, are you asking if we had the option?

14 MS. BRADY: Yeah, like if it didn't, sorry, if it  
15 didn't cross the county or whatever.

16 COMMISSIONER EASLEY: Is that option available?

17 MS. BRADY: No. Well, it is if you consider  
18 different options, which they haven't done. There are  
19 other alternatives that they could have used. It's not

20 --

21 COMMISSIONER WILSON: You need to --

22 COMMISSIONER EASLEY: Yeah, either identify  
23 yourself or --

24 COMMISSIONER WILSON: Either identify yourself or  
25 be sworn or get this information through cross

1 examination.

2 MS. STUART: Could I have the question rephrased  
3 because I'm not sure I understand.

4 MR. ELIAS: We will withdraw the question.

5 MS. STUART: Thank you.

6 MR. ELIAS: No further questions, and ask that  
7 Exhibits 10 through 13 be admitted.

8 COMMISSIONER WILSON: Without objection, Exhibits  
9 10 through 13 are admitted in to evidence.  
10 (Exhibit Nos. 10, 11, 12 and 13 received into evidence)

11 COMMISSIONER WILSON: Let me ask you a question.  
12 I have been sort of thinking about what you said  
13 earlier about load management being unavailable as a  
14 technique for a dispatcher managing transmission lines.  
15 And I'm not sure I understand why that is not an  
16 available tool to a dispatcher.

17 WITNESS ODOM: The way I understand the load  
18 management system to work, and I'm not an expert in  
19 load management by any means, but the way I understand  
20 it to work is that they have zones that they can  
21 activate for generation shortages so that they can  
22 reduce the load on the generation system. But I do not  
23 believe those are broken out by geographical areas.  
24 And in order to do that -- right now I believe we have  
25 five zones. In order to allow you the flexibility to



1 do that, you would have to have a lot more zones, which  
2 would make the system a lot more complicated and less  
3 reliable.

4 COMMISSIONER WILSON: Okay, so what you are saying  
5 is that the load management areas are not broken up in  
6 discrete enough control areas to allow this sort of  
7 thing?

8 WITNESS ODOM: Yes.

9 COMMISSIONER WILSON: The principle of using load  
10 management, for instance to avoid exceeding emergency  
11 ratings of line would be available to do, because if  
12 you reduced the load for generation reasons it reduces  
13 the load on the transmission system as well.

14 WITNESS ODOM: Yes, theoretically I suppose that  
15 would be possible. The problem would be, is if you had  
16 the transmission outage and you could have the  
17 generation available, then you would have to interrupt  
18 those customers' load management equipment for the  
19 transmission failure. And I'm not sure if that is  
20 included in the tariff for the load management or not.

21 COMMISSIONER WILSON: The tariffs aside, just  
22 speaking logically.

23 WITNESS ODOM: Yes.

24 COMMISSIONER WILSON: You are an engineer. If you  
25 can control load, you can control it for transmission

1 as well as generation concerns, couldn't you?

2 WITNESS ODOM: Yes, the problem with this  
3 particular line is the magnitude of the amount of load  
4 you would have to control. It's so large that it  
5 wouldn't be practical to do that, even if it was  
6 available in the zone lines.

7 COMMISSIONER WILSON: Yeah, that makes sense if  
8 you are pulling load from total system because of a  
9 generation concern, it's easier to take a little bit  
10 from a lot of people than take a lot from a few people,  
11 which is what you would be facing if you were trying to  
12 control this for a transmission problem in to a certain  
13 area or zone.

14 WITNESS ODOM: That is correct.

15 COMMISSIONER WILSON: I understand. Questions?

16 COMMISSIONER DEASON: Yes, I have a few questions.

17 Mr. Odom, did you refer to -- first, let me ask  
18 you this. What is going to, what is the estimated cost  
19 of the project? Originally it was a range of 12 to 16,  
20 now it's a range of 14 to 16?

21 WITNESS ODOM: Yes, we, as a part of our ongoing  
22 corridor selection we refined the cost data to where  
23 now we believe the line will cost between 14 million to  
24 16 million, and the cluster of routes that FPC is  
25 considering is in the \$14 million range.

1 COMMISSIONER DEASON: So if you are fortunate  
2 enough to have the routes which you would like to have,  
3 you are looking at a 14 million figure roughly, but it  
4 reasonably could go as high as 16?

5 WITNESS ODOM: That is correct.

6 COMMISSIONER DEASON: And do these estimates also  
7 include the conversion of the Lake Emma substation or  
8 not?

9 WITNESS ODOM: Any of the corridors that used the  
10 existing right-of-way of the 115 line included the cost  
11 of conversion.

12 COMMISSIONER DEASON: I see.

13 COMMISSIONER WILSON: This also includes the cost  
14 of the looping that you are going to do at Sanford?

15 WITNESS ODOM: No.

16 COMMISSIONER WILSON: No, it does not?

17 WITNESS ODOM: That is a separate issue that we  
18 are going to do in the near future.

19 COMMISSIONER WILSON: All right.

20 COMMISSIONER DEASON: That brings me to another  
21 question. Could you refer to your JEO-4, which has  
22 been identified as Exhibit 5, I believe.

23 WITNESS ODOM: JEO-4, yes.

24 COMMISSIONER DEASON: Okay. Under, the first item  
25 listed there under Group B is the DeBary-North Longwood

1 line. And as I understood your testimony earlier, you  
2 say, you were saying that that is actually the  
3 configuration now is the DeBary to North Longwood, and  
4 that under a separate consideration that that is going  
5 to be reconfigured to tie in to FP&L'S plant in  
6 Sanford.

7 WITNESS ODOM: That is correct.

8 COMMISSIONER DEASON: Okay. Could you explain to  
9 me then why this is listed as an option or a  
10 possibility under Group B when in fact it already  
11 exists today?

12 WITNESS ODOM: This would be a second circuit from  
13 DeBary to North Longwood. This would be a totally new  
14 line.

15 COMMISSIONER DEASON: Okay. And that has, the  
16 totally new line would have an estimated cost of 12  
17 million?

18 WITNESS ODOM: That is correct.

19 COMMISSIONER DEASON: Do you know if that is in  
20 1995 dollars or --

21 WITNESS ODOM: I'm sorry. Those are in 1995  
22 dollars, all of the alternatives are.

23 COMMISSIONER DEASON: Okay. The Group C, the  
24 first item listed under Group C, which is the North  
25 Longwood to Winter Springs line, that has an estimated

1 cost of 5 million.

2 WITNESS ODOM: Yes.

3 COMMISSIONER DEASON: And that is also in 1995  
4 dollars?

5 WITNESS ODOM: That is correct.

6 COMMISSIONER DEASON: I would like for a moment to  
7 just look, and I'm sure this is probably an alternative  
8 that you considered, but look at the possibility of  
9 having the DeBary-North Longwood line constructed in  
10 conjunction with the North Longwood to Winter Springs  
11 line. That would be the first item under Group B in  
12 conjunction with the first item under Group C.

13 Now, if we were to just ignore for a moment the  
14 support offered to the possibility of having additional  
15 CT units built at DeBary, wouldn't those two lines  
16 correct the problem which you are concerned with?

17 WITNESS ODOM: Well, these two lines are basically  
18 what we are proposing to do. It's DeBary to Winter  
19 Springs if -- this alternative shows us looping in to  
20 North Longwood rather than going directly to Winter  
21 Springs. And so by adding those two costs together you  
22 get \$17 million for the same line as you get for the  
23 DeBary-Winter Springs, which is \$14 million. That  
24 difference of \$3 million is the amount of work that  
25 would have to be done at the North Longwood substation

1 that would allow you to interconnect. Because as you  
2 can see from the exhibit, there's a lot of lines coming  
3 in to and going out of North Longwood, and it would be  
4 a major substation expansion in order to allow you to  
5 interconnect those lines.

6 COMMISSIONER DEASON: Please don't get me wrong,  
7 I'm not advocating you do this, I'm just asking you if  
8 you looked at it.

9 WITNESS ODOM: Yes.

10 COMMISSIONER DEASON: Obviously you did. But you  
11 stated that the 5 million was in 1995 dollars.

12 WITNESS ODOM: Yes.

13 COMMISSIONER DEASON: That line though would not  
14 be needed until 1997, is that correct? So really the  
15 5 million -- you could delay the implementation of  
16 that, and I guess that you could -- it would be some  
17 savings in being able to delay that particular segment.  
18 Was that factored into your consideration of the  
19 economics?

20 WITNESS ODOM: Yes, it was. There were two  
21 considerations that weighed in to that. One is that  
22 you have the additional \$3 million cost at North  
23 Longwood to effect a savings of \$5 million for two  
24 years, and you also have the reliability concerns of  
25 building a line from DeBary in to North Longwood.

1 North Longwood is already a major hub, if you will, of  
2 our transmission system, and to add one more line in to  
3 there is not a prudent decision to make at this time.

4 COMMISSIONER DEASON: Okay. So you are saying  
5 there are already enough lines tied in to North  
6 Longwood, and that it would take a substantial capital  
7 investment to accommodate the scenario which I just  
8 laid out?

9 WITNESS ODOM: That is correct.

10 COMMISSIONER DEASON: But it is good to tie in to  
11 Winter Springs, to have a second line tie in to Winter  
12 Springs from DeBary?

13 WITNESS ODOM: Yes.

14 COMMISSIONER DEASON: To give you more flexibility  
15 to do that, to have that configuration instead of  
16 adding more lines in to North Longwood?

17 WITNESS ODOM: Yes, it is.

18 COMMISSIONER DEASON: Could you refer to Page 5 of  
19 Exhibit 2?

20 WITNESS ODOM: Yes.

21 COMMISSIONER DEASON: Okay. The last sentence of  
22 Paragraph C, it states that FPC expects to use single  
23 circuit and double circuit structures in the  
24 construction of the line. I assume that the double  
25 circuit would, would make sense from a cost standpoint,

1 is that right? It would help minimize costs?

2 WITNESS ODOM: Actually the double circuit would  
3 cause the line to cost more because of the additional  
4 strength in the structures that you need, and you would  
5 have to take out an existing circuit in order to double  
6 circuit it.

7 COMMISSIONER DEASON: Well, I guess my question is  
8 why would you want to do that?

9 WITNESS ODOM: In this area, it's a highly  
10 developed area, and in the siting process we have been  
11 looking at a lot of different corridors, and the  
12 majority of those corridors that we are identifying  
13 have, follow existing linear facilities, follow  
14 transmission lines, or roads, or railroad right-of-way,  
15 things like that, and so it is possible that the  
16 corridor that is selected will go in one of these  
17 existing corridors, which very likely could be a  
18 transmission line.

19 COMMISSIONER DEASON: So it may cost more for the  
20 structures, but it may be least -- may be less costly  
21 from a right-of-way standpoint?

22 WITNESS ODOM: When we are doing the corridor  
23 selection we look at land use and a lot of other  
24 things, and so, yes, it may cost less land, but that  
25 probably won't offset the cost of the additional



1 structures. But there are other factors that are  
2 considered, such as the impact on the environment and  
3 the land use.

4 COMMISSIONER DEASON: When I read this sentence  
5 what caught my attention is the fact that one of the  
6 items of concern which your proposed line will help  
7 alleviate is the so-called double contingency and how  
8 it affects the Greater Orlando Area. And this double  
9 contingency, as I understand it, is because there is  
10 common structures for two lines, and that if one of  
11 those structures went out, you actually would have a  
12 contingency where you lost two lines.

13 Are we getting ourselves in to the same situation  
14 where we are adding more contingencies or the  
15 possibility of a further double contingency, and is  
16 that risk great enough to be concerned with, and have  
17 you considered that?

18 WITNESS ODOM: Yes, we have considered it. And  
19 the problem we face in this area in the corridor  
20 selection is the corridors are, there's a very minimal  
21 number of corridors. And so we have to weigh the  
22 benefits of the new line versus the smaller liability  
23 degradation, if you will, because of the line being  
24 double circuited.

25 There's a lot of things that can take one circuit

1 out, such as lightning, something hitting one of the  
2 lines that would take one of them out but not the  
3 other. So the events that would take both circuits out  
4 would be something that happened to the structure, and  
5 these very likely will be large steel or concrete  
6 structures where the probability of that happening is  
7 not as high as with a single line.

8 COMMISSIONER DEASON: Have you ever had a double  
9 contingency, as you referred to it, or an outage of two  
10 lines caused by one event?

11 WITNESS ODOM: Yes, we have.

12 COMMISSIONER DEASON: How often does that happen?

13 WITNESS ODOM: We had, I believe we've had three  
14 events like that since we started keeping as accurate  
15 records as we do now back in '77. So from '77 to today  
16 we've had three. One of those was caused by a physical  
17 thing happening, an earth mover knocked into a big  
18 steel structure and caused both lines to go out. The  
19 other two outages were caused by events in the  
20 substation itself. It wasn't because of the  
21 transmission line per se. It was because of something  
22 that happened inside the substation. So really --

23 COMMISSIONER DEASON: So you are saying it's  
24 fairly rare though?

25 WITNESS ODOM: It's fairly rare, yes.

1           **COMMISSIONER DEASON:** And that's one of the  
2 reasons why you are comfortable with the fact that your  
3 proposed line would not totally eliminate the double  
4 contingency, but it would help mitigate it? It's a  
5 fairly rare occurrence?

6           **WITNESS ODOM:** That is correct.

7           **COMMISSIONER DEASON:** Okay, thank you.

8           **CHAIRMAN BEARD:** Redirect?

9           **MS. STUART:** None.

10          **CHAIRMAN BEARD:** Okay. The witness is excused.

11          (Witness Odom Excused)

12          **CHAIRMAN BEARD:** Exhibits.

13          **MS. STUART:** We would move Exhibits 2, 3, 4 and 5.

14          **CHAIRMAN BEARD:** Okay.

15          (Exhibit Nos. 2, 3, 4 and 5 received into evidence)

16          **MR. ELIAS:** I believe I previously moved Exhibits  
17 10 through 13.

18          **CHAIRMAN BEARD:** Okay. You moved 10 through 13.  
19 Okay. Is there anything else?

20          **MR. ELIAS:** Nothing further.


21          **MS. STUART:** We have nothing further.

22          **CHAIRMAN BEARD:** Thank you.

23          (Whereupon, the proceedings concluded at 11:45 a.m.)  
24  
25

**CERTIFICATE OF REPORTER**1  
2 STATE OF FLORIDA )

3 COUNTY OF LEON )

4 I, PATRICIA L. GOMIA, Notary Public in and for the  
5 State of Florida at Large:6 DO HEREBY CERTIFY that the foregoing proceedings  
7 were taken before me at the time and place therein  
8 designated; that my shorthand notes were thereafter reduced  
9 to typewriting under my supervision; and the foregoing pages  
10 numbered 1 through 107 are a true and correct record of the  
11 aforesaid proceedings.12 I FURTHER CERTIFY that I am not a relative,  
13 employee, attorney or counsel of any of the parties, nor  
14 relative or employee of such attorney or counsel, nor  
15 financially interested in the foregoing action.16 WITNESS MY HAND AND SEAL this, the 12TH day of  
17 JULY, A. D., 1991 IN THE CITY OF TALLAHASSEE, COUNTY OF  
18 LEON, STATE OF FLORIDA.19  
20 21 PATRICIA L. GOMIA  
22 216 West College Avenue  
23 U.S. Post Office, Room 122  
24 Tallahassee, Florida 32301

25 My Commission expires: June 17, 1994