# BEFORE THE FLORIDA
# PUBLIC SERVICE COMMISSION

## DOCKET NO. 030084-EI
## FLORIDA POWER & LIGHT COMPANY

## IN RE: PETITION FOR DETERMINATION OF NEED FOR THE COLLIER-ORANGE RIVER #3 PROJECT

## DIRECT TESTIMONY OF:

## C. MARTIN MENNES
## (REDACTED)

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**FLORIDA POWER & LIGHT COMPANY**

**DIRECT TESTIMONY OF C. MARTIN MENNES**

**DOCKET NO. 030084-EI**

**FEBRUARY 26, 2003**

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

A. My name is C. Martin Mennes. My business address is 4200 West Flagler St., Miami, Florida 33134.

**Q. By whom are you employed and what is your position?**

A. I am employed by Florida Power & Light Company ("FPL") as Vice President, Transmission Operations and Planning.

**Q. Please describe your duties and responsibilities as Vice President, Transmission Operations and Planning.**

A. I am responsible for FPL's bulk and regional transmission planning and transmissions system operations. This includes responsibility for the reliability and security of the FPL transmission system. In this regard, I have overall responsibility for the formulation of transmission expansion plans such as the project for which a determination of need is being sought from this Commission.

**Q. Please describe your educational background, business experience, and professional associations.**

A. I graduated with honors from the University of Florida in 1968 with a Bachelor of Science degree in Electrical Engineering. I earned a Post-Graduate Certificate of Proficiency in Electrical Engineering from the University of Miami in 1974, and completed the Program for Management Development from the Harvard University Graduate School of Business in 1981. I am a registered Professional Engineer in the State of Florida. I began working at FPL in 1968 in the area of protective relay and control systems. Since then I have held the positions of Manager of System Protection, Manager of System Operations, Manager of Bulk Power Markets, and Director of Power Supply. In February 2000 I assumed my present position. My industry-related activities include serving as the chair of the following organizations: North American Electric Reliability Council ("NERC") Performance Subcommittee, NERC Security Coordinator Subcommittee, Southeastern Electric Reliability Council ("SERC") Operating Committee, and the Florida Regional Coordinating Council ("FRCC") Operating Committee. In addition, I am presently serving as vice chair for the NERC Market Interface Committee, and I am on the NERC Technical Steering Committee. I also have worked on numerous NERC committees and taskforces including the Transmission Transfer Capability Taskforce, and the Electronic Information Network Taskforce.

**Q. What is the purpose of your testimony in this proceeding?**

A. The purpose of my testimony is to support FPL's Petition for a Determination of Need for the Project as identified and described in FPL's Petition. Specifically, I explain the importance of establishing a new 230kV transmission line into the Naples load center in a new, separate right-of-way ("ROW").

**Q. Are you sponsoring any portion of the Petition?**

A. Yes, I am jointly sponsoring Attachment 6 of Exhibit "A" to the Petition with Mr. Schoneck.

**Q. Please describe the area that will be served by the Project and the existing transmission facilities that provide electric service into this area.**

A. The "Project Service Area," as shown on Attachment 1b, includes the area south of Fort Myers bounded on the north by the Fort Myers Plant and Orange River Substation, on the west by the Gulf of Mexico, and on the east by the county lines of Collier and Lee. The Project Service Area currently can be described as an electrical peninsula. As of January 2003, FPL served approximately 357,700 customers (an approximate population of 594,900) in the Project Service Area. This area is considered a major load center and the load is projected to continue to grow at a rate of approximately 11,300 customers or 68MW per year.

**Q. Please summarize why a separate ROW is needed.**

A. A separate ROW is needed to mitigate the adverse consequences resulting from the loss of all transmission facilities in the existing, common ROW. Loss of all transmission facilities in a common ROW means that all the transmission lines within the ROW have been de-energized due to an event causing damage to the lines or structures within the ROW such as plane crashes, severe weather such as tornadoes, or fires. [redacted] To mitigate the consequences of losing all the transmission facilities in the common ROW, FPL is proposing to construct the additional transmission feed in a geographically diverse ROW.

**Q. Has the Company lost all transmission facilities in a common ROW in the past?**

A. Yes, although an infrequent occurrence, FPL has lost all transmission facilities in a common ROW. In 1985, wildfires in the east coast 500kV ROW resulted in three 500kV circuits coming out of service. On August 27, 1998, a plane crash took out of service two 500kV circuits located on a common ROW north of Duval Substation in Duval County. On November 14, 1998, another plane crash took out of service two 115kV circuits located on a common ROW out of FPL's Volusia Substation in Volusia County. On April 17, 1999 a fire in the 500kV ROW north of Andytown Substation took out of service multiple combinations of 500kV circuits at different times during the day. On February 16, 2001, a fire south of SR 60 in Indian River County took out of service two 500kV circuits located in a common ROW. Recently on February 9, 2003, a single engine airplane clipped and damaged one transmission line and narrowly missed the four other lines located in a common ROW east of FPL's Andytown Substation in Broward County.

**Q. What were the consequences of losing the transmission facilities in common ROWs noted above?**

A. The incidents noted above resulted in a loss of the transmission facilities in question for periods of up to seventeen hours and involved significant operational and restoration challenges. For example, during the 17 hour repair of the two 500kV Duval circuits in the August 1998 event, it was necessary to

activate FPL's On Call Program statewide outside of normal On Call Program hours in order to maintain system security. It became necessary to cycle off air conditioners, pool pumps, and water heaters for prolonged periods of time. The 1985 occurrence affecting the east cost 500kV common ROW resulted in a blackout of all of south Florida, interrupting service to roughly 1.5 million customers for periods up to three hours. Subsequent to this event, an additional 500kV line was placed into service on a geographically separate ROW to mitigate the adverse consequences associated with a future loss of all transmission facilities on the original 500kV ROW. The benefit of the new diverse 500kV ROW was evidenced on April 17, 1999 when fires again de-energized all of the lines on the original 500kV ROW. This time, the system remained intact and no customers were affected. FPL seeks to build the Collier-Orange River #3 Project in a separate ROW to meet a similar need.

**Q. What would be the consequences of losing the existing transmission ROW between the Orange River and Collier Substations?**

A. The consequences of losing the existing transmission ROW between the Orange River and Collier Substations would be quite severe. [redacted]

**Q. Are these consequences acceptable?**

A. No. I do not believe that these are acceptable consequences. Because such a large and growing load center receives most of its electric service through a single ROW, the loss of all facilities in a common ROW, even though an infrequent occurrence, could result in severe consequences for the residential, commercial, and industrial customers in the Project Service Area. Simply stated, there are too many customers in the Project Service Area that currently rely upon transmission capability located within a common ROW to meet all of their electric service needs. In my opinion, such consequences should be mitigated to the extent reasonably practicable. FPL's customers expect reliable, cost effective electric service. Currently, the most reasonable and practicable means available to mitigate the impact of the loss of all transmission facilities in the existing common ROW is to install a new transmission feed into the Project Service Area in a new geographically diverse ROW.

**Q. Please describe how such consequences could be mitigated by locating the new circuit in a separate ROW.**

A. With the addition of the new transmission circuit in a separate ROW, the consequences of losing a common transmission ROW due to severe weather or another major event are significantly reduced. [redacted]

[redacted]

[redacted]

[redacted] Likewise, restoration efforts would be significantly enhanced if the new circuit were to occupy a separate ROW. Not only would fewer customers experience an extended outage, but the availability of an additional feed into the Project Service Area would enable FPL to continue to provide service on a rotating basis to customers, thus significantly reducing the amount of time customers would be without service while restoration efforts are completed. Moreover, restoration efforts would be accelerated because the new circuit would not have been damaged.

As discussed in the Petition, most load centers are capable of being served from different sources via transmission facilities. However, this is not the case in the Project Service Area because there are no other major sources of power available in this area. Further, as Mr. Schoneck testifies, there is no generation alternative that could cost-effectively avoid the need for a new, geographically diverse transmission feed in this area. Placing the new line in the existing common ROW, while providing additional required transmission capacity into the area, would not provide the critical diversity benefits provided by a separate ROW into the Project Service Area.

**Q. Has the risk of losing transmission facilities in a common ROW increased since the events of September 11, 2001?**

A. While it is impossible to quantify the precise increase in the level of risk presented by possible terrorist activities in the post-September 11 world, I don't believe anyone would dispute the fact that risks of this nature have increased. Constructing the new transmission feed into the Project Service Area on a ROW separate from the existing transmission ROW, in my view, is a reasonable and appropriate measure to take to mitigate the consequences of an act of sabotage to transmission facilities in the existing common ROW.

**Q. Should the Commission approve the need for the Project?**

A. Yes, the Commission should determine that the Project is needed and provides significant reliability benefits to the Project Service Area by locating the Collier-Orange River #3 transmission line in a geographically diverse ROW.

**Q. Does this conclude your direct testimony?**

A. Yes, it does.