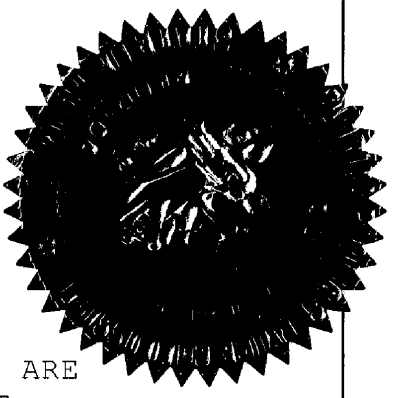
BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060038-EI

In the Matter of:

PETITION FOR ISSUANCE OF A STORM RECOVERY FINANCING ORDER, BY FLORIDA POWER & LIGHT COMPANY.
_____/



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VOLUME 3

Pages 152 through 284

PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN LISA POLAK EDGAR COMMISSIONER J. TERRY DEASON COMMISSIONER ISILIO ARRIAGA COMMISSIONER MATTHEW M. CARTER, II COMMISSIONER KATRINA J. TEW
DATE:	Wednesday, April 19, 2006
TIME:	Commenced at 9:30 a.m. Concluded at 5:15 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	MARY ALLEN NEEL Registered Professional Reporter
PARTICIPATING:	(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER:		ID.	ADMTD.
4			155
140	FPL Pole Inspection Program Budget Summary	221	249
141	Transcript of Paul Hebert's testimony, DOAH Case No. 03-1629TL	226	249
142	Original Tower Design, Conservation-Corbett 500-kV Transmission Line	268	

P R O C E E D I N G S

(Transcript follows in sequence from Volume 2.)

CHAIRMAN EDGAR: We will go back on the record. And I believe when we broke we had some exhibits to take up. Mr. Keating.

MR. KEATING: Yes. The staff has discussed those exhibits with FPL during the break. I want to give a revised list of the Bates stamped page numbers from the staff exhibit that's identified as Exhibit Number 4 that FPL can agree to move into the record. It's Bates stamped pages 27, 38, 41, 260, 266, 329 to 330, 332 to 333, 335 to 336, 435 to 440, and 446. And that list includes all but three of the originally listed page numbers I had provided.

CHAIRMAN EDGAR: Okay. Thank you. And my understanding is that resolves the objection, or do you have further comment?

MR. BUTLER: No, that resolves the objection.

CHAIRMAN EDGAR: Thank you. Then we will move that into the record as Mr. Keating described.

(Exhibit Number 4 was admitted into evidence.)

CHAIRMAN EDGAR: Any other --

MR. BUTLER: FPL will -- I'm sorry.

CHAIRMAN EDGAR: Go right ahead.

MR. BUTLER: I'm sorry. FPL will call its next witness, Mr. Geisha Williams. Ms. Williams, have you previously been sworn?

THE WITNESS: Yes, I have.

Thereupon,

GEISHA J. WILLIAMS

was called as a witness on behalf of Florida Power & Light Company and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUTLER:

Q. Would you please state your name and business address for the record.

A. My name is Geisha Williams, and my address is 9250 West Flagler Street, Miami, Florida.

Q. By whom are you employed, and in what capacity?

A. I'm employed by Florida Power & Light Company as Vice President of Distribution.

Q. Do you have before you 39 pages of prepared direct testimony dated January 13, 2006, with attached documents GJW-1 through GJW-6?

A. Yes, I do.

Q. And were these testimony and exhibits prepared under your direction, supervision, or control?

A. Yes, they were.

Q. Do you have any changes or corrections to your prepared testimony or the exhibits?

A. No.

MR. BUTLER: I would ask that Ms. Williams' prepared testimony be inserted into the record as though read.

CHAIRMAN EDGAR: We will have Ms. Williams' testimony entered into the record as though read.

MR. BUTLER: Thank you. And I note that Ms. Williams' documents GJW-1 through GJW-6 have been preassigned Exhibit Numbers 9 through 14 respectively and moved into the record.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF GEISHA J. WILLIAMS

DOCKET NO. XXXXXX-EI

January 13, 2006

Q. Please state your name and business address.

A. My name is Geisha J. Williams. My business address is Florida Power & Light Company, 9250 W. Flagler Street, Miami, Florida, 33174.

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

A. I am employed by Florida Power & Light Company (FPL or the Company) as Vice President, Distribution.

Q. Please describe your duties and responsibilities in that position.

A. I am responsible for the planning, engineering, construction, operations, maintenance, and restoration of FPL's Distribution infrastructure. During storm restorations, I assume the additional role of FPL's Emergency Operations Officer. In this capacity, I am responsible for the overall coordination of all restoration activities to ensure the successful implementation of FPL's restoration strategy - to restore service to our customers as safely and quickly as possible.

Q. Please describe your educational background and professional experience.

A. I have a Bachelor of Science degree in industrial engineering from the University of Miami and a Master of Business Administration from Nova Southeastern University. I joined FPL in 1983 and have served in a variety of positions in

distribution operations, customer service, and marketing. I have been manager of commercial/industrial marketing, regional manager of customer service, and manager of external affairs. I also am a member of the Dean's Advisory Council for the College of Engineering at Florida International University, a member of the Association of Edison Illuminating Companies' Power Delivery Committee, and on the Board of Regents for Leadership Florida.

Q. Are you sponsoring an exhibit in this case?

A. Yes. I am sponsoring an exhibit consisting of 6 documents, GJW-1 through GJW-6, which is attached to my testimony.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide an overview of FPL's emergency preparedness plans and processes. I will also provide details on the 2005 hurricanes impacting FPL's service territory, FPL's response to these storms, and the associated costs of restoring service to FPL's customers and restoring FPL's facilities to pre-storm conditions. Finally, I will discuss the factors contributing to FPL's overall successful performance in safely restoring service to the greatest number of customers in the least amount of time. In these ways, my testimony supports the reasonableness and prudence of the storm restoration costs for which FPL is seeking approval. My testimony also describes storm restoration activities that are included in the amounts which FPL is proposing to finance in this matter.

EMERGENCY PREPAREDNESS PLAN & RESTORATION PROCESS

Q. What is the objective of FPL's emergency preparedness plan and restoration process?

A. Consistent with Commission rules, industry practice and state and local governments' interests, the primary objective of FPL's emergency preparedness plan and restoration process is to safely restore the greatest number of customers in the least amount of time. Meeting this objective is the most prudent response after a major storm. Experience has shown that extensive planning, training, adherence to established storm processes, and execution that can be scaled quickly to match each particular storm are critical to successfully achieving this objective. It must be understood, of course, that the objective of safely restoring electric service as quickly as possible does not permit restoration to be accomplished at the overall least cost. Said another way, restoring service at the lowest possible cost does not result in the most rapid restoration. However, FPL is ever mindful of costs and has processes in place to both control and mitigate costs to customers. I will discuss this more, later in my testimony.

Q. Why is FPL's emergency preparedness plan reasonable and what are its key components?

A. The plan is the product of years of planning, study and refinements based upon actual experience. The key components include:

- Disaster response policies and procedures;
- Adjustable internal organizational structures based on the required response;

- Timeline of activities to assure rapid notification and response;
- Mutual assistance agreements and vendor contracts and commitments;
- Plans for movement of resources, personnel, materials, and equipment to areas requiring service restoration;
- Communication and notification plans for employees, customers, community leaders, emergency operating centers, and regulators;
- An established centralized command center with an organization for command and control of emergency response forces;
- Checklists and conference call agendas to organize, plan, and report situational status;
- Damage assessment modeling and reporting procedures;
- Field and aerial patrols to assess damage;
- Comprehensive circuit patrols to gather vital information needed to identify the resources required for effective restoration; and
- Systems necessary to support outage management procedures and customer communications.

Q. **How does FPL prepare and ensure readiness to effectively respond to storm events?**

A. Each year, prior to storm season, FPL reviews and updates its emergency preparedness plan. To ensure rapid restoration, key focus areas of this plan are staffing the storm organization, preparing logistics and support, enhancing customer communication methods and computer and telecommunication systems. As part of this process, all business units in the company identify personnel for

staffing the emergency response organization. In many cases, employees assume roles different than their regular responsibilities. Training is conducted for many storm personnel each year regardless of whether they are in a new role or a role in which they have served many times. This includes training on processes that range from analytical and clerical to reinforcing restoration processes for managers and directors.

In the logistics support area, preparations include increasing material inventory, establishing staging site plans, expanding and verifying lodging arrangements, and securing agreements and contracts for catering, busing, and office trailers. These activities are important to ensure availability and delivery of these critical items on time and at a reasonable cost. If FPL is not impacted by storms, the increase in material inventory is absorbed through normal business by year end. All of these agreements and activities provide the foundation to begin any restoration effort. This allows us to scale up resources and commitments as necessary, and at the same time, provides flexibility for adjusting our plans in case a storm does not impact FPL's service territory. Costs associated with these preparation activities are treated as normal operating expenses and are not included in our storm costs.

Q. How do you test your emergency preparedness plan?

A. Each year prior to the start of hurricane season, FPL's tests it readiness during a hurricane "dry run" exercise. This event simulates a storm impacting FPL's territory. The purpose is to provide a realistic, challenging scenario that causes the

organization to practice functions not generally performed during normal operations. It is a full scale drill which takes place with active participation from employees represented from every business unit in the company. After months of preparation, the formal drill activities begin 72 hours from the mock hurricane's forecasted time and date of impact. The General Office Command Center (GOCC) is fully mobilized and staffed. Field patrollers are required to complete simulated damage assessments which are then utilized by office staff to practice updating storm systems, acquiring resources, and developing estimated times of restoration. The exercise also includes simulating customer and other external communications, updating our outage management system, and other storm specific applications. Again, costs associated with these activities are treated as normal operating expenses and are not included in our storm costs.

Q. How does FPL respond when a storm threatens its territory?

A. FPL responds by taking well-tested actions at specified intervals prior to a storm's landfall. While these storms are developing in the Atlantic Ocean or Gulf of Mexico, our staff meteorologists are monitoring conditions and various departments throughout the company initiate preliminary preparations for addressing internal and external resource requirements, logistics needs, and system operation conditions. At 72 hours prior to the projected impact to FPL's system, the GOCC is activated, all storm personnel are alerted, resource requirements are forecasted, initial restoration plans are developed, contingency resources are activated, and available resources from mutual assistance utilities

are identified. In addition, all FPL sites begin to prepare their facilities for the impact of the storm.

At 48 hours, computer models are run based on the projected intensity and path of the storm to forecast expected damage, restoration workload and potential customer outages. Based on the modeled results, commitments are confirmed for restoration personnel, materials, and logistics support. Staging site locations are then identified and confirmed based on the storm's expected path. Staging sites are temporary work sites that are opened to provide parking, food, laundry service, medical care, hotel coordination, and, if necessary, housing for large numbers of external and internal resources. Communication lines are ordered for the staging sites and satellite communications are expanded to improve communication efforts. External resources are activated and begin moving toward Florida and internal personnel may also be moved so as to be closer to the expected damage.

At 24 hours, the focus turns to positioning personnel and supplies to begin restoration as soon as it is safe to do so. Damage models are continuously re-run as the path and strength of the storm changes and plans are adjusted accordingly. Also, community leaders and County Emergency Operations Centers (EOC) are contacted to share FPL's restoration plans, verify those infrastructure facilities that have been identified as critical, confirm assignment of FPL personnel to remain in the various EOCs for the remainder of the storm and identify restoration

personnel to assist with road clearing and search and rescue efforts. Throughout the process the Company also provides information to the news media, customers and community leaders regarding storm preparation, what to do in the event of an outage, as well as public safety messages.

Q. Has FPL had previous opportunities to execute its emergency preparedness plan and restoration process?

A. Yes. Since Hurricane Andrew made landfall in 1992, FPL has experienced a number of events which have provided opportunities to execute and refine our storm plans. Most recently, in 2004, Hurricanes Charley, Frances and Jeanne made landfall in FPL's service territory and required full scale implementation of our restoration processes.

Q. Please summarize the Company's 2004 hurricane restoration performance.

A. The 2004 hurricane season was unprecedented. Responding to three hurricanes that made landfall in FPL's territory and affected our entire system, all within a six week period, required an extraordinary effort. In total, FPL restored service to nearly 5.4 million customers. Our restoration processes and efforts were recognized by most as being extraordinary.

Q. Did FPL further improve its emergency preparedness plans and restoration process for 2005 based on its experience in 2004?

A. Yes. Consistent with FPL's culture of continuous improvement, we implemented several enhancements to our processes based upon our experiences in 2004. I will discuss these later in my testimony.

Q. How does FPL ensure the emergency preparedness plan and restoration process are consistently followed in any given storm experience?

A. Significant standardization in field operations has been institutionalized including: work-site organization; work preparation and prioritization; and damage assessment. For external crew personnel, we provide an orientation including safety rules, work practices and engineering standards. For external personnel providing patrol and management assistance, a training class is provided to explain their duties as well as FPL processes and procedures. Also, procedures to ensure rapid preparation and mobilization of remote staging sites have been developed to allow us to establish these sites in the most heavily damaged areas.

Storm plan requirements are documented in a variety of media including manuals, on-line procedures, checklists, job aids, process maps, and detailed instructions. System data is continuously monitored and analyzed throughout the storm. Multiple daily conference calls, utilizing structured agendas, are held with GOCC business leaders to discuss overall progress and identify issues, which can then be resolved very quickly since leaders from all business units participate. Twice daily, conference calls are held with all field restoration and logistics locations, providing a mechanism enabling us to ensure critical activities are being performed and communicated at all levels throughout the organization. Also, each organization has its own daily conference call schedule to ensure plans are being executed and issues quickly resolved. Overall monitoring and performance management of field operations is performed through the GOCC. In addition,

field visits by GOCC personnel are routinely conducted to validate process application and progress at remote work sites, as well as identify any adjustments that may be required.

Q. How does FPL assess its workload requirements?

A. There are a variety of factors which impact restoration workload. In each storm, we utilize FPL's damage assessment model to predict the expected damage and hours of work to restore service. These estimates are based on the location of FPL's facilities, the storm's projected path, and the effects of varying wind strengths on different facilities. These workload projections are matched with resource factors such as availability and location, and FPL's capacity to efficiently and safely manage and support available resources. As soon as the storm passes, certain employees are tasked with driving predetermined routes to survey damage. Additionally, FPL assesses damage through aerial and field patrols and utilizes results of customer outage information contained in the outage management system to validate the damage model's estimates. This enables us to finalize the workforce requirements and adjust our plans for acquiring and allocating external resources.

Q. How does FPL begin to acquire resources?

A. Normally 72 hours prior to expected storm impact, FPL begins to contact utilities and selected contractors to assess their availability. At 48 hours, depending on the storm track certainty and forecasted intensity, FPL may begin to financially commit to acquire necessary resources and ask that travel to Florida commence.

Resource needs are continually reviewed and adjusted, if necessary, based on the storm's path, intensity fluctuations, and corresponding damage model results.

Q. How does FPL take cost into account when acquiring resources for storm restoration?

A. Although as I indicated earlier, rapid restoration is our primary objective, FPL takes cost into consideration. Prior to storm season, FPL's storm preparation process includes negotiating contracts with vendors. These vendors include line contractors, tree trimming contractors, logistics, environmental and salvage contractors. For line and tree contractors, we endeavor to acquire resources based on a low to high cost ranking and release these same resources in reverse cost order. FPL also takes traveling distance into account when procuring resources for storm restoration. Longer distances require increased drive times and can result in higher costs. Final resource decisions take relative labor cost, travel distance and numbers of resources into consideration. This information is then evaluated relative to the expected time to restore affected customers.

Q. Does FPL consider alternative levels of storm resources prior to making commitment decisions?

A. Yes. FPL uses the damage assessment model referenced earlier to run multiple scenarios - one of which is a "near miss" scenario. This would be a storm that does not directly make landfall in FPL's service territory, but does have the potential of causing wide spread outages. During the 72 hour period prior to impact, FPL reviews the model output and establishes resource acquisition targets. The ability and flexibility to scale up resource commitments minimizes

the risk of procuring unnecessary resources, and spending money on an event that does not materialize.

Q. What steps does FPL take to acquire additional resources?

A. An important component of each restoration effort is FPL's ability to scale up its resources to match the increased volume of workload. FPL is a participating member of the Southeastern Electric Exchange Mutual Assistance group. While this group is a non-binding entity, it provides FPL and other members with guidelines on how to request assistance from a group of approximately 20 utilities, primarily located in the southern and eastern United States. The guidelines require reimbursement for direct costs of payroll and other expenses, including travel costs to and from, when providing mutual aid in times of emergency. In addition, FPL participates with the Edison Electric Institute to gain access to other utilities and has requested assistance from those companies based on similar mutual assistance agreements. Resource requests are made for line crews, tree trimming crews, patrol personnel, crew supervisors, material-handling personnel and in some cases, logistics support.

FPL also has a number of contractual agreements with line and vegetation contractors throughout the U.S. Many of these agreements are with contractors that we utilize during normal operations. These contracts are competitively bid, and as a result, FPL has among the lowest labor rates for contractors in the industry. Depending on the severity of the storm and our resource needs, a large number of additional line and vegetation companies can be contracted to provide

additional support, pending release from other utilities for which they normally work. If these additional line and vegetation companies are needed, FPL negotiates rates with these new contractors on an as needed basis, prior to the commencement of work.

Q. Describe FPL's plan for the deployment and management of these incoming external resources.

A. Deployment and movement of resources are controlled through the GOCC, utilizing personnel tracking and outage management systems to monitor execution of the plan. Daily management of the crews is performed by the field operations organization, which is responsible for effectively implementing FPL's restoration strategy. Decisions on opening staging sites to position the workforce in the most damaged areas are based on the timing of the arrival of external resources. Daily analysis of workload execution and restoration progress permits dynamic and effective resource management. This enables a high degree of flexibility and mobility in allocating and deploying resources in response to changing conditions and requirements. Another critical factor is FPL's ability to assemble trained and experienced management teams to direct field activities. As part of the storm organization, management teams include group leaders and crew supervisors to directly oversee field work.

Q. Are there controls in place over the acquisition of resources?

A. Yes. FPL has centralized all external resource (linemen, tree contractors) acquisition within the GOCC organization. I approve acquisition targets and they

are continually monitored by the resource acquisition director, who reports to me and keeps me informed during the entire restoration process.

Q. What processes and controls are in place to ensure that once these resources arrive, their work and time is properly accounted for?

A. These external resources are assigned to an FPL contract compliance coordinator referred to as a "CCR" as they arrive at their designated staging site. The CCR is responsible for verifying crew rosters as we accept these resources on to our system. The CCR also reviews and approves daily time tickets to ensure that time and personnel counts are accurately recorded. These time tickets are sent to FPL's contractor payment center, where they are used to verify invoices when they are received from the contract company.

Q. What logistics and support personnel and activities are required?

A. To support the overall restoration effort and the thousands of workers involved, various logistics functions are required. These functions include, but are not limited to, acquisition, preparation and coordination of: staging sites, environmental, salvage, lodging, laundry, buses, caterers, ice and water, office trailers, light towers, generators, port-o-lets, security guards, communications, and fuel delivery. Also, agreements with primary vendors are in place prior to the storm season as part of our storm planning process. Additional logistic staffing needs are provided by FPL personnel from all parts of our company. Most of these employees are pre-identified, trained and assigned to provide site logistics management as well as to support other needs of the restoration workforce. For

larger restoration efforts, when the workforce exceeds internal logistic support capabilities, FPL contracts for additional logistics manpower.

Q. What controls ensure that only necessary items are procured and that they are appropriately accounted for?

A. In addition to the procurement of external resources which have been previously discussed, our logistics organization is responsible for overseeing and coordinating the procurement of resources required at our staging sites. Staging sites serve as the major hubs for resources involved in daily restoration activities. Utilizing experience from previous storms, specific staging site resource requirements, e.g., the sites' footprint, tents, meals, water, ice, buses, hotel requirements, etc., have been pre-determined. Based on this, a logistics coordination team ensures that each staging sites resource requirements are initially procured and received. This, along with the constant coordination of resource requirements with site management, determines the daily needs of each site. Site management at each location is responsible for receiving and tracking of all supplies and materials and provides daily input to the logistics coordination team. The site controller, whose role and functions are discussed in Mr. Davis' testimony, also provides guidance and assistance to help ensure appropriate record-keeping, documentation, and accounting is maintained at each site. In summary, we believe that appropriate controls are in place and that these controls are effective.

THE 2005 STORM SEASON

Q. Please provide an overview of the 2005 hurricane season.

A. The 2005 Atlantic hurricane season shattered records that have stood for decades. These records include the highest number of named storms (27) and hurricanes (13), the most major hurricanes (4) to make landfall in the U.S., and the most storms (3) to reach Category 5 strength. Wilma became the strongest storm ever recorded, while Rita and Katrina are the fourth and sixth strongest storms ever recorded. Katrina also became the costliest (estimated to exceed $80 billion) and is also the deadliest U.S. storm, since 1928. Additionally, the 2004 and 2005 storm seasons established many new records for two consecutive storm seasons. These include: most tropical storms (42); most hurricanes (24); most major hurricanes (13); most major hurricanes to make landfall (7); and most major hurricanes to make landfall in Florida.

Q. Please provide an overview of the 2005 hurricanes impacting FPL's service territory.

A. In 2005, FPL and its customers were affected by 4 hurricanes – Dennis, Katrina, Rita, and Wilma. All four of the hurricanes impacted the most densely populated areas in FPL's service territory, Palm Beach, Broward and Miami-Dade counties, where 60% of FPL's customers reside. Hurricane Katrina made landfall near the Miami-Dade and Broward county line. Hurricane Wilma made landfall on the southwest coast of Florida and exited near Palm Beach, significantly impacting Palm Beach, Broward and Miami-Dade counties and causing more outages for

FPL than any other previous storm. In addition to the damage to our infrastructure, Hurricane Wilma caused significant damage to our communities. It has been reported that Hurricane Wilma could prove to be the worst storm to impact Miami since August 1992, when Hurricane Andrew caused more than $25 billion in damage. The American Red Cross also has reported that over 27,000 dwellings were destroyed or rendered temporarily unlivable, an indication of the destruction caused by Hurricane Wilma. Hurricane Wilma also proved to be a deadly storm, causing 60 deaths, with 35 of the deaths occurring in Florida. Hurricanes Dennis and Rita, while not making landfall in FPL's territory, traveled near enough for their outer bands to cause significant outages, particularly in Miami-Dade and Broward counties.

Q. Can you provide additional specifics for each storm?

A. Yes.

HURRICANE DENNIS:

The first hurricane to impact FPL and its customers in 2005 was Hurricane Dennis. Hurricane Dennis entered the Gulf of Mexico, after exiting Cuba, and traveled off the west coast of Florida. Hurricane Dennis, which at its peak reached Category 4 strength, eventually made landfall near Pensacola as a Category 3 storm. Hurricane Dennis began affecting FPL's service territory late in the evening on July 8, 2005. At that time, Hurricane Dennis was a Category 2 storm and had tropical storm winds that extended out 175 miles. A satellite picture of Hurricane Dennis, Document No. GJW-1, taken on July 9, 2005, shows the size of the storm. As can be seen, its outer bands essentially covered the entire state.

Customers in FPL's southeast territory, especially Broward and Miami-Dade counties, were significantly affected by at least two unpredictable hurricane weather bands with winds of almost 70 mph. By the time the effects of Hurricane Dennis left FPL's territory on Friday, July 9, 2005, approximately 509,000 customers required power restoration. By Sunday morning, the second day of restoration, 75% of those customers affected had their power restored. By Monday, the third day, all of the customers had been restored. The total workforce dedicated to the restoration effort totaled approximately 3,800, made up entirely of FPL employees and embedded contractors. External resources were limited because Hurricane Dennis was threatening the Gulf Coast as a Category 4 hurricane and all external resources were waiting to be diverted there. Total cost to restore service to FPL's customers and restore FPL's facilities to pre-storm conditions is estimated to be $10.4 million.

HURRICANE KATRINA:

Hurricane Katrina, which originated as a tropical storm in the Bahamas, was only expected to produce increased rainfall over the FPL territory. However, less than 48 hours before it was to make landfall in South Florida, it developed into a hurricane. Hurricane Katrina made landfall near the Miami-Dade and Broward County line on August 25, 2005, as a Category 1 hurricane, the first hurricane to directly hit Broward County in over 40 years. A satellite picture of Hurricane Katrina, Document No. GJW-2, taken on August 25, 2005, shows the size of the storm. Hurricane Katrina exited the southwest part of Florida on August 26. Hurricane Katrina had sustained hurricane force winds that extended over a 30

mile-wide corridor and tropical storm winds that extended over a 160 mile-wide corridor. Areas affected were subjected to tropical force winds for 18-20 hours. Almost 1.5 million customers, in 15 counties within FPL's service territory, required power restoration.

The hardest hit areas were Miami-Dade, Broward, and Palm Beach counties. This tri-county area also contains the greatest number of electrical facilities, many of which are located in areas with difficult access such as alley ways and behind homes, and includes areas with very dense vegetation. Tree damage was extensive, causing damage not only to our overhead facilities but also to our underground facilities, which were damaged as a result of uprooted trees. Damage to facilities required replacing 245 miles of wire, approximately 1,507 distribution transformers, and 1,248 poles, some of which were not owned by FPL. There was also damage to 26 transmission line sections and 10 distribution substations. The workforce dedicated to the restoration effort totaled approximately 14,400, including almost 5,200 foreign utility and other contractor personnel. The 5,200 additional support personnel called in to assist FPL's restoration efforts came from 72 different utilities and contractor companies, across 25 different states. The total workforce was made up of approximately 5,500 linemen, 2,900 tree personnel, 1,400 patrol and field support people, and 4,600 FPL corporate and care center support personnel. In total, 12 different staging sites were established in Broward and Miami-Dade counties to help manage and execute the restoration effort. To serve and maintain this workforce during the restoration effort over

38,000 meals, almost 69,000 pounds of ice, almost 20,000 gallons of water and over 104,000 gallons of fuel were consumed per day.

For the first time, system and county level Estimated Time of Restoration (ETRs) were provided within 24 hours of landfall. Sub-county ETRs were provided at 72 hours for locations within Broward and Miami Dade County. In addition, as restoration progressed, outbound calls were made to contact customers individually to notify them when their power was to be restored within 48 hours. Power was restored to 77% of all customers affected by the third day, 95% by the fifth day and 100% of our customers were restored by the eighth day. Total cost to restore service to FPL's customers and restore FPL's facilities to pre-storm conditions is estimated to be $162.1 million.

HURRICANE RITA:

Hurricane Rita, which eventually became a Category 5 hurricane, did not make landfall in FPL's service territory. However, Rita did pass through the Florida Straits and affected the southern portion of FPL's service territory. A satellite picture of Hurricane Rita, Document No. GJW-3, taken on September 20, 2005, shows the size of the storm. While impacting FPL service territory, Hurricane Rita was a Category 1 storm and had tropical storm and gale force winds that extended out 120 miles. Once again, customers in Miami-Dade and Broward counties were the most affected. The outer bands of Hurricane Rita began affecting the southeastern portion of FPL's territory in the afternoon of September 19, 2005. The most significant impacts, in Miami-Dade County, started around

noon on September 20. By the time the storm's effects subsided late on September 20, over 140,000 FPL customers needed to have their power restored, with over 80% of these customers residing in the Broward and Miami-Dade areas.

As the weather bands traveled through the South Florida area, FPL was able to restore service between these bands, resulting in no more than 40,000 customers being without service at any one time. The workforce dedicated to this storm totaled almost 4,900 and consisted of approximately 4,600 FPL employees and FPL embedded contractors and 300 foreign utility and contractor personnel. Total cost to restore service to customers and restore FPL's facilities to their pre-storm condition is estimated to be $12.2 million.

HURRICANE WILMA:

Hurricane Wilma became a hurricane on October 18, 2005. On October 19, Hurricane Wilma strengthened to a Category 5 hurricane with its minimum central pressure estimated at 882 MB, the lowest pressure and therefore the most powerful hurricane on record in the Atlantic basin.

Hurricane Wilma made landfall on the southwest coast of Florida, near Marco Island on October 24, 2005, as a Category 3 hurricane. It crossed the state and exited just to the north of Palm Beach, as a Category 2 hurricane. While in Florida, Hurricane Wilma had hurricane force winds that extended 125 miles from the center of the storm and winds greater than 40 mph extended 200 miles from the center. A satellite picture of Hurricane Wilma, Document No. GJW-4, taken

on October 24, 2005, shows the size of the storm. Hurricane Wilma impacted more customers than ever before in FPL's history. Over 75% or 3.2 million of our customers in 21 counties required power restoration. While Hurricane Wilma affected FPL's customers in Collier and Lee counties on the west coast and from Brevard County south on the east coast, Miami-Dade, Broward and Palm Beach counties were again the most impacted. In this tri-county area 99% of our customers were without power once the storm passed.

While every storm is different, Wilma was unique in one very significant aspect in contrast to prior storms. Wilma affected our entire infrastructure in ways never before experienced. Power plants, transmission lines and substations as well as distribution facilities all suffered damage. The resulting damage to facilities caused us to replace 1,016 miles of wire, 6,330 distribution transformers, and 12,419 poles, some of which were not owned by FPL. While damage was widespread, FPL found pockets of severe damage, where 5, 10, or in several instances more than 50 poles were down in an area or on a particular segment of the distribution system. Damage to poles was indiscriminate, whether the poles were wood or concrete, chromated copper arsenate (CCA) or creosote, new or old. In addition, approximately 100 transmission structures, 2 transmission breakers and 4 substation regulators also required replacement.

Over 19,000 restoration workers, including approximately 9,200 foreign utility and other contractor personnel, from 36 states and Canada worked to restore

power to customers affected by the storm. A restoration team of this size had never before been assembled in FPL's 80-year history. Assembling this team was especially difficult as the industry was still supporting Hurricane Katrina's and Rita's restoration efforts in the Gulf States. FPL initially opened 11 staging sites. Eventually, 20 staging sites were opened, with a peak of 17 operational at one time. At one point, over 5,000 personnel were housed in nearby hotels which were without power and over 200 were housed in on-site tents in order to maximize productive hours. Additionally, to maximize productive hours, FPL leveraged the start of daylight savings time and began the workday at 5 a.m. instead of 6 a.m.. This had the effect of maximizing daylight hours and allowing travel to the work site to occur before peak urban traffic time. On a daily basis, FPL served almost 49,000 meals, used almost 82,000 pounds of ice, consumed nearly 30,000 gallons of water, and used over 189,000 gallons of fuel. In an effort to provide as much information as possible to the affected communities, estimated time to repair for the service territory was supplied within 12 hours after landfall, at an evening press conference the same day as the storm passed through the territory. County level ETRs were provided in 48 hours and more local level ETRs were provided at 72 hours. In addition, as more information became available, we continued to update the media and our customers with improved restoration times every two or three days. As we had initiated with Hurricane Katrina, outbound calls were made to customers to notify them when their power was to be restored in the next 48 hours. By the third day we had restored power to over one million customers, on the fifth day we had restored over two million, by the thirteenth day we had

restored over three million and on the eighteenth day all customers were restored. Total cost to restore service to customers and restore FPL's facilities to their pre-storm condition is estimated to be $721.7 million.

Q. Can you provide some additional cost details, by storm, for Hurricanes Dennis, Katrina, Rita and Wilma?

A. FPL's 2005 estimated costs for restoring service and restoring facilities to their pre-storm condition total approximately $906.4 million - $10.4 million for Hurricane Dennis, $162.1 million for Hurricane Katrina, $12.2 million for Hurricane Rita, and $721.7 million for Hurricane Wilma. In Document No. GJW-5, I have provided a breakdown of those costs, by storm and cost category. I have also designated whether these costs are actual or estimated. I will explain later in my testimony the difference between actual expenses and estimated expenses. Also, as a result of the magnitude of the repair costs associated with damages to our fossil and nuclear power plant sites and other FPL facilities, Messrs. Davis' and Warner's direct testimonies include a further discussion of these costs.

The major cost categories contained in Document No. GJW-5 are FPL Payroll, Contractors, Vehicle and Fuel, Materials, Logistics and Employee Related, and Other. "FPL Labor" includes the payroll costs, both regular and overtime, for those FPL employees supporting the restoration efforts. This would include FPL linemen, patrol and field support personnel, as well as corporate and care center personnel. "Contractors" includes foreign utilities' personnel and line clearing and other contractors (both embedded and additional) that supported FPL's restoration

efforts. "Vehicle and Fuel" includes FPL's vehicle costs and associated fuel costs, including fuel supplied by FPL to foreign utilities and contractors. "Materials" includes costs associated with items such as wire, transformers and poles and other electrical equipment, used to repair and restore FPL's facilities to pre-storm condition. "Logistics and Employee Related" includes costs associated with managing and supporting the personnel involved in restoration efforts, such as, lodging, meals, equipment and vehicle rental. "Other" includes costs not previously captured. This would include costs for items such as security, nursing and telecommunication at our staging sites, safety and storm related public service announcements, incremental call center costs, and certain storm related employee services. "Other" may also include an amount, referred to as a contingency, to account for differences that may occur when estimates are replaced by actual expenses. For the 2005 storms, this contingency amount accounts for less than 5% of the total 2005 storm costs.

Costs that are "actual" represent costs that have been reviewed, properly invoiced or charged and are considered to be final. Costs that are "estimated" include invoices that have been received, but are still pending our review and approval, estimates obtained from vendors, foreign utilities and contractors that are still pending receipt of the final invoices, as well as other FPL estimates for work or services performed. Estimated costs also include costs associated with the second phase of restoration: restoring FPL's facilities to their pre-storm condition. This work includes but is not limited to repairing or replacing poles that are leaning or

were initially braced during the initial restoration stage, replacing lightning arrestors, and repairing or replacing capacitor banks. While these estimated costs are subject to some fluctuation since they have not been finalized, FPL believes that any fluctuation will not be material since these estimates are based on costs that have been received and obtained from third parties and estimates prepared using very recent cost experience, i.e., our 2004 storm experience.

Q. How effective was FPL's plan and execution during the 2005 storms?

A. As mentioned before, our primary goal is to safely restore the greatest number of customers in the least amount of time to return the communities we serve to normalcy. For the four 2005 storms, approximately 5.3 million customers required power restoration. As mentioned earlier, Palm Beach, Broward, and Miami-Dade Counties, our most densely populated areas, were the most significantly impacted. These three counties also contain a high concentration of electrical facilities, many of which are difficult to access and/or are located in heavily landscaped and vegetated areas. For Hurricanes Dennis and Rita, customers were 100% restored within three and two days, respectively. For Hurricane Katrina, 77% of the customers affected were restored in three days, 95% in five days and 100% in eight days. Hurricane Wilma caused significant and widespread damage to FPL's facilities, including the transmission and substation facilities that first needed to be repaired before focusing on the distribution system. For Wilma, FPL restored over two million customers, or 65% of all affected customers by the fifth day, and 100% were restored by the eighteenth day.

The high percentages accomplished in the first few days in each storm result from FPL's consistently applied restoration strategy - to restore devices that serve the largest number of customers first. For two straight years our facilities, processes and employees have been significantly stressed and challenged like never before. Yet, we have been able to overcome these challenges with unwavering determination and commitment to our customers. We have continued to refine our processes and effectively manage field operations, while acquiring an extraordinary number of workers and managing many staging sites. As a result, we have been able to restore service to our customers in an expeditious and prudent manner.

Q. Can you discuss what factors contributed to FPL's performance in 2005?

A. There are numerous factors that contributed to FPL's overall successful performance. We have solid plans and procedures, a strong centralized command, contingency plans for critical operations, and the tools and processes which ensure effective communications and information flow. Focus on process discipline and consistent execution of the plan resulted in consistent and effective performance. These factors would include:

- Our damage forecasting model, along with aerial patrols and ground assessments which allowed us to identify how many and where resources would be needed;
- Aggressively seeking resources prior to landfall resulted in successfully acquiring the necessary workforce;

- The centralized function of resource planning allowed us to allocate and redeploy personnel where needed, as the workload shifted;
- Effective damage assessment through ground patrols confirmed the resource allocation plan and allowed for adjustments;
- Robust outage management system functionality and a real-time data warehouse allowed us to continually gauge restoration progress and make adjustments as changing conditions and requirements warranted;
- As transmission and substation field workers completed their restoration efforts, they were redirected to distribution work; and
- Strong alliances with our vendors assured ample supply of materials and avoided delays;
- As a result of the increased hurricane activity, materials stocks were also increased to allow us to restore service with no materials issues; and
- Past experience, constant practice, and employee skill and commitment gave us the ability to anticipate operational barriers and to proactively develop alternative actions to overcome them.

I would note that these same factors and efforts are essentially the same as those that were utilized during the 2004 storms.

Q. Describe some of the enhancements to FPL's emergency preparation plans and processes that you implemented based on the Company's review of its 2004 storm experience.

A. As a result of our 2004 restoration experiences, new initiatives were introduced in 2005. These new initiatives included:

- Earlier resource acquisition: By making commitments and acquiring external resources earlier and having them travel, and pre-staged closer, yet out of danger, to the expected areas to be affected - before the storms made landfall, restoration execution was enhanced; For Hurricane Katrina over 1,400 external resources were pre-staged in Orlando and for Hurricane Wilma over 1,600 were pre-staged in Orlando and Miami. This enabled these resources to assist our restoration efforts earlier than before, thereby reducing restoration times.
- Enhanced fuel strategy: Physical inventory and in-house delivery capabilities allowed us to avoid fuel supply issues like those experienced during 2004 .
- Establishing critical infrastructure facilities: Established a partnership with the county EOC organizations to identify key community infrastructure facilities requiring restoration prioritization. This enabled the EOCs to better serve the communities' needs.

- EOC communications: Dedicating an FPL representative to each EOC to improve communications between us and the community leaders and to more quickly understand and resolve issues.
- Customer communications: Improving our communication efforts with our customers assisted us in providing more and better information then ever before. A Crisis Information Team was created and became the hub for all external, as well as internal communications. Updates on restoration progress were provided to community leaders and the media four times per day, daily live press conferences were held telephonically as well as live from our headquarters and our staging sites, ETRs were provided to FPL's care centers for customers calling in as well as the media, and FPL's website was updated to provide easier access to restoration information and to report outages. Our improved communication efforts assisted us in providing more and better information than ever before.

Q. What other factors contributed to the successful restoration efforts in 2005?

A. From 1998-2004, FPL has invested over $4 billion in its distribution infrastructure. This includes investing $1.2 billion in reliability programs which ensure that our distribution system is well maintained and provides excellent reliability for our customers. FPL's reliability programs are designed to maintain the existing infrastructure, address circuits that are considered outliers and introduce initiatives to help improve the infrastructure. Th ese programs have

resulted in a 50% improvement in our customers' overall reliability since 1997, as measured by SAIDI or service unavailability. Also, FPL's overall reliability has been best among the Florida investor owned utilities for the last two years and is significantly better than the national average. Without a properly maintained system, these reliability results and achievements could not be achieved. Additionally, certain of these reliability programs have allowed our infrastructure to better withstand these unprecedented back-to-back hurricane seasons and avoid even more damage to our facilities and customer outages.

Finally, I would be remiss if I did not mention the commitment and dedication of our employees who, for two straight years now, have demonstrated that they will go to great lengths to serve our customers. They have worked 16 hour days, sometimes for weeks at a time, been away from their families, given up vacations, and left their own damaged homes and not returned until power has been completely restored to all of our customers.

Q. Please provide some examples of the reliability initiatives that have contributed to an improved infrastructure and fewer and/or shorter outages?

A. As mentioned earlier, since 1998, FPL has spent nearly $1.2 billion on its distribution infrastructure. Over $800 million was spent on key reliability programs, which are designed to improve performance, address outlier devices which impact customers experiencing multiple interruptions, maintain our infrastructure and address critical devices. Over $370 million have been spent on

expanding our system in order to meet load requirements of new and existing customers

Some of our successful reliability programs designed to improve performance include the AFS (automated feeder switch) program and the cable rehabilitation program. Since the beginning of the AFS program in 2002, we have installed approximately 500 switches which we estimate have resulted in avoiding over 188,000 customers from being interrupted. Our underground Cable Rehabilitation program also has provided significant outage savings. Since 2000, over 10 million feet of feeder and lateral cable have been rehabilitated and we estimate that, on average, approximately 30,000 customers have avoided being interrupted each year.

Another program which is a critical component of our reliability initiatives is the "outlier" program. It is designed to address customers who have repeatedly experienced multiple interruptions. At the end of last year, we had approximately 16,600 customers experiencing more than eight interruptions within a twelve month period. Even though this is a fraction of our customer base, we are committed to improve the performance level of our system for these customers. Through a targeted program aimed at improving performance, we expect to see a 50% reduction over last year.

Our maintenance programs and practices continue to ensure that our infrastructure and critical equipment are operable and in good condition. Some of our fundamental programs include the following: thermovision inspections, an infrared predictive technology, designed to detect and correct potential failures in overhead facilities; visual inspections; padmounted transformer inspections; vault inspections, designed to ensure that critical underground equipment such as automated throw-over switches are operational in order to allow for the redundancies built into our system to properly function. These and other operations are critical in helping to maintain our excellent reliability performance.

Additionally, our system expansion and model feeder program allow us to alleviate overloaded conditions that could result in outages or stress equipment, causing it to fail earlier than expected. These conditions are addressed by constructing new feeders, upgrading or retrofitting existing feeders and creating feeder ties. This allows us to reduce the number of customers affected by an outage. It also builds in system flexibility and redundancy in order to be able to minimize restoration efforts by operationally switching loads and isolating faults.

Q. Hurricane Wilma caused more poles to be damaged and subsequently replaced than any other previous storm, including the storms in 2004. As a result, assertions have been made that FPL has not maintained its pole infrastructure. What is your response to these assertions?

A. The facts do not support such assertions. To begin, FPL designs and constructs its distribution system to meet and, in most cases, exceed the National Electric Safety

Code. With this as the basis, let me provide some facts associated with our poles. We own approximately 1.1 million distribution poles, of which 94% are wood, that meet or exceed the requirements of the American National Standard for Wood Products and the applicable standards of American Wood–Preservers Association. FPL has a pole inspection program that consists of three initiatives - a targeted pole inspection program that specifically addresses one of FPL's older pole types, visual inspections conducted as a part of our thermovision program, and inspections conducted as part of daily work activities. Approximately 12,000 poles are replaced annually as part of our business activities.

As a result of 3 hurricanes that made landfall in FPL's territory during 2004 and affected most of FPL's service territory, FPL replaced approximately 13,000 poles. 10,400 of these poles were owned by FPL and represent less than 1% of our pole population. In 2005, as a result of four hurricanes that impacted our most densely populated areas and subjected the majority of our poles to hurricane force winds, FPL replaced about 12,600 poles. While the number of replaced poles owned by FPL is unknown at this time, we currently expect that, like 2004, it should be less than 1% of our pole population. During the period 1999-2004, pole related outages accounted, on average, for approximately 130 outages per year, or just 0.1% of all outages experienced by our customers. In April 2005, the FPSC conducted its own independent survey on FPL's poles, covering 23 counties within FPL's service territory. The FPSC focused on those areas that were not severely impacted by the 2004 hurricanes in order to ensure that they were

inspecting older poles and not recently installed poles. The results of the survey showed that out of almost 600 poles inspected, only five poles showed some minor to moderate surface damage and one pole had a severe fracture. However, not one pole was found to have any significant visible deterioration. I believe these facts indicate that the integrity of FPL's pole infrastructure is sound and resilient and has been properly maintained.

Q. Has there been any analysis or investigation performed subsequent to any of the 2005 storms that provides any insight into the pole damage issue?

A. Yes. After examining our 2004 hurricane efforts, we determined that it would be helpful to compile more information on our storm-damaged facilities immediately following a storm to better understand failure modes. This information might then be useful in determining how to better protect or "harden" our facilities for future storms. As Hurricanes Katrina and Hurricane Wilma cleared our service territory, we immediately dispatched several teams of FPL engineers to gather forensic data on damaged facilities, including poles. While the data are still being analyzed, we have identified some preliminary findings regarding damaged poles:

(1) Pole damage resulted primarily from acts of nature - uprooted trees, high winds or flying debris;

(2) Not unlike FPL's experience in 2004, there were many poles damaged that were not owned by FPL ;

(3) During Wilma, over 50% of FPL poles were subjected to hurricane force winds, yet only approximately 1% experienced any damage;

(4) Almost 75% of the FPL-owned damaged poles in the Hurricane Wilma sample were pole types that have not historically shown any signs of deterioration: concrete poles and newer treated wood poles (CCA type).

Q. Has FPL contracted for an independent third party review of FPL's 2005 storm performance?

A. Yes. Similar to 2004, when FPL hired Davies Consulting to examine its restoration processes as part of its continued efforts to improve performance, FPL has contracted with KEMA, Inc. (KEMA) to review FPL's transmission and distribution systems' 2005 storm performance. KEMA is an internationally known engineering and consulting firm that has tremendous experience with infrastructure and reliability reviews for other major utilities throughout the world. This review, which is discussed in greater detail in the direct testimony of Dr. Richard Brown, includes a statistical examination of data collected during Wilma, a review of FPL design standards, a comparison of FPL design standards to standard industry practice, a review of relevant FPL and supplier quality standards and a review of FPL's pole inspection and maintenance program.

2005 versus 2004 Storm Comparison

Q. Can you provide any comparative information to help gauge FPL's 2005 hurricane restoration efforts?

A. It is very difficult to draw precise conclusions when comparing a utility's response to a given event, e.g., customer density, electrical facility density, vegetation density, structural damage, etc. However, I have included information

in Document No. GJW-6 for the 2004 and 2005 hurricanes that impacted FPL. This comparison shows very similar results for the number of customers restored, days to complete restoring service and total restoration costs. With respect to the 2004 storm restoration efforts, Order No. PSC-05-0937-FOF-EI issued in our 2004 storm recovery proceeding (Docket No. 041291-EI) states, starting on page 22:

> "We find that the costs that we found to be appropriately charged to the storm reserve, as set forth in the table above (in Section II.D.), are reasonable and prudent. At the customer service hearings in this docket, extensive testimony was offered in praise of FPL's storm restoration efforts. No party has challenged the reasonableness or prudence of these efforts. More importantly, no party has challenged the reasonableness or prudence of any specific cost among those that we found to be appropriately charged to the storm reserve. Thus, based on the record established, it appears that the costs we found to be appropriately charged to the storm reserve are reasonable and prudent."

Q. What are your conclusions with respect to the comparison contained in Document No. GJW-6?

A. As I have discussed earlier in my testimony, FPL's 2005 restoration processes, efforts, and actions are essentially the same as those in 2004. In fact, with the improvements implemented in 2005, they are even better. Therefore, I would conclude that our 2005 restoration efforts and associated costs are reasonable and prudent.

Q. Please summarize your testimony.

A. FPL has highly effective emergency preparedness plans and processes. Annual practice, along with recent actual experience, assures consistent and effective performance. Four 2005 hurricanes, Dennis, Katrina, Rita, and Wilma, affected FPL and its customers. Hurricanes Katrina and Wilma made a direct impact in the most densely populated portions of FPL's service territory and Hurricanes Dennis and Rita traveled close enough to FPL's service territory for their outer bands to cause damage and outages. In total, for all four storms, approximately 5.3 million customers required power restoration. Significant resources comprised of FPL employees, other utilities, and contractors were utilized to restore power and restore FPL's facilities to pre-storm condition. Total costs for 2005 associated with the restoration of customers' service and FPL facilities are estimated to be approximately $906.4 million. FPL's reasonable management actions, which I have previously described with respect to our 2005 storm restoration activities, support that these costs were reasonably and prudently incurred.

The 2005 storm season was extremely active, testing our plans and expanding our capabilities. In a number of ways, FPL's operational performance in response to the 2005 storms exceeded its very effective 2004 performance. Critical to achieving these results was FPL's proven restoration processes and the management teams' experience. Throughout the storms, FPL worked tirelessly to bring available internal and external resources to bear. We took extraordinary actions in acquiring all necessary resources in order to meet the objective of

restoring electric service as quickly and safely as possible, to allow our customers and the communities we serve to return to normalcy. We focused on the objectives and strategies required to successfully execute our plans. We took reasonable, necessary, and prudent actions in meeting our restoration objective for each storm.

Q. Does this conclude your direct testimony?

A. Yes.

BY MR. BUTLER:

Q. Ms. Williams, would you please summarize your testimony?

A. Yes, I would. Good afternoon, Commissioners. The primary objective of FPL's emergency preparedness plans and restoration process is to restore the greatest number of customers in the least amount of time. FPL's plan is consistent with Commission rules and other public interest and is the product of years of study and refinements based on actual experience.

When a storm actually threatens our territory, we respond with well-tested actions at specified intervals prior to the storm's landfall. These actions include developing restoration plans based upon the intensity and the path of the storm, identifying and acquiring the necessary resources, determining logistic needs, and communicating with state and community leaders as well as our customers.

The 2005 hurricane season shattered records that had stood for decades. Additionally, many new records for two consecutive storm seasons were established as well. In 2005, FPL and its customers were affected by four storms, Dennis, Katrina, Rita, and Wilma. All four storms impacted the most densely populated areas of our service territory, which are

Miami-Dade, Broward, and Palm Beach Counties.

In total, 5.3 million customer accounts required power restoration. In my direct testimony which was submitted on January -- later this year -- January 13th of this year, I estimated that the total cost for this restoration effort would be $906 million, and that was estimated as of November 30th, 2005. I should note, though, that in my rebuttal testimony, it provides an updated estimate of $885.6 million as of March 31st, 2006.

Our successful 2005 restoration efforts utilized essentially the same processes as those that were used during the 2004 storm season, with some enhancements that were based on lessons learned in 2004. These enhancements included acquiring resources earlier, improving our fuel strategy that allowed us to avoid fuel supply issues, establishing critical infrastructure facility priorities with the county EOCs, and improving communications.

Additionally, significant investments in our distribution infrastructure over the last seven years, including reliability initiatives, provided a well-maintained system that was able to withstand unprecedented back-to-back hurricane seasons.

While our pole inspection and maintenance

programs have been questioned, the facts are that pole outages for reasons other than hurricanes are almost nonexistent. Pole replacements for each of the past two storm seasons represented less than 1 percent of our pole population. And the PSC's own survey of FPL poles showed that only a handful of poles showed minor to moderate levels of damage. In short, our pole infrastructure is sound, resilient, and properly maintained.

After the 2005 storms, FPL hired an internationally renowned engineering consulting firm named KEMA to evaluate FPL's distribution, transmission, and substation storm performance. This review is discussed in the direct testimony of Dr. Richard Brown.

As one measure of the success of FPL's 2005 hurricane restoration efforts, we compared 2005 and 2004 restoration performance. Our 2004 efforts and costs were determined by this Commission to be prudent and reasonable. Because the '05 efforts and results are very similar for the number of customers affected, for the days to restore service, and for the total restoration costs, I would conclude that FPL's 2005 restoration efforts and costs are likewise reasonable and prudent.

Thank you. That concludes my oral summary.

MR. BUTLER: I would tender the witness for cross-examination.

CHAIRMAN EDGAR: Who would like to begin?

MR. PERRY: This is Tim Perry for FIPUG. We don't have any questions for the witness.

CROSS-EXAMINATION

BY MR. McGLOTHLIN:

Q. Hello, Ms. Williams. My questions relate to that part of your testimony in which you describe the company's pole inspection program and the components of the program. At page 34, line 5 --

CHAIRMAN EDGAR: Mr. McGlothlin, we need you to pull the microphone a little closer or lean in just a little bit, if you would.

MR. McGLOTHLIN: I'll square around.

CHAIRMAN EDGAR: Thank you.

BY MR. McGLOTHLIN:

Q. At page 34, line 5, you make this statement: "FPL has a pole inspection program that consists of three initiatives, a targeted pole inspection program that specifically addresses one of FPL's older pole types, visual inspections conducted as a part of our thermovision program, and inspections conducted as part of daily work activities."

Referring to what you describe as the targeted

program, that has also been identified as the Osmose program from time to time in this case, has it not?

A. Yes, it has.

Q. And under that program, as I understand it, Osmose, the contractor, will in the course of an inspection use a hammer or other tool to sound the pole, excavate 18 inches below ground level to check for deterioration there, and take sample borings to see if there's anything internal to the pole's shell; is that correct?

A. Yes, that's part of the Osmose program.

Q. And as part of that program, Osmose provides information that is then placed into a database; is that correct?

A. Yes.

Q. The KEMA report describes that database as follows. I'm reading from page 26 from the report attached to Dr. Brown's testimony. Referring to the Osmose program, it makes this statement, or the report makes this statement. "The pole inspector collects the following data which is placed in a database for FPL: (1) Pole location, by street address or other means, (2) GPS coordinates, (3) pole brand, date, month, and year, (4) pole length and class, (5) species of wood, (6) original treatment, (7) pole supplier, (8) FPL grid

number if available, (9) ground line circumference, (10) condition of pole above ground line, (11) condition of attachments, (12) last year inspected, (13) last year treated, (14) decay this cycle, (15) evaluations, and (16) work performed."

Does that accurately describe the information that's supplied by Osmose in the course of its inspections?

A. I believe it does.

Q. The Osmose program was implemented -- it began in 1999; is that correct?

A. No. I think Osmose was actually doing pole inspections on Florida Power & Light in the '80s.

Q. Well, the particular program that is described in the KEMA report was implemented in 1999, was it not?

A. The specific program, yes, it was started in '99.

MR. McGLOTHLIN: I'm going to ask some questions that relate to a document that is among the exhibits attached to Witness Byerley's testimony. I'm going to distribute one page from that document. I think there's no need to identify it as a separate exhibit. This is simply for the convenience of the witness and the Commissioners, for their ease of reference. It's the program matrix.

(Documents distributed.)

BY MR. McGLOTHLIN:

Q. Ms. Williams, I think you recognize this as a document you've seen before. It's captioned "Program Evaluation Matrix." Do you recognize this as a portion of the scenarios that those within FPL who are recommending the adoption of the pole inspection program prepared for the company's consideration?

A. That is correct. This is a typical document that will be prepared to evaluate any number of reliability programs that we consider every year as part of our budget and reliability plan.

Q. And this particular matrix presents three scenarios, does it not?

A. Yes.

Q. Alternatives 1, 2, and 3?

A. Yes, it does.

Q. And would you agree with me that each of the three alternatives, each of the three scenarios described in this particular evaluation contemplated that the proposed pole inspection program would cover all of the wood poles in FPL's system, the entire universe of wood poles?

A. It would over different periods of time.

Q. Yes. And those are depicted in the three

alternatives, are they not, four, seven, and ten years?

A. Yes, that's correct.

Q. And to accomplish the objective of inspecting all of the poles in those time periods, these scenarios contemplated that FPL would have the contractor perform 325,000 poles if the objective was four years, and then the corresponding number of inspections for the seven- and ten-year programs would have 185,000 and 130,000 inspections per year; is that right?

A. Yes.

Q. And, of course, depending on the scope of the annual program, the estimated capital and O&M outlays are shown that correspond to those different levels of activity; is that correct?

A. That's correct. That's what's shown on this page.

Q. All right. When the particular program that has been referred to as the Osmose program or the targeted pole program was actually implemented in 1999, it was limited as to both geographical area and the number of inspections per annual period, was it not?

A. Yes, it was. And I think what's not shown with this particular sheet is, of course, that when we evaluate any number of programs, these programs, in essence, compete with each other. It's all about what

value do the specific programs bring to the customers, what type of reliability initiative or what type of improvement as a result of the dollars that are being proposed to be spent can our customers expect to receive. And that's what, by not seeing all the different programs that we had an opportunity to review, just looking at one page, fails to capture.

Q. In any event, when the program was implemented in the 1999 and 2000 time frame, in those early years, FPL did perform or had Osmose perform in terms of order of magnitude about 28,000 inspections per year in 2000 and 2001; isn't that is right?

A. I don't recall the specific numbers.

MR. BUTLER: I'm sorry. Joe, can you make a reference to a document for that figure if you're trying to refer her to it?

MR. McGLOTHLIN: Well, one such reference is again taken from Mr. Byerley's exhibit, which is part of the 2001 reliability performance initiatives, and I have copies of that page to pass out.

(Documents distributed.)

MR. McGLOTHLIN: Again, Commissioners, this has already been attached to Mr. Byerley's testimony and has been identified as part of JSB-11 to be marked later in the case.

BY MR. McGLOTHLIN:

Q. Ms. Williams, do you have before you the page captioned "2001 Reliability Performance Initiatives"?

A. Yes.

Q. And do you see the reference in the top paragraph to a current inspection rate of approximately 28,000 per year?

A. Yes, I see that.

Q. Do you accept that as accurate as of the time?

A. I do.

Q. You became Vice President of Distribution in 2003, did you not?

A. Yes, I did.

Q. In that capacity, are you familiar with the number of inspections performed by Osmose in 2004?

A. I would have to look it up. I don't really recall the exact numbers for any one of our programs, I have to admit.

Q. Well, are you aware that the numbers in recent years are considerably fewer than the 28,000?

A. They are in fact lower.

Q. And again, in Mr. Byerley's exhibit, for 2004, there's an indication that the total for FPL was 7,710 in terms of order of magnitude. Does that sound about right?

A. Subject to check, yes.

Q. All right. FPL compensates Osmose for each inspection it performs, does it not?

A. Yes.

Q. So the cost of the program will be, in part at least, a function of the number of inspections?

A. That is correct, the number of inspections, the number of actual bracings that is required as a result of the inspection, and the treatment that is actually applied to the poles.

Q. So over time, as the number of inspections diminish from 28,000 to order of magnitude of 7,500, FPL has been spending less on the Osmose program in recent years than it did in the 2000-2001 time frame?

A. That would be correct.

Q. You also refer to the visual inspections that are part of the thermovision program. As I understand it, the thermovision program and the visual inspections that are part of that program do not apply to laterals; is that correct?

A. Thermovision targets -- that's correct, it does not. Thermovision targets our feeder population, which is really the most critical component of the distribution infrastructure. It's the main trunk lines where, frankly, 93 percent of our customers can be

directly fed from -- actually, 100 percent. If the feeders are out, everything else is out.

Q. And in terms of the number of laterals that are not part of that program, at page 45 of the KEMA report there is an estimate of 845,000 laterals. Is that in order of magnitude about right?

A. Would you repeat that number, please?

Q. 845,000.

MR. BUTLER: I'm sorry, Joe. Your reference is to page 45 of the KEMA report?

MR. McGLOTHLIN: Of the KEMA report.

THE WITNESS: I don't show that on page 45 of the KEMA report.

MR. BUTLER: Page 45 in what I have is section 5.7, Conclusions.

THE WITNESS: Right.

BY MR. McGLOTHLIN:

Q. I must have the wrong reference written down. As Vice President of Distribution, I'll just ask you. How many of your poles are laterals?

A. How many of my poles are laterals?

Q. Yes.

A. Let me see if I can find that information. As Vice President of Distribution, I haven't counted them, but I'm sure that I can find the reference. Let's see.

Where would I find that?

I think roughly 65 percent. Let's do it this way. Sixty-five percent of our poles are laterals. Sixty-five percent of our 1.1 million would be close. I don't know that it would be exactly 885,000, but it would be in the neighborhood.

Q. I didn't hear the number that you gave.

A. I said about 65 percent of our poles are lateral poles, 65 percent of about 1.1 million. You're in the neighborhood.

Q. Okay. Now, inasmuch as the thermovision crews perform only visual inspections, there's no excavation performed in the course of one of those inspections, is there?

A. There isn't any excavation as a result of the thermovision inspections. There could be excavation as a result of the third initiative of our pole program, which includes, of course, all the daily touch points. And I think it's in that area that lateral poles probably have the largest amount of inspection done.

Q. My question is limited to the thermovision program. Is there excavation involved in the thermovision inspection?

A. I think I answered that. No, there is not. It's visual.

Q. And the thermovision crews do not sound the poles with tools to detect internal decay?

A. That is correct. The thermovision program is a visual inspection that looks for obvious damage to the poles, rot, cracks, damage of different types, woodpecker holes, those types of things.

Q. Do the thermovision inspections result in information for purposes of database collection that lines up with the information supplied by Osmose?

A. No, it does not. It is captured in a different forum as part of our reliability database, where we get the reports from the thermographers, where they identify for every circuit all the various things that they found on that circuit requiring attention.

First, of course, is the thermographic information, looking for hot spots, if you will, the connections on the equipment, with the intent of trying to correct those things before they turn into an outage. And then separately, they also do a visual inspection and take pictures of the actual locations where they've seen a problem.

That information is then provided to the service center, which creates work orders, work requests to correct the problem. And then at the reliability staff level, they reconcile, if you will, the work done

versus the work that was expected to be done.

Q. And those pictures are taken, and reports of that nature, when a visual inspection is capable of detecting obvious damage; is that correct?

A. Obviously, yes.

Q. The other category or component of the program that you described relates to the workmen and their contact with the pole. And in that regard, those workmen are called upon to perform hazard assessments, are they not?

A. Yes, they are. It's a requirement, part of the safety rules that we have for our workforce, that prior to beginning any kind of work that they do a thorough hazard assessment. And, of course, so many of our facilities are in fact poles, that as part of that hazard assessment, if they're going to do anything on that pole, whether it's climbing the pole or working from a bucket onto the pole, they are required to follow a very specific protocol of inspecting the facilities that includes a number of things similar to the Osmose program.

Q. In terms of the data that is collected and preserved in a database, is the information generated by a hazard assessment on a par with the information that is entered into the database by Osmose?

A. The information that is gathered from our workforce is in fact collected, brought back to the worksite, and then something we call the local joint safety committees, which are joint committees of management and union, look at the specific safety issues that were found on the jobsite, and over time, work to make sure that those issues are addressed.

But as far as addressing your specific question, is it entered into the Osmose database or the database that Osmose uses, no, it is not. It's really more at the worksite level about addressing the specific issues that the workers themselves found.

Q. Is it fair to say that these hazard assessments are more in the nature of the daily work and part of the daily process as opposed to a long-term data retention program?

A. It's part of their daily work. It's an important part of their daily work. And since they are working in people's backyards, they're doing work on laterals all the time, they are touching -- and I think the KEMA report shows a pretty extraordinary large number. They are touching over 100,000, almost 200,000 poles on an annual basis because they're doing so much work on our infrastructure.

Q. You used the term "touching," and KEMA uses

the term "touch points." Whose term is that? Was that used by FPL to describe its program to KEMA, or is that KEMA's description of the FPL program?

A. I'm not sure where the term came from. It's not one that I've used in the past.

MR. McGLOTHLIN: Those are all my questions.

CHAIRMAN EDGAR: Mr. Twomey.

MR. TWOMEY: I don't have any questions.

CHAIRMAN EDGAR: Thank you. Mr. Wright.

MR. WRIGHT: Thank you, Madam Chairman.

CROSS-EXAMINATION

BY MR. WRIGHT:

Q. Good afternoon, Ms. Williams.

A. Good afternoon.

Q. Am I correct that in evaluating customer interruptions, you look at SAIDI and CAIDI measures in those?

A. We look at a number of things when we're looking at customer interruptions. We're actually looking at the raw number of customers interrupted. We're looking at on a reliability basis the CAIDI, the average amount of time to restore power. We're looking at the average amount of time that customers are without power. We look at multiple interruptions for any particular customer, as it's not just the average of the

system, but also keeping an eye on making sure that the customer experience for any group of customers is not beyond a certain threshold. So we look at reliability, if you will, from the customer perspective in a number of different facets.

Q. Okay. Is it true that your measure of customer interruptions does not include momentary interruptions?

A. We actually look at it in two ways. We look at it as permanent customer interruptions, which are defined as interruptions that are 60 seconds or greater. And for interruptions that are less than 60 seconds, 59 or less, those are considered momentary interruptions, and we measure those as well and track those as well and have programs to address those as well.

Q. Okay. But in your CI measure, that's permanent interruptions?

A. Permanent interruptions; that's correct.

Q. Does FPL do any studies that attempt to quantify the value to consumers of interruptions that they might experience as a result of storms?

A. Well, we know how important electricity is to our customers. In terms of actually doing an economic analysis, the answer would be no.

Q. In your deposition, I believe that you told me

that something like 57 percent of the pole failures in Katrina were vegetation-related and something on the order of 22 percent of pole failures in Wilma were vegetation-related. Is that about right?

A. Subject to check. I don't have my deposition in front of me, but I do recall having the conversation with you. And I know that there were more vegetation-related interruptions in Katrina overall, or as a percentage, I should say, than there were with Wilma. Wilma was an extraordinarily high wind storm.

MR. WRIGHT: If I may, I'm just going to show her her deposition. Those numbers are 21 and 57, but I'll just ask her to verify that.

BY MR. WRIGHT:

Q. If you would just confirm that that's what you said in your deposition, that 21 percent in Wilma were vegetation-related, and 57 in Katrina. And assuming that to be true, if you would confirm that that's still true to the best of your knowledge as of today.

A. If I could have a minute.

Q. Certainly.

A. Thank you.

I can't find where I actually said it. I'm sorry. Let me see if I can find it. What you showed me is what you said I said. Not that I don't trust you,

but I want to see it.

Q. And I believe your response to my question there was, "That's correct"; is that not correct?

A. I just want to see it.

Well, subject to check, I'll just agree with it.

Q. Okay. And will you agree that to the degree that FPL had access to control vegetation, that at least some of the vegetation-related pole damage was preventable by FPL?

A. No, I would not agree with that. When you look at the data, the forensic data that was collected and then analyzed by KEMA, you would find that pole breakages related to trees were extraordinarily non-preventable.

And, of course, that makes sense. When you think about a pole and the wires and the infrastructure that is included or involved in poles, it's hard to imagine a branch breaking a pole, and that's not what normally happens. What typically happens in a hurricane situation is, you have trees that are uprooted and then toppled onto our lines. Therefore, those pole breakages associated with trees are not preventable.

And in looking at the over -- my goodness, 18, 1,900 data points of actually looking at facilities

right after the hurricane as part of our forensics for both Katrina and Wilma, I believe that with Wilma there were 1,741, and with Katrina there were several hundred. Of those 1,900-plus observations, there were three preventable tree-related pole breakages with Wilma, three, and four preventable tree-related pole breakages with Katrina.

Q. What does preventable mean in that context? Does that mean the tree that fell on the pole was in the right-of-way that you could have controlled?

A. It means that -- and I've looked at the pictures of several of those. It means that where there was pole damage, it was the opinion of the person that went out there, the forensics engineer, that standard trimming could have prevented the pole damage that actually occurred.

For example, one of them was very interesting. It was a pole that -- the top portion of the pole had been sheared off, and so you could see how possibly a branch came down that caused that pole to get severely cracked.

But in all the other 1,900-plus instances of direct observation, it was the assessment of the forensic engineer that no level of line clearing could have prevented that pole from breaking, which of course

makes sense. When you have a three-ton tree against any wood pole, or concrete pole for that matter, the tree is going to win. And that happened over and over again. So when you're looking at tree-related pole breakage, it's overwhelmingly not preventable.

Q. Am I correct -- I'm changing subjects now. Am I correct that it is your statement as a matter of fact that FPL's distribution system performed as designed and as expected in Wilma and Katrina?

A. That is my opinion, and it's also the opinion of KEMA, the third-party engineering firm that looked at the data, looked at our standards, and similarly came to that conclusion. Actually, they came to the conclusion. I agree with it.

Q. Thank you. I'm going to ask Mr. Twomey to hand out an exhibit that is one page out of what was your Deposition Exhibit Number 3. And for reference, it is Bates stamped FPL 004465, and it has to do with a pole inspection, an FPL pole inspection program.

Ms. Williams, you recall seeing this document?

A. Yes, I do.

Q. And do you recall our conversation about it at your deposition?

A. I do.

Q. The date on which this document was prepared

is apparently July 16, 2004. Does that seem right to you?

A. Yes, I think that's probably right.

Q. That is the date that's shown on the document?

A. Uh-huh, yes, it is.

Q. Okay. Given that the document was prepared in 2004, do you know whether the 2002 and 2003 numbers were actuals or whether they were just budget numbers as indicated in the left-hand column of the table?

A. I don't know whether they were budget or actual. They were probably actual, but I'm speculating.

Q. Thank you. You'll agree that the trend from 2002 to 2004 -- well, from 2002 to 2003 was a substantial reduction in the expenditures on the pole inspection program?

A. Yes, there is a reduction.

Q. Okay. And from 2004 to -- I'm sorry, 2003 to 2004, the dollars expended stayed approximately the same; is that accurate?

A. That is correct.

Q. The number of poles inspected or touched, inspected, treated, braced, or replaced reduced by close to half. Would you agree with that?

A. That's what it looks like.

Q. And then from 2005, given the projected budget

for 2005, the number was projected to reduce quite a bit further, from around 6,000 in 2004 to a little over 2,000 in 2005; is that also correct?

A. That's what it looks like, yes.

Q. Okay.

A. I think it's also important, though, as you look at these -- and I think we talked about this at our deposition as well. There's no such thing as a legacy program, so every single year when you're looking at your budget and your reliability plans, all these programs are looked at with the fresh perspective of what kind of value can they deliver the following year. So just because you've been funded in the past does not mean that you automatically get funded in the future.

So as I look at these various funding levels from year to year, it could very well be that other programs came to the table that had a bigger benefit for the dollars to be expended. And I have to believe that, considering the excellent reliability that we've provided to our customers and really the very good pole performance that we've had throughout the time in question here.

MR. WRIGHT: Madam Chairman, did I get a number for that? I would like it marked. I thought I said that, but I'm not sure that I did.

CHAIRMAN EDGAR: We did not do that, and I was going to ask you as well.

MR. WRIGHT: Thank you.

CHAIRMAN EDGAR: I'll ask you -- it would be Exhibit 140, 140.

MR. WRIGHT: Thank you.

CHAIRMAN EDGAR: And I will ask you to give us a title.

MR. WRIGHT: FPL Pole Inspection Program Budget Summary.

CHAIRMAN EDGAR: Thank you.

(Exhibit Number 140 was marked for identification.)

BY MR. WRIGHT:

Q. Ms. Williams, do you know whether the budgeted numbers for the poles treated, braced, replaced, et cetera, inspected, as indicated here, came out being fairly close in actuality to the numbers budgeted?

A. No, I really don't know. And, of course, the last couple of years have been extraordinarily difficult to really execute 100 percent of any of our programs because of the tremendous disruption that we've had associated with the hurricanes. Many of our programs had ended up being deferred. They end up being carried over into following years and then have to be done. So

I don't know today what the actual versus budget for this program and many of our programs were because of the impact of the hurricanes.

Q. Will you agree that reducing the number of pole inspections conducted cannot help reliability?

A. Yes and no.

Q. Please explain.

A. I will be happy to.

Q. I thought you would.

A. There are choices that we have to make. And if in reducing the pole inspection program you're able to use that money, use that funding to do something else that provides bigger benefits to your customers, then by not actually budgeting this program, but budgeting something that has a much broader, more comprehensive benefit, you could be providing reliability.

So in a nutshell, if it was just reducing this program without anything else changing, the answer would be yes, that it could not improve reliability. But since that's not what happens in the real world, there are a lot of choices and a lot of tradeoffs that are made, and it's about ultimately the reliability that our customers are getting by making choices and possibly not funding something here, it enables you to fund something else that does impact and in fact improve reliability.

Q. Thank you. If I were to ask you the same question with regard to vegetation management, tree trimming, would you give the same answer?

MR. BUTLER: For the sake of the record, I think it would probably --

CHAIRMAN EDGAR: Mr. Butler.

MR. BUTLER: -- be better to ask the question, just so we're sure what question it is that's being asked and answered regarding vegetation management.

MR. WRIGHT: Fair enough.

CHAIRMAN EDGAR: Actually, we were talking over one another, and I realize that has to happen sometimes to break in and get my attention. But with that, I lost the question myself, so if you would start with the question again, please.

MR. WRIGHT: I will follow Mr. Butler's suggestion, because it will work just fine.

BY MR. WRIGHT:

Q. Will you agree that reducing vegetation management activities cannot help reliability on the distribution system?

A. Yes. It's not the same, because the impact, obviously, of the vegetation management program is so significant to the reliability of our system. So the impact, the reliability impacts of pole inspections are

pretty inconsequential. The impacts of vegetation management are not.

Q. Thank you. Will you agree that in general, with regard to hurricane information, FPL pays attention to the National Hurricane Center?

A. Yes. Of course we pay attention to the National Hurricane Center, yes.

Q. I want to ask you, would you agree, to your knowledge and opinion, that the period 1960 or '61 to 2000 was a relatively quiet period for hurricanes and tropical storms hitting FPL's service area?

A. That's my understanding, yes.

Q. What's the basis for that understanding?

A. My understanding is that I've basically -- from my own personal experience. I've lived in Florida since 1980, and from 1980 to present, it was pretty mild up to the last couple of years. And prior to that, it's my understanding that we did not have a lot of hurricanes, but I -- you know, I have not personally experienced that.

Q. In 2004 before the storms hit, were you at all concerned about the possibility of increased hurricane activity affecting FPL's service area?

A. On a personal level, we're always concerned about increased hurricane activity. This is Florida.

It's a subtropical climate. You've got an enormous amount of coastline. It's always a concern on a personal level and everything else.

However, looking at what we had experienced, the type of hurricane activity that we had seen over the last ten years or so, we felt that we had excellent restoration plans, that we had good infrastructure in place, and that we had personnel that were well trained and experienced and knew what to do in case there was a hurricane. So while you never hoped it would happen, I had confidence that if a hurricane hit, our organization and our company were well prepared to be able to handle it.

Q. Are you familiar with a transmission line project known as the Collier-Orange River Number 3 transmission line?

A. No, I'm not.

Q. You've never heard of that project?

A. Collier-Orange River?

Q. Yes.

A. I've heard of it, but I can't tell you how many structures or where it starts or -- it starts at Collier and ends at Orange River, but I really don't have specific information to it. It's not -- I don't know if you know transmission is not part of my area of

responsibility.

Q. I understand that. Do you know when that line was permitted?

A. No, I do not.

Q. You do know Paul Hebert, do you not?

A. Of course I do.

Q. I'm going to hand you an excerpt -- well, actually, I think I'm going to hand you a copy of his testimony from the Collier-Orange River transmission line siting proceeding that was conducted in early 2004, and I would like to ask that this be marked.

CHAIRMAN EDGAR: Mr. Wright, did you ask that we go ahead and give this a number?

MR. WRIGHT: Yes, please.

CHAIRMAN EDGAR: So this will be 141.

MR. WRIGHT: 141, I think.

CHAIRMAN EDGAR: 141.

MR. WRIGHT: Thank you.

CHAIRMAN EDGAR: And I'll ask you for a title.

MR. WRIGHT: Transcript of Paul Hebert's testimony, DOAH Case No. 03-1629TL.

CHAIRMAN EDGAR: Thank you.

MR. WRIGHT: Thank you.

(Exhibit Number 141 was marked for identification.)

BY MR. WRIGHT:

Q. Now, in your deposition, Ms. Williams, I asked you had you consulted with Mr. -- back up. Mr. Hebert is a recognized expert in hurricanes, is he not?

A. Yes, he is.

Q. And when I asked you in your deposition how much you had talked to him about hurricane activity, you indicated you had talked about it in general terms, but that you mostly relied on the National Hurricane Center; is that fair?

A. That's fair.

Q. I would like to ask you to look at page 1359 of the deposition transcript, which is on the fourth page in. And if you would, look at lines 14 to 25 there.

Now, the document will speak for itself, but I'll aver to you that this was under examination by FPL's attorney, Ms. Carolyn Raepple, of Mr. -- I don't know. Is he a Dr., or is he a Mr.?

A. I'm sorry?

Q. Is Mr. Hebert a Ph.D.?

A. I don't know. I don't know whether he is or isn't.

Q. I just wanted to use the correct title.

I would just like to ask you, if you would,

read the question and answer that begins at line 14 and continues through line 25 there.

A. Of page -- of 1359?

Q. Yes.

A. I'm sorry. Which line? Which question do you want me to read?

Q. Fourteen, that begins, "Is the return."

A. "Is the return period for hurricanes spread out evenly over time?"

Answer: "No, it's not. Hurricanes tend to come in cyclic periods and can go a long period without having any, and then you can have very many hurricanes in a 20-year period. For example, if we look at the 40-year period from 1961 to 2000, we will be very much deceived for all of Florida, in particular for Lee and Collier County, because during that 40-year, Lee and Collier County had one hurricane hit both counties and one major hurricane directly affect the counties. By direct" --

Q. You may continue if you like. That's all I was asking you to do.

A. That's fine.

Q. Thanks. During that time frame, say, 2003 and 2004, did you ever consult with Mr. or Dr. Hebert about possible changes in the hurricane pattern for Florida?

A. We talked about it in broad terms. We're always very interested in the status or El Nino or La Nina, which are ENSO scales of weather that measure the heat, if you will, in the Atlantic basin and give you an indication of what you might expect in any given time frame.

So we would have those types of conversations. Of course, I always asked him for his best estimates based on any experience he might have from what had happened during the winter or what had happened the prior summer, about what his predictions would be for the following summer. He is really a noted hurricane expert and someone whose advice and counsel I've always relied on. So we've had those types of conversations about hurricanes and what might happen in the future. I would say that's generally the type of discussions that we had.

Q. Okay. And would it fair for me to infer from what you just said that you did not have a specific conversation with him about his expectations for 2004 or 2005?

A. 2004? Actually, I remember in May of 2004, we had had an extraordinarily -- so the answer is no. We had had an extraordinarily dry May, and I thought that was really good news, and so I had said, "So, Paul, tell

me, what does that mean for hurricane seasons this summer?"

And he said, "Well, let me tell you, dry Mays typically turn out resulting in extremely bad news for South Florida as it pertains to major hurricanes." Now, I was flabbergasted by it, and he showed me some data. So we had those types of conversations in May about 2004.

As far as 2005, we did not have any conversations about what we might be ready to expect, but he did predict that we would have in 2004 at least one major hurricane based on May being a dry weather month. And I thought that was pretty extraordinary, when you consider the fact that we had three actually impact our area.

Q. Following that conversation with Mr. Hebert, did you undertake to do anything differently towards getting ready for the 2004 season?

A. At that point, what are you going to do? All you can do is hope that your organization is as prepared as possible to restore. There certainly isn't time to do anything different from an infrastructure hardening perspective.

So you -- we worked very diligently, as we do every year, to make sure that prior to storm season our

systems are running as efficiently as they possibly can, our people are trained, that we have material stock levels that are going to be adequate, that we've got good relationships with our mutual aid providers, that our communications plan is ready to go. It is all about getting ready for hurricane season so that if a hurricane hits, we can be there for our customers and we can restore power as quickly and as safely as possible.

So to that extent, it was about getting ready, because we all had a bad feeling going into it after Paul told us about the May weather.

MR. WRIGHT: Thank you. That's all I have, Madam Chairman.

CHAIRMAN EDGAR: Captain Williams, any cross?

CAPTAIN WILLIAMS: No, ma'am.

CHAIRMAN EDGAR: Thank you, sir. Mr. Kise.

MR. KISE: Yes. Thank you, Madam Chair.

CROSS-EXAMINATION

BY MR. KISE:

Q. I just had a couple of questions just following up on what Mr. Wright just asked you, because I'm a little confused by your testimony.

You indicated that following this conversation about the May dry month that you had increased concerns about the severity of the 2004 hurricane season; right?

A. That's correct.

Q. Okay. But I think -- didn't you -- and maybe I missed the dates you were talking about. I thought earlier you had said in response to one of Mr. Wright's questions that while you were concerned about the 2004 season on a personal level, because we're all concerned as Floridians, having spent all this time here in Florida, we're all concerned on a personal level, but you weren't concerned from a business standpoint. Did I miss some dates there?

A. I think you might have, because what I meant was in general. I thought Mr. Wright's question was more in terms of was I concerned in general about hurricanes, and then his second question was really specific to was I concerned about 2004, and that's where Paul Hebert came in with the May dry weather. It really increased many of our concerns, because he has had a very good track record for predictions. So I think one was general and the other one was specific to '04.

Q. Okay. So you took Mr. Wright's question to be just in general terms, just sitting here today, just like any other time, do you have a concern? Personally you do, but nothing specific to 2004?

A. No.

Q. Or 2005?

A. No.

Q. But then following this conversation about the dry May, then you had increased concern. Significantly increased concern; is that fair to say?

A. I had -- I was intrigued by Mr. Hebert's prediction.

Q. Intrigued?

A. Intrigued. I mean, he has just predicted, very specifically predicted that because we've had a dry May, that there will be a major hurricane impacting -- a high likelihood of a major hurricane impacting the State of Florida. That's extraordinary. That's an extraordinary prediction. And we were intrigued. We thought -- we hoped he was wrong.

And as we sat there, we all said we're going to be as prepared as we always are. We're going to make sure that our people are as trained, all the different things that I already alluded to, that our material is ready. And at that point, it was all about, should it happen, if it does happen, doing the best job we could for our customers, and I think we responded very well.

Q. Okay. But I think you just said that -- you described his prediction as extraordinary; is that right?

A. Yes.

Q. But then you said you were going to be just as prepared as you always are; right?

A. As prepared as we always are.

Q. Not anything different, not anything extraordinary. You weren't going to be extraordinarily prepared; right? You were just going to be prepared as you always are?

A. We are always extraordinarily prepared. I guess that's the point that I'm making.

Q. Okay. I'm sorry. I misunderstood you. So you're always extraordinarily prepared, so you always anticipate these extraordinary predictions from Mr. Hebert. You're prepared for three or four storms in a year every year, year over year?

A. I think that what I really want to make sure is clear -- I think possibly that you don't understand the way that we --

Q. I don't think I do.

A. Okay. Let me try to explain.

Q. I don't know that anyone does.

A. Every year as part of our preparations for storm season, our organization undertakes to go through a very comprehensive training and preparation program that involves all aspects of our operation. We do extensive training. We increase material stock levels.

We make sure that our systems are running efficiently. We follow up with all of the utilities and contractors that we do business with to make sure that they're ready, willing, and able to support us if the need arises. We do comprehensive drills that we call dry runs in the May time frame where we simulate specific hurricanes and actually go through -- we call it a mock hurricane drill, a dry run.

And as a result of the experience that we have had in the past with multiple hurricanes, tornados, wildfires, I can tell you that Florida Power & Light's emergency preparedness plans and response are considered by the utility industry and many outside the utility industry to be the best in the country. We take it extraordinarily seriously. We know how important power restoration is to our customers. And year over year, we constantly look for ways of getting better, even though I can tell you that even prior to 2004, our storm restoration process was terrific.

So in May, it was an interesting sidebar, if you will. In May, again answering Mr. Wright's question about the types of conversations that I had with Mr. Hebert, I thought it was interesting that, again, in May Mr. Hebert made a prediction about what we might expect in 2004.

Did it change things? Did we run around with our heads on fire saying, "Oh, my goodness. The sky is falling"? Absolutely not. We were ready before that prediction, as we are today. It was an intriguing comment and something we took seriously, because after all, Mr. Hebert is a known authority, but let's not take it out of context.

Q. Okay. So then your answer is that you didn't do anything different following receipt of that prediction than you always did, because you're always prepared. But you didn't do anything different; right?

A. As a result of that prediction? I would say no, we didn't. It was interesting. We made sure that our restoration plan was as good as it could be, we were as well trained as we could be, that all those different things leading up into the actual time frame were as good as they could be. And we hoped that Mr. Hebert's prediction was wrong.

Q. We always do. Okay. Unless he says there won't be any storms, in which case we hope he's right.

But with respect to -- just so I can get a specific answer, because I know you're saying a lot, with respect to what actions were taken following receipt of that prediction from Mr. Hebert, am I understanding you to be saying that nothing different

was done following receipt of that prediction? Right?

A. Well, no. But let's make sure that we don't get carried away with this prediction.

Q. Well, I'm not trying to get -- I'm just trying to understand your answer. You have said that you received this extraordinary, intriguing prediction from Mr. Hebert, and you value his opinion greatly. You have said that. Then you -- if I'm wrong, stop me here. Then you said that every year you are prepared and you treat each year the same. And so my question is -- just so I'm clear, all I want to know from you is, did you do anything different after you received this extraordinary, intriguing prediction, yes or no, anything different?

A. And let me clarify what I meant by -- I want to make sure that --

Q. Can we start with yes or no? Did you do anything different?

A. We did not do anything significantly different.

Q. Okay. That's all I need to know.

A. But I think -- let me please clarify.

Q. Okay. Go ahead.

A. I think this is all being blown very out of proportion. Mr. Hebert and part of our staff -- I think

it might have even been our dry run, our May dry run -- were sitting around a table. We had just had a really wonderful spring. The weather had been clear. We had a beautiful May. And I literally talked to him across -- I said, "So, Paul" -- because he always had, you know, these great stories to tell about the hurricane of 1960 or whatever. "So what does it mean having had this sort of wonderful spring? Are there any -- can we believe or can we assume that we're going to have a mild summer," hoping, of course, that that would be the answer.

And he said, "Well, it's interesting you should say" -- and it was very folk-talish. It was not an official document. It was not a research thesis. It was not a paper that he was going to present to the NOAA board or anything. It was almost a folk tale, based on his experience, something that he had just thought of, that interestingly enough to him, dry Mays oftentimes resulted in major hurricane activity.

And it was interesting, interesting. It did not change our focus, because it was an interesting comment. We're always prepared. We're always going to take hurricane restoration extraordinarily seriously. We had before then, we did then, and we continue to do so.

Q. Okay.

A. Does that help? Because I think it was important to help on that particular issue.

Q. Maybe you did. I already stopped. Once you said no, that's all I needed, but I'm glad you added the other part.

Let me see if I understand, though, your editorial to the remainder of the question I didn't ask, which is, you are now saying that -- I think in response to Mr. Wright's questions, you said that Mr. Hebert, this noted, reputable individual when it comes to storm predictions, provided you with an extraordinary prediction, an intriguing prediction. Now it has gone to the level of an interesting prediction based on his folk tale. Is that what I'm understanding you to be saying, that he speaks to you in terms of folk tales?

A. No, no, no. I think what I meant by extraordinary is, it is extraordinary for anyone to make a prediction about this year, there shall be a major hurricane and it shall be in South Florida.

Q. Well, isn't that the business he's in?

A. That's -- if I can --

Q. Isn't that the business he's in?

A. If I could finish my comment, please.

MR. BUTLER: I'm sorry. I object to stepping on the witness's answers.

THE WITNESS: And so I found that --

CHAIRMAN EDGAR: Ms. Williams, a moment, if you would. Mr. Butler, I could not hear you, so I would like you to speak up and repeat it for me, please.

MR. BUTLER: I'm sorry. I objected to Mr. Kise stepping on Ms. Williams' answer.

MR. KISE: And I apologize. I did that, and I'm sorry.

CHAIRMAN EDGAR: One speaker at a time, please.

THE WITNESS: So I just -- to me, it was extraordinary that someone would make such a specific prediction or, you know, statement. But again, it was not -- I think it's being completely blown out of proportion. It was just a conversation between someone who, obviously, myself, was very interested in weather patterns from the perspective of having that impact our customers and whether in fact there might hurricanes, and someone who had a very long history of hurricane experience. And it was really a conversation between two people about what we might expect. I thought it was interesting, and we went on. And as it turned out, he turned out to be correct.

CHAIRMAN EDGAR: Mr. Kise, I note at this point we have a little over two days and over 20 more

witnesses to go. I've allowed great latitude, but I think it's about time to move on.

MR. KISE: Thank you. I just want to clarify one last point on this before I move on to just one other question about -- one or two other questions about her subsequent testimony.

BY MR. KISE:

Q. Am I understanding you also to be saying -- well, strike that. After this conversation with Mr. Hebert where he discussed his predictions, however you want to characterize them, incredible, interesting, folk tale, however, following that conversation, did you do anything else to consult with other experts as to whether or not they agreed with Mr. Hebert?

A. No, I did not. But I did see --

MR. KISE: In the interest of -- I'm sorry, Chair. In the interest of time, if I'm asking a yes or no question, could the witness just simply answer yes or no?

CHAIRMAN EDGAR: As I have said previously, try to answer, to this witness and to others, the question with a yes or no. If the witness feels that they need to elaborate, I will allow them to elaborate. But I would ask both of you to try to keep your answers and questions somewhat concise and to the point.

BY MR. KISE:

Q. My next question --

A. I do want to elaborate.

Q. Okay.

A. Subsequent to the discussion with Mr. Hebert, I do think I saw something, I don't remember what, on the issue. But let's just leave it at that. I did not consult with anyone else.

Q. Okay. Thank you. Now, you also said that following that conversation, that you treat every year the same, you take it seriously, and you engage in these dry runs, and you engage in your ordinary hurricane preparedness; is that correct?

A. Yes. Every year we have extraordinary restoration plans in place.

Q. Right. And those are -- and that's what I was getting at. You're referring to restoration plans, meaning you're preparing yourselves for what you're going to do after the storm hits to restore power; right?

A. In the context of my answer earlier, that's what I meant. But we also have reliability plans in place that are all about preventing outages.

Q. Okay. And following your conversation with Mr. Hebert, did you do anything from that point forward

to step up, say, your pole inspections or your vegetation management activities? Did you do anything different following that conversation to engage in preventative measures different than you would do in every other year?

A. No. It was May. Actually, it was probably the end of May. There was really -- for the purposes of 2004, as a practical matter, what can you really do in two months differently based on a prediction that someone made? I think that you look at your plans, you believe that they're reasonable, you believe that they're sound, you have a good restoration plan in place, you're ready to go, and you move forward.

But, no, we absolutely don't on a hither-dither basis, you get a prediction from someone and change the plans you have in place that have been proven, that have ended up having good results for your customers. And that's what we've had in place for many, many years. So, no, we did not materially make changes as a result of one conversation with one person in a conference room; that is correct.

Q. And if I understand you correctly, you didn't engage in any follow-up with any other hurricane experts to determine if in fact Mr. Hebert's prediction might be worthy of more than folk tale status?

A. I did not.

MR. KISE: Thank you. That's all I have.

CHAIRMAN EDGAR: Other questions from staff?

MS. BRUBAKER: Thank you, Chairman. There are just a few quick questions.

CROSS-EXAMINATION

BY MS. BRUBAKER:

Q. Good afternoon, Ms. Williams. I just wanted to touch briefly on a comment I believe you made during your summary of your testimony. Is it correct that you made a statement to the effect that non-hurricane pole failures cause virtually no customer interruptions?

A. That is correct. They are a very small part of our number of customer interruptions that we measure every year. We have over 5 million customer interruptions annually, I should say between 4-1/2 and 5 million customer interruptions, and pole-related outages account for usually 35 to 40,000 customer interruptions.

Q. You could agree, clearly, then that some non-hurricane pole failures do occur?

A. Yes, some do. We've had over the last several years a range of between 40 and 150 pole-related interruptions. And I think -- I'm putting it in context. We have 1.1 million poles, and to have 40 to 150 or 160 in any given year I think by any measure is

something that you could consider as negligible.

Q. Would it also be correct then that in the development and management of its pole maintenance program that FPL would have some expectation that some non-hurricane pole failures would occur?

A. I think it's possible. As we look, though, at our -- what we believe to be a comprehensive pole inspection and maintenance program that's made up of the three initiatives, the Osmose initiative, the thermovision visual initiative, as well as the safety inspections, the work that's done on a daily basis by our own employees, looking at those three initiatives as a comprehensive part of our pole inspection and maintenance program, you would have to look at the results that are achieved by that program really at the end of the day to see how effective they are. And I think looking at the very small numbers of pole-related issues that we have during non-hurricanes is one good measure of how effective that has been.

And secondly, when you look at during these hurricanes that we've had during the last two years and how every square inch of our service territory has been impacted by hurricane force winds, and you have relatively small numbers of poles coming down, about 1 percent per year, those are all excellent measures,

and the same type of information that was used, by the way, by KEMA to determine if they believed that our pole performance during non-hurricanes is good, and as expected, during hurricanes.

MS. BRUBAKER: Thank you. Staff has no more questions.

CHAIRMAN EDGAR: Thank you. Commissioners, are there any questions at this time?

Commissioner Deason.

COMMISSIONER DEASON: Did Mr. Hebert ever say anything about a dry March and April?

THE WITNESS: No, he didn't.

COMMISSIONER DEASON: Okay. I was just wondering. Thank you.

COMMISSIONER CARTER: Commissioners? No?

THE WITNESS: It was interesting. We had a very wet May -- I'm sorry. Let me think. Yes, a wet May last year, and we ended up with a lot of hurricanes. So it's not 100 percent, is it?

CHAIRMAN EDGAR: Mr. Butler.

MR. BUTLER: Thank you. Just a couple of redirect questions.

REDIRECT EXAMINATION

BY MR. BUTLER:

Q. Ms. Williams, would you look at what was

marked as Exhibit 140? This is the pole inspection program budget summary.

A. Yes, I have it.

Q. I just want to clarify. This is referring to budget statistics specifically for what you and attorneys examining you are referring to as the Osmose program or Osmose initiative; is that correct?

A. That's right.

Q. It is not statistics on FPL's pole inspection program overall?

A. I'm sorry?

Q. It is not reflecting statistics on the cost or number of poles inspected for FPL's pole inspection program overall?

A. Let me make sure that I'm looking at the right thing. Are we looking at pole -- okay, great. Yes, it is not. It is very specific to the Osmose initiative, which is one of the three parts of our pole inspection program.

Q. Okay. You were asked by Mr. McGlothlin about FPL's decision not to do the Osmose inspection program on a systemwide basis back in the 1999 time frame. Would you explain why FPL did not feel it was appropriate to do an Osmose type program systemwide?

A. Yes. As I mentioned, as part of our annual

reliability and budget planning process, we look at a number of different reliability initiatives. Some of them are funded, and some of them are not. We look at it from the perspective of what combination of programs can provide the largest benefit to our customers.

And so when we looked at the pole inspection program as it was outlined, the three different options, and we looked at the benefits that could be derived by our customers, as well as looking at what type of performance we were actually experiencing in poles -- and as I mentioned already, in this timeframe we're looking at 40, 50 pole interruptions any given year. And at the same time, back then at the end of 1998, our reliability levels were such that we felt that with that investment in another program, possibly something like our switch cabinets, or cable rehabilitation, or even more line clearing, or some of the other programs that frankly had a lot more benefit to be derived for our customers, it was more prudent, it was a better effective use of the funds that we.

Had. And frankly, I felt like my fiduciary responsibility is to make sure that we are funding those programs that are going to ultimately result in the most benefit to our customers. And specifically looking at this pole inspection program, the benefits were not very

compelling from a reliability perspective and from a customer interruption perspective, and given the performance that we were seeing as very, very good, we decided to implement it, but to implement it in a very small, measured way in two areas that had older populations of poles, and then we would see what types of results we achieved, and then depending on how it went, we would go from there.

MR. BUTLER: Thank you. That's all the redirect that I have.

CHAIRMAN EDGAR: Thank you. Mr. Wright.

MR. WRIGHT: I just want to move 140 and 141 at the appropriate time, Madam Chairman. Thank you.

CHAIRMAN EDGAR: And this would be that time.

MR. WRIGHT: So moved.

CHAIRMAN EDGAR: Any objections?

MR. BUTLER: No objection.

CHAIRMAN EDGAR: Please show Exhibits 140 and 141 moved into the record as evidence.

(Exhibits Number 140 and 141 were admitted into evidence.)

CHAIRMAN EDGAR: And the witness may be excused. Thank you very much, Ms. Williams.

Mr. Butler, your witness.

MR. BUTLER: I would call Dr. Brown at this

time.

Thereupon,

RICHARD E. BROWN

was called as a witness on behalf of Florida Power & Light Company and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUTLER:

Q. Dr. Brown, have you previously been sworn?

A. Yes.

Q. Would you please state your name and business address for the record?

A. My name is Richard Brown. I work at 3801 Lake Boone Trail, Suite 200, in Raleigh, North Carolina.

Q. By whom are you employed, and in what capacity?

A. I am employed by KEMA, Inc. as a senior principal consultant.

Q. Do you have before you nine pages of prepared direct testimony dated --

A. Yes.

Q. I'm sorry. Let me finish. Dated January 13, 2006, with attached document REB-1?

A. Yes.

Q. Was this testimony and the attached exhibit

prepared under your direction, supervision, or control?

A. Yes.

Q. Do you have any changes or corrections to your prepared testimony?

A. Yes. On page 1, the date says January 13, 2005. That date should be changed to January 13, 2006.

Q. Is that the only change?

A. Yes.

Q. Thank you. With that change, do you adopt this as your testimony in the proceeding today?

A. Yes.

MR. BUTLER: I would ask that Dr. Brown's prepared testimony be inserted into the record as though read.

CHAIRMAN EDGAR: Please show the witness's prefiled testimony entered into the record as though read.

MR. BUTLER: Thank you. And I note that Dr. Brown's document REB-1 has been preassigned Exhibit Number 15 and moved into evidence.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF RICHARD E. BROWN

DOCKET NO. XXXXXX-EI

JANUARY 13, 2005

Q. Please state your name and business address.

A. My name is Richard E. Brown. My business address is KEMA Inc., 3801 Lake Boone Trail, Suite 200, Raleigh, NC 27607.

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

A. My employer is KEMA, Inc., where I am a Senior Principal Consultant focusing in the areas of utility asset management and reliability. I also lead the Asset Management and Performance team. KEMA is an international consulting firm providing independent technical and management consulting, testing, inspections, certification, and training services to more than five hundred electric industry clients in over seventy countries. Headquartered in Arnhem, the Netherlands, with subsidiaries worldwide, KEMA employs more than fifteen hundred full-time professionals and leading experts in nearly all aspects of the electric industry.

Q. Please describe your educational background and business experience.

A. I received a BSEE, MSEE, and PhD degree from the University of Washington (Seattle, WA) in 1991, 1993, and 1996, respectively. I received an MBA from the University of North Carolina (Chapel Hill, NC) in 2003.

From 1991 to 1993 I worked as an Electrical Engineer at Sverdrup Corporation (now Jacobs Engineering) performing design work for electric distribution systems. Responsibilities included engineering design of medium voltage and low voltage electrical systems for industrial facilities, institutional facilities, and public works. Typical work included design, value engineering, specification writing, construction document generation, and construction support.

From 1994 to 1996 I worked as a teaching and research assistant for the University of Washington while attending graduate school. My research was in the area of distribution system reliability assessment and design optimization. In addition to research, I served as a teaching assistant for various power systems and controls courses at the undergraduate and graduate level.

From 1996 to 2003 I worked for ABB Inc. in various roles. From 1996 to 1999 I was a Senior Engineer in the corporate research department with responsibilities of research, product development, consulting, project management, business development, and teaching workshops. From 1999 to 2001 I was a Principal Engineer for the Distribution Solutions group with the goal of providing customers with complete solutions based on functional requirements including design, build, own, operate, maintain, guarantee, and finance. From 2001 to 2003 I was the Director of Technology for the Consulting business with the responsibility for research and development of algorithms and software tools.

From May of 2003 to the present, I have been a Senior Principal Consultant for KEMA Inc. As a charter member of the T&D Consulting division in the US, my role is to provide management and technical consulting services in the areas of distribution reliability and asset management, which includes issues related to aging infrastructure.

I have authored or co-authored more than seventy papers and articles on the topics of distribution reliability and asset management. I am also author of the book *Electric Power Distribution Reliability* (Marcel Dekker, 2002), and have contributed to the book *The Electric Power Engineering Handbook* (CRC Press, 2001). I am a senior member of the Institute for Electrical and Electronics Engineers (IEEE), and chair its working group on Distribution Planning and Implementation. I was the recipient of the IEEE Walter Fee Outstanding Young Engineer Award in 2003, which is issued by the IEEE Power Engineering Society. I am registered by the state of North Carolina as a Professional Engineer in Electrical Engineering.

Q. Are you sponsoring an exhibit in this case?

A. Yes, it is comprised of the following document:

Document No. REB-1- "Technical Report: Post Hurricane Wilma Engineering Analysis"

PURPOSE AND SUMMARY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present the results of KEMA's independent analyses of the FPL infrastructure performance during Hurricane Wilma, which assesses whether FPL transmission, substation, and distribution facilities performed appropriately.

Q. Please briefly describe the analyses performed for FPL.

A. KEMA has examined the performance of FPL facilities during Hurricane Wilma in an attempt to better understand whether transmission and distribution structures performed appropriately. This includes analyses on the following topics: distribution design standards; quality systems and processes related to distribution poles; inspection and maintenance practices related to distribution poles; transmission system performance during Wilma; substation performance during Wilma; and distribution system performance during Wilma. KEMA also performed an industry survey related to these topics, and had the strength of Wilma reviewed by a hurricane expert.

Q. Please summarize the results of your analyses.

A. Hurricane Wilma caused extensive damage to the infrastructure of Florida Power & Light Company (FPL). This damage included more than ten thousand distribution poles and nearly one hundred transmission structures. In all, Wilma resulted in more than three million customer accounts losing electrical service. FPL has retained KEMA to examine the performance of FPL facilities during

Wilma in an attempt to better understand whether transmission and distribution structures performed appropriately.

KEMA's investigation concludes that the power delivery system of FPL is designed to meet or exceed all required safety standards, and, during Wilma, performed as expected and in accordance with FPL standards. These results are based on an extensive assessment including standards, quality systems, maintenance practices, transmission performance, substation performance, and distribution performance. These results are further supported by an industry benchmark survey covering these topics, and a review on the strength of Wilma by an independent hurricane expert. Summary results for these issues are now provided.

Distribution Standards. FPL distribution standards as described in the Distribution Engineering Reference Manual (DERM) meet or exceed the requirements of National Electrical Safety Code (NESC), which requires distribution poles to be designed based on a minimum of 60 mph wind speeds. In fact, FPL requires that most poles be designed to the highest NESC requirement, which is 50% stronger than NESC minimum requirements. The NESC has requirements related to extreme wind conditions, but these requirements are only for structures over sixty feet in height, which rarely apply to distribution structures.

Quality Processes. The quality systems and processes of FPL and key suppliers are sufficient to reasonably ensure that procured distribution poles, both wood and concrete, meet national standards and FPL specifications. Further, the quality systems of the FPL pole inspection and treatment vendor are such that it is reasonably ensured that inspected wood poles requiring treatment or replacement are identified as such.

Pole Maintenance. FPL distribution pole performance during non-hurricane conditions is good, and non-hurricane pole failures cause virtually no customer interruptions. FPL has two systematic programs related to pole inspections: (1) a Thermovision program that visually inspects all main-trunk feeder poles at least every five years, and (2) a more targeted wood-pole inspection and treatment program that is smaller in scope and focuses on specific areas of the FPL system. FPL crews are also required to perform a safety inspection on a pole before performing work on the pole. These inspections will not systematically address each pole, but KEMA estimates that this will effectively test between 80% and 90% of all branch-line laterals over a fifteen year period.

Transmission Performance. FPL's transmission lines are designed in accordance with the NESC, including extreme wind requirements, applicable at the time of design. For transmission structural damage that occurred during Wilma on less-than 500-kV lines, most occurred on single-pole unguyed wood structures. These facilities met the required design codes at the time of installation, but differ from

current designs in place now at FPL. This was the primary contributing factor for these failures. Only one 500-kV transmission line experienced damage during Wilma. This particular line had 30 tower failures. The major contributing factor for these tower failures was the installation guidelines for manual tightening of crossbrace bolts, per industry standard practice, which is insufficient and led to the loosening of crossbrace bolts in several locations.

Substation Performance. FPL designs its substations according to extreme wind criteria. The FPL substation performance during Wilma was acceptable, and structural damage to substations was minor. Although FPL experienced outages on 241 substations during Wilma, most were due to the outage of transmission lines serving these stations; only 8 required equipment repair before being reenergized. With some minor exceptions, there was no discernible pattern of equipment failure that indicates a design or maintenance concern.

Weather Assessment. Wilma was a strong storm, and its path affected a large percentage of the FPL system. As opposed to many statements by the media, Wilma was a Category 3 hurricane when it made landfall at the Southwest coast of Florida traveling to the Northeast. It transitioned into a Category 2 hurricane while passing over Florida and left the state as a Category 2 hurricane. The maximum 1-minute sustained wind speed (as reported by Unisys) as Wilma crossed Florida was 127 mph, which comes close to a Category 4 hurricane. In

comparison, Katrina had a maximum sustained wind speed of 81 mph while crossing Florida (also reported by Unisys).

Distribution Performance. FPL pole performance during non-hurricane conditions is good. Distribution pole performance during Wilma is known to be acceptable, since FPL gathered extensive forensic data on Wilma pole failures. Based on this data, the following conclusions are drawn: (1) wind was the predominant root cause of pole breakage, (2) many failures involved multiple CCA main-trunk feeder poles where one pole breaks first and takes down a series of adjacent poles, and (3) the number of failures involving creosote poles was relatively small, with these failures mainly being due to falling trees and the presence of deterioration. During Wilma, pole breakage was about 1.5% of the total amount of poles exposed to hurricane wind speeds. This pole breakage ratio is in line with past hurricane pole performance after correcting for hurricane severity. For comparison: Katrina (2005) was the weakest recent hurricane at Category 1, and only had a 0.3% pole failure rate. Frances (2004) was Category 2, and had a 0.9% pole failure rate. Wilma (2005) was Category 2 to Category 3, and had a 1.5% pole failure rate. Charley (2005) was Category 3 to Category 4, and had a 3.1% pole failure rate. Andrew (1992) was Category 5, and had a 10.1% pole failure rate.

Industry Benchmark Survey. KEMA received survey responses from 9 companies (not including FPL) with answers to questions relating to standards, maintenance, and hurricane performance. Based on these responses, the following conclusions

are made: (1) FPL designs and constructs distribution facilities to a more stringent standard than most other companies, (2) none of the companies are required by their regulatory authority to place facilities underground in response to storm damage, and (3) most of the responding companies have a systematic pole inspection and treatment program in place with inspection cycles ranging from 10 to 15 years for poles older than a certain age.

Q. Overall, describe how FPL's infrastructure performed during Hurricane Wilma.

A. The transmission, substation, and distribution systems of FPL are designed to meet or exceed all required safety standards, and, during Wilma, performed as expected and in accordance with FPL standards. This conclusion is based on an extensive assessment including standards, quality systems, maintenance practices, transmission performance, substation performance, and distribution performance. These results are supported by an industry benchmark survey covering these topics, and a review of the strength of Hurricane Wilma by an independent weather expert.

CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes.

MR. BUTLER: With that, I would ask that Dr. Brown summarize his testimony.

CHAIRMAN EDGAR: Dr. Brown.

THE WITNESS: Good afternoon. In the aftermath of Hurricane Wilma, FPL retained KEMA to perform an independent examination of the performance of FPL facilities. KEMA is an international consulting firm with about 1,500 employees and has broad expertise in all aspects of the electric utility industry, including infrastructure design, maintenance practices, and system reliability. The goal of this project was to help FPL better understand the performance of its transmission and distribution structures during Wilma. The KEMA project team consisted of seven subject matter experts and myself as project manager.

KEMA's investigation concludes that the power delivery system of FPL is designed to meet or exceed all required safety standards and that, during Wilma, the system performed as expected and in accordance with those standards. These conclusions are based on KEMA's extensive assessment of FPL's design standards, quality systems, maintenance practices, transmission performance, substation performance, and distribution performance. KEMA's conclusions are further supported by an industry benchmark survey we conducted covering

these topics and a review of wind strength during Wilma by an independent hurricane expert.

FPL builds most of its distribution system 50 percent stronger than minimum code requirements. This, in addition to FPL's quality systems and pole inspection and maintenance practices, has led to strong pole performance in both non-hurricane and hurricane conditions.

FPL's substations also performed well during Hurricane Wilma. Although FPL experienced outages at 241 substations, the great majority of these were due to outages of the transmission lines. Only eight substations required equipment repair before being re-energized.

Finally, FPL's transmission system performed well during Wilma, with only limited areas of structural damage. FPL's transmission structures are designed to withstand extreme winds, and FPL has a strong program for inspecting and maintaining the transmission system. The most visible damage to FPL's transmission structures occurred on a 500-kilovolt line where a series of towers experienced a cascading collapse in response to Wilma's strong winds. A few crossbrace bolts on these towers had loosened and contributed to the collapse. However, it is important to recognize that (1) all of these

crossbrace bolts were installed according to the manufacturer's recommendation; (2) these manufacturer's recommendations are in accordance with standard industry practice; and (3) these structures had been extensively inspected within recent years.

In summary, KEMA concludes that FPL's power delivery system performed well during Hurricane Wilma, considering Wilma's size, strength, and path.

This concludes my summary.

MR. BUIT: Thank you, Dr. Brown. I would tender the witness for cross-examination.

CHAIRMAN EDGAR: Thank you. Mr. McGlothlin.

CROSS-EXAMINATION

BY MR. McGLOTHLIN:

Q. Hello, Dr. Brown. I want to begin with your statement of qualifications beginning on page 2. You state that between '91 and '93, you worked as an electrical engineer at -- is it pronounced Sverdrup?

A. Sverdrup.

Q. Sverdrup Corporation. Is that a consulting firm?

A. They are an architectural and engineering firm, so they have architects, electrical engineers, mechanical engineers, structural engineers, et cetera.

Q. They're not in the business of owning

electrical utility systems and delivering power?

A. No.

Q. Between '94 and '96, you were a teaching and research assistant; is that correct?

A. Correct.

Q. Then from '96 to 2003, you worked for ABB in various roles. ABB is also a consulting firm, is it not?

A. ABB is a very large multibillion-dollar company with many divisions. Primarily, though, equipment manufacturing would be how most people would view ABB.

Q. Is ABB in the utility business?

A. No.

Q. And from 2003 to the present, you've been a principal consultant with KEMA, Inc. Again, is KEMA in the utility business?

A. KEMA is wholly owned by a consortium of Dutch utilities, so the owners of KEMA are -- the owners of KEMA are exclusively utilities, and KEMA is essentially a staff extension for the Dutch utilities over in the Netherlands. But in the U.S. and my role, really KEMA could be considered a consulting company, not an extension of utilities.

Q. And your particular role with KEMA has been as

a consultant, has it not?

A. Consulting for electric utilities, correct.

Q. Have you ever worked in the capacity of one employed by the owner of a transmission system and one who has responsibility for the maintenance of that system?

A. No.

Q. My first questions relate to the subject of the Conservation-Corbett transmission towers that failed during Wilma. At page 7 of your testimony, line 5, you state, "The major contributing factor for these failures was the installation guidelines for manual tightening of crossbrace bolts, per industry standard practice, which is insufficient and led to the loosening of crossbrace bolts in several locations." And this portion of your testimony, like the balance of your testimony, is essentially a condensation of the content of the report, is it not?

A. Yes.

Q. So if, for instance, we were to look at page 43 of the report, section 5.6.4 captioned "Cross-Bracing" begins a discussion of the design of the connection of the crossbrace and the pole on the Conservation-Corbett transmission line. And there are references there to the fact, for instance, that the

connection consisted of a bolt and nut without locknut, the fact that manual tightening was used, and then there's a description of the differences between the old and new connections between one or two plates. Is that the more expansive version of the testimony that's presented in summary fashion that I just directed you to on page 7?

A. Yes.

Q. When you say per industry standard, are you including manual tightening and the use of a bolt and nut without locking device?

A. Yes, both. For the weathering steel structures, when you assemble these structures, typically -- KEMA has temporary emergency towers that we actually sell to utilities, and the construction methodology does not require the use of any hydraulic equipment or electrical equipment. It's all used with manual methods, with bolts.

And so there's the issue of, first of all, installing the bolts, screwing the bolt onto the -- screwing the nut onto the bolt, and that's typically done with a torque wrench. And when you secure it, you snug it up and then snug it about a sixth of a turn past snug, either if you're strong enough to do that or with an impact hammer. That is actually installing the nut.

Then there's the issue of securing the nut. And for weathering steel, for at least 20 or 25 years, the industry standard has been to allow weathering steel itself to secure the nut once it's fastened. Both are industry standard practice.

Q. But there are those within the industry who choose to use locknuts, do they not?

A. Yes.

Q. As a matter of fact, did you have occasion -- let me back up a minute. Is it true that at the time you prepared your testimony and KEMA finalized its report, KEMA had not actually obtained the actual installation guidelines that are described here?

A. Correct.

Q. Nor did you or KEMA obtain and review earlier design parameters that might have preceded the actual one that was implemented, did you?

A. Correct.

MR. McGLOTHLIN: I'm going to ask my colleague to distribute a document at this time.

(Documents distributed.)

MR. McGLOTHLIN: Commissioners, Mr. Poucher is providing to you and the parties a document that has been redacted. The redactions are the result of conversations between counsel for FPL and me as a means

of avoiding the necessity of red folders and requests for confidentiality. But I represent to you that this is a drawing that was provided by FPL to our office in response to discovery, and specifically in response to a request for the drawings that are related to the design of the Conservation-Corbett 500-kV transmission towers.

CHAIRMAN EDGAR: Mr. McGlothlin, are you going to enter this as evidence or make a motion to?

MR. McGLOTHLIN: I intend to, yes.

CHAIRMAN EDGAR: Okay. Let's go ahead and give it a number and a title. And by my count, this would be Exhibit Number 142, 142. Mr. McGlothlin, I'll ask you to label it.

MR. McGLOTHLIN: If it's all right, I'll just use the label that appears on the cover sheet, "Original Tower Design, Conservation-Corbett 500-kV Transmission Line."

CHAIRMAN EDGAR: Thank you.

(Exhibit Number 142 was marked for identification.)

BY MR. McGLOTHLIN:

Q. Dr. Brown, you're familiar with the fact, are you not, that the transmission towers on the Conservation-Corbett transmission line are of two designs, one having angled legs and the other the

H-frame configuration?

A. That's correct. There are two designs, and both of these designs have shown issues related to loosening bolts.

Q. I've handed you -- my colleague has handed you the copy of what has been marked as 142. And again, I represent to you that this was provided by FPL in response to our request for those drawings that are related to the design of the Conservation-Corbett transmission line. And this particular document I think you'll see was prepared in 1972, and the second and third pages are enlargements showing detail of the material that appears on the overall drawing.

And I direct you to what has been labeled as 37. Do you see a reference to locknuts on that aspect of the drawing?

A. Yes.

Q. And would you agree that the indication is that the specification of locknuts is applicable to the connection of the crossbrace to the tower?

A. Yes. I will say that the original design of this was 1972. This was just about the time that the industry started to use weathering steel for their transmission structures, and so there wasn't a lot of experience with weathering steel at this point. And a

lot of the construction standards that were used with galvanized steel structures, including the use of locknuts, transitioned from the old standards for galvanized steel structures to the weathering steel structures in the early days of weathering steel.

Q. But when you say that the use of a bolt with a nut -- without locknuts is a standard industry practice, you do not mean to exclude the possibility of the use of locking devices such as locknuts in that same type of connection, do you?

A. I believe that it's more common now not to use a locknut than it is to use a locknut on weathering steel structures.

Q. Okay. In your testimony you state that loose bolts were observed in several locations. In fact, isn't it true that loose and missing bolts were observed in some 30 towers on that same transmission line?

MR. BUTLER: I'm sorry. Could you point to where you're referring in his testimony, Joe?

MR. McGLOTHLIN: No, I'm saying that his testimony says several locations. I'm asking if he knows whether the loose bolts were observed on as many as 30 towers on the line.

MR. BUTLER: And I'm asking --

THE WITNESS: Could you please indicate the

time frame that you are referring to?

MR. McGLOTHLIN: I'm talking about the 1998 experience.

CHAIRMAN EDGAR: Just a moment.

MR. BUTLER: I'm sorry. I'm still -- I'm asking Mr. McGlothlin to identify -- he says that Dr. Brown in his testimony states that there were several locations with loose or missing bolts, and I'm just asking him to refer where in the testimony that statement is made.

CHAIRMAN EDGAR: Mr. McGlothlin, can you point to --

MR. McGLOTHLIN: It's in the original reference, page 7.

CHAIRMAN EDGAR: Thank you.

BY MR. McGLOTHLIN:

Q. At line 6.

A. I believe in 1998 after FP&L was responding to an outage of one of their insulators and they noticed that they had a conductor vibration problem, they did a comprehensive inspection of all of the towers and found that there were loose and/or missing bolts at 31 tower locations during that 1998 inspection.

Q. Okay. Were you aware that the loose bolts were found at 31 towers at the time you prepared your

testimony and at the time KEMA prepared its report?

A. Yes.

Q. At page 43 of the report -- and let me turn at the same time you do. At the bottom of the page appears this statement, again referring to the 1998 inspection and the discovery of 31 towers that had loose or missing bolts. "The exact actions to rectify the loose and missing bolts in 1998 is not known, but action was taken to fix this. Since manual tightening was used, it appears that some of the tightened crossbrace bolts subsequently became lose again."

Now, isn't it true that the exact actions to rectify the missing bolts is not known due to the fact that the documentation of what was done in 1998 is insufficient to inform you as to what the exact action was?

A. Yes.

Q. Would you agree that the crossbraces that are connected to the tower with four bolts, one at each end of the X, are significant to the structural integrity of the overall tower configuration?

A. Yes.

Q. In fact, isn't it true that even a single loose bolt could have significant implications for the structural integrity of the tower?

A. Potentially, yes.

Q. That being the case, do you believe it might have been better for the documentation in 1998 to provide sufficient information for subsequent referrals and evaluations of the situation?

A. In my experience, looking at the --

Q. Can you answer yes or no first?

A. No. Based on what I've seen at other utilities and the level of detail that is involved in inspection and maintenance of transmission towers, recording information as to the specific actions for tightening of an individual bolt, I've never seen this in the industry before. And so expecting that FPL would have done this is not something that I would reasonably have expected them to have done.

Q. You said you've never seen this before. What are you referring to when you say that?

A. I have never seen a utility that records activity levels down to the individual tightening of individual bolts.

Q. Well, have you ever seen a situation where 31 transmission towers, 500-kV transmission towers had their structural integrity implicated by loose or missing bolts at the same time?

A. No.

Q. Do you regard that as a serious situation?

A. Yes.

Q. Do you think that a utility that is faced with a serious situation like that would take measures, including documentation to record what was done to rectify that?

A. Yes. And I think that FPL does meet that standard that you described. In fact, I have to say that when we prepared the KEMA report, we didn't have the full information as to the follow-up inspection activities that were done. And so one of the observations of the KEMA report was that the inspection and maintenance practices that FPL had communicated to us as KEMA is potentially insufficient, given the potential severity of the situation. The KEMA report does state that.

It has come to my attention subsequently that they have actually done considerably more inspection and maintenance activities on this particular line section. This is new information, and it slightly revises my opinion of how FPL responded to this serious situation.

Q. Well, again, your statement is, "The exact actions to rectify the loose and missing bolts in 1998 is not known." Does that remain the case?

A. I answered that previously yes.

Q. And what standard in terms of the adequacy of recordkeeping do you contend that meets?

A. They had specific issues related to structures. They had work practices, activities that were described that were supposed to be performed on these structures. All of this is documented. And so when the work order is closed out, the implication is that the activities that were described to be performed have been done.

Q. With 31 500-kV transmission towers having crossbraces that are implicated by loose bolts, should one refer to implications to determine what was done at the time?

A. Please repeat the question.

Q. Yes. Again, the situation being the fact that FPL was confronted with 31 500-kV transmission towers, all of which showed loose or missing crossbrace bolts, meaning that all had implications for structural integrity, should it be necessary to use implications to determine what was actually done to rectify the problem in 1998?

A. No. I think that what happened -- I know that what happened was that in 1998, there was a problem with conductor vibration that resulted in extensive conductor damage in addition to loose bolts on these towers. They

did an extensive investigation of conductor vibration and tower vibration in conjunction with one of the premier research institutes in the United States to address this problem. They did a thorough inspection of all of their towers, did what they thought would fix this.

One year later they did a comprehensive inspection in 1999 of all of the structures and all of the conductor spans to make sure that vibration levels were okay and that bolts were not loose. Then in 2001 they did an aerial inspection of 50 percent of their towers. In 2002 they did a climbing inspection of 10 percent of their towers. In addition, a separate ground patrol actually identified a missing bolt. But since they had done all of these inspections and it was a single bolt that was missing, they just chalked this up as an anomaly. And then again, in 2003 there was another aerial inspection of this line.

And so by any standard, when I would look at this level of activity, if I didn't know that there was a problem previously, it would actually seem excessive to me. So I think that by any standard, FPL addressed this problem in a manner that was very aggressive and appropriate.

Q. The aggressive and appropriate steps that you

are describing relate to the measures used to address conductor vibration; is that correct?

A. Yes, with the idea that the conductor vibration was the root cause of both the conductor damage and the loose bolts.

Q. And would you agree with me that none of the matters as you described in that lengthy answer serve to inform you or anyone of the exact actions taken in 1998 to rectify the loose and missing bolts?

A. Correct.

Q. Referring back to the statement that the original installation guideline requiring the manual tightening of bolts was insufficient, assuming that's the case, wouldn't that -- wasn't that fact revealed in 1998 when the inspection revealed 31 towers with loose or missing bolts?

A. No. At the time, the root cause of the problem appeared to be this extensive vibration problem, and so the assumption is, if this vibration problem is fixed, then the loosening of the bolts problem is fixed. In fact, now, knowing what I know now, that there was extensive inspections of this section of towers that I didn't know about when we wrote the report, I would actually say the problem was fixed. Based on all of these inspections that were performed after 2003, there

was not a loose bolt problem in 2003, I can say with a high degree of confidence.

When we wrote the KEMA report, however, it appeared that they only did a climbing inspection on 10 percent of the towers in 2002. With that knowledge, what it appeared to KEMA was that you've fixed the vibration problem that could result in conductor damages, but it looked like potentially the bolts reloosened and you just didn't catch it. So my opinion has actually changed now that I'm aware that they did much more aggressive inspections than we were aware of at the time we wrote our report.

Q. Is it your testimony today that there was no loose bolt problem after 2003?

A. It is my testimony today that, based on the post-Wilma inspections and the number of structures and bolts that were found to be loose or missing, it is extremely unlikely that this situation would have existed at the end of 2003, given the extensive inspections that occurred in 2001 and 2002 and 2003.

Q. And you're referring to, among other things, helicopter flyovers?

A. Correct. Helicopter aerial inspections occurred in 2001 and 2003, specifically to look at the vibration issues of 19 -- that were occurring in 1998,

including loose and missing bolts.

Q. Assuming that the original installation guideline was insufficient, and assuming for the purpose of my question that the insufficiency of the installation was revealed prior to Hurricane Wilma in a fashion that put FPL on notice of the existence of the insufficient installation, and assuming further that FPL simply reapplied the original insufficient installation technique, in that situation, would you agree that the major contributing failure was not the original installation, but rather the failure of FPL to take adequate steps to remedy the situation?

MR. BUTLER: I would like to ask just to clarify, this is being posed as a hypothetical?

MR. McGLOTHLIN: It is.

MR. BUTLER: Okay.

A. Hypothetically, if FPL knew that there was a chance of these bolts reasonably reloosening, and hypothetically, if all of the other assumptions that you made were true, then yes. But in this case, no.

Q. And you say no in this case because it is your contention that FPL addressed the loose bolts adequately in 1998?

A. In fact, yes, they did. Based on the inspection results of 2001, 2002, and 2003, you can

reasonably conclude that there was not a loose and missing bolts problem at the end of 2003.

Q. There's no disputing the fact that during Hurricane Wilma, some 30 towers collapsed?

A. Correct.

Q. And there's no disputing the fact that loose bolts were found after the collapse?

A. Correct.

Q. Would that be one indication that there was a loose bolts problem after 2003?

A. No, it would not. It could imply that potentially the hurricane forces of Wilma were sufficient to cause these bolts to come loose.

Q. It could also indicate that the inspections failed to detect a continuing loose bolts problem; isn't that right?

A. In fact, the inspections did reveal one loose bolt and nothing else related to loose and/or missing bolts, so I think that that is unlikely.

Q. Had FPL taken measures such as attaching locknuts to the bolts in 1998 or peening the threads behind the nuts, would that have served to fasten the nuts onto the bolts?

A. It couldn't have hurt. However, I believe that one of the bolts that was recorded as missing

post-Wilma was an old structure design that in fact had a locknut on it, and the bolt was sheared off, so not necessarily.

Q. Oh, is that in your report somewhere?

A. No. This is all new information.

Q. When did you receive that information?

A. Yesterday.

Q. So after the design change for weathering steel superseded the original specification of locknuts, there was one that somehow made it onto one of the bolts?

A. No. This was an old tower design, I believe.

Q. Is it your testimony that the old tower designs do have locknuts?

A. My understanding, and I'm not certain, was that one of the towers that came down during Wilma had a locknut on it -- I believe it was an old tower design -- and that this bolt was missing after Wilma, recorded as missing after Wilma.

Q. Your testimony was that peening the threads or attaching locknuts couldn't have hurt. Could it have helped?

A. It could have helped, yes.

Q. In fact, that is the intended function of either of those measures, it is not?

A. Correct.

Q. Do you regard those as reliable, effective measures?

A. Yes.

Q. At page 43 of the report, in the paragraph just above the pictures, do you see this statement? "In the current retrofit, FPL is applying approximately 4,600 foot-pounds of torque to fasten the connection." Isn't it true that in the retrofit, FPL is also peening the threads of the bolts?

A. Yes.

Q. Was KEMA aware of that when it wrote the report?

A. I believe so. I am not certain, though. I didn't write this section. I know that they were considering it. I'm not sure if they had decided on this.

Q. I have several questions about KEMA's evaluation of FPL's pole inspection program. Beginning --

CHAIRMAN EDGAR: Mr. McGlothlin, before you move into those several questions, I'm going to need a stretch, so I'm wondering -- I tried not to break in in between, but it is about that time.

MR. McGLOTHLIN: This is a good time.

CHAIRMAN EDGAR: Could you just give me -- and I'm not rushing you, yet, anyway -- an approximate of about how many -- about how long the questioning for this witness on cross?

MR. McGLOTHLIN: Possibly 15 minutes.

CHAIRMAN EDGAR: Okay. With that, then let's go ahead and take about a 15-minute break and come back at 10 to 4:00.

And just for planning purposes, before we go on this break, my intention today is to end our discussions for the day at approximately 5:15, and we will consider perhaps starting a little early tomorrow and going late tomorrow.

And with that, we are on break. We will come back at 10 to, and we will start, Mr. McGlothlin, with the continuation.

(Short recess.)

(Transcript follows in sequence in Volume 4.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA:

COUNTY OF LEON:

I, MARY ALLEN NEEL, Registered Professional Reporter, do hereby certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were thereafter translated under my supervision; and the foregoing pages numbered 152 through 283 are a true and correct record of the aforesaid proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor relative or employee of such attorney or counsel, or financially interested in the foregoing action.

DATED THIS 20th day of April, 2006.

MARY ALLEN NEEL, RPR
2894-A Remington Green Lane
Tallahassee, Florida 32308
(850) 878-2221