BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION

DOCKET NO. 050045-EI
FLORIDA POWER & LIGHT COMPANY

MARCH 22, 2005

IN RE: PETITION FOR RATE INCREASE BY
FLORIDA POWER & LIGHT COMPANY

TESTIMONY & EXHIBITS OF:

C. MARTIN MENNES

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF C. MARTIN MENNES

DOCKET NO. 050045-EI

MARCH 22, 2005

Q. Please state your name and business address.

A. My name is C. Martin Mennes. My business address is 9250 West Flagler Street, Miami, FL 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as Vice President of Transmission and Substation.

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

A. I am responsible for FPL's bulk and regional transmission planning, operations, maintenance, engineering and construction. These responsibilities include ensuring the reliability and security of the FPL transmission and substation facilities. FPL plans, operates and maintains its transmission and substation system to meet the needs of its customers in a safe and effective manner consistent with reliability standards set by the North American Electric Reliability Council (NERC), Florida Reliability Coordinating Council (FRCC) and other applicable reliability standards.

Q. Please describe your educational background and professional experience.

A. I graduated with honors from the University of Florida in 1968 with a Bachelor of Science degree in Electrical Engineering. I earned a Post-Graduate Certificate of Proficiency in Electrical Engineering from the University of Miami in 1974, and completed the Program for Management Development from the Harvard University Graduate School of Business in 1981. I am a registered Professional Engineer in the State of Florida.

I began working at FPL in 1968 in the area of protective relay and control systems. Since then I have held the positions of Manager of System Protection, Manager of System Operations, Manager of Bulk Power Markets, Director of Power Supply, Vice President, Transmission Operations and Planning, and Vice President, Transmission and Substation. On July 1, 2003, I assumed my present position.

My industry-related activities include serving as the chair of the following organizations: NERC Performance Subcommittee, NERC Security Coordinator Subcommittee, and Southeastern Electric Reliability Council (SERC) Operating Committee (OC). I have represented the transmission owners in my service as vice chair of the Industry Commercial Practices Working Group and of the NERC Market Interface Committee. Presently, I am the Investor Owned Utility representative to the NERC-OC and chair of the FRCC-OC. I also have worked on numerous NERC committees and task forces including the Technical Steering

Committee, Transmission Transfer Capability Taskforce and the Electronic Information Network Taskforce.

Q. Are you sponsoring an exhibit in this case?

A. Yes. I am sponsoring an exhibit consisting of 11 documents, CMM-1 through CMM-11, which are attached to my direct testimony.

Q. Are you sponsoring or co-sponsoring any MFRs in this case?

A. Yes. I am co-sponsoring the following MFRs:

- B-13, Construction Work In Progress;
- C-8, Detail Of Changes In Expenses;
- C-34, Statistical Information; and
- C-41, O&M Benchmark Variance by Function.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe how the Power Systems Transmission and Substation business unit is providing and will continue to provide FPL customers a high level of reliable service in a cost effective manner. I will also address the ongoing need for substantial capital investments to meet customer growth and maintain FPL's high level of reliability and the factors giving rise to Operations & Maintenance (O&M) expense levels over the next few years.

Q. Please describe FPL's transmission and substation system.

A. The FPL transmission and substation system is comprised of 6,410 circuit miles of transmission lines and 537 substations. The FPL transmission system is designed to integrate all of FPL's generation resources in a reliable and cost effective manner to serve FPL's customers. The transmission and substation

system is designed and operated to meet NERC, FRCC and other applicable reliability standards.

Q. Please provide a summary of the performance of FPL's transmission and substation system.

A. Since FPL's last rate increase in 1985, FPL's summer peak MW load has increased approximately two fold. During this period of sustained growth, FPL's transmission and substation system has provided FPL's customers reliable service in a cost-effective manner. Looking at the more recent seven year period beginning in 1998 and continuing through 2004, reliability has improved over 60% as illustrated in the graph provided in Document No. CMM-1 which shows the System Average Interruption Duration Index (SAIDI), a standard industry measurement, for FPL's Transmission and Substation operations.

These reliability improvements and enhancements to customer service have been achieved while still effectively managing costs. As discussed later in my testimony, the 2006 transmission and substation capital costs will increase. However, O&M expenses, excluding Regional Transmission Organization (RTO) expenses, are forecasted to be relatively flat, despite an increase in the amount of generation resources to be integrated and the increased load that FPL must reliably serve.

This excellent overall performance is a direct result of the commitment of FPL's management and employees to providing superior reliability and service at a reasonable cost.

Q. Please describe FPL's transmission and substation reliability programs and the results achieved.

A. The reliability programs are comprised of multiple processes and initiatives designed in a cost effective manner to avoid generator trips, maintain grid stability and reduce the average time a customer is without electricity due to transmission and substation events. The two main processes are the Condition Assessment Process and Event Response Process. The Condition Assessment Process' theme is "Prevention through Prediction." This process has four main components: 1) Transmission Line Assessments, 2) Substation Assessments, 3) Contingency Planning and 4) End of Life Determination. The Event Response Process is designed to determine the root cause for every unplanned outage of transmission and substation equipment. Each event is recorded, classified and analyzed. Subsequently, the results of the analysis are used in the condition assessment process and incorporated in the design and engineering of future facilities. The goal of the Event Response Process is to prevent and mitigate future events (i. e., reduce outage time) as measured and reported by indices such as SAIDI. SAIDI provides a comprehensive and useful indication of the level of reliability FPL provides to its customers. I address the SAIDI Index for transmission and substation in Document No. CMM-1. Ms. Williams will address the Distribution SAIDI index.

Q. Please provide several examples of the major transmission reliability initiatives that focus on the efficient design, utilization and operation of transmission facilities.

A. The following are some examples:

End of Life and Predictive Replacements – This initiative involves replacing major equipment and facilities using predictive models and the outputs from the Condition Assessment Process to minimize customer impact and cost while maximizing asset utilization.

Life Extension Maintenance – This initiative consists of rejuvenation activities for equipment and facilities that extend the useful life of the equipment. This initiative, together with other programs such as the Equipment and System Surveillance and Design Improvements Programs which are discussed below, comprise the "Prevention of Reoccurrence" programs.

Equipment and System Surveillance – This program is part of the Condition Assessment activity which includes oil sampling and testing, equipment and protective system testing, thermovision, climbing inspections and station assessments which provide information used to preempt equipment or facility failures.

Design Improvements – Technological improvements are developed and deployed which reduce the likelihood of interruptions and mitigate the effects on customers when interruptions do occur.

Q. **Please describe some of the major initiatives implemented by FPL for improving the reliability of service associated with transmission lines and the results that have been achieved.**

A. The following are some of the major initiatives:

Vegetation Management – The growth of vegetation into overhead power lines represents a major challenge to electric utilities. This is particularly true in much of Florida with the year-round growing season. Transmission and Substation's vegetation management program involves trimming and right-of-way clearance and has two main focuses: System Stability and Customer Impact Reliability. From the perspective of System Stability, this work focuses on preserving right-of-way requirements for higher voltage transmission lines (500 and 230kV) that can affect the entire system. Whereas, the Customer Impact Reliability work includes condition assessments of the remaining transmission lines, in order to determine appropriate maintenance trimming requirements. The results, as reflected in Document No. CMM-2, indicate that FPL has reduced the level of vegetation events over the last six years, and thereby improved reliability.

Lightning – FPL's service territory is one of the highest lightning density (strikes/square-mile/year) areas in the United States. In order to minimize the

impact to FPL's customers as a result of lightning strikes on the transmission and substation systems, FPL has placed in service a variety of innovative countermeasures. Document No. CMM-3 depicts the effectiveness of the countermeasures deployed by FPL. These countermeasures include new design standards, grounding improvements and better lightning arrestors.

Birds – Transmission and substation equipment outages as a result of bird related events present a significant challenge. As a result, FPL instituted several environmentally friendly initiatives to improve this situation. These initiatives involved design modifications to structures to make them less prone to bird related events, customized bird discouragers specific to the types of birds in a particular area and countermeasures that encourage birds to roost on less vulnerable areas of a structure. As shown in Document No. CMM-4, the implementation of these initiatives in 2000 has reduced outages related to birds.

Q. Are there other factors that have contributed to FPL's success in the area of reliability?

A Yes. In addition to continuing to aggressively seek ways to further build upon the reliability initiatives discussed above, there are various other factors that contribute to the excellent reliability of service FPL's customers receive in a cost effective manner. The efficient operation of FPL's transmission and substation systems plays a key role. The performance of FPL's transmission and substation operation was recently assessed through an audit conducted by NERC. As a result of the August 2003 blackout in the Northeastern United States, NERC

initiated nationwide operational audits. A team that included representatives from NERC, the Federal Energy Regulatory Commission and the FRCC participated in FPL's audit. The team's findings were very positive. As reported by The Energy Daily on May 27, 2004, Mr. Michel Gent, NERC's President and Chief Executive Officer, stated that Florida Power & Light had "a nearly perfect" audit. "We were pleasantly surprised at how well they have taken into account all the issues we had called attention to." The findings of the NERC audit including a recommendation that several FPL practices be adopted as "best practices" for other NERC members. Among FPL's recommended "best practices" are:

- The high quality and availability of tools and information on the status of our system and its generating plants. As stated in the NERC audit report "The tools that FPL has provided to the system operators are the latest off-the-shelf SCADA EMS tools with further customization done in-house to add additional functionality";

- Information access and coordination among FPL and the other members of the FRCC to help mitigate contingencies and improve system management; and

- The effectiveness of our proactive equipment maintenance and testing and vegetation management programs.

The NERC audit team also found the transmission and substation system group's organizational structure is "an advantage to ensure reliability," allowing "FPL to

put reliability functions, including transmission planning, system studies and operations, and even after-the-fact analysis under one management team."

From an operational standpoint, FPL has had no cascading outages, congestion overloads requiring implementation of transmission line loading relief procedures (except in one limited circumstance involving restoration of the transmission and substation systems following Hurricane Frances), or for that matter, any major operational event (excluding those due to storms) resulting in customer interruptions during the past five years.

Q. Are there other factors that have contributed to FPL's operational excellence?

A. Yes. FPL's operational excellence is also a result of the planning that takes place years ahead of the operation of the transmission and substation system. FPL plans the transmission and substation system to integrate FPL's current and future planned generation resources with FPL's forecasted load. The transmission system must be planned, consistent with NERC, FRCC and other applicable reliability standards. The system is planned to meet all of these objectives in a cost effective manner, while at the same time being conscientious about environmental impacts and the communities in which these facilities are located.

Over the years, FPL has met these planning and operational challenges very successfully, and has in place an organization and management team with the experience and expertise to successfully meet these challenges in the future.

Q. Restoration of service after hurricanes is an important issue in Florida. Please briefly comment on your emergency preparedness.

A. Extensive plans for rapid and safe restoration of FPL customers' service have been developed. These plans undergo continuous testing and refinement based on critiques following "Dry Runs" conducted each year, as well as analysis of performance after each event. This has resulted in the development of processes that facilitate rapid mobilization of resources during these events. The rapid mobilization capabilities enable FPL to maintain a high state of readiness.

FPL's effectiveness in restoring transmission and substation facilities following a hurricane is also due to the restoration preparedness and processes that go into action from the period beginning several days prior to landfall, to the time that landfall occurs. During the period prior to landfall, FPL monitors the track and intensity of the hurricane. Based on this information FPL forecasts potential damage assessments, mobilizes crews and prepares materials that may be needed for repairs. Prior to and during the landfall, FPL personnel are positioned at a hardened command center to monitor and operate the transmission and substation system in order to minimize the impact to customers and develop a damage assessment and restoration plan for transmission and substation equipment. This provides management the information to prioritize transmission and substation facility restoration, and allows for field crews to immediately mobilize and begin restoration efforts once working conditions are safe.

These capabilities were particularly important in 2004 during the six week period in which Hurricanes Charley, Frances and Jeanne struck FPL's service territory. The effectiveness of our organization and capabilities is evidenced by the fact that within approximately two days after each of the three hurricanes struck FPL's service area, all affected substations were energized from the transmission system and ready for service.

Q. What has been FPL's approach for managing the cost of operating, maintaining and expanding the FPL transmission and substation system, and what successes have been achieved in these areas?

A. As I have discussed previously, Transmission and Substation has been very successful in continuing to provide reliable service while at the same time effectively managing O&M costs. FPL's transmission system expansion process is designed to continue to meet the needs of load growth in a cost effective manner consistent with NERC, FRCC and other applicable reliability standards. This process has in-turn helped FPL reduce the rates charged to its customers.

With respect to Transmission and Substation O&M (excluding costs associated with the establishment of a RTO), FPL expects a continuation of its history of effective cost containment as shown in Document No. CMM-5.

With respect to capital costs, FPL's achievement in keeping costs down while at the same time serving more customers, integrating greater amounts of generation and improving reliability is attributable to a number of factors such as:

- Transmission and generation expansion through cost effective integrated planning;
- The ability to maximize the use of existing facilities through cost efficient upgrades;
- **Excellent operational and maintenance implementation.**

Q. What is required to continue to provide reliable service to FPL's customers in the future?

A. The levels of reliability that FPL has been able to achieve are a result of significant transmission projects and improvements constructed over the past three decades, upgrades of existing facilities, reliability initiatives and effective operations. However, transmission capability is becoming exhausted because of the increasing load, as well as the commitment to integrate an additional five percent (5%) of generation reserve margin. Therefore, substantial capital expenditures have become necessary to expand the transmission and substation system to continue to meet these increased demands and service obligations. As demonstrated in Document No. CMM-5, FPL invested a total of approximately $414 million in the transmission and substation system in 2003 and 2004 and anticipates additional transmission capital expenditures totaling approximately $534 million in 2005 and 2006. At the same time, to continue to preserve and upgrade aging facilities, continued O&M expenditures will be required. FPL's requested rate increase addresses the costs associated with transmission and substation facilities necessary to continue to provide reliable service to its

customers consistent with NERC, FRCC and other applicable reliability standards.

Q. Please provide some examples of FPL projects requiring significant capital expenditures to expand or refurbish its transmission and substation system and the need for such projects.

A. The following are examples of projects requiring significant capital expenditures:

Dade - Overtown 230kV Line: Load in the downtown Miami area continues to increase. The increased load exceeds the capacity of the transmission network serving the downtown Miami area. As a result, under certain single contingencies of a cable failure, a large portion of the Miami downtown area could experience rotating outages for a period of up to several months until repairs or replacement of the damaged cable can be completed. The total cost of this project is estimated at $16.2 million and it is scheduled to be completed by the summer of 2005.

Conservation – Oakland Park 230kV Line: Load in the Oakland Park area of Broward County continues to increase. This area is in large part served from two 138kV lines from the Sistrunk substation, which in-turn is sourced from a 230kV cable from the Port Everglades switchyard. In the case of a single contingency failure, overload conditions on the remaining transmission lines in the adjacent area and low voltage conditions could occur, resulting in the need to interrupt electrical service to customers. The total cost of this project is estimated at $17.7 million and is scheduled to be completed by the winter of 2005/2006.

Cortez - Johnson 230kV Line: Load continues to increase in the Manatee County area of southwest Florida. This increase in load causes the capacity of the transmission network serving this area to be exceeded. Under single contingency conditions, overloads on the remaining transmission lines in the adjacent area and low voltage conditions could occur, resulting in the need to interrupt electrical service to customers. The total cost of this project is $7.1 million and it was completed in the summer of 2003.

Collier – Orange River #3 230kV Line: Load continues to grow in the Collier County area. If this project is not constructed or is deferred, several contingencies could cause overloads and low voltages in the Collier – Alico – Orange River area. The total cost of this project is estimated at $23.4 million and it is scheduled to be completed by winter of 2005/2006.

Capacitor Banks: The installation of capacitor banks provide for voltage reliability at various locations throughout the system. The total cost of projects associated with capacitor banks between 2003 and 2005 is estimated at $20.9 million.

Southern Palm Beach 230kV Injection: Tremendous load growth continues in the south Palm Beach County area. This load growth is driven by the planned commercial and residential growth. Additional transmission capability will be required to reliably serve the increasing load. This project will increase the

transmission capability in the southern Palm Beach County area by building a new 230 kV transmission line from the Corbett to Germantown to Yamato Substations. FPL plans to complete this project by the summer of 2006. If this project is not built or is deferred, there are several instances in which a single contingency may cause significant overloads and low voltages in the Germantown area that could affect service to customers in this area. The total cost of this project is estimated at $27.3 million.

Bunnell – Pringle 230kV line: As a result of new commercial buildings and residential communities the load growth in the Flagler and St. Johns Counties will require the addition of new substations. The construction of a new Bunnell – Pringle 230kV transmission line by the winter of 2006 is required to provide transmission service for these new future substations. The total cost of this project is estimated at $6.3 million.

Transmission Infrastructure Refurbishment: Inspection of transmission facilities identified through reliability programs or following an outage event has identified follow-up refurbishment work required to keep these facilities serviceable. These refurbishments involve all types of components associated with the transmission system such as cross arms, insulators, overhead ground wires, poles and splices. For the 2003 through 2006 time frame, FPL plans to spend a total of approximately $34.4 million on this refurbishment and replacement work.

500 kV Line Re-insulation: Major sections of the 500 kV line insulation systems associated with the first 500 kV facilities constructed in the late 1970s to early 1980s are approaching the end of their useful life.

Failure of any of these insulators could be critical to the reliability of the system; therefore, preemptive replacements are required. As shown in Document No. CMM-6, the total cost of replacing insulators associated with the 500 kV lines is estimated at $52.1 million. From 2003 through 2006, FPL expects to have incurred a total of $15.6 million in replacing these insulators.

Capital Equipment and Facility Replacement: As the aging fleet of transmission and substation equipment such as transformers, breakers, capacitor banks and transmission lines approach the end of their useful life FPL optimizes the replacement process with respect to interruption avoidance, resource allocation, and asset utilization. The graphical representations in Document Nos. CMM-7 and CMM-8 provide data regarding the age of FPL's fleet of transformers and transmission lines.

Typically, failures associated with transformers occur either initially (i.e., first two years of life) or after about thirty years of use. Based on the information contained in Document No. CMM-7, FPL currently has 536 transformers that are

thirty years or older in age, and thus are near the end of their useful lives and will need to be replaced.

With respect to transmission lines, many were installed over three decades ago as reflected in Document CMM-8. Many of the older poles associated with these lines, although still having various degrees of useful life, have begun to deteriorate because of weathering and will require replacement in the coming years.

Replacement and refurbishment of aging transmission and substation equipment minimizes service interruptions to customers. The total cost of replacement of aging transmission and substation equipment for the period from 2003 through 2006 is projected to be $173.3 million.

Q. Previously, you mentioned that in planning for the expansion of the transmission and substation systems, FPL needed to be conscientious about environmental impacts and the communities in which these facilities are located. Are these requirements resulting in increased costs?

A. Yes. Issues associated with environmental impacts and acceptance by communities in which new facilities will be located are becoming more contentious and time consuming, and are resulting in some cases in increased costs of transmission and substation facilities. For example, the total typical cost of a distribution substation has increased substantially from 1997 to 2006. While the structural and electrical cost increases associated with distribution substations

have been minimal over this period, the site preparation costs have been increasing rapidly. The average cost associated with preparation of new distribution substation sites has more than doubled from 1997 to 2006, because of added difficulty in obtaining permits, pressure to upgrade existing sites that are being expanded, and the increased resistance to siting substations,. Document No. CMM-9 shows the increasing trend in the cost of preparation of distribution substations sites during the 1997 to 2006 period.

Q. What are some of the major components associated with transmission and substation O&M costs, and what is the principle driver of the increase in O&M costs in 2006?

A. There are a handful of major components associated with O&M in year 2006 that account for approximately three quarters of the total O&M costs, absent RTO costs. First, in order to maximize the life of major transmission and substation equipment, proper and timely maintenance is required. As the average age of our facilities and equipment increases, the O&M challenges increase. FPL addresses these challenges through the Condition Assessment Process, which was previously discussed, and follow-up component repair or replacement and life extension maintenance. Also contributing to O&M cost is the Event Response and Restoration Process. Additionally, extensive inspection, maintenance and filing requirements imposed on FPL by agencies result in O&M costs. Other significant drivers for O&M are relay maintenance, 500KV line projects and vegetation management.

The Transmission and Substation O&M budget also includes approximately $59 million in 2006 for costs associated with incremental GridFlorida RTO charges to FPL. The GridFlorida charges are the principle driver of the increase in forecasted O&M cost in 2006. As can be seen in Document No. CMM-5, absent RTO costs; O&M levels are forecasted to be relatively flat.

Q. What is GridFlorida and how will FPL incur charges from GridFlorida?

A. GridFlorida is the proposed RTO for Peninsular Florida. As stated in the Florida Public Service Commission's (FPSC) Order Finding Proactive Formation of GridFlorida Prudent and Requiring the Filing of a Modified GridFlorida Proposal, Order No. PSC-01-2489-FOF-EI issued December 20, 2001, GridFlorida will be an independent entity that will operate the transmission system and serve as the Security Coordinator for the FRCC in peninsular Florida. GridFlorida will also operate the wholesale energy markets in peninsular Florida and manage transmission congestion. FPL will be required to buy transmission service from GridFlorida to serve our customers and GridFlorida will charge FPL for this transmission service. These charges will be only partially offset by GridFlorida's payment to FPL for the use of FPL's transmission system. The remaining charges will be incremental transmission costs to FPL.

Q. What are the costs components that make up these incremental GridFlorida charges to FPL?

A. As shown in Document No. CMM-10, there are three primary cost components that comprise the incremental GridFlorida charges to FPL: start-up costs, annual operating costs, and cost shifts. The amounts included in the start-up and

operating cost components represent an estimate of FPL's share of GridFlorida's annual revenue requirements for these activities.

The start-up costs represent the estimated costs associated with starting such a large organization. These costs include infrastructure development and purchasing equipment and software. The second set of costs is the estimate for the operation of the GridFlorida RTO. These costs involve salaries and benefits of employees, and other annual variable costs.

The third cost component is cost shifting. The major cost component affecting the estimated cost shifts to FPL is the five year phase-in of revenue requirements associated with the Florida Municipal Power Authority and Seminole Electric Cooperative's existing transmission facilities located in FPL's zone into the rates charged to FPL. Also, the inclusion in GridFlorida rates of 100% of the revenue requirements of all new transmission capital additions results in cost shifts. As a result, FPL's customers will be responsible for a portion of the revenue requirements associated with the transmission facilities of all the other transmission owners participating in the RTO.

Q. What is the basis for the estimate of these costs?

A. The GridFlorida start-up and operating costs for the first year are developed from estimates provided by the Accenture Group that were filed with the Commission in Docket No. 020233-EI on March 20, 2002. The subsequent years' estimates are based on an escalation of the first year cost using cost information from other

RTOs. The cost shift estimates were prepared by the GridFlorida pricing workgroup from data provided by the stakeholders during 2004.

Q. Does FPL expect the incremental RTO costs to increase over time?

A. Yes. They are forecasted to increase from $59 million in 2006 to $148 million in 2010 for an average annual cost of $104 million over that five year period. Therefore, FPL is requesting $45 million as a company adjustment to account for the difference between the $59 million and the $104 million average. Mr. Davis has included the $45 million as a company adjustment in his testimony.

Q. How do these start-up and operating cost estimates compare to other RTOs?

A. It is somewhat difficult to make such a comparison because of issues such as on-going capital expenditures that are in addition to start-up costs, debt acquired by the RTOs from time-to-time to pay for both capital and operating costs, and the RTOs annual revenue requirement recovery mechanisms. However, based on a review of available information, GridFlorida's 2010 annual operating costs, totaling $160 million, are estimated to be in line with the 2004 operating costs of RTOs such as the ERCOT ISO, ISO New England, New York ISO and Midwest ISO, as shown in Document No. CMM-11. As can be seen, all four of the RTOs' costs increased materially from 2003 to 2004. It is also important to note that the costs of the RTOs discussed above were initially estimated to be much less. Also, the GridFlorida market approach to congestion management could result in additional costs to FPL's customers. As such, there is the potential that GridFlorida costs may increase over time significantly above those estimated above.

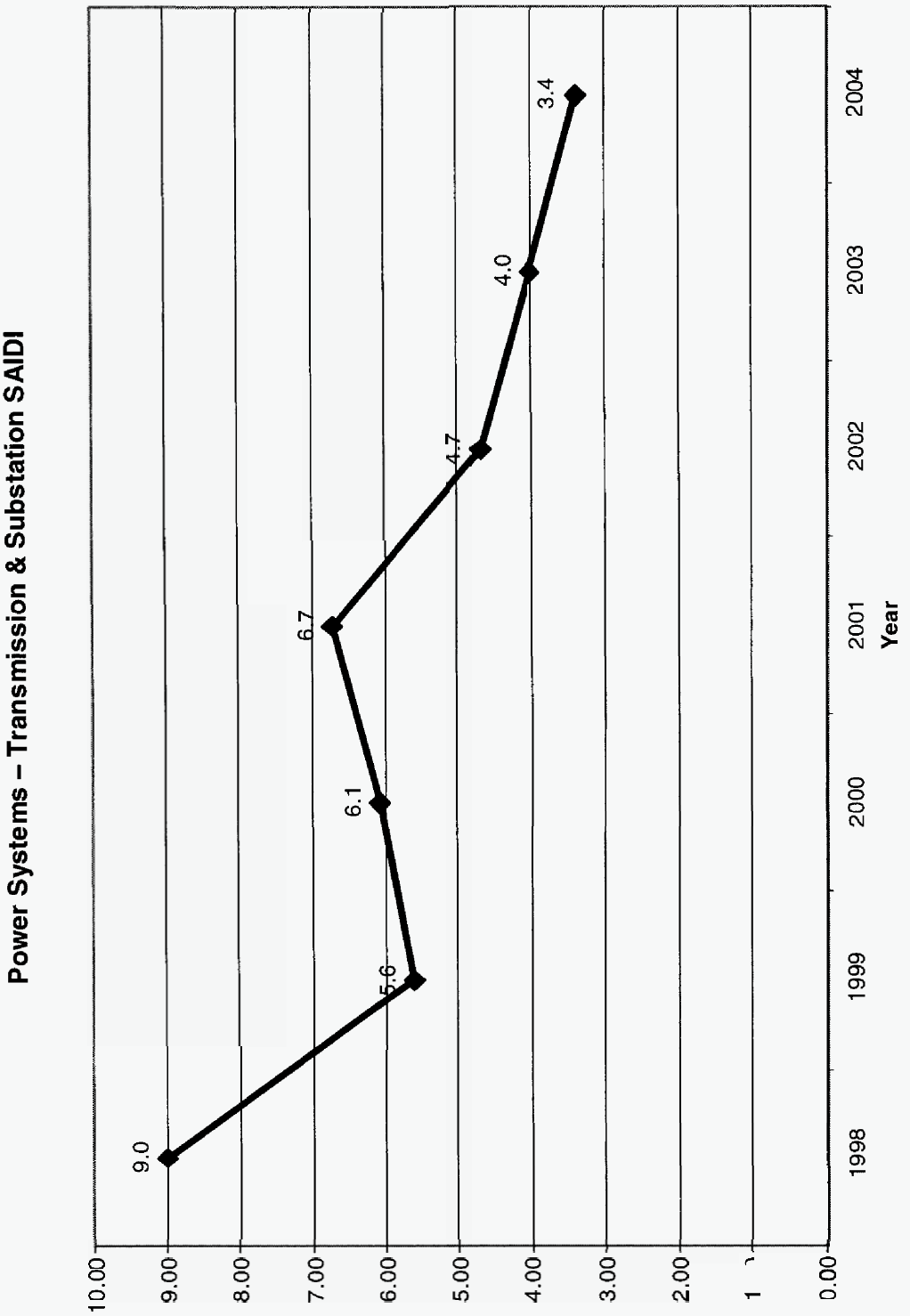
Q. Please summarize your testimony.

A. FPL's performance in providing superior levels of reliability for its transmission and substation systems in a cost effective manner has been commendable. The multiple initiatives undertaken as part of FPL's transmission and substation reliability plan coupled with FPL's operational implementation have resulted in achieving high levels of performance. This level of performance has been achieved without significant cost increases. However, FPL has in many circumstances exhausted the potential to increase transmission and substation capability from the existing system, and load growth requires FPL to continue to expand the transmission and substation system. Also, aging facilities require refurbishment and replacement. Finally, due to the RTO costs, Transmission and Substation O&M costs will increase in 2006. The requested rate increase is needed to maintain FPL's current high level of reliability in accordance with national and regional reliability standards.

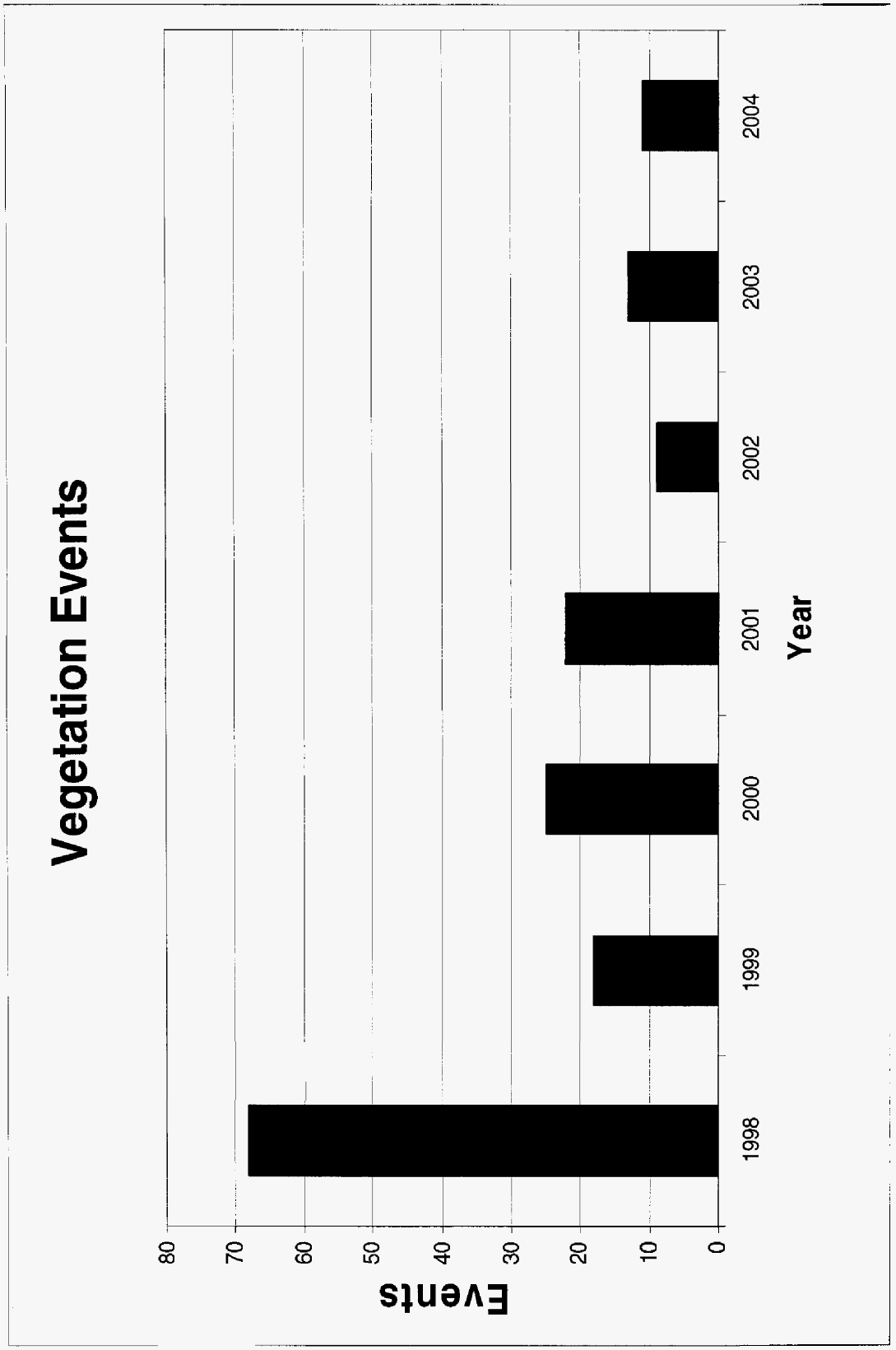
Q. Does this conclude your direct testimony?

A. Yes.

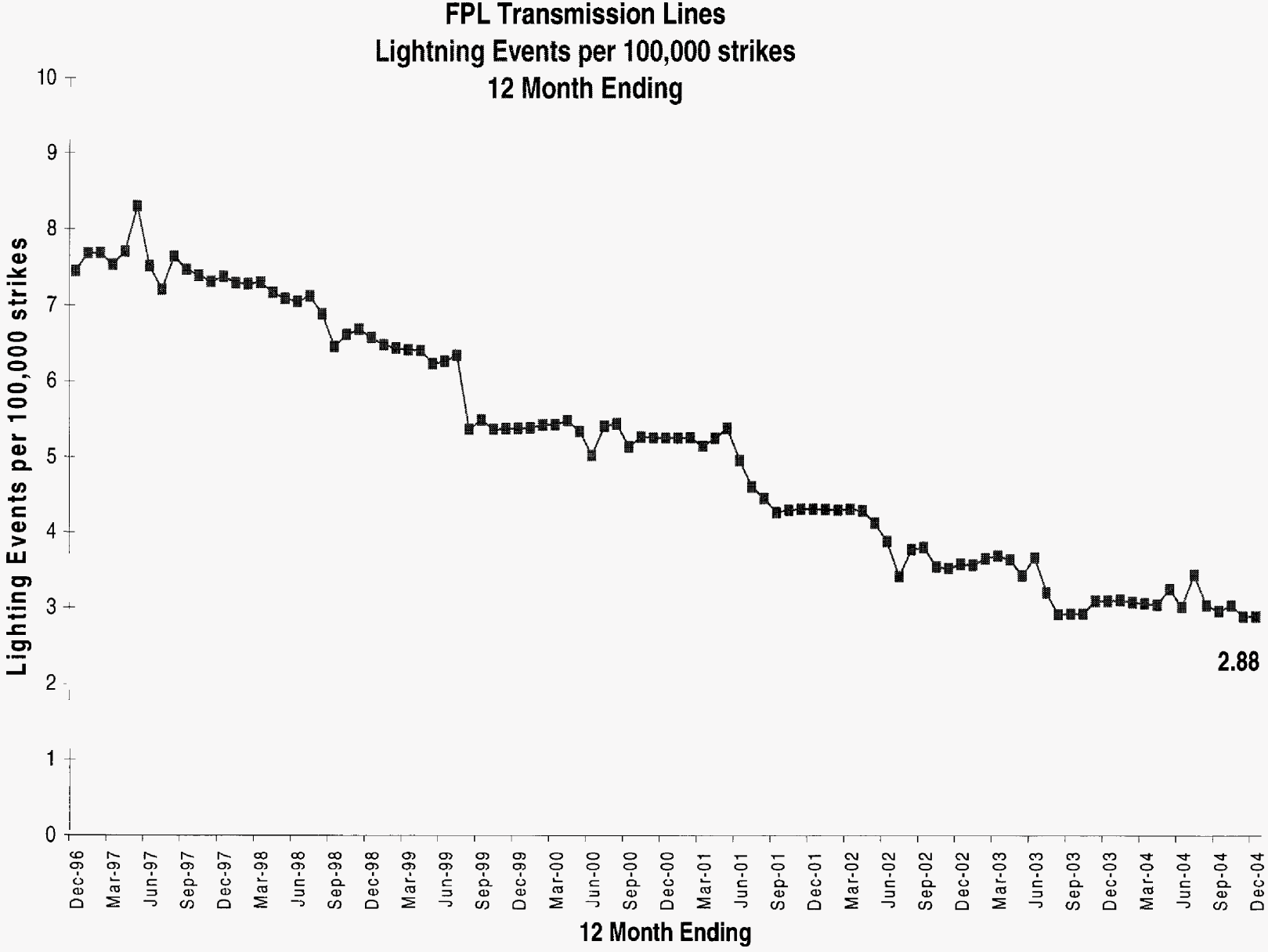
Docket No. 050045-EI
C. M. Mennes Exhibit No._____
Document No. CMM-1, Page 1 of 1
Transmission & Substation SAIDI



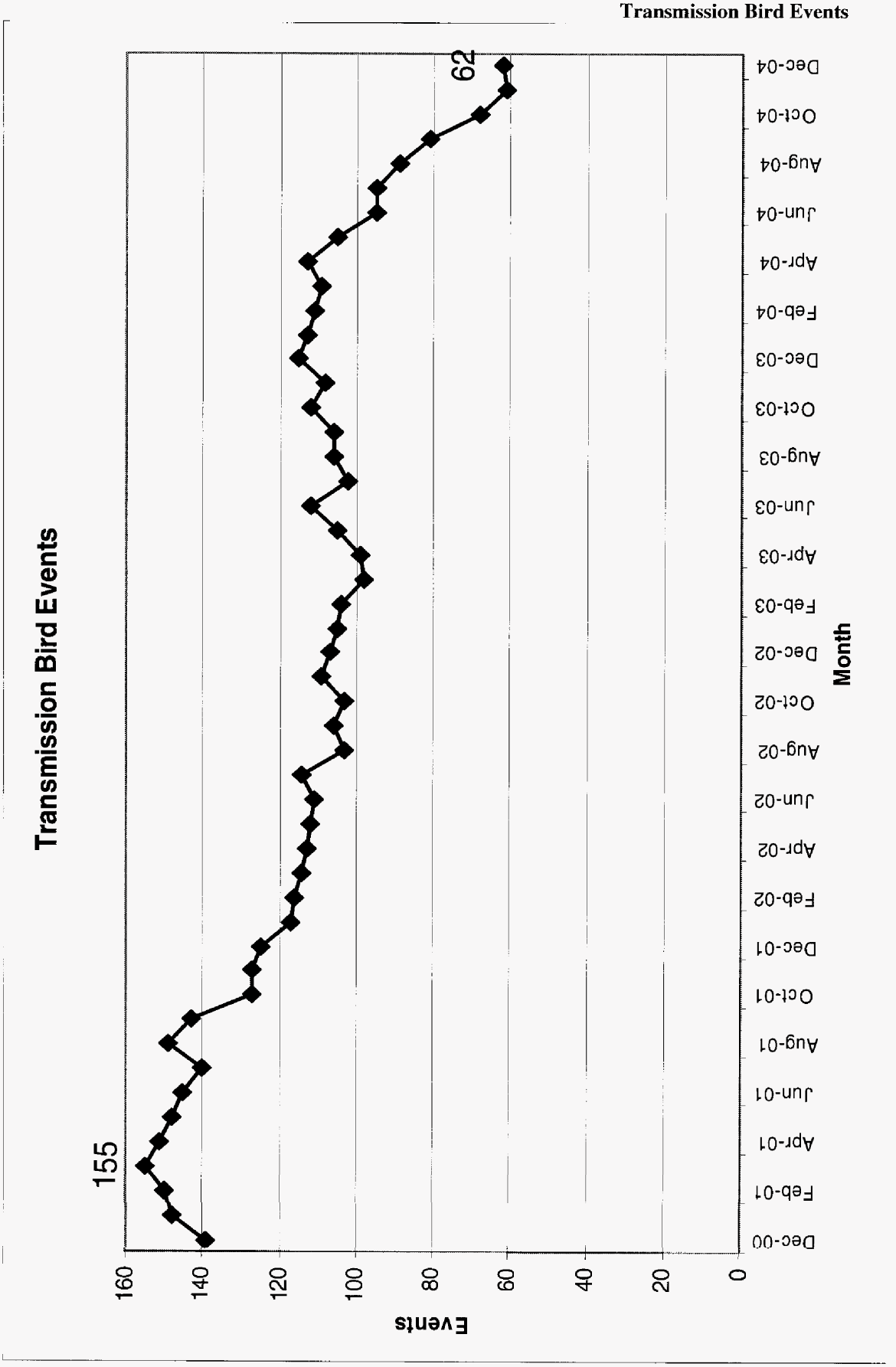
Docket No. 050045-EI
C. M. Mennes Exhibit No.___
Document No. CMM-2, Page 1 of 1
Transmission Vegetation Events

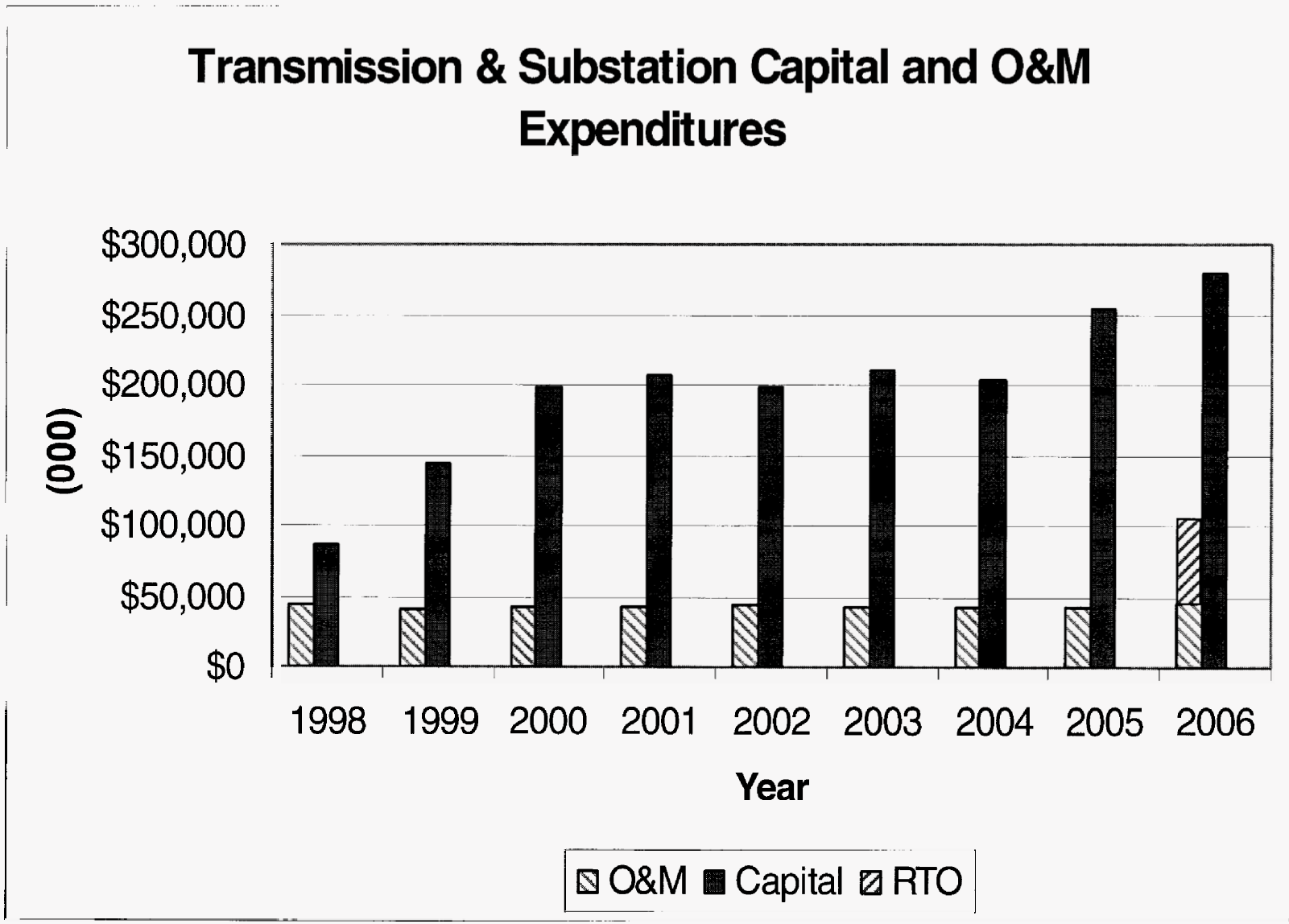


Docket No. 050045-EI
C. M. Mennes Exhibit No.___
Document No. CMM-3, Page 1 of 1
Transmission Lightning Events



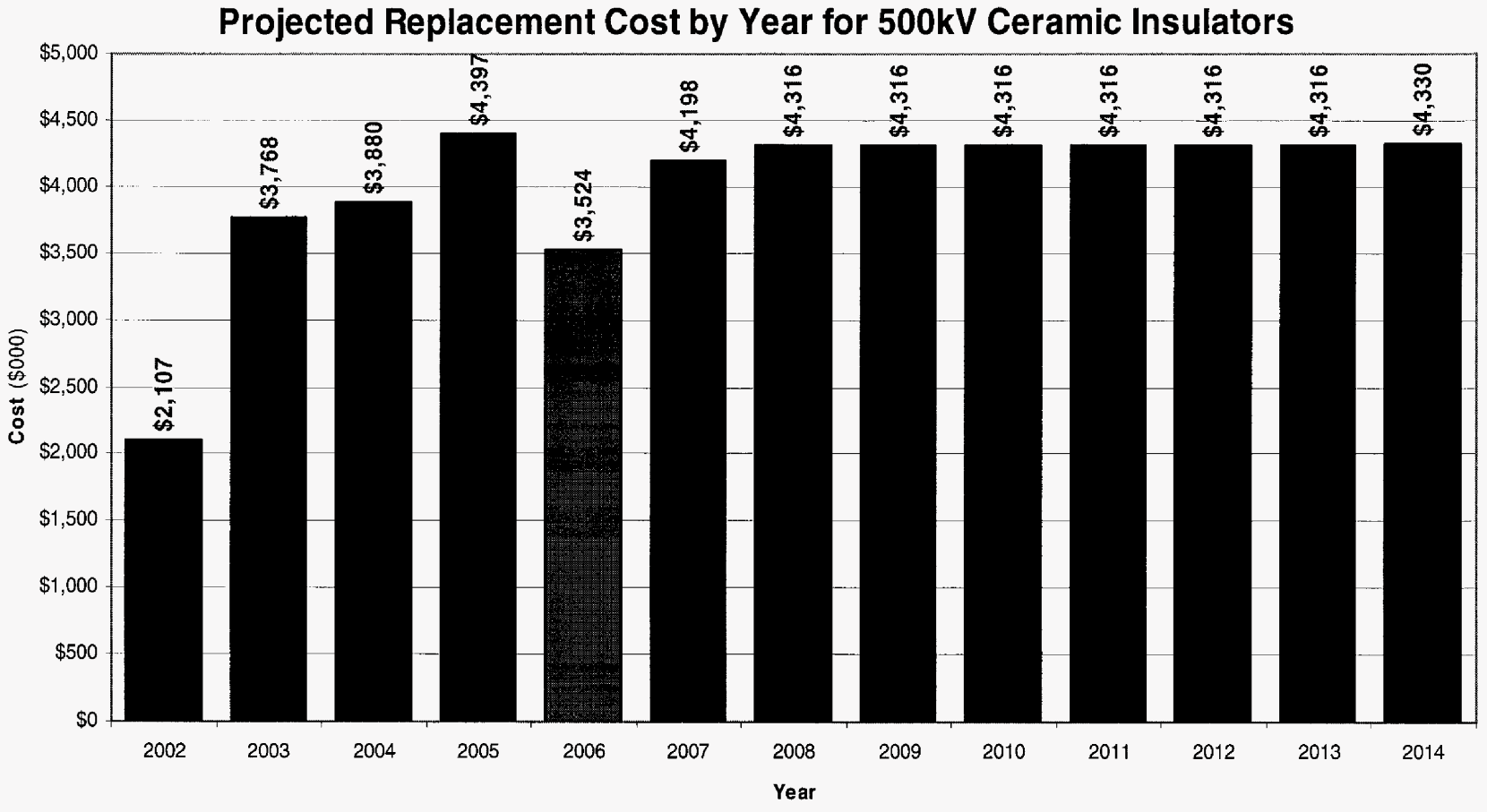
Docket No. 050045-EI
C. M. Mennes Exhibit No.___
Document No. CMM-4, Page 1 of 1
Transmission Bird Events





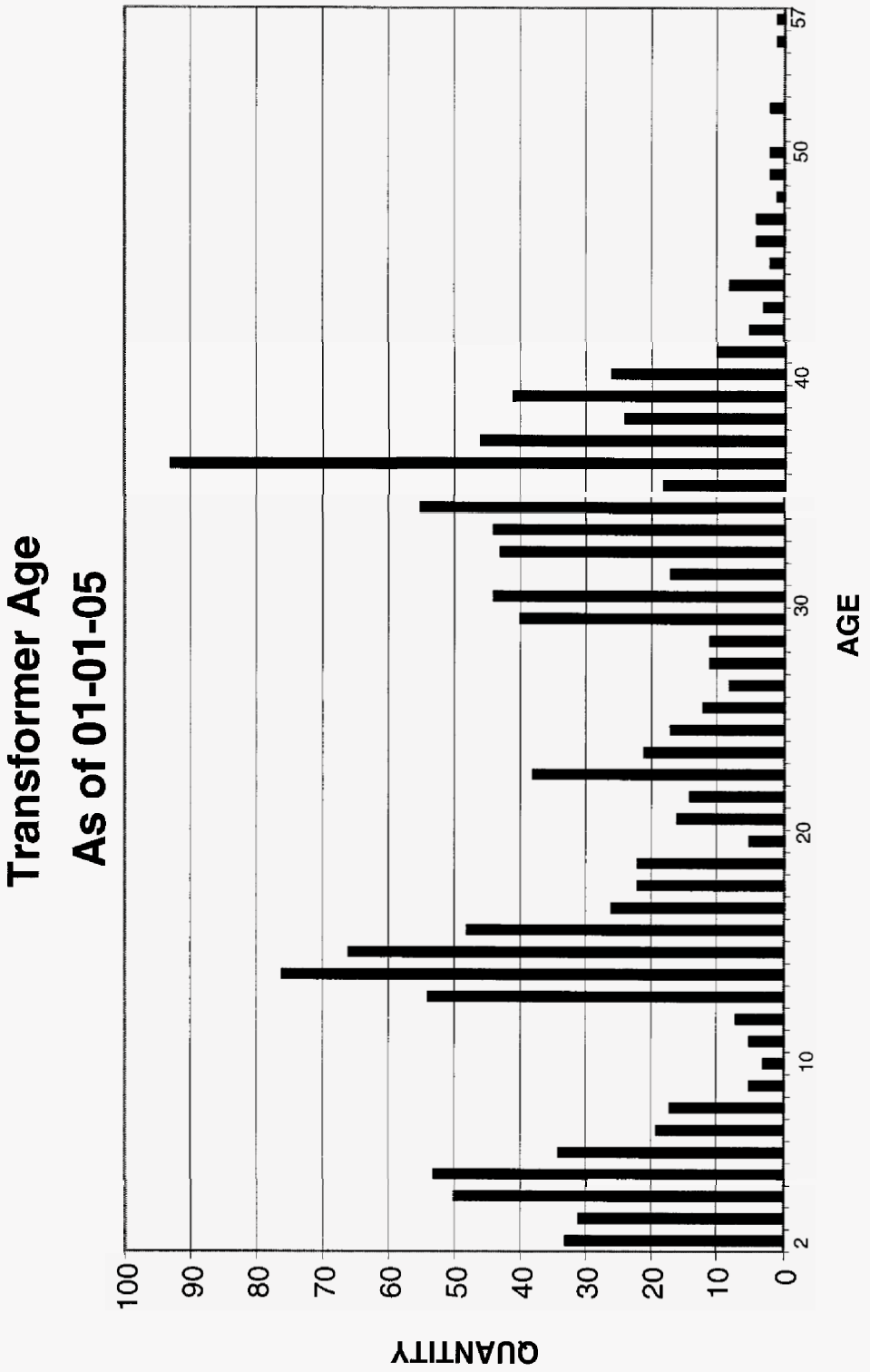
Docket No. 050045-EI
C. M. Mennes Exhibit No.___
Document No. CMM-5, Page 1 of 1
Transmission & Substation Expenditures

Total Cost =$52,102,087
2002-2004 are Actuals

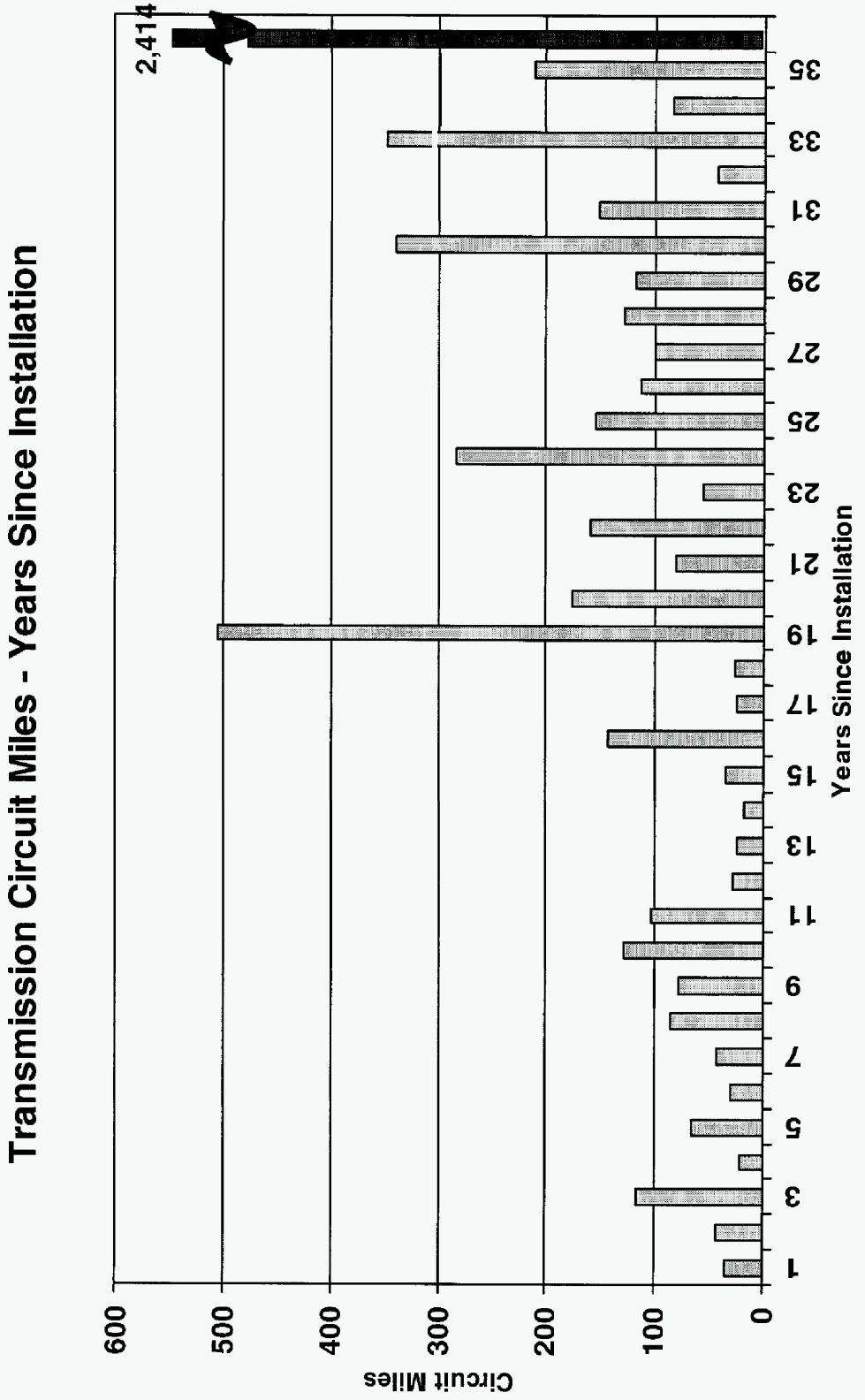


Docket No. 050045-EI
C. M. Mennes Exhibit No.___
Document No. CMM-6, Page 1 of 1
500kV Ceramic Insulator Cost

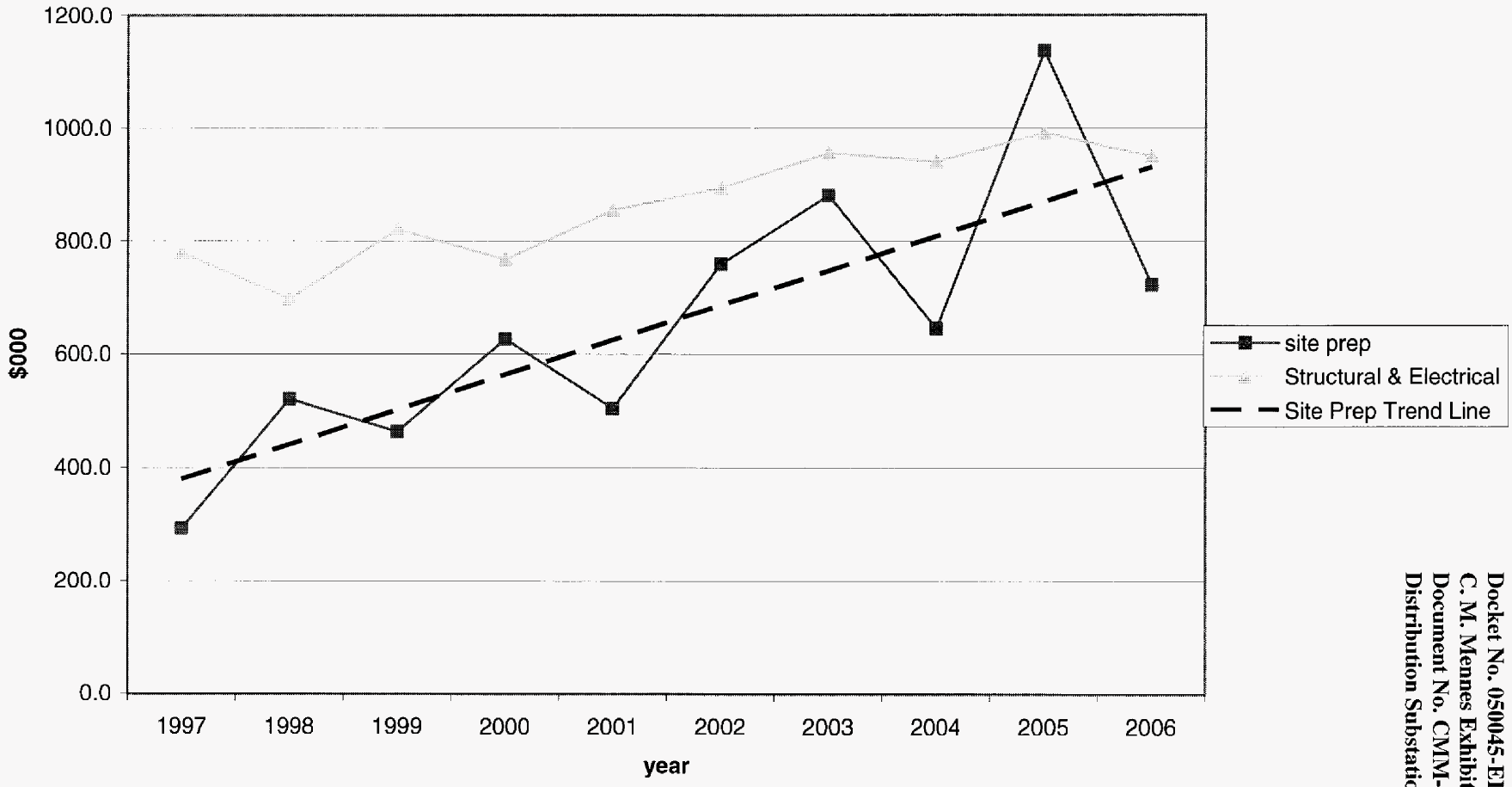
Docket No. 050045-EI
C. M. Mennes Exhibit No. _____
Document No. CMM-7, Page 1 of 1
Transformer Age



Docket No. 050045-EI
C. M. Mennes Exhibit No. _____
Document No. CMM-8, Page 1 of 1
Circuit Miles – Years Since Installation



Average Site Prep/Structural & Electrical Cost of New Distribution Substation by in-service year



Notes: 1. Non standard & metalclad substations not included in S&E averages.
2. S&E average includes various voltages, ampacities and capacities.
3. Two substations in buildings in 2005 are driving increasing site prep

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Document No. CMM-9, Page 1 of 1
Distribution Substation Site Prep Costs

($million)

Incremental GridFlorida Charges to FPL	2006	2007	2008	2009	2010	Average 2006-2010
RTO Start-up Costs	$24	$23	$22	$21	$20	$22
RTO Annual Operating Costs	27	40	55	70	85	$55
Cost Shifts	$8	$19	$28	$35	$43	$27
Total Incremental	**$59**	**$82**	**$105**	**$126**	**$148**	**$104**

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C. M. Mennes Exhibit No. _____
Document No. CMM-10, Page 1 of 1
Incremental GridFlorida RTO Charges

RTO/ISO ANNUAL OPERATING COSTS ($million)

	Year 2003	Year 2004
New York ISO	$117.8	$134.5
ISO New England	$102.9	$118.9
Midwest ISO	$131.6	$204.5
ERCOT ISO	$114.4	$138.5

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C. M. Mennes Exhibit No. ____
Document No. CMM-11, Page 1 of 1
RTO/ISO Annual Operating Costs