

**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:

WILLIAM L. YEAGER

DOCUMENT NUMBER-DATE

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FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF WILLIAM L. YEAGER**

4 **DOCKET NO. 050045-EI**

5 **MARCH 22, 2005**

6

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

8 A. My name is William L. Yeager. My business address is 700 Universe Boulevard,
9 Juno Beach, Florida, 33408-0420.

10 **Q. By whom are you employed and what position do you hold?**

11 A. I am employed by Florida Power & Light Company (FPL or the Company) as
12 Vice President of Engineering and Construction.

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

14 A. I am responsible for the overall management and direction of licensing,
15 engineering, procurement, and start-up activities associated with new supply-side
16 non – nuclear generation projects for the Company.

17 **Q. Please describe your educational background and professional experience.**

18 A. I received a Bachelor of Mechanical Engineering from the Georgia Institute of
19 Technology in 1982. In 2002, I received a Masters in Business Administration at
20 the University of South Florida. I am a Registered Professional Engineer in the
21 State of Florida and a member of the American Society of Mechanical Engineers.

22 I began my career as a mechanical engineer with FPL in 1982 at the Port
23 Everglades power station. In subsequent years I led the project engineering effort

1 during FPL's Lauderdale Units 4 & 5 repowering project, and FPL's Martin Units
2 3 & 4 combined cycle capacity additions. Following completion of Martin Units
3 3 & 4, I held various management positions at the FPL Martin Plant site and on
4 FPL's Combustion Turbine Fleet Team, increasing my operational knowledge of
5 combined cycle and conventional oil/gas-fired power plants, which led to my role
6 as Plant General Manager of FPL's Manatee Plant.

7

8 In 2002, I joined the Engineering and Construction Division as Director of
9 Engineering and Procurement and in 2005 I was promoted to Vice President of
10 that Division.

11 **Q. Are you sponsoring an exhibit in this case?**

12 A. Yes. I am sponsoring an exhibit consisting of eight documents, WLY-1 through
13 WLY-8, which are attached to my direct testimony.

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

15 A. Yes. I am sponsoring and co-sponsoring the MFRs listed in Document WLY-1.

16 **Q. Are you sponsoring or co-sponsoring any 2007 Turkey Point Unit 5
17 Adjustment Schedules in this case?**

18 A. Yes. I am co-sponsoring the 2007 Turkey Point Unit 5 Adjustment Schedules
19 listed in Document WLY-1.

20 **Q. What are the purpose and key points of your testimony?**

21 A. My testimony addresses four major areas: 1) the performance of FPL's fossil
22 units; 2) trends in fossil non-fuel operating and maintenance (O&M) expenses and
23 capital expenditures, as well as forecasts for 2006; 3) placing Martin Unit 8 and

1 Manatee Unit 3 into commercial operation in 2005; and 4) placing Turkey Point
2 Unit 5 into commercial operation in 2007.

3
4 The Power Generation Division is responsible for the operation and maintenance
5 of FPL's fossil power plants. The Power Generation Division, through its
6 leadership, management systems, and processes, has helped successfully defer the
7 need for new generating units by improving the performance and availability of
8 FPL's existing fossil fleet. Since 1998, FPL's fossil plant operating performance
9 has consistently exceeded industry averages, frequently ranking "best in class" in
10 the industry.

11
12 For the period 2002 through 2004, FPL was able to hold fossil non-fuel O&M
13 expenses relatively flat. To maintain plant availability and reliability, along with
14 supporting the growth of the generation fleet, fossil non-fuel O&M expenses are
15 forecast to increase in 2005 and 2006 primarily due to new plant additions and
16 plant maintenance. Even with the increase, FPL's 2006 forecasted fossil non-fuel
17 O&M of 0.26 cents/kilowatt-hour (kWh) represents continued outstanding cost
18 performance. Capital expenditures are also forecast to increase in 2005 and 2006.
19 Also, between 1998 and 2006, FPL's fossil fleet will add 26 generators, a 62%
20 increase. The purchase of combustion turbine (CT) wear parts to support FPL's
21 growing fleet is a primary capital cost driver.

22

1 FPL will be adding new generating capacity to support the growing needs of the
2 customer. From 1986 to 2002 FPL added an average of approximately 235
3 megawatts per year. Customer demand grew at a high rate during this time, but
4 the Company was able to meet incremental load requirements through plant
5 reliability and availability improvements, among other things. FPL will no longer
6 be able to meet incremental load requirements by improving its already
7 outstanding generating unit performance. FPL will have to add nearly 4,000
8 megawatts of low cost generating capacity during the five-year period from 2002
9 through 2007. This represents an average addition of nearly 800 megawatts per
10 year, or more than three times the rate of the prior seventeen years. The Martin
11 Unit 8 and Manatee Unit 3 plant expansion projects have been approved by the
12 Florida Public Service Commission (FPSC) and are forecast for commercial
13 operation by the summer of 2005. A new fossil unit at the Turkey Point site,
14 designated as Unit 5, has also been approved by the Florida Public Service
15 Commission to begin operation on June 1, 2007. Even with the inclusion of these
16 three new units, FPL's forecasted 2007 fossil non-fuel O&M performance of 0.27
17 cents/kWh represents outstanding cost performance.

18 19 **FPL'S POWER PLANT PERFORMANCE**

20 **Q. What indicators does FPL use to measure the operating performance of its**
21 **fleet of fossil generating units?**

22 **A. FPL uses a number of indicators to measure the performance of its fossil units.**
23 **They include Equivalent Availability Factor (EAF) to measure unit availability,**

1 Equivalent Forced Outage Rate (EFOR) to measure unit reliability, U.S.
2 Department of Labor Occupational Safety & Health Administration (OSHA)
3 recordables to measure safety performance, net heat rate (Btu/kWh) to measure
4 unit efficiency, and cost (non-fuel O&M cents/kWh) to measure the effectiveness
5 of resource management and utilization.

6 **Q. Please define the indicators used to measure plant availability and reliability.**

7 A. Equivalent Availability Factor (EAF) is a measure of a generating unit's
8 capability to provide electricity throughout the year, regardless of whether the
9 generating unit is actually called upon to provide electricity. Planned, Forced,
10 and Maintenance outages are the main components typically associated with
11 measuring EAF. EAF is reported in terms of the hours in a given period (e.g., a
12 year), that a generating unit is available to deliver electricity, as a percentage of
13 all the hours in the period. FPL strives for, and has achieved, a high EAF.

14
15 Equivalent Forced Outage Rate (EFOR) is a measure of a generating unit's
16 inability to provide electricity when it was scheduled to operate. EFOR is
17 reported in terms of the hours when a generating unit could not deliver electricity
18 as a percentage of all the hours during which that unit was called upon to deliver
19 electricity. FPL strives for, and has achieved, a low EFOR.

20 **Q. Has the EAF of FPL's fossil plants improved over time?**

21 A. Yes. Since 1990, FPL has improved the EAF of its fossil fleet from 81.7% to
22 93.7% in 2004. As shown in Document WLY-2, since 1998 FPL has sustained
23 outstanding performance of above 90% EAF for its fossil plants.

1 **Q. How does the EAF of FPL's fossil plants compare to that of others in the**
2 **industry?**

3 A. FPL has maintained an industry-leading position in EAF since 1998. As shown in
4 Document WLY-2, FPL's fossil plants have performed significantly better than
5 the industry average. From the period 1998 through 2003, the industry EAF
6 averaged 85.1%, while FPL's fossil unit performance averaged 93.3% during the
7 same period. In 2003, the latest industry data available, FPL's fossil EAF was
8 90.1%, compared to the industry average EAF of 84.9%. FPL's fossil EAF
9 performance has been "best in class" for five out of the last six years.

10 **Q. Has the EFOR of FPL's fossil plants also improved over time?**

11 A. Yes. As shown in Document WLY-3, the EFOR of FPL's fossil plants has
12 improved, from 2.4% in 1998 to 1.1% in 2004.

13 **Q. How does the EFOR of FPL's fossil plants compare to that of others in the**
14 **industry?**

15 A. FPL's fossil EFOR performance has significantly exceeded the industry average,
16 as shown in Document WLY-3. From the period 1998 through 2003, FPL's fossil
17 plant EFOR averaged 2.1%, while the industry EFOR averaged 8.2%. FPL's
18 2003 EFOR performance of 3.0% is significantly better than the 2003 industry
19 average EFOR of 8.7%. FPL fossil units ended 2004 with an outstanding EFOR
20 performance of 1.1%. FPL has sustained a "best in class" position in EFOR for
21 four out of the last six years.

1 **Q. What is the source of the data FPL uses to compare its EAF and EFOR**
2 **performance to that of other utilities?**

3 A. FPL obtains annual EAF and EFOR data for other utilities from the North
4 American Electric Reliability Council (NERC). The annual data becomes
5 available approximately one year after the end of each calendar year.

6 **Q. What is the significance of FPL's EAF and EFOR performance to this case?**

7 A. FPL's excellent EAF and EFOR performance have helped defer the need for new
8 capacity additions by increasing the amount of time our existing assets are
9 available to provide generation to FPL's customers. From 1986 to 2002 FPL
10 added an average of approximately 235 megawatts per year. Customer demand
11 grew at a high rate during this time, but the Company was able to meet
12 incremental load requirements through plant reliability and availability
13 improvements, among other things. Also, having high availability means that the
14 most efficient generating units will be available to operate a greater part of the
15 time, thus minimizing the fuel costs incurred to meet customer needs.

16 **Q. Has FPL taken other actions to help avoid or defer the need for new**
17 **generating capacity?**

18 A. Yes. In the early 1990s the Power Generation Division implemented a program
19 known as Perfect Execution of Peak Operations (PEPO). The PEPO program was
20 designed to systematically assess the peak generating capacity of its units within
21 their design capabilities. This program allowed the Power Generation Division to
22 operate its fossil units at peak capacity during high load demand periods. The
23 PEPO program raised FPL's level of confidence in the reliability of these peaking

1 megawatts to the point that they could be included in the rated capacity for our
2 fossil fleet. For 2005, it is expected that this program will have made over 600
3 megawatts available to FPL.

4 **Q. What indicator does FPL use to measure the safety performance of its fossil**
5 **units?**

6 A. FPL primarily looks to the number of OSHA recordables per year to measure
7 safety performance at its fossil units.

8 **Q. Please describe what you mean by “OSHA recordables.”**

9 A. OSHA recordables are all work-related deaths and illnesses and those work-
10 related injuries which result in: loss of consciousness, restriction of work or
11 motion, transfer to another job, or require medical treatment beyond first aid, and
12 which must therefore be reported to the Occupational Safety & Health
13 Administration. FPL keeps a record of all such incidents, referred to as “OSHA
14 recordables,” as a measure of how safely work is performed at its fossil-fuel
15 plants.

16 **Q. Please show how the annual rate of OSHA recordables at FPL’s fossil plants**
17 **has changed over time.**

18 A. As shown in Document WLY-4, FPL’s OSHA recordable injury rate for fossil
19 plants has decreased from 1.83 in 1998 to 0.84 in 2004. From 1991, the Power
20 Generation Division has reduced the OSHA recordable injury rate 83%. This
21 remarkable improvement reflects not only the tenacity of FPL’s safety effort and
22 the strength of FPL’s safety culture, but further demonstrates the broader
23 discipline and effectiveness FPL applies to performance of work at its fossil

1 plants. While this improvement in safety has been a significant achievement, the
2 Power Generation Division's goal remains to have zero injuries.

3 **Q. How does FPL's fossil safety performance compare to other utilities?**

4 A. As shown in Document WLY-4, FPL's fossil plants have performed significantly
5 better than the industry average, which consists of all fossil companies that
6 participated in the survey conducted and published by the Edison Electric Institute
7 (EEI). From the period 1998 through 2003, FPL's fossil plant OSHA recordable
8 injury rate averaged 1.05, while the industry OSHA recordable injury rate
9 averaged 3.93. Our 2003 performance of a 0.49 OSHA Recordable Injury Rate
10 was significantly better than the industry average of 4.15.

11 **Q. What indicator does FPL use to measure the efficiency of its fossil units?**

12 A. One indicator of efficiency is net heat rate, which is calculated by dividing the
13 total Btu of fuel consumed each year in FPL's fossil units, by the kWh of
14 electricity produced from those units.

15 **Q. Please show how the efficiency of FPL's fleet of fossil generating units has
16 changed over time.**

17 A. The trend in efficiency of FPL's fossil generating units is provided in Document
18 WLY-5. In 1998, the net heat rate for FPL's fossil fleet was 9,456 Btu/kWh. By
19 2004, FPL's fossil fleet net heat rate improved to 8,732 Btu/kWh, which
20 represents an efficiency gain of 8%. Since 1990, FPL has improved the net heat
21 rate of its fossil fleet from 10,214 Btu/kWh to 8,732 Btu/kWh, a 15%
22 improvement in efficiency.

1 **Q. How does FPL's fossil plant net heat rate performance compare to other**
2 **utilities?**

3 A. FPL's net heat rate compares favorably to the industry average for all electric
4 utilities. As shown in Document WLY-5, FPL's average net heat rate improved
5 8% between 1998 and 2004, while the industry average has remained relatively
6 flat at above 10,000 Btu/kWh.

7 **Q. Can you provide an example of how an improved net heat rate benefits the**
8 **customer?**

9 A. Yes. For example, if fossil system fuel costs equal \$100 million per year, and
10 assuming nothing else changes, net heat rate improves 8%, this means that the
11 system now requires 8% less fuel to produce the same amount of kilowatt hours.
12 This translates to \$8 million in fuel savings per year to the customer.

13 **Q. Please summarize your position on the performance of FPL's fossil**
14 **generating system.**

15 A. FPL has maintained an extremely reliable power generating system for many
16 years. Since 1998, FPL has improved the operating performance of its generating
17 units in all areas, while reducing fossil non-fuel O&M cents/kWh. However,
18 increases in costs due to system growth and plant maintenance require FPL to
19 seek rate relief in order to maintain system reliability.

1 **FPL's NON-FUEL O&M EXPENSES AND CAPITAL EXPENDITURES**

2 **Q. What has been FPL's experience with non-fuel O&M expenses associated**
3 **with fossil units in recent years?**

4 A. From 1998 to 2004, FPL's total non-fuel O&M expense for fossil units, as
5 measured in cents/kWh, declined 23%, from 0.31 cents/kWh in 1998 to 0.24
6 cents/kWh in 2004, as shown in Document WLY-6. From 1990, our non-fuel
7 O&M cents/kWh has declined 62%. However, as shown in Document WLY-7,
8 FPL's year-end non-fuel O&M costs were relatively flat from \$154.2 million in
9 2002, to \$151.1 million in 2004.

10 **Q. Does FPL expect non-fuel O&M expenses to remain constant in 2005 and**
11 **2006?**

12 A. No. FPL forecasts an increase in O&M expenses to approximately \$162 million
13 in 2005, and a further increase of \$23 million in 2006 to \$185 million.

14 **Q. What is the reason for the increases in fossil non-fuel O&M expenses?**

15 A. One of the primary reasons fossil non-fuel O&M expenses are increasing is
16 because FPL is adding power plants to its system to meet the growing needs of its
17 customers. Specifically, the addition of the Martin and Manatee units in 2005 is a
18 significant O&M cost driver. Another O&M cost driver is plant maintenance
19 costs associated with overhauls of fossil units to allow FPL to sustain plant
20 availability and reliability. FPL has an aging conventional steam fleet, with
21 generating units that range in age from 23 to 50 years in service. These units will
22 require additional plant maintenance. Maintaining the availability and reliability

1 of the conventional steam fleet benefits the customer by not having to replace this
2 generation.

3 **Q. Has FPL taken any steps to reduce fossil non-fuel O&M expenses associated**
4 **with maintaining the units?**

5 A. Yes. To control costs, FPL transitioned from calendar-based to condition-based
6 maintenance and adopted a “Fleet Team” approach. FPL organized its technical
7 support groups around the major plant components, such as boilers, combustion
8 turbines, and generators. The Fleet Team approach improves the replication and
9 standardization of best practices across the fleet.

10

11 FPL transitioned its major maintenance overhaul philosophy from calendar-based
12 overhaul intervals to condition-based overhaul intervals. By doing overhauls on a
13 condition-based interval, FPL can optimize the life of the existing plant
14 components while improving plant reliability and availability.

15

16 FPL further enhanced its fleet with the creation of the Fleet Performance and
17 Diagnostic Center. Critical fossil plant operating parameters are monitored
18 “24/7” online. Automated statistical analysis detects and alerts employees of any
19 slight change in performance. FPL can also analyze the equipment’s ability to
20 perform according to its rated specifications and evaluate ways to improve
21 efficiencies. The goal is to identify equipment degradation far enough in advance
22 of a failure so corrective measures can be put in place.

23

1 All of FPL's initiatives and efforts are focused on achieving process control and
2 preventing failures from occurring.

3

4 The Power Generation Division's mission and commitment to the customer can
5 be summarized in two words: Deliver Certainty - the certainty that our generating
6 units are cost-effective, available, and reliable, to meet the needs of the customer.

7 **Q. Can improvements in maintenance processes continue to enable FPL to keep
8 the level of O&M expenses relatively constant?**

9 A. No. Condition-based maintenance has optimized the useful life of plant
10 components, resulting in cost benefits to the customer. FPL is at the point now
11 that it must perform extensive maintenance and refurbishments to sustain the
12 outstanding reliability of its existing fleet.

13 **Q. What assurance can you give the Commission that FPL's 2006 forecast for
14 non-fuel O&M expenses is reasonable?**

15 A. First, the Company's historical performance demonstrates its ability to cost-
16 effectively manage its resources while achieving industry-leading performance in
17 the areas of EAF, EFOR and net heat rate.

18

19 Second, FPL's forecasted 2006 non-fuel O&M costs, in terms of cents/kWh,
20 represent continued outstanding performance. Even with the inclusion of the new
21 units (Martin Unit 8 and Manatee Unit 3), FPL is forecasting its 2006
22 performance of 0.26 non-fuel O&M cents/kWh, to continue to exemplify superior
23 performance.

1 Third, FPL has the processes, procedures and structure in place, such as
2 condition-based maintenance, the Fleet Performance and Diagnostic Center, and
3 the Fleet Teams to continue to manage, assess and sustain the excellent
4 performance of FPL's fossil generation portfolio. FPL's team is committed to
5 maintaining the industry-leading performance it has achieved in availability,
6 reliability, safety, efficiency and cost.

7 **Q. Please summarize FPL's capital expenditures required to sustain its fossil
8 units for the period 2002 - 2006.**

9 A. As shown in Document WLY-8, FPL experienced a significant increase in capital
10 expenditures from 2002 to 2003. In 2002, FPL's capital expenditures were \$89.3
11 million, and in 2003, that amount increased to \$259.9 million. Of the 2003 total,
12 \$192 million is attributed to the purchase of combustion turbine wear parts to
13 support outages of FPL's growing fleet. In 2004, capital expenditures decreased
14 to \$186.1 million, but FPL projects increases to a level of \$200.5 million in 2005
15 and \$219.6 million in 2006. FPL's projection for capital expenditures for 2006 is
16 approximately 146% greater than 2002 capital expenditures.

17 **Q. What are the capital cost drivers for sustaining FPL's fossil unit fleet?**

18 A. The primary drivers are the growth of the fleet and the increasing proportion of
19 combustion turbines as part of the fleet. In 1998, FPL had 42 generators in the
20 fleet. This is forecast to increase to 68 by the year 2006, a 62% increase,
21 including the additions of Martin 8 and Manatee 3 which are discussed later in my
22 testimony.

23

1 These new generators are primarily combustion turbine generators, which will be
2 used in combination with steam turbines to provide power generation in what is
3 called a combined cycle power plant. This type of power plant uses
4 approximately 30% less fuel than our traditional, and older steam turbine fleet.
5 Thus, FPL's customers benefit from this newer technology. Because of the high
6 fuel efficiency, these plants run in a base load configuration. In order to sustain
7 the high reliability and availability of these plants, a major outage may be
8 required within two years or less after the commercial operation date.

9
10 Three types of outages are required on combustion turbines. After approximately
11 12,000 equivalent hours of operation, a combustion turbine must go through a
12 "combustor inspection" outage. After approximately 24,000 equivalent hours of
13 operation, the combustion turbine must have a "hot gas path" outage. After
14 approximately 48,000 equivalent hours of operation, the combustion turbine must
15 have a "major inspection" outage. In all three of these outages, various parts are
16 replaced because they essentially wear out during the operating cycle. On
17 average, each turbine requires approximately \$3 to \$4 million dollars in capital
18 per year to sustain its excellent availability and reliability performance. This will
19 allow FPL to continue to provide the customer with the most efficient generation
20 from the fleet.

21 **Q. Are there steps that FPL can take to control or reduce capital expenditures?**

22 A. The number of generators in FPL's fossil fleet is forecast to grow 62% for the
23 period 1998 – 2006. These generators are primarily combustion turbine

1 generators. The capital expenditures necessary to sustain the performance of
2 these combustion turbines are substantial, and the benefits to customers from such
3 performance are real. With the growing number of combustion turbines in FPL's
4 fleet, FPL will not be able to continue to absorb the capital expenditures
5 associated with sustaining the operation of this equipment. Base rate relief is
6 required for FPL to sustain the excellent performance of its fleet and continue to
7 provide the customer with fuel efficient generation.

8
9 **ADDITION OF MARTIN UNIT 8 AND MANATEE UNIT 3**

10 **Q. What unit additions are planned for 2005?**

11 A. In Docket No. 020262-EI and Docket No. 020263-EI, the Commission
12 determined that Martin Unit 8 and Manatee Unit 3 are needed to maintain FPL's
13 system reliability and integrity, and are the most cost effective alternatives for
14 meeting FPL's resource needs in 2005. These units were also approved by the
15 Governor and Cabinet, and are scheduled to begin commercial operation in the
16 summer of 2005. The Martin Unit 8 expansion project consists of 789 megawatts
17 of new capacity additions to two existing combustion turbine units, Martin Units
18 8A and 8B. When the expansion project is completed, Martin Unit 8, a
19 combined-cycle power plant, is estimated to produce a summer net capacity of
20 1,107 megawatts. Manatee Unit 3, when complete, will be a combined-cycle
21 plant, and is estimated to produce a summer net capacity of 1,107 megawatts.

22

1 **Q. What are the forecasted total installed costs for Martin Unit 8 and Manatee**
2 **Unit 3?**

3 A. The total installed cost for Martin Unit 8 is forecast to be \$403.6 million, and the
4 total installed cost for Manatee Unit 3 is forecast to be \$483.2 million. These
5 costs are less than those approved by the Commission in Docket Nos. 020262-EI
6 and 020263-EI. FPL's construction costs for Martin Unit 8 and Manatee Unit 3
7 demonstrate FPL's ability to successfully manage and deploy resources to cost
8 effectively meet the needs of its customers.

9 **Q. What are FPL's forecasted annual operating expenses for the first full year**
10 **of operation for Martin Unit 8 and Manatee Unit 3?**

11 A. In 2006, the first full year of operation for the new units, FPL expects the annual
12 operating expenses associated with both of the new units to be approximately \$7.1
13 million.

14 **Q. Are these forecasted annual operating costs reasonable?**

15 A. Yes. The expected annual operating costs average approximately \$3.5 million
16 each for Martin Unit 8 and Manatee Unit 3. These costs are consistent with the
17 operating costs FPL projected in Docket Nos. 020262-EI and 020263-EI, in which
18 the Commission determined Martin Unit 8 and Manatee Unit 3 to be the most
19 cost-effective alternatives.

20

21

22

23

1 **2007 TURKEY POINT UNIT 5 ADJUSTMENT**

2 **Q. Does FPL plan to bring any new capacity into service during 2007?**

3 A. Yes. The addition of Turkey Point Unit 5, as approved by the Commission in
4 Docket No. 040206-EI to be the most cost-effective alternative to meet FPL's
5 capacity needs in 2007, is scheduled to commence commercial operation on June
6 1, 2007. Turkey Point Unit 5, when complete, will be a combined-cycle power
7 plant, and is estimated to produce a summer net capacity of approximately 1,144
8 megawatts. The total installed cost for the project is forecasted to be \$580.3
9 million, which is the estimated cost for the unit approved by the Commission in
10 Docket No. 040206-EI.

11 **Q. What is the status of Turkey Point Unit 5?**

12 A. In February 2005, the Governor and Cabinet sitting as the Florida Electrical
13 Power Plant Siting Board, approved FPL's site certification application to
14 commence construction of Turkey Point Unit 5. Environmental permitting for the
15 unit is underway and construction of the unit began in March of 2005.

16 **Q. What is the forecasted annual operating cost for Turkey Point Unit 5?**

17 A. FPL forecasts the direct annual operating cost for the first full year of operation
18 will be approximately \$3.6 million.

19 **Q. Are these forecasted annual operating costs for Turkey Point Unit 5**
20 **reasonable?**

21 A. Yes. The forecasted annual operating costs are consistent with the costs FPL
22 projected in Docket No. 040206-EI, in which the Commission approved Turkey

1 Point Unit 5 to be the most cost-effective alternative to meet FPL's capacity needs
2 in 2007.

3
4 **CONCLUSION**

5 **Q. Please summarize your testimony.**

6 A. The performance of FPL's fossil fleet of generating units is superior, as evidenced
7 by FPL's consistent industry-leading performance. In the areas of plant
8 operations and maintenance, FPL has achieved a plant availability performance of
9 93.7% and a plant equivalent forced outage rate performance of 1.1% year-ending
10 2004. This superior plant availability and reliability performance allows FPL to
11 continue to provide customers with the most fuel-efficient generation within the
12 fleet, and continue to pass on fuel savings to the customer. Further, the high
13 availability and low forced outage rates of FPL's fossil units have helped FPL
14 avoid or defer the need to add additional capacity to the system. However, there
15 is little room for additional improvements to FPL's already outstanding
16 performance in these areas, and FPL will be adding generating resources, at a
17 substantially faster rate, over the next several years.

18
19 What makes FPL's fossil plant performance more remarkable is that, while
20 performance has improved, total operating costs have been reduced 23%, from
21 0.31 cents/kWh in 1998 to 0.24 cents/kWh in 2004. FPL expects its O&M
22 expenses to increase in the coming years as a result of new plant additions and
23 plant major maintenance. Capital costs are also increasing primarily from the

1 need to invest in combustion turbine wear parts to support outages for FPL's
2 growing fleet. FPL will not be able to absorb the increases in O&M expenses and
3 capital expenditures and must seek an increase in base rates to maintain system
4 reliability.

5
6 FPL will be adding generating resources at a substantially faster rate over the next
7 several years in order to meet the growing needs of its customers. Martin Unit 8
8 and Manatee Unit 3 are scheduled to begin commercial operation in the summer
9 of 2005. On a combined basis, when these units are complete, they will add more
10 than 2,200 megawatts (summer net capacity) of natural gas-fired combined-cycle
11 generation to FPL's system. FPL forecasts the total costs of these units will be
12 less than the costs included in the request for proposals (RFP) that led to the
13 selection of these units as the most-cost effective alternative for maintaining the
14 reliability of FPL's system.

15
16 FPL's ability to control costs on the Martin and Manatee construction projects
17 demonstrates that FPL can meet or exceed its performance in the areas of
18 construction management, cost control, plant operations and start-up of plants.
19 FPL will replicate the processes used at Martin and Manatee as it constructs and
20 transitions Turkey Point Unit 5 into the fossil fleet on June 1, 2007.

21
22 FPL has provided customers with outstanding performance in the areas of cost
23 control and plant operating performance. FPL has the leadership, management

1 systems, and processes in place to sustain this performance while growing the
2 generating fleet. As discussed above, FPL's ability to maintain the reliability of
3 the system to serve customer needs requires an increase in the level of base rates.

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

5 **A. Yes.**

2006 MFR Listing

MFR	Year	MFR Description	Comment(s)
B-12	Test, Prior	Production Plant Additions	Steam and Other Production Plant Additions. Co-Sponsor
B-13	Test	Construction Work In Progress	Steam and Other Production Plant Additions. Co-Sponsor
B-18	Test, Prior	Fuel Inventory By Plant	Fuel Inventory by Plant Sponsor
C-8	Test, Prior	Details of Changes in Expenses	Reasons for Variances in Steam and Other Production Expenses that Exceed Scope. Co-Sponsor
C-41	Test	O&M Benchmark Variance B Function	Variance Explanation for the Steam and Other Production Function. Co-Sponsor

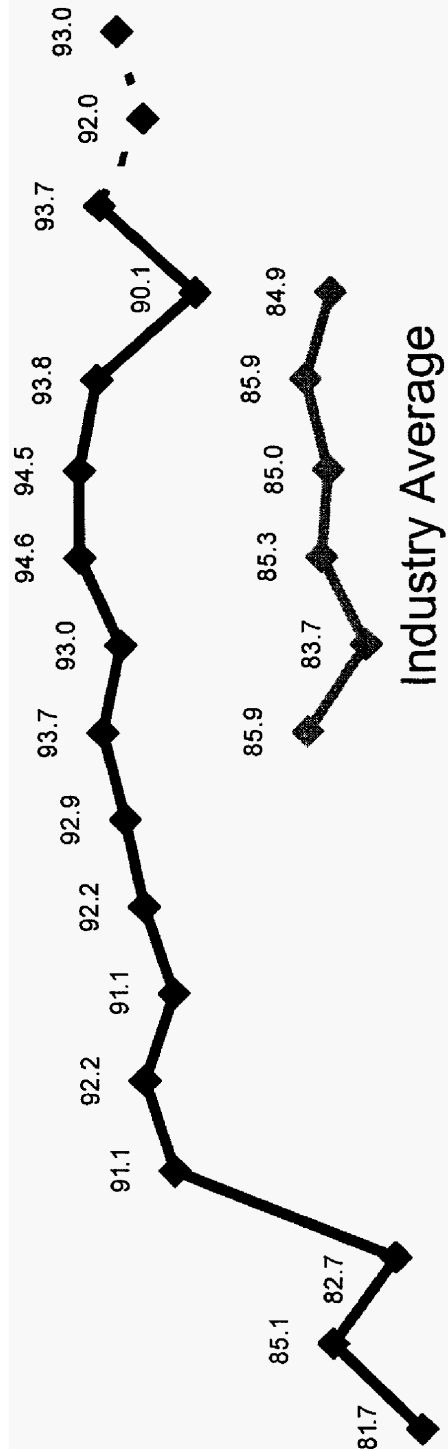
2007 Turkey Point Unit 5 Adjustment Schedules

Schedule	Schedule Description	Comment(s)
B-6	Jurisdictional Separation Factors – Rate Base	Turkey Point Unit 5 Investments. Co-Sponsor
B-8	Monthly Plant Balances Test Year – 13 Months	Turkey Point Unit 5 Gross Plant Additions. Co-Sponsor
C-4	Jurisdictional Separation Factors – Net Operating Income	Turkey Point Unit 5 Operating Costs. Co-Sponsor

Equivalent Availability Factor % FPL Fossil Operations

Good 

FPL Fossil Plants

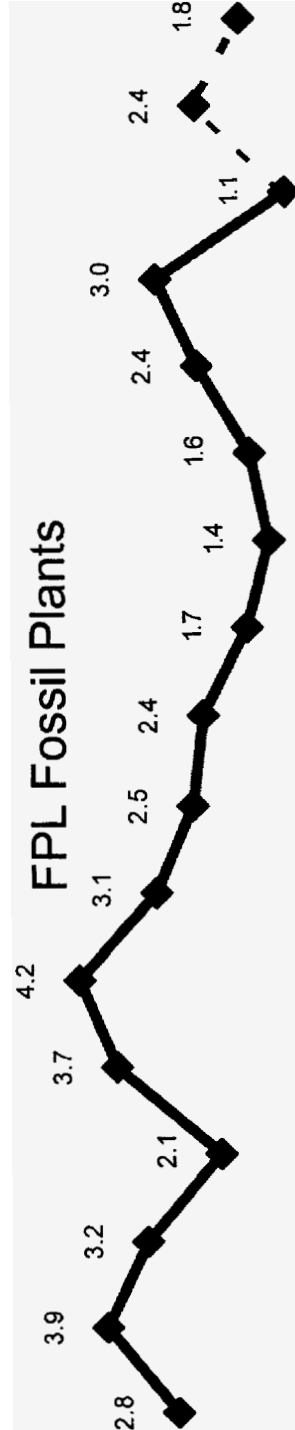
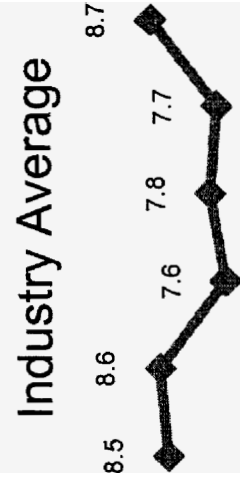


90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06

Source: NERC and FPL
 Excludes maintenance outages
 Includes companies with at least 5,000 MW of owned fossil steam and combined cycle capacity, and at least 25% capacity factor. Includes large
 FRCC utilities

Equivalent Forced Outage Rate % FPL Fossil Operations

Good 



90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06

Source: NERC and FPL
 Includes companies with at least 5,000 MW of owned fossil steam and combined cycle capacity, and at least 25% capacity factor. Includes large
 FRCC utilities

