

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 100009-EI
FLORIDA POWER & LIGHT COMPANY

MARCH 1, 2010
(REVISED)

IN RE: NUCLEAR POWER PLANT COST RECOVERY
FOR THE YEAR ENDING
DECEMBER 2009

TESTIMONY & EXHIBITS OF:

JOHN J. REED

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF JOHN J. REED**

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5 **March 1, 2010**

6
7 **Section I: Introduction**

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

9 A. My name is John J. Reed. My business address is 293 Boston Post Road West,
10 Marlborough, Massachusetts 01752.

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

12 A. I am the Chairman and Chief Executive Officer of Concentric Energy Advisors,
13 Inc. ("Concentric").

14 **Q. Please describe Concentric.**

15 A. Concentric is an economic advisory and management consulting firm,
16 headquartered in Marlborough, Massachusetts, which provides consulting
17 services related to energy industry transactions, energy market analysis, litigation,
18 and regulatory support.

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

20 A. I have more than 30 years of experience in the energy industry, having served as
21 an executive in energy consulting firms, including the position of Co-Chief
22 Executive Officer of the largest publicly-traded management consulting firm in
23 the United States and as Chief Economist for the largest gas utility in the United

1 States. I have provided expert testimony on a wide variety of economic and
2 financial issues related to the energy and utility industry on numerous occasions
3 before administrative agencies, utility commissions, courts, arbitration panels and
4 elected bodies across North America. A summary of my educational background
5 can be found on Exhibit JJR-1.

6 **Q. Are you sponsoring any exhibits in this case?**

7 A. Yes. I am sponsoring Exhibits JJR-1 through JJR-6, which are attached to my
8 direct testimony.

9	Exhibit JJR-1	Curriculum Vitae
10	Exhibit JJR-2	Testimony of John J. Reed 1998 – 2010
11	Exhibit JJR-3	Price of Natural Gas at the Henry Hub
12	Exhibit JJR-4	Total Production Cost of Electricity
13	Exhibit JJR-5	List of EPU Project's Periodic Meetings
14	Exhibit JJR-6	PTN 6 & 7 Project Organizational Chart

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

16 A. The purpose of my testimony is to review the benefits of nuclear power and the
17 appropriate prudence standard to be applied to Florida Power & Light's ("FPL"
18 or the "Company") decision-making processes in this proceeding. In addition, I
19 review the system of internal controls that were being used by FPL to manage
20 and implement Extended Power Uprate Projects at FPL's existing Saint Lucie
21 Units 1 & 2 ("PSL") and Turkey Point Units 3 & 4 ("PTN" and collectively the
22 "EPU Projects") in 2009. Similarly, I provide a review of the system of internal
23 controls used by the Company in 2009 to develop and maintain the option to

1 construct two new nuclear generating units at FPL's Turkey Point site ("PTN 6
2 & 7" and collectively with the EPU Projects the "Projects").

3 **Q. Please describe your experience with nuclear power plants, and**
4 **specifically your experience with major construction programs at these**
5 **plants.**

6 A. My consulting experience with nuclear power plants spans more than 25 years.
7 My clients have retained me for assignments relating to the construction of
8 nuclear plants; the purchase, sale and valuation of nuclear plants, power uprates
9 and major capital improvement projects at nuclear plants; and the
10 decommissioning of nuclear plants. In addition to my work at FPL's plants, I
11 have had significant experience with these activities at the following plants:

- | | | |
|----|-------------------|------------------|
| 12 | • Big Rock Point | • Oyster Creek |
| 13 | • Callaway | • Palisades |
| 14 | • Duane Arnold | • Peach Bottom |
| 15 | • Fermi | • Pilgrim |
| 16 | • Ginna | • Point Beach |
| 17 | • Hope Creek | • Salem |
| 18 | • Indian Point | • Seabrook |
| 19 | • Limerick | • Vermont Yankee |
| 20 | • Millstone | • Wolf Creek |
| 21 | • Nine Mile Point | • Vogtle |

22 I am currently active on behalf of a number of clients in pre-construction
23 activities for new nuclear plants across the United States. These activities include
24 state and federal regulatory processes, raising debt and equity financing for new
25 projects and evaluating the costs schedules and economics of new nuclear
26 facilities. These activities have included detailed reviews of cost estimation and

1 construction project management activities of other new nuclear project
2 developers.

3 **Q. Please summarize your testimony.**

4 A. The remainder of my testimony covers three main topic areas; (1) the benefits of
5 nuclear power to Florida, (2) the prudence standard and (3) Concentric's review
6 of the Projects. Each of these topics is summarized below.

7 The five existing nuclear reactors in Florida have provided, and continue to
8 provide, substantial benefits to Florida customers. These benefits include
9 virtually no air emissions, increased fuel diversity, reduced exposure to fuel price
10 volatility, fuel cost savings and efficient land use. Similarly, additional nuclear
11 capacity is expected to provide more of these same benefits to Florida. These
12 benefits reinforce why it is prudent for FPL to continue to develop and
13 implement the Projects.

14 The rule that governs the Commission's review of FPL's nuclear projects calls
15 for an annual prudence determination. The prudence standard encapsulates
16 three main elements. First, prudence relates to decisions and actions and not
17 costs incurred by a utility. Second, the prudence standard includes a
18 presumption of prudence on the part of the utility. Absent evidence to the
19 contrary, a utility is assumed to have acted prudently. Third, the prudence
20 standard excludes hindsight. Thus the prudence of a utility's actions must be
21 evaluated on the basis of information that was known or could have been known
22 at the time the decision was made.

1 Finally, Concentric has reviewed the processes and procedures that are used to
2 manage and implement the Projects. Our review is premised on a framework
3 developed by Concentric when advising potential investors in new nuclear
4 development projects and our recent regulatory experience. Based upon our
5 review, Concentric believes the Company has acted prudently in 2009, and the
6 Company's actual cost for which it is seeking recovery in this docket are the
7 result of those prudent actions. In 2009, these prudent actions included
8 managing a substantial management transition within the EPU Projects and
9 making significant progress on all four License Amendment Requests ("LAR")
10 which must be submitted to the NRC including the submittal of one LAR to the
11 NRC. These actions have left the EPU Projects better positioned for the
12 upcoming implementation of the EPUs in 2010 through 2012.

13 Similarly, FPL has continued its stepwise, methodical approach to managing the
14 PTN 6 & 7 Project. In 2009, this included responding appropriately to perceived
15 shifts in the PTN 6 & 7 Projects' permitting process which resulted in the
16 deferral of certain major contracts and the submittal of the PTN 6 & 7 Projects
17 Combined Operating License Application ("COLA") to the NRC and Site
18 Certification Application ("SCA") to the Florida Department of Environmental
19 Protection ("FL DEP"). Concentric's observations related to our review are
20 described throughout the remainder of my testimony.

21 **Q. Please describe how the remainder of your testimony is organized.**

22 A. The remainder of my testimony is organized into seven (7) sections. Section II
23 below provides an overview of the potential benefits of nuclear power for FPL's

1 customers, and Section III discusses the appropriate prudence standard for
2 evaluating FPL's management of the Projects. Section IV describes the
3 framework that guided Concentric's review, and Section V describes
4 Concentric's review of and observations relating to the EPU Projects. Similarly,
5 Section VI describes Concentric's review of and observations relating to the
6 PTN 6 & 7 Project. Finally, Section VII presents my conclusions.

7 **Section II: Potential Benefits of Nuclear to Florida**

8 **Q. Has nuclear power benefited FPL customers?**

9 A. Yes. Nuclear power has a long and successful history of operation in FPL's
10 power generating fleet. The four reactors at St. Lucie and Turkey Point have
11 been generating power for an average of over 33 years. Throughout the last
12 three decades, these units have benefited Florida customers by reliably producing
13 emissions-free energy, decreasing total fuel costs, enhancing the diversity of fuels
14 used to generate power and insulating customers from commodity price spikes.

15 **Q. Is it prudent to continue the development of additional nuclear capacity in
16 Florida?**

17 A. Yes. One of the most compelling advantages to additional nuclear power is that
18 it emits virtually no carbon dioxide. Whereas the alternative baseload power
19 sources in Florida are highly carbon intensive, nuclear power emits no
20 greenhouse gases ("GHG"). Based upon their 2008 generation and the
21 Environmental Protection Agency's eGrid tool, the four nuclear units FPL
22 operates in Florida have avoided approximately 12 million tons of CO₂ emissions
23 when compared with an average natural gas-fired, combined cycle generating

1 station. The magnitude of avoided emissions would increase further if compared
2 with a coal-fired plant, which is capable of producing the same amount of
3 energy, rather than a natural gas-fired power plant.

4 It is anticipated that cap and trade legislation or another form of public policy
5 regulating GHG emissions will be passed in the near term. By attaching a direct
6 cost to the emission of carbon dioxide and other GHGs, such legislation would
7 have the greatest impact on utilities and their customers that rely predominantly
8 on fossil fueled generation, such as coal and natural gas. The emissions-free
9 energy generated by nuclear power; however, will help insulate FPL and its
10 customers from the cost of complying with new policies.

11 Moreover, the diversification of the electric generation mix is an important
12 source of benefits to customers. In recent years, Florida has become increasingly
13 dependent on natural gas as a fuel source for electric generating facilities. In fact,
14 unless the State's utilities continue to develop alternatively fueled facilities,
15 Florida's generation mix is likely to become extraordinarily dependent on natural
16 gas-fired generation. As a result, Florida will become even more susceptible to
17 natural gas price spikes and acutely vulnerable to natural gas supply disruptions.
18 Furthermore, the state would fall short of achieving any meaningful reductions in
19 GHG emissions levels.

20 **Q. How does the current price of natural gas compare with recent trends in**
21 **natural gas prices?**

22 A. As demonstrated in Exhibit JJR-3, the wholesale price of natural gas is currently
23 below levels that have been observed for the past several years. However, in

1 addition to commodity price, the volatility of the price of natural gas is an
2 increasingly important concept to consider when evaluating the benefits of
3 resource diversity. Volatility is a measure of the relative change in natural gas
4 prices over discreet periods. While the price of natural gas is currently on the
5 low end of what we have observed in recent years, the price has also been subject
6 to dramatic swings. These swings can have a sudden and dramatic effect on the
7 price of electricity, particularly in regions that rely heavily on natural gas-powered
8 electricity generation.

9 The volatility of natural gas prices is a function of shifts in supply and demand.
10 Price fluctuations demonstrate that gas prices are extremely sensitive to discreet
11 market events, including weather events (such as the cold snap south Florida
12 residents endured at the beginning of 2010) or supply disruptions. The fall of
13 prices between 2008 and today only underscores the volatility of the natural gas
14 market. Indeed, similar price declines were experienced in 2001, 2003 and 2006.
15 These periods were followed by price spikes in 2003 and 2005 and 2008. In
16 order to reduce the susceptibility to these price spikes, it is necessary for FPL to
17 move today to preserve the potential benefits of nuclear power for future
18 resource needs, including both the EPU Projects and the option to later deploy
19 the PTN 6 & 7 Project.

20 **Q. How do trends in the production cost of natural gas-fired generation**
21 **compare with trends in the price of nuclear power?**

22 **A.** The cost of nuclear power has been stable due to the fact that fuel represents a
23 comparatively small portion of the operating costs of nuclear power facilities.

1 According to the Nuclear Energy Institute, fuel accounts for approximately 90%
2 of the total production cost of energy from natural gas, whereas fuel costs of
3 nuclear power are only 25-30% of the total production cost.

4 As shown in Exhibit JJR-4, the production cost of energy from nuclear power is
5 substantially lower than other sources of baseload energy. The electric bills of
6 Florida residents are lower and much less subject to fuel price volatility as a result
7 of the lower production costs of nuclear power.

8 **Q. Is it appropriate for the Commission to continue to allow recovery of**
9 **certain pre-construction costs and construction carrying costs prior to the**
10 **units entering into service?**

11 A. Yes. Given the magnitude of the potential benefits of additional nuclear
12 capacity, it is absolutely appropriate to allow for cost recovery through the
13 annual Nuclear Cost Recovery Clause Process ("NCRC"). The NCRC is
14 important for both the Company and its customers. With respect to the
15 Company, the NCRC provides FPL's debt & equity investors with some measure
16 of assurance of cost recovery if their investments are used to prudently incur
17 costs. In addition, by allowing recovery of carrying costs during construction,
18 the NCRC eliminates the effect of compound interest on the total project costs.

19 **Q. Have other utilities considering nuclear development activities noted the**
20 **necessity of NCRC-like recovery mechanisms?**

21 A. Yes. Utilities such as Duke, SCANA, and Ameren have publicly acknowledged
22 the benefits and the necessity of cost recovery mechanism like the NCRC.

1 **Q. Are there other benefits of nuclear power other than those that**
2 **quantitatively affect the price of electricity?**

3 A. Yes. The comparatively small footprint of a nuclear powered generating station
4 compared to alternative clean, emissions-free technologies is often overlooked.
5 By requiring less land, nuclear power plants limit the degree of forest clearing,
6 wetlands encroachments, and other environmental impacts associated with siting
7 a generating facility.

8 **Section III: The Prudence Standard**

9 **Q. Please generally describe the prudence standard as you understand it.**

10 A. The prudence standard is captured by three key features. First, prudence relates
11 to actions and decisions; costs themselves are not prudent or imprudent. It is the
12 decision or action that must be reviewed and assessed, not simply whether the
13 costs are above or below expectations. The second feature is that the standard
14 incorporates a presumption of prudence, which is often referred to as a
15 rebuttable presumption. The burden of showing that a decision is outside of the
16 reasonable bounds falls, at least initially, on the party challenging the utility's
17 actions. The final feature is the total exclusion of hindsight. A utility's decisions
18 must be judged based upon what was known or knowable at the time the
19 decision was made by the utility. The prudence of a utility's decisions cannot be
20 judged based upon the result of the decision or information which was not
21 available for several weeks, months or even years after the decision was made.
22 This feature would preclude a finding which identifies a decision as potentially
23 imprudent dependent upon the future outcome. Such a standard would create
24 an unachievable standard for utility managers.

1 **Q. Are there historical precedents for the prudence standard?**

2 A. Yes. The original standard of prudence was expressed by Supreme Court Justice
3 Louis Brandeis in 1923 as a means of guiding regulators conducting reviews of
4 utility capital investments. Since that time, substantial jurisprudence has been
5 developed to refine the Prudent Investment Test. Much of this was developed in
6 the 1980s following the nuclear construction programs of the previous two
7 decades. As originally proffered, the test provides a basis for establishing a
8 utility's investment or rate base based on the cost of such investment:

9 There should not be excluded from the finding of the base,
10 investments which, under ordinary circumstances, would be deemed
11 reasonable. The term is applied for the purpose of excluding what
12 might be found to be dishonest or obviously wasteful or imprudent
13 expenditures. Every investment may be assumed to have been made
14 in the exercise of reasonable judgment, unless the contrary is
15 shown... adoption of the amount prudently invested as the rate base
16 and the amount of the capital charge as the measure of the rate of
17 return ... [would provide] a basis for decision which is certain and
18 stable. The rate base would be ascertained as a fact, not determined
19 as a matter of opinion.¹

20 The position of Justice Brandeis was endorsed in 1935 when Supreme Court
21 Justice Benjamin N. Cardozo stated:

22 Good faith is to be presumed on the part of managers of a
23 business. In the absence of a showing of inefficiency or
24 improvidence, a court will not substitute its judgment for theirs
25 as to the measure of a prudent outlay.²

26 The Prudent Investment Test offered by Justice Brandeis was applied sparingly
27 for the first four decades following its pronouncement. It was not until the
28 nuclear construction projects of the 1970s and 1980s that the Prudent
29 Investment Test, at least in name, was applied frequently in various electric utility
30 rate cases.

1 **Q. Are there various interpretations of the Prudent Investment Test that have**
2 **been proffered in other nuclear construction prudence reviews?**

3 A. Yes, three interpretations of the Prudent Investment Test were offered by
4 utilities, regulators and industry experts during the 1980s. Such interpretations,
5 at times, were in violation of the standard espoused by Justice Brandeis. Despite
6 this, these interpretations were often used to justify large disallowances, possibly
7 as a crude means of mitigating the “rate shock” associated with placing into rate
8 base a multi-billion dollar investment, which was often equal to or greater than
9 the capitalization of the entire sponsoring company

10 The first interpretation of the Prudent Investment Test developed during this
11 time closely follows the traditional standard proffered by Justice Brandeis.
12 Under this standard, regulators must utilize a balanced retrospective review based
13 upon the information that was known or knowable at the time of the decision.
14 In addition, this interpretation of the standard considers a range of reasonable
15 behavior given the circumstances, rather than requiring perfection or even
16 consistently above-average performance.

17 The National Regulatory Research Institute (“NRRI”) advocated for similar
18 principles in a 1984 research paper entitled The Prudent Investment Test in the
19 1980s. In this paper the NRRI stated that the prudent investment standard
20 should include the following four guidelines:

- 21 • “...a presumption that the investment decisions of the utilities
22 are prudent...”
- 23 • “...the standard of reasonableness under the circumstances...”

- 1 ● "...a proscription against the use of hindsight in determining
- 2 prudence..."
- 3 ● "...determine prudence in a retrospective, factual inquiry.
- 4 Testimony must present facts, not merely opinion, about the
- 5 elements that did or could have entered into the decision at
- 6 the time."

7 **Q. Please describe the two remaining interpretations of the prudence**
8 **standard.**

9 A. The two remaining interpretations of the prudence standard require the perfect
10 execution of the project in one instance and measure the after the fact economic
11 benefits or fair value of a project in the second instance. Both of these
12 interpretations of the standard reflect the use of hindsight to second guess utility
13 decision-makers based on circumstances that were unknown or unknowable at
14 the time the utility was required to make a decision.

15 In the first instance, the standard compares the performance of the project to the
16 perfect execution of the project. This interpretation focuses solely on the
17 mistakes or missed opportunities to lower specific costs of the project. This
18 interpretation of the standard fails to understand the inherent trade-offs that
19 occur in every large construction project and fails to recognize that prudent
20 behavior encompasses a range of reasonable and acceptable conduct. The
21 application of the prudence standard must begin by defining the range of
22 acceptable behavior and measuring the actual behavior against this range.

1 The third interpretation of the standard relies upon an economic benefits or fair
2 value test used to compare the value of the project to other capacity resources
3 that are available at the time of the prudence review, rather than at the time of
4 the decision to proceed with construction. In the 1980s, this interpretation of
5 the standard almost always resulted in a large disallowance for the utilities
6 involved in such a review. As a result, utility managers were often left penalized
7 for unforeseen changes in the economic and/or political climate associated with
8 constructing a new nuclear facility.

9 **Q. Which interpretation of the Prudence Standard has been adopted by the**
10 **Commission?**

11 A. The original interpretation of the Prudent Investment Test appears to be the
12 interpretation used by the Commission in several orders:

13 Prudence has been defined as "what a reasonable utility manager
14 would have done in light of conditions and circumstances which
15 were known or reasonably should have been known at the time
16 the decision was made,"³

17 A utility should not be charged with knowledge of facts which
18 cannot be foreseen or be expected to comply with future
19 regulatory policies. Expectations are not always borne out. The
20 prudence of decision making should be viewed from the
21 perspective of the decision maker at the time of the decision.

22 Contract administration must be viewed at a point in time which
23 takes into consideration the facts which were known or which
24 should have been known at the time the contract is entered into
25 or amended...

26 We have not sought to retroactively apply new policies to Gulf's
27 prior actions and we have recognized that a utility cannot foresee
28 the future.⁴

29 We must avoid impermissibly applying hindsight review, which is
30 the application of facts that are known today to decisions made in
31 the past (i.e., Monday morning quarterbacking). As we consider

1 whether PEF acted prudently, we must ask ourselves, did PEF
2 know or should PEF have known about a particular set of
3 circumstances.⁵

4 As can be seen from these statements, the Commission has generally prohibited
5 the use of hindsight when reviewing utility management decisions. Instead, the
6 Commission has chosen to strictly follow the traditional standard by developing
7 a range of reasonable behaviors based on the circumstances that were known at
8 the time of the decision or action. The Commission's order in the 2009 Nuclear
9 Cost Recovery docket adopted a similar position. Further, the Commission has
10 noted a need to apply a consistent standard to reviewing utility decisions.

11 **Q. Have other regulatory bodies adopted prudence standards that are similar**
12 **to that which has been used in Florida?**

13 A. Yes. For instance, the Federal Energy Regulatory Commission ("FERC")
14 offered its view of the Prudent Investment Test in 1984 by stating the following:

15 We note that while in hindsight it may be clear that a
16 management decision was wrong, our task is to review the
17 prudence of the utility's action and the cost resulting there from
18 based on the particular circumstances existing either at the time
19 the challenged costs were actually incurred, or the time the utility
20 became committed to incur those expenses.⁶

21 The New York Public Service Commission shared similar observations when
22 reviewing Consolidated Edison Company of New York's Indian Point 2 nuclear
23 plant.

24 The Company's conduct should be judged by asking whether the
25 conduct was reasonable at the time, under all the circumstances,
26 considering that the company had to solve its problems
27 prospectively rather in reliance on hindsight. In effect, our
28 responsibility is to determine how reasonable people would have
29 performed the tasks that confronted the company.⁷

1 **Section IV: Framework of Internal Controls Review**

2 **Q. What is meant by the term “internal control” and what does it intend to**
3 **achieve?**

4 A. The Committee of Sponsoring Organizations of the Treadway Commission
5 (“COSO”) is a global industry organization that provides guidance as to the
6 development, implementation and assessment of systems of internal control.
7 COSO has defined internal control as a system that provides reasonable
8 assurance of the effectiveness of operations, reliability of financial reporting and
9 compliance with applicable laws and regulations. This definition has been
10 further expanded to reflect four critical concepts. First amongst these is that
11 internal control is a process. While internal control may be assessed at specific
12 moments in time, a system of internal control can only be effective if it responds
13 to the dynamic nature of companies and projects over time. Second, internal
14 control is created by people and not simply corporate procedures and policies.
15 Third, internal control can provide only reasonable assurance. Expectations of
16 absolute assurance cannot be achieved. Finally, internal control is specifically
17 directed at the achievement of an entity’s goals. Thus, risks which present the
18 greatest challenge to the achievement of those objectives must take priority.

19 **Q. Please describe the framework Concentric used to review the Company’s**
20 **system of internal control as implemented by the Projects in 2009.**

21 A. In order to review and assess the Company’s internal controls, Concentric
22 utilized a similar framework to that which it used in each of the last two years.
23 That framework is based upon Concentric’s contemporaneous experience

1 advising prospective investors in new nuclear projects and Concentric's
2 regulatory experience.

3 In summary, the framework has focused on six elements of the Company's
4 internal controls, including:

- 5 • Defined corporate procedures
- 6 • Written project execution plans
- 7 • Involvement of key internal stakeholders
- 8 • Reporting and oversight requirements
- 9 • Corrective action mechanisms
- 10 • Reliance on a viable technology

11 Each of these elements was reviewed for five processes including:

- 12 • Project estimating and budgeting processes
- 13 • Project schedule development and management processes
- 14 • Contract management and administration processes
- 15 • Internal oversight mechanisms
- 16 • External oversight mechanisms

17 Concentric's work in 2010 is additive to our work reviewing the projects in 2008
18 and 2009. In other words, Concentric's efforts in 2010 reflect the information
19 and understanding of the Projects gained during Concentric's reviews in each of
20 the prior two years.

21 **Q. Please describe how Concentric performed this review.**

1 A. Concentric began by reviewing the Company's policies, procedures and
2 instructions with particular emphasis placed on those policies, procedures or
3 instructions which may have been revised since the time of Concentric's review
4 in the spring of 2009. In addition, Concentric reviewed the current project
5 organizational structures and key project milestones that were achieved in 2009.
6 Concentric then reviewed other documents and conducted numerous in-person
7 interviews to make certain these policies, procedures and instructions were
8 known by the project teams, were being implemented by the projects and have
9 resulted in prudent decisions based on the information that was available at the
10 time of each decision. The document review began in December 2009 and
11 continued through January 2010, and the in-person interviews occurred between
12 January 18 and January 29, 2010.

13 Concentric's in person interviews included representatives from each of the
14 following functional areas:

- 15 • Project Management
- 16 • Project Controls
- 17 • Integrated Supply Chain Management ("ISC")
- 18 • Marketing & Communications
- 19 • Employee Concerns Program
- 20 • Quality Assurance/Quality Control ("QA/QC")
- 21 • Human Resources
- 22 • Transmission
- 23 • Environmental Services

- 1 ● Legal Services
- 2 ● State Regulatory Affairs
- 3 ● Nuclear Regulatory Commission (“NRC”) Regulatory Interface

4 Finally, Concentric developed representative benchmarks of the PTN 6 & 7
5 ~~budget~~ cost estimate that might serve as reference points, but not a
6 determination of prudence or imprudence, when reviewing the project.
7 Concentric did not attempt a similar endeavor for the EPU Projects since each
8 power uprate is unique to the plant in which it is being implemented. Thus,
9 substantial variations in scope and cost do occur from project to project.

10 **Q. Please describe why you believe it is important for FPL to have defined**
11 **corporate procedures in place throughout the development of the Projects.**

12 A. Defined corporate procedures are critical to any project development process as
13 they detail the methodology with which the project will be completed and make
14 certain that business processes are consistently applied to the each of the
15 projects. To be effective, these procedures should be documented with
16 sufficient detail to allow the project teams to implement the procedures, and they
17 should be clear enough to allow the project teams to easily comprehend the
18 procedures. It is also important to assess whether the procedures are known by
19 the project teams and adopted into the Company’s culture, including a process
20 that allows employees to openly challenge and seek to improve the existing
21 procedures and to incorporate lessons learned from other projects into the
22 Company’s procedures. Within each of the Projects, the Project Controls, and in
23 the case of the EPU Projects, Nuclear Business Operations, staff is primarily

1 responsible for ensuring the Company's corporate procedures are applied
2 consistently by the various FPL and contractor staff members who are working
3 on the projects. However, it is acknowledged that this is a shared responsibility
4 held by all project team members, including the project managers.

5 **Q. Please explain the importance of written project execution plans.**

6 A. Written project execution plans are necessary to prudently develop the project.
7 These plans lay out the resource needs of the project, the scope of the project,
8 key project milestones or activities and the objectives of the project. These
9 documents are critical as they provide a "roadmap" for completing the project as
10 well as a "yardstick" by which overall performance can be monitored and
11 managed. It is also important for the project sponsor to require its large-value
12 contract vendors to provide similar execution plans. Such plans allow the project
13 sponsor to accurately monitor the performance of these vendors and make
14 certain at an early stage of the project that each vendor's approach to achieving
15 key project milestones is consistent with the project sponsor's needs. These
16 project plans must be updated to reflect changes to the project scope and
17 schedule as warranted by project developments.

18 **Q. Why is it important that key internal stakeholders are involved in the
19 project development process?**

20 A. One of the most challenging aspects of prudently developing a large project is
21 the ability to balance the needs of all stakeholders, including various Company
22 representatives and the Company's customers. This balance is necessary to make
23 certain that the maximum value of the project is realized. For example, it is

1 important that an extended power uprate project be successfully implemented in
2 an efficient manner to avoid unnecessarily interfering with each plant's
3 operations. Similarly, modifications to an existing nuclear plant can have
4 unwanted or unexpected impacts on the day-to-day operations of the facility. By
5 including these stakeholders in a transparent project development process, the
6 project sponsor will be better positioned to deliver on these high-value projects.

7 **Q. Why is it important to have established reporting and oversight**
8 **requirements?**

9 A. By having an established reporting structure and periodic reporting requirements,
10 the project sponsor's senior management will be well informed on the status of
11 the project's various activities. Reporting requirements give senior management
12 the information it needs to leverage their background and previous experience to
13 prudently direct the many facets of the project. Secondly, established reporting
14 requirements ensure that senior management is fully aware of the activities of the
15 respective project teams so management can effectively control the overall
16 project risks. This level of project administration by senior management is
17 prudent considering the large expenditures that will be required to complete the
18 Projects and the potential impact of these Projects on the Company overall.

19 In order to be considered robust, these reporting requirements should be
20 frequent and periodic (i.e., established daily, weekly and monthly reporting
21 requirements) and should include varying levels of detail based on the frequency
22 of the report. For instance, a daily status report may not need as much detail as
23 it will soon be reviewed by a project manager who is able to quickly address

1 issues and concerns. In contrast, a monthly status report will require significantly
2 more detail to discuss the status of the Projects, as well as plans for near-term
3 activities. The need for timely and effective project reporting is well recognized
4 in the industry, as demonstrated by the following statement:

5 "Cost and time control information must be timely with little
6 delay between field work and management review of
7 performance. This timely information gives the project manager
8 a chance to evaluate alternatives and take corrective action while
9 an opportunity still exists to rectify the problem areas." ⁸

10 **Q. What is the purpose of corrective action mechanisms and why are they**
11 **important to ensure the Company is prudently incurring costs?**

12 A. A corrective action mechanism is a defined process whereby a learning culture is
13 implemented and nurtured throughout an organization to help eliminate
14 concerns that can interfere with the successful completion of the project.
15 Corrective action mechanisms help identify the root cause of issues, such as an
16 activity that is trending behind schedule, and provides the opportunity to adopt
17 mechanisms that mitigate and correct the negative impact from these issues. A
18 robust corrective action mechanism assigns responsibility for implementing the
19 corrective actions and a means by which these activities are managed. In
20 addition, a corrective action mechanism educates the project team in such a
21 manner as to ensure project risks are prudently managed in the future.

22 **Q. Are there any other elements of the Company's internal controls included**
23 **in your review?**

24 A. No. There were no other elements of the Company's internal controls included
25 in my review.

1 **Section V: EPU Project Internal Controls Review for 2009 Project Expenditures**

2 **Q. Please provide a brief introduction to FPL's EPU Projects.**

3 A. FPL is implementing an EPU at PSL and PTN. An EPU is the process of
4 modifying and upgrading specific components at a nuclear power plant to
5 increase the maximum power level at which the power plant may operate. Once
6 completed, the EPU Projects are expected to increase the nuclear generating
7 capacity of PSL and PTN by at least 414 MW. The final increase in capacity will
8 not be known until all design engineering is complete.

9 **Q. How is the EPU Project structured?**

10 A. The EPU project consists of four overlapping phases: (i) the Engineering
11 Analysis Phase; (ii) the Long Lead Equipment Procurement Phase; (iii) the
12 Engineering Design Modification Phase; and (iv) the Implementation Phase.
13 The first three phases are already underway, and the first steps have been made
14 in the Implementation Phase. The EPU project is scheduled for completion in
15 2012, after the last of the outages required for finishing the Implementation
16 Phase at both PSL and PTN. The activities undertaken in each of the four
17 phases presented above are further described in the testimony of FPL Witness
18 Jones.

19 **Q. Please describe the general progress of the EPU Project as it pertains to**
20 **the phases you have identified above.**

21 A. The Engineering Analysis and Long Lead Procurement Phases are in progress.
22 One LAR submittal was completed in 2009 and three LAR submittals are
23 planned for 2010. Regarding Long Lead Procurement, most of the long lead

1 contracts have been awarded and the equipment is being fabricated. The
2 Engineering Design Modification Phase is also underway, but only 2 percent of
3 the design modifications have been issued. Finally, the Implementation Phase is
4 in its nascent stage, with the overwhelming majority of the construction work to
5 be performed during the outages scheduled in 2010 through 2012.

6 **Q. Given that all phases of the project are underway, what is the timeline for**
7 **the implementation of the EPU Project?**

8 A. The current project schedule as of December 31, 2009 includes approximately
9 185 EPU modifications at the St. Lucie and Turkey Point nuclear sites. These
10 modifications are expected to be performed in successive outages for each of the
11 nuclear units, the last of which is scheduled for ~~completion~~ initiation in the fall
12 of 2012. The licensing schedule for NRC approval is to support the
13 implementation schedules for the physical modifications to each unit. The EPU
14 Projects management team continues to make the necessary adjustments to the
15 project to meet schedules, control costs and contain additional project scope.

16 **Q. How were the EPU Projects organized in 2009?**

17 A. Prior to 2009, the EPU Projects were centrally managed to streamline oversight
18 and procurement functions. As the projects have moved from the analysis and
19 planning phases to include the Implementation Phase, FPL made the appropriate
20 decision to disaggregate its management structure and has moved a significant
21 portion of the project management responsibility to the sites.

22 **Q. Please describe the reorganization of the project management in 2009.**

1 A. FPL determined that the reorganization of project management was necessary as
2 the EPU Projects moved from the Engineering Analysis and Long Lead
3 Equipment Procurement Phases to the Implementation Phase. Previously
4 consisting of a centralized management team, the restructuring allowed for
5 business unit management teams and staff at each site to report to a small core
6 leadership group at FPL headquarters. This new structure will allow director-
7 level control over the operations and staff at each site. Its creation acknowledges
8 the different operating and staffing conditions between the EPU sites.

9 **Q. What centralized oversight remains for the EPU Project?**

10 A. FPL has maintained a core project management team to provide centralized
11 oversight for the EPU Projects at PSL and PTN. The primary centralized
12 positions that provide this project management include: the Nuclear Power
13 Uprate Vice President, responsible for all aspects of the project execution,
14 including licensing, design, engineering, cost, implementation and regulatory; the
15 EPU Implementation Owner - South, who provides oversight and governance
16 for the respective site EPU project; a Technical Director, providing management
17 and technical support; the Controls Director, who provides direction, oversight
18 and governance to the Project Control Supervisor at each site and holds overall
19 responsibility for the EPU Project control functions including cost control,
20 estimating, scheduling and support activities; the EPU Licensing and Regulatory
21 Interface Director, who is responsible for the oversight, coordination,
22 production and technical quality of the licensing engineering and analysis related
23 to the LARs and other regulatory submittals; and the EPU Nuclear Cost

1 Recovery interface manager, responsible for the overall coordination of the
2 project with the FPSC and FPL Regulatory Affairs.

3 **Q. Does the EPU Project Team consist of any other centralized management**
4 **positions?**

5 A. Yes. The EPU Project Team includes a Quality Assurance manager at the
6 Company's headquarters. Described in greater detail later on in this section of
7 my testimony, this function necessarily acts separately from the functions
8 described above as it seeks to maintain independence when assessing the EPU
9 Project.

10 **Q. Please briefly describe each project site's management team in 2009.**

11 A. Since the project management function has been decentralized, each EPU site
12 now has its own management team organized under a Site Project Director. This
13 position serves as the senior EPU/Project Management individual on site and
14 has overall responsibility for all aspects of the EPU Project at the assigned Site.
15 Reporting directly to the Site Project Director are the Site Project Manager, Site
16 EPU Contracts Manager, and the Site EPU Modification Engineering Manager.
17 Additionally, there are Site Managers in place for Project Controls, and for EPU
18 LAR, who report to the Controls Director and the Director of EPU Licensing
19 and Regulatory Interface, respectively.

20 **Q. Is the management structure explicitly defined in a Company procedure**
21 **or instruction?**

22 A. Yes. Initially this management structure was outlined in the EPU Change
23 Management Plan. Extended Power Uprate Project Instruction ("EPPI")-140:

1 Roles and Responsibilities, was later revised to incorporate this management
2 structure.

3 **Q. What major milestones were met on the EPU project in 2009?**

4 A. The EPU Projects achieved several major accomplishments in 2009, including
5 the reorganization of the project management, the change in management
6 personnel and organization, further outage planning, the execution of a
7 groundwater monitoring agreement for Turkey Point, submittal of the first LAR
8 for Turkey Point, and progress on the remaining LARs.

9 **Q. Please describe the other changes in management for the EPU Project
10 that occurred in 2009.**

11 A. In addition to decentralizing the project management, there were several changes
12 of EPU management personnel during 2009. These included the appointment of
13 Mr. Terry Jones as the Vice President of Nuclear Power Updates, the elimination
14 of the position of Director of EPU Projects, creation of the position of
15 Implementation Owner – South and the changed reporting structure of Project
16 Controls to the director level. A copy of the EPU Project Organizational Chart
17 can be found in the testimony of FPL Witness Jones as Exhibit TOJ-2.

18 **Q. Please describe the Groundwater Monitoring Agreement for Turkey Point.**

19 A. In October 2009, the South Florida Water Management District (“SFWMD”)
20 governing board adopted the Fifth Supplemental Agreement between SFWMD
21 and FPL concerning the operation and monitoring of the Turkey Point Cooling
22 Canal System. This agreement provides for two years of groundwater
23 monitoring prior to operating the PTN facility at increased power levels and two

1 years following the EPU Projects. The adoption of this agreement closed the
2 remaining Condition of Certification for the PTN EPU Project.

3 **Q. Please describe the EPU Project's regulatory progress in 2009.**

4 A. FPL submitted the Alternative Source Term ("AST") LAR for PTN Units 3 and
5 4 in late June 2009. The AST LAR, which included preliminary EPU
6 information required for approval before the submittal of the EPU LAR to the
7 NRC, was accepted by the NRC on September 25, 2009. The company also
8 continued to make progress on the two EPU LARs for PSL (one for each unit),
9 and the one EPU LAR for PTN during 2009. These filings are scheduled for
10 submission to the NRC in 2010. The NRC review and approval is expected to
11 take approximately fourteen (14) months for each EPU LAR, during which time
12 the NRC may require additional modifications.

13 **Q. Please describe the mechanisms that are utilized to track the Projects'**
14 **2009 budgets.**

15 A. Several budget reporting mechanisms have been established to ensure that key
16 decisions related to the EPU Project are prudent and made at the appropriate
17 level of FPL's management structure. This allowed the Company to leverage the
18 experience of its executive team and to address budgetary concerns at an early
19 stage. These reporting mechanisms included presentations and status calls as
20 well as periodic reports. A list of the EPU Project's periodic meetings can be
21 found in Exhibit JJR-5 and Exhibit TOJ-4.

22 **Q. How was undefined scope accounted for in the EPU Projects' budgets?**

1 A. Undefined scope was accounted for by a specific line denoted as scope not
2 estimated within the EPU Projects' budgets. While on the low end of the range,
3 the amounts included for undefined scope are generally consistent with industry
4 expectations for an estimate of this type.

5 **Q. How are project controls executed by the site teams and the overall project
6 management team to track the EPU Projects' 2009 budget?**

7 A. The site team utilized multiple reports and reviews to track the EPU Projects'
8 2009 budget including those which are listed on FPL Witness Jones' Exhibit
9 TOJ-4. These reports include the Monthly Operating Performance Report
10 which categorizes the overall performance of the EPU Projects as either on
11 budget, budget-challenged, or out of budget. Each site also produces monthly
12 cash flow reports, which contain monthly actual and forecast capital expenditures
13 as compared to the budget. These reports are reviewed and discussed during
14 formal project management meetings.

15 **Q. What mechanisms existed in 2009 to track changes in the EPU Projects'
16 budgets?**

17 A. The EPU Project included a rigorous internal mechanism for documenting
18 changes in cost. When a condition that could potentially impact project costs
19 arose, it was recorded on the Trend Register, and resides there to be tracked until
20 it can be evaluated and resolved.

21 **Q. How was the Project Trend Register monitored in 2009?**

22 A. The EPU Site Project Controls Supervisor was responsible for keeping the
23 Trend Register up-to-date and maintaining its accuracy. The Implementation

1 Owner was responsible for arranging the regular review of Project Trend
2 Registers in meetings with Senior Management.

3 **Q. What occurred when items tracked on the Trend Register could not be**
4 **resolved without impact to the budget?**

5 A. If the Company, after evaluating a given item on the Trend Register, deemed the
6 cost variation unavoidable, a Scope Change or Forecast Variation ("SC/FV")
7 was processed using a SC/FV form. The SC/FV process began with the Site
8 Engineering Manager, who was required to provide written justification for
9 scope changes and develop Nuclear Cost Recovery Clause ("NCRC")
10 justification forms. The Site Project Cost Analyst/Engineer then completed the
11 cost and cash flow section of the SC/FV Form and compiled all the documents
12 required as part of the SC/FV package, including the cost estimate, Engineering
13 Justification Form, NCRC Justification Form, and Purchase Requisition or
14 Blanket Purchase Order authorization form. The Site Project Controls
15 Supervisor made certain that the basis of and justification for the change was
16 properly documented on the SC/FV form before it was reviewed and approved
17 by that Site's Director. Finally, the Director of Project Controls received all
18 SC/FV forms and was responsible for coordinating other necessary reviews and
19 approvals.

20 **Q. What additional reviews and approvals did an SC/FV form require before**
21 **the work it represented was implemented?**

22 A. After receipt by the Director of Project Controls at the Company's headquarters,
23 additional review of SC/FV forms was determined on a sliding scale of budget
24 impact. Issues with projected scope-related cost impacts greater than or equal

1 to \$50,000 were reviewed and approved by the Project Review Board which
2 consisted of the respective site vice president and other technical experts, per
3 EPPI-300 *EPU Project Change Control* and NP-706. SC/FV forms greater than
4 \$250,000 and less than \$1,000,000 were reviewed and approved by the
5 Implementation Owner. Those forms valued at between \$1,000,000 and
6 \$5,000,000 were reviewed and approved by the Vice President, Nuclear Power
7 Uprate. Any SC/FV form valued at more than \$5,000,000 was sent to the
8 Company's Chief Nuclear Officer for review and approval.

9 **Q. Did the Company document this procedure for the EPU Project team?**

10 A. Yes. The Company's processes to document cost impacts and initiate project
11 scope and non-scope changes were included in EPPI-300, EPU Project Change
12 Control.

13 **Q. What internal oversight and review mechanisms were in place to ensure
14 the project costs are the result of prudent decision-making?**

15 A. The EPU Project was subject to a number of internal oversight and review
16 mechanisms that make certain that the costs the Company is seeking to recover
17 in this proceeding were prudently incurred. These mechanisms started with a
18 series of EPPIs that are used to implement the Company's general corporate
19 policies and procedures. In addition, various reporting mechanisms utilized by
20 the EPU Project Team made certain that every level of the FPL management
21 structure was kept up-to-date and involved in key decisions. Finally, the
22 Company's Internal Audit department is currently reviewing the EPU Project on

1 an annual basis to make certain that the EPU Project is complying with the
2 Company's accounting policies and procedures and financial controls.

3 **Q. Did anything related to the budgeting and expenditure tracking processes**
4 **occur that would alter the EPU implementation schedule?**

5 A. The estimation and tracking of costs at both EPU sites is an ongoing process,
6 but, to-date, the company has not recorded any cost challenges that would
7 imperil the project. The project is subject to an annual feasibility analysis which
8 will be presented to the Commission in May 2010. This annual feasibility
9 analysis includes a review of the continued cost effectiveness of the EPU
10 Projects.

11 **Q. Did Concentric review the process by which the EPU Project makes**
12 **certain that each plant modification or component replacement is**
13 **necessary for the completion of the EPU Projects?**

14 A. Yes, Concentric reviewed the process by which FPL makes certain that the costs
15 being charged to the EPU Projects, and for which FPL is seeking recovery in this
16 docket, are separate and apart from the normal maintenance & operations of
17 PSL & PTN. This process includes a detailed engineering analysis to determine
18 if the component replacement or plant modification is necessary for plant
19 operations under uprated conditions.

20 **Q. Has the Commission previously reviewed and approved this**
21 **methodology?**

1 A. Yes. In Commission Order PSC-09-0783-FOF-EI the Commission determined
2 that “FPL’s separate and apart methodology is reasonable and appropriate for
3 identifying NCRC costs.”

4 **Q. Did Concentric have any observations related to the EPU Projects
5 processes used to track budget performance in 2009?**

6 A. Yes, Concentric noted that the process as implemented in 2009 provides a robust
7 procedure for developing an initial target budget. However, the initial cost
8 estimate used to develop this budget has likely gone stale. This initial scoping
9 estimate was completed in 2007 and represented an estimate of the EPU Projects
10 scope of plant modifications. Since that time, the magnitude of these changes
11 has consistently increased. Thus, it is likely necessary for the Company to revisit
12 this cost estimate.

13 Concentric has also noted an increasing focus on transparency in reporting both
14 within the project team and to the Company’s senior management. Early in
15 2009, the impact of project decisions on the EPU Projects’ budgets was not
16 clearly defined in the projects’ documented report mechanisms. Since the
17 summer of 2009, the quantity and quality of this information has notably
18 improved. Concentric believes further effort should be expended to make sure
19 project team members clearly communicate throughout the EPU organization.
20 This improvement in communication should include the projects’ plans for
21 addressing current project challenges such as the availability of vendor and
22 Company resources.

1 **Q. How did the EPU Projects monitor their schedule performance in 2009?**

2 A. The EPU Project Team instituted several periodic reporting mechanisms
3 including daily, weekly, bi-weekly and monthly conference calls. In addition, the
4 EPU Project Team issued a variety of reports, including a Daily Report. Exhibit
5 JJR-5 provides a listing of the meetings used to monitor the EPU Projects'
6 schedule performance. A list of the reports used to monitor the EPU Projects'
7 schedule performance can be found in the testimony of FPL Witness Jones as
8 Exhibit TOJ-4. Many of these reports included a discussion of the EPU
9 Project's schedule performance as compared to an initial target schedule.

10 **Q. Did the EPU project make any changes to these reports during the past**
11 **year?**

12 A. Yes. In response to Concentric's recommendations presented to the Company in
13 2009, FPL has added additional detail to the variance reports issued by the EPU
14 Projects. This additional detail has helped the project team to understand the
15 basis for any budget or schedule variance and to help minimize future negative
16 variances.

17 **Q. Did the EPU project use any other methods to monitor its schedule**
18 **performance in 2009?**

19 A. Yes. FPL uses an industry standard software package known as Primavera P6[®] to
20 review the project schedule based on approved updates on an almost real-time
21 basis. Primavera provides Critical Path Method ("CPM") Scheduling, which uses
22 the activity duration, relationships between activities, and calendars to calculate a
23 schedule for the project. CPM identifies the critical path of activities that affect

1 the completion date for the project or an intermediate deadline, and how these
2 activity schedules may affect the completion of the project. This software
3 package is used by many in the nuclear power industry to schedule refueling
4 outages and major capital projects. Changes to the project schedule were made in
5 near real time as a result of this software.

6 **Q. What status reports did the EPU Projects' key vendors provide to the**
7 **Company?**

8 A. In addition to monitoring the EPU Project Team's efforts, the Company also
9 required that status reports be provided by its key vendors. At the beginning of
10 each vendor's scope of work, FPL required the vendors to provide a reasonable
11 target schedule from which future progress would be measured. The vendors
12 were then responsible for providing monthly progress reports regarding this
13 schedule. The Company also received some insight regarding the vendors'
14 progress by monitoring the number of work hours that were included on each
15 monthly invoice. This was done by comparing the number of work hours
16 expended during the prior month with the target schedule's projection.

17 **Q. How did the EPU Project track and identify risks to the project schedule?**

18 A. The EPU Project used a Risk Matrix to track threats to the current schedule and
19 to provide a brief explanation of the reasons for the threats. The risk
20 identification process covered identification, assessment and analysis, handling
21 strategy, risk management, categorization, reporting, and mitigation. The
22 Company defines risks as issues that affect nuclear quality, environment, project
23 cost, schedule, safety, security, legal, plant operations, regulatory, and reputation.

1 **Q. Is the treatment of the above-mentioned risks separate from the**
2 **Company's cost assessments?**

3 A. Yes. Risks and costs are related, but the Company treats them separately as it
4 pertains to this process.

5 **Q. What EPPI governs schedule creation and management?**

6 A. The processes for schedule creation and management are described in EPPI-310:
7 Project Instructions – Development, Maintenance and Update of Schedules.

8 **Q. What activities occurred in 2009 that altered the project schedule?**

9 A. The deadlines for completion of the LARs at both sites were changed to 2010.
10 Initially scheduled for completion in the fourth quarter of 2009, the Company
11 now expects the PSL Unit 1 LAR to be submitted in the second quarter of 2010,
12 the PTN LAR to be submitted in ~~second~~ third quarter of 2010 and the PSL Unit
13 2 LAR to be submitted in fourth quarter of 2010.

14 **Q. What outstanding challenges to the timely execution of the EPU project**
15 **schedule exist?**

16 A. There are unresolved challenges that may change the current EPU project
17 schedule. On the regulatory front, progression of the EPU project continues to
18 hinge on the timely completion and submission of the LARs to the NRC. The
19 LARs remain a potential area for concern both because of staffing and resource
20 constraints, as well as the chance that additional areas for modification will be
21 discovered during the LAR analysis. Difficulties in meeting staffing requirements
22 continue to pose a challenge to the EPU project schedule, as well as to the
23 broader nuclear industry in the United States. FPL is continuing to respond to

1 these challenges by allocating additional Company and vendor resources to the
2 EPU Projects and reassigning company and vendor resources within the EPU
3 Projects, and through continued management vigilance.

4 **Q. Please describe these broader nuclear industry staffing challenges.**

5 A. The nuclear industry is facing a significant shortage of highly skilled labor,
6 primarily due to the amount of time which has elapsed since the United States
7 last completed construction of a commercial nuclear power plant, and the high
8 skill levels and regulatory criteria required to work within the nuclear power
9 industry. Over time, reduced interest amongst students in nuclear science and
10 engineering programs has forced universities to scale back or even close these
11 departments. The impact of these factors is exacerbated by the number of
12 existing employees who are expected to be retirement eligible in the coming
13 decade, and by a recent upswing in demand for nuclear workers as more nuclear
14 operators consider uprating their existing units and constructing new nuclear
15 power plants.

16 **Q. Please describe how many nuclear industry employees are expected to be
17 retirement eligible in coming years.**

18 A. According to the Nuclear Energy Institute's 2007 nuclear workforce survey, up
19 to 39% of nuclear utility maintenance workers, 34% of radiation protection
20 workers, and 27% of operations staff may reach retirement eligibility within five
21 years. Other functional areas are expected to experience similar losses in the
22 coming years.

1 **Q. Please describe Concentric's observations related to the EPU Projects'**
2 **schedule development and management in 2009.**

3 A. Foremost, Concentric noted that the EPU Projects' current schedule contains
4 approximately ~~four (4)~~ two (2) months of additional float before the review and
5 approval of the LARs will affect the implementation date of the higher plant
6 capacities. The EPU Project Management has stated that in the case of delayed
7 NRC approval of a LAR(s), the project will move forward with the physical
8 modifications to the plant and return the unit to service at the unit's then
9 currently licensed output. Once the NRC approves the LAR, the Company will
10 then be able to increase output to the EPU levels. Concentric believes this
11 contingency plan is important since it will provide the EPU Projects with
12 additional schedule flexibility.

13 Concentric has further noted that the EPU Projects have struggled to obtain the
14 resources necessary to complete the LARs during 2009. This has resulted in
15 resource sharing between projects and a decision to prioritize certain LARs. This
16 concern appears to have affected both the EPU Project staff and the EPU
17 Projects' vendors. Concentric is aware that the availability of capable, qualified
18 individuals is a general concern that is facing the entire nuclear industry. In light
19 of these constraints, FPL's management has responded reasonably to these
20 challenges by prioritizing activities and allocating additional resources to the
21 project. Concentric believes the EPU Project Team should include additional
22 staffing information in their standard reports to FPL's senior management. This
23 information might include further highlighting of a discussion of current staffing
24 levels relative to staffing plans.

1 **Q. In 2009, what processes were used to ensure the EPU Project is prudently**
2 **managing and administering the Company's procurement functions?**

3 A. Several policies and procedures govern the procurement functions, including
4 General Operating Procedure 705 and Nuclear Policy NP-1100, Procurement
5 Control. In 2009, these policies were administered through the Integrated Supply
6 Chain ("ISC") organization and include a significant breadth and depth of
7 procurement processes, including a stated preference for competitive bidding
8 wherever possible, the proper means for conducting a comprehensive
9 solicitation, initial contract formation, and administration of the contract.

10 **Q. Were there cases in 2009 when contracts were executed without first**
11 **having gone through a competitive bidding process?**

12 A. Yes. Certain situations call for the use of single or sole source procurement
13 methods. The reasons for this include the fact that there are very few suppliers
14 qualified to handle the vast amount of proprietary technical information relied
15 upon when operating or working on a nuclear plant. Additionally, single
16 sourcing can be appropriate in certain situations that involve leveraging existing
17 knowledge or expertise or otherwise capitalizing on synergies.

18 **Q. Please describe the procedures involved in the awarding of non-**
19 **competitively bid contracts.**

20 A. Single and sole source procurements require documented justification for using
21 a single or sole source procurement strategy and senior-level approval. The
22 recommendation of any vendor for a single or sole sourced contract necessitates
23 the completion of Single/Sole Source Justification ("SSJ") Memorandum. This

1 document must describe the conditions that have given rise to the need to
2 procure outside services, a justification for not seeking competitive bids, and an
3 explanation of the reasonableness of the vendor's costs.

4 **Q. Were any major contracts awarded in 2009 under SSJ conditions?**

5 A. Yes, two contracts in excess of \$100,000 were single sourced in 2009. One
6 contract was for Absolute Consulting and the other for High Bridge Associates.
7 These contracts, and their respective values, are listed on Schedule T-7 of the
8 Company's Nuclear Filing Requirements.

9 **Q. Did the Commission previously identify concerns with the Company's**
10 **SSJs?**

11 A. Yes. In Docket 080009-EI, the Commission identified a need for the Company
12 to improve the level of documentation and transparency provided by the SSJs
13 such that a third party could better understand the valid business reason for this
14 procurement strategy.

15 **Q. How did the EPU Project team respond to the Commission's concerns in**
16 **2009?**

17 A. Throughout 2009, the EPU Project Team conducted training for all existing
18 project team members and for any new team member who joined the project.
19 This training was focused upon the level of detail required to adequately
20 complete an SSJ and provide sufficient transparency to third parties. Following
21 this training, FPL produced two additional SSJs for contracts greater than
22 \$100,000. Each of these SSJs provided additional details related to the process
23 for determining the valid business reason for the procurement strategy and an

1 explicit discussion of the reasonableness of the proposed cost as compared with
2 other vendors or previous projects within a similar expertise.

3 **Q. Please describe the Company's competitive bidding process in 2009.**

4 A. The competitive bidding process begins not with the solicitation of bids, but
5 with the creation of a Purchase Requisition. Pursuant to the creation of a
6 Purchase Requisition, the department originating the request, in conjunction
7 with the ISC, must develop a scope of work or technical specification and
8 develop a timeline to ensure it meets the schedule requirements. Once these
9 steps are complete, the originating department head provides the purchase
10 requisition to the Nuclear Supply Chain ("NSC") Sourcing Specialist who is a
11 member of the ISC.

12 The NSC Sourcing Specialist, with assistance from originating department, is
13 responsible for the creation and issuance of the request for proposal ("RFP"),
14 but works in concert with the originating department when identifying potential
15 bidders and determining the base commercial terms and conditions to be
16 included in the RFP. What follows is the assembly of the RFP package, which
17 must incorporate any special terms identified by the originating department, an
18 RFP transmittal letter providing the potential bidders with all specific
19 instructions and requirements, and any applicable attachments.

20 Upon receipt of proposals, the NSC Sourcing Specialist sorts and distributes all
21 submissions to subject matter experts for technical and commercial analysis. If
22 questions arise during this review process, written requests for clarification or
23 additional information are sent to the bidder for commercial or technical
24 clarifications. After this initial phase, the originating department undertakes side-

1 by-side comparison of the bids' technical information, taking into consideration
2 scope requirements, differences in operational impacts, whether or not any
3 technical exceptions would be necessary, and the potential for impacts to the
4 Scope of Work. At the conclusion of this process, the NSC Sourcing Specialist
5 and the originating department together determine the recommended supplier.

6 **Q. What process was used to make certain that the Company and its**
7 **customers receive the full value of the various contracts for services and**
8 **materials?**

9 A. FPL utilized an invoice review process to make certain that the Company and its
10 customers received the full value of the goods and services being procured for
11 the EPU Projects. The process required a review of each invoice by key project
12 team members who worked closely with the vendor on the goods and services
13 for which payment was requested to make certain that the costs being billed were
14 correct and appropriate. Each invoice review required approval by certain senior
15 project team members based upon the individuals' corporate approval authority.

16 **Q. Did Concentric have any observations related to the processes used to**
17 **manage the EPU Projects' procurement functions in 2009?**

18 A. Yes. Overall, Concentric noted that the EPU Projects' procurement functions
19 performed quite well in 2009. Concentric noted that the ISC personnel have
20 responded to Concentric's 2009 recommendations to make certain that all costs
21 are charged to the appropriate EPU Project by vendors who have similar scopes
22 of work at both PTN and PSL, and the Company's affiliated Point Beach
23 Nuclear Plant in Two Rivers, Wisconsin. This effort includes reminders of
24 proper cost reporting through informal discussions with vendors on a periodic

1 basis and a formal communication in November of each year. As an additional
2 review, Nuclear Business Operations performed a separate, independent review
3 of the cost being charged to the EPU Projects to help ensure the costs are
4 properly charged to the appropriate Company account.

5 Concentric believes one further enhancement related to the EPU Projects'
6 procurement procedures could be made in 2010. Concentric believes a need may
7 exist for a formal guideline related to procurements in excess of \$5 million. This
8 guideline would state that any bids received in response to an RFP, in excess of
9 \$5 million, are reviewed by the ISC roughly contemporaneously and with at least
10 two people participating in the review process. Similarly, when a material delay is
11 granted to one RFP respondent, all bidders should be notified of an opportunity
12 to further revise their bid. Concentric has not observed, and does not believe
13 there have been, any instances of impropriety in the EPU Projects' RFP process
14 in 2009 or prior years. This observation is made solely with the intent to
15 prevent future challenges or concerns before they occur.

16 **Q. What mechanisms exist for internal oversight and review of the EPU**
17 **Projects?**

18 A. There are three primary mechanisms used to make certain the EPU Projects
19 received adequate oversight in 2009. First, the Company's senior management
20 received a briefing of the projects on an approximately monthly schedule. The
21 Company's Chief Nuclear Officer also received a briefing on an approximately
22 bi-weekly basis. Secondly, the EPU Projects were subject to an annual review by
23 the FPL Internal Audit Division. Lastly, the FPL Quality Assurance/Quality

1 Control ("QA/QC") department was responsible for making certain that the
2 FPL quality assurance program was being implemented by the EPU Projects.

3 **Q. With the EPU Projects' management effort now decentralized, how was**
4 **information communicated from the site-level to the corporate-level in**
5 **2009?**

6 A. The centralized management staff operating from the Company's headquarters
7 includes director positions that are responsible for each business function. For
8 instance, the Director of Project Controls oversees the project controls managers
9 at both sites. Communication between overall project management and
10 management at the sites is facilitated by a formal reporting structure that
11 emphasizes the timely and comprehensive transfer of information.

12 **Q. Please describe the Internal Audit division and its functions.**

13 A. The Internal Audit process is a backstop to make certain the EPU Project is
14 complying with the Company's internal policies and procedures. The Internal
15 Audit Division does not report to any of the EPU Project Team members to
16 protect the Internal Audit employees' independence. Instead, Internal Audit
17 reports directly to the FPL Group Chairman and CEO. Internal Audit's 2009
18 financial review of the EPU Projects ensured that costs were being appropriately
19 charged to the project and that the EPU Project is complying with the
20 Company's accounting policies.

21 **Q. Did Internal Audit conduct a review of the EPU Projects in 2009?**

1 A. Yes. The EPU Project was reviewed by the Company's Internal Audit in spring
2 2009, and a final report was issued by Internal Audit in June 2009. A similar
3 Internal Audit is currently underway.

4 **Q. Please describe the FPL QA/QC division and its purpose.**

5 A. The FPL QA/QC division is responsible for implementing the Company's
6 Quality Assurance Program which is mandated by the NRC in 10 CFR 50,
7 Appendix B. The QA/QC division is separate from the EPU Project and
8 reports to the Company's Chief Nuclear Officer through the Director of Nuclear
9 Assurance. 10 CFR 50, Appendix B defines eighteen (18) criteria for a NRC
10 licensee's quality assurance program. It is the responsibility of the QA/QC
11 division to ensure that FPL's quality assurance program meets these criteria.

12 **Q. What quality assurances activities, related to the EPU Project, took place
13 in 2009?**

14 A. Throughout 2009 the QA/QC department prepared for the implementation
15 phase of the EPU Projects. As the EPU Projects commenced the early stages of
16 the implementation phase, QA inspectors were assigned to both PTN and PSL.
17 The QA/QC division was also responsible for reviewing certain activities by the
18 EPU Project's vendors, both at the EPU Project sites as well as at certain
19 vendors' manufacturing facilities. These activities included multiple in-person
20 reviews of the project vendors' methodologies, qualifications and quality
21 assurance programs. Finally, the QA/QC division monitored NRC quality
22 assurance activities and suggested changes to the EPU project to respond to the
23 NRC's findings at other power uprate projects.

1 **Q. What practice has the Company implemented in 2009 to help provide the**
2 **EPU Projects with additional internal control and cost management?**

3 A. FPL has begun producing Project Whitepapers in response to Concentric's
4 recommendations in 2009. These documents are produced by the project team
5 when a significant decision is made that may impact the project. The memoranda
6 include a discussion of the information that was known at the time of the
7 decision, what decision was made and the basis for that decision. The first of
8 these whitepapers was completed in October 2009 and relates to the Company's
9 decision to proceed with the replacement of the condensers at PTN. Concentric
10 has been informed by the EPU Project Team that other whitepapers are
11 currently being completed.

12 **Q. Please provide Concentric's observations related to the internal oversight**
13 **and review mechanisms utilized in 2009.**

14 A. Concentric recognizes that in 2009 FPL's senior management team has increased
15 its oversight of the EPU Projects. This increased oversight includes more
16 frequent meetings with certain members of senior management and a greater
17 depth of reporting to senior management. In addition, the EPU Projects were
18 subject to review by Internal Audit in 2009 to address the EPU Projects'
19 compliance with the Company's financial and accounting controls. Similarly,
20 Concentric noted that the Company's QA/QC department is actively preparing
21 for the implementation of the EPU Projects by conducting surveillance activities
22 and preparing its team for upcoming project activities. Nevertheless, Concentric
23 noted a potential need to reinforce the QA/QC department with an individual
24 with design engineering experience. It is Concentric's understanding that the

1 EPU Project Team is currently solely responsible for reviewing design
2 engineering work. It was further noted during our interviews that FPL's design
3 engineering capabilities have not historically encountered significant quality
4 deficiencies and thus this control and review process may be adequate.
5 However, a lack of expertise within the QA/QC department was identified to
6 Concentric by members of the EPU Project Team as an area for potential
7 improvement.

8 Additionally, Concentric noted that a potential challenge to the EPU Projects
9 implementation may exist with the turbine rotors being procured from Siemens.
10 The manufacturing process of these turbines is being adequately monitored by
11 the Company's QA/QC department, but additional management oversight may
12 be warranted in the future.

13 **Q. What external oversight mechanisms has the Company utilized in 2009 to**
14 **ensure the EPU Project has adequate internal controls and is prudently**
15 **incurring costs?**

16 **A.** There are several external oversight and review mechanisms in place for the EPU
17 Project, including the retention of my firm, Concentric, to assess the EPU
18 Project's internal control mechanisms, the engagement of High Bridge
19 Associates to provide third-party cost estimation guidance, ongoing contact with
20 the Project's major vendors' quality oversight functions, and industry contacts.

1 **Q. Please expand on Concentric's role vis-à-vis external oversight and**
2 **review.**

3 A. As has been noted throughout my testimony, Concentric has conducted an
4 annual review of the EPU Project, its procedures, and the various mechanisms in
5 place to ensure compliance with these procedures. Concentric has focused on
6 ensuring that these internal controls have been implemented, and as a result, that
7 the EPU Project has prudently incurred costs during 2009.

8 **Q. Please describe the scope of work being performed by High Bridge**
9 **Associates.**

10 A. The Company has engaged High Bridge Associates, a project management and
11 consulting services company, to develop a detailed, bottom-up cost estimate for
12 the EPU activities taking place at Turkey Point Unit 3. Depending on the results
13 of this analysis, FPL may elect to have this analysis performed for each of the
14 remaining units.

15 **Q. In 2009, did industry contacts provide a form of external oversight and**
16 **review?**

17 A. Yes. FPL is a member of industry groups which can provide further guidance
18 about uprate projects. These groups include the Institute of Nuclear Power
19 Operations, the World Association of Nuclear Operators, Electric Power
20 Research Institute and the Nuclear Energy Institute, amongst others. Each of
21 these groups provided the EPU project team access to a wide breadth and depth
22 of information which can be used to enhance the project team's effectiveness.
23 Additionally, EPU Project Team members maintained close relationships with

1 their counterparts at other nuclear power plants around the country. These
2 valuable relationships allowed the EPU Project Team to monitor developments
3 or challenges at other plants and leverage those experiences at PSL and PTN.

4 **Q. Did Concentric have any observations related to external oversight and**
5 **review of the project in 2009?**

6 A. During its review, Concentric noted that FPL appears to have taken reasonable
7 steps to obtain and implement lessons learned from outside sources in 2009.
8 These lessons learned are vital to the successful execution of the projects.

9 **Q. Did Concentric note any other observations related to the EPU Projects**
10 **performance in 2009?**

11 A. No, it did not.

12 **Section VI: PTN 6 & 7 Internal Controls Review for 2009 Project Expenditures**

13 **Q. Please generally describe the PTN 6 & 7 Project.**

14 A. Through the PTN 6 & 7 Project, FPL is seeking to develop the option to deploy
15 approximately 2,200 MWs of additional nuclear capacity for the benefit of its
16 customers. These benefits include fuel savings, reliability improvements and
17 reduced emissions. The Company's project management strategy is focused on
18 preserving appropriate flexibility and multiple hold points and off-ramps during
19 which the PTN 6 & 7 Project's progress can be delayed for further analysis or
20 progressed to meet certain schedule expectations. Currently, the PTN 6 & 7
21 Project is focused upon obtaining federal, state and local licenses and approvals

1 that would allow the company to construct a new nuclear facility at FPL's Turkey
2 Point site. If approved, these permits will not require FPL to immediately begin
3 construction of the new nuclear facility. Indeed, FPL will have the option to
4 begin construction for a period lasting at least 20 years from the date of issuance.

5 **Q. How was the PTN 6 & 7 Project organized in 2009?**

6 A. Since 2008, few changes have occurred in the PTN 6 & 7 Project organization
7 depicted in Exhibit JJR-6. The project organizational structure has been
8 developed around two separate, but collaborative business units; Project
9 Development and New Nuclear Projects. While both organizations ultimately
10 report up to FPL Group's Chief Operating Officer, their objectives are tied to
11 each group's respective capabilities. This approach allowed FPL to ensure the
12 "best athlete" or most qualified group is utilized to accomplish the project's
13 objectives. The first of these organizations was the Project Development
14 organization, which was responsible for all aspects of the project which do not
15 relate to the NRC. In contrast, the New Nuclear Projects organization was
16 responsible for submitting and defending the PTN 6 & 7 Project's COLA. This
17 organization will also be responsible for the engineering, procurement,
18 construction, and subsequent start-up of the project if a decision to proceed is
19 made.

20 **Q. In 2009 who was responsible for the New Nuclear Projects organization?**

21 A. The New Nuclear Projects organization was under the leadership of the Vice
22 President of New Nuclear Projects who was supported directly by a Project
23 Director, a License Director and a Business Manager. By mid-2009, the Project

1 Director was placed on loan to the EPU Projects as discussed above. The
2 License Director was supported by multiple License Engineers and Document
3 Control personnel. The Business Manager was supported by a Scheduler, an
4 Estimator and Budget and Cost Analysts.

5 **Q. Who was responsible for the Project Development organization in 2009?**

6 A. The Project Development organization was headed by FPL's Chief Development
7 Officer who was supported by the Project Director. The Project Director was
8 directly supported by a Project Director in charge of communications and
9 project coordination and a Project Manager who interfaced with the New
10 Nuclear Projects organization.

11 **Q. Did either of the organizations receive support from other FPL
12 departments in 2009?**

13 A. Yes, both organizations received support from FPL's Juno Environmental
14 Services, Legal Department, and Integrated Supply Chain Management among
15 others.

16 **Q. Did Concentric have any observations related to the PTN 6 & 7
17 organizational structure in 2009?**

18 A. Yes. Concentric believes the organizational structure appropriately assigned
19 responsibility to those employees best equipped to respond to the project needs.
20 Similarly, once a change in the PTN 6 & 7 Project's pace of development was
21 identified, FPL took adequate steps to modify the organizational structure to
22 respond to these changes.

1 **Q. What major milestones were achieved by the PTN 6 & 7 Project in 2009?**

2 A. The major achievement of the PTN 6 & 7 Project in 2009 was the submission of
3 the COLA and SCA to the NRC and the FL DEP respectively. As the
4 Commission is already aware, these applications required thousands of man-
5 hours and more than a year to complete. However, as the pace of the Federal
6 and State agencies' reviews of these applications slowed during 2009, the PTN 6
7 & 7 Project Team made the appropriate decision to reduce its construction
8 related expenditures and commitments. In addition, the PTN 6 & 7 Project
9 Team successfully negotiated a form of an agreement with Miami-Dade County
10 to use reclaimed water at the PTN 6 & 7 Project. In 2009, the PTN 6 & 7
11 Project elected not to execute a definitive engineering and procurement ("EP")
12 or engineering, procurement, and construction ("EPC") agreement. This
13 decision was made to enhance future project flexibility. Finally, the PTN 6 & 7
14 Project Team completed certain construction planning activities that are
15 necessary should it prove advantageous to FPL's customers to construct the
16 PTN 6 & 7 facility.

17 **Q. Please describe how the 2009 project budget was developed for PTN 6 &**
18 **7.**

19 A. The 2009 PTN 6 & 7 Project budget was developed based on feedback from
20 each department supporting the PTN 6 & 7 Project. This budget included a
21 bottom-up analysis which assessed the resource needs of each department during
22 the year, and included an adequate contingency for undefined scope or project
23 uncertainties. Typically, this contingency is equal to 15% of the project budget,
24 but may be increased or decreased based upon discussions with each business

1 unit lead. In 2009, contingency levels were set at approximately 13% for
2 licensing, 20% for engineering and design, 46% for permitting, and 19% for
3 power block budget elements. The licensing contingency was reduced in 2009
4 due to greater certainty in the scope of the COLA preparations.

5 **Q. Was the process used by the PTN 6 & 7 Project to develop its 2009 budget**
6 **consistent with the Company's policies and procedures that existed at that**
7 **time?**

8 A. Yes, the process utilized by the PTN 6 & 7 Project to develop its 2009 budget is
9 consistent with FPL's corporate procedures, which outline the process to be
10 used by each business unit when developing its annual budgets.

11 **Q. Has Concentric attempted to benchmark the 2009 project budget that was**
12 **developed for PTN 6 & 7?**

13 A. No, Concentric has not attempted to benchmark the 2009 PTN 6 & 7 budget
14 relative to the annual budgets for other new nuclear projects since much of the
15 information related to each company's project spending is a trade secret.
16 Concentric is developing a benchmark analysis of the total PTN 6 & 7 cost
17 estimate. This analysis will be presented in my May 1, 2010 testimony in this
18 docket once the Company has developed an updated total cost estimate.

19 **Q. What mechanisms did the PTN 6 & 7 Project Team use to monitor**
20 **budget performance in 2009?**

21 A. The PTN 6 & 7 Project Team used at least nine (9) different reports to manage
22 the PTN 6 & 7 Project's budget performance. These reports are more fully
23 described by FPL Witness Scroggs on Exhibit SDS-5. As an example, these

1 reports included a weekly "Performance Indicator Report" that monitored the
2 number of work hours incurred relative to those that were originally forecast.
3 On a monthly basis, the PTN 6 & 7 Project Management received several reports
4 that detailed budget variances by department and provided explanations of those
5 variances. In addition, these reports included a description of all costs expended
6 in the current month and quarter as well as year-to-date and total cumulative
7 spending. The PTN 6 & 7 Project Team published quarterly Due Diligence
8 reports for the Company's senior executives. Further, the Project Management
9 periodically, usually monthly, presented a status update to FPL's senior
10 management. These presentations included a description and explanation of any
11 budget variances or significant project challenges.

12 **Q. Are these reporting mechanisms consistent with the PTN 6 & 7 Project**
13 **Execution Plan?**

14 A. Yes these reporting mechanisms are consistent with the PTN 6 & 7 Project
15 Execution Plan. However, the initial revision of the Project Execution Plan was
16 finalized in September 2006 and is currently being revised by the PTN 6 & 7
17 Project Team. These reporting mechanisms will need to be reassessed once the
18 revised Project Execution Plan is complete.

19 **Q. Within the PTN 6 & 7 Project Team, who was responsible for tracking**
20 **and reporting project expenditures?**

21 A. Responsibility for tracking and reporting project expenditures was held by the
22 PTN 6 & 7 Business Manager. This individual worked with his team of Cost and
23 Budget Analysts to review and approve significant vendor invoices, and to track

1 the project's expenditures relative to the PTN 6 & 7 Project's annual budget.
2 The processes for both approving invoices and tracking project expenditures are
3 well documented within the PTN 6 & 7 Project.

4 **Q. Did Concentric have observations related to the PTN 6 & 7 Project budget**
5 **processes?**

6 A. Concentric has found that the PTN 6 & 7 Project Team acted prudently when
7 developing its annual budget and in tracking its performance relative to the
8 annual budget. The PTN 6 & 7 Project Team developed multiple reports that
9 track budget performance on a cumulative and periodic basis, along with a
10 process for describing variances in actual expenditures relative to the budget. In
11 addition, Concentric found that the PTN 6 & 7 Project budget processes include
12 multiple overlapping mechanisms that helped ensure that the project's
13 management and the Company's senior management are well informed of the
14 project's performance.

15 Concentric has noted a need to revisit the PTN 6 & 7 Monthly Dashboard
16 Report and specifically the Key Performance Indicators ("KPIs") which are
17 presented in this report. These KPIs are mainly focused on metrics that are
18 relevant to the engineering, procurement and construction of the proposed PTN
19 6 & 7 facility. Thus these KPIs provide little insight into the current pace and
20 performance of the project. The PTN 6 & 7 Project should consider revising
21 these KPIs to focus on metrics which are relevant to the licensing and permitting
22 activities.

1 **Q. Please describe how the PTN 6 & 7 Project Team produced and managed**
2 **the PTN 6 & 7 Project schedule in 2009.**

3 A. The initial PTN 6 & 7 Project schedule was developed earlier in the PTN 6 & 7
4 Project's life cycle. Nonetheless, this schedule continues to be refined and
5 managed using an industry standard software package developed by Primavera
6 Systems, Inc. This software package uses the CPM of scheduling to define
7 activity relationships and resource loadings. Within the PTN 6 & 7 Project, the
8 Scheduler, who reports to the Business Manager, is responsible for the initial
9 development of and updates to the project schedule.

10 The schedule that has been developed to date was periodically updated to reflect
11 any new information that is received from the PTN 6 & 7 Project's vendors.
12 The method for updating this schedule, including the proper electronic format,
13 was documented, and was communicated to project vendors to make certain that
14 the PTN 6 & 7 Project's expectations are clear. This process also facilitated the
15 process by which FPL incorporates the feedback of project vendors into the
16 project schedule.

17 **Q. What procedures or project instructions existed in 2009 to govern the**
18 **development and refinement of the PTN 6 & 7 Project schedule?**

19 A. New Nuclear Project, Project Instruction 100 governs the development,
20 refinement and configuration of the project schedule.

21 **Q. What mechanisms were in place to ensure that the PTN 6 & 7 Project**
22 **Team is prudently managing its schedule performance?**

1 A. The PTN 6 & 7 Project Team proactively monitored and managed its schedule
2 performance on a weekly and monthly basis. A “Six Week Look-Ahead Report”
3 was issued on a weekly basis to provide an update on the activities that were
4 projected to start during the next six weeks. This report gave the PTN 6 & 7
5 Project Team adequate notice of upcoming activities and allowed the team to
6 plan their time accordingly. The PTN 6 & 7 Project Team has incorporated
7 similar reporting requirements into its contracts with key vendors such as Bechtel
8 and Black & Veatch/Zachry (“BVZ”). As a result, both vendors were required
9 to submit monthly progress reports detailing their progress to date, including any
10 projected delays.

11 **Q. Did Concentric have any observations related to how the PTN 6 & 7**
12 **Project Team managed and reported its schedule performance in 2009?**

13 A. Yes. Similar to FPL’s management of the PTN 6 & 7 budget, Concentric
14 believes the PTN 6 & 7 Project has taken adequate steps to prudently manage
15 and report on its schedule performance. Nonetheless, the same opportunity for
16 enhancement exists. The PTN 6 & 7 Project Team should revisit the KPIs
17 presented in the Monthly Dashboard Reports and discussed earlier in this section
18 of my testimony to make certain the KPIs remain relevant to the current scope
19 of development.

20 **Q. Did the PTN 6 & 7 Project require the use of outside vendors in 2009?**

21 A. Yes, in order to avoid the need to recruit, train and retain the significant number
22 of employees required to complete the COLA, SCA and other project activities,
23 FPL used, and will continue to use, a number of outside vendors. These vendors

1 were utilized to produce the COLA and SCA amongst other tasks. In addition, a
2 limited number of individual contractors were utilized to augment the project
3 staff and fill vacancies where appropriate. FPL's use of outside vendors and
4 contractors is consistent with general industry trends and was clearly anticipated
5 by the PTN 6 & 7 Project Execution Plan.

6 **Q. How did the PTN 6 & 7 Project Team make certain that it is prudently**
7 **managing and administering its procurement processes?**

8 A. FPL has a number of General Operating Procedures ("GOs") related to the
9 procurement function. In addition, the ISC, which has overall responsibility for
10 managing FPL's commercial interactions with vendors, produced a desktop
11 Procurement Process Manual which provides more detailed instructions for
12 implementing the GOs. The GOs, along with the Procurement Process Manual,
13 are sufficiently detailed to ensure that the ISC prudently manages the vast
14 number of procurement activities that must take place to support an endeavor
15 such as the PTN 6 & 7 Project. Additionally, these procedures clearly state a
16 preference for competitive bidding except in instances where no other supplier
17 can be identified, in cases of emergencies or when a compelling business reason
18 not to seek competitive bids exists.

19 **Q. Did Concentric review examples of how these processes were**
20 **implemented throughout 2009?**

21 A. Yes. Concentric reviewed each of the new contracts, purchase orders and
22 change orders listed on Schedule T-7 of the Company's Nuclear Filing
23 Requirements. Relative to 2007 and 2008, the PTN 6 & 7 Project entered into

1 comparatively few new significant contracts. In each instance, the contracts
2 executed by the PTN 6 & 7 Project in 2009 related to extensions or expansions
3 of scope for the PTN 6 & 7 Project's existing vendors. Of the twelve contracts
4 executed in 2009, the ISC's Predetermined Sources ("PDS") list was used four
5 times. For the remaining eight (8) contracts FPL utilized single or sole source
6 justifications to acquire a specific skill or proprietary technology.

7 **Q. Has the PTN 6 & 7 Project Team taken steps to further strengthen its**
8 **single and sole source justification memoranda?**

9 A. In Docket 080009, the Commission noted that FPL needed to take certain steps
10 to further document the Company's valid business reasons for not seeking
11 competitive bids. In order to respond to this concern, the PTN 6 & 7 Project
12 Team determined that further changes to the Company's procedures were not
13 required. Instead, the Company noted the need to enhance the training of
14 project team members. FPL undertook this training in 2008 and reports that the
15 Project Team has continued to address these requirements when completing the
16 required documentation. Concentric has reviewed each of the single or sole
17 source justification memoranda issued by the PTN 6 & 7 Project Team in 2009
18 and noted adequate progress in addressing the Commission's concerns.
19 Specifically, project team members are focused on providing additional details
20 related to past experience with the vendor (i.e., prior projects or RFPs) and
21 describing how the current proposed rates compare with the rates proposed for
22 similar projects.

1 **Q. What is a Predetermined Source and how has it been used by the PTN 6**
2 **& 7 Project?**

3 A. In certain instances, FPL has identified a need to establish consistent and
4 preferred vendors for particular goods or services. These vendors have been
5 identified through prior competitive bidding or other evaluations of cost
6 effectiveness for a narrow and predefined scope of work. Following this
7 evaluation ISC permits the use of these vendors for future projects within the
8 predetermined scope of work.

9 **Q. How many PDS were used by the PTN 6 & 7 Project in 2009?**

10 A. As it relates to the execution of the PTN 6 & 7 Project, four PTN 6 & 7 vendors
11 were authorized under the PDS process. These vendors are a joint venture
12 consisting of Black & Veatch and Zachry Construction ("BVZ"), Westinghouse
13 Electric Company ("WEC"), Bechtel Corporation ("Bechtel"), and
14 Environmental Consulting Technology ("ECT"). Further details on each of
15 these vendors can be found in the testimony of FPL Witness Scroggs. In
16 addition, the PTN 6 & 7 Project utilized the PDS list for certain administrative
17 needs such as office supplies.

18 **Q. Does the PTN 6 & 7 Project Team expect the number of goods and**
19 **services procured on a single or sole source basis to grow or contract in**
20 **the future?**

21 A. The PTN 6 & 7 Project anticipates that the number of goods and services
22 procured on a single or sole source basis will grow as the PTN 6 & 7 Project
23 progresses. This results from the fact that many of the future goods and services

1 that must be procured relate to proprietary design information that is specific to
2 a single vendor. Thus, it will often be impossible to locate another vendor that is
3 capable of providing these goods or services without re-creating thousands of
4 man-hours to replicate the initial plant designs.

5 **Q. What processes were in place to ensure that the PTN 6 & 7 Project**
6 **received the full value for the goods and services that were procured in**
7 **2009 and that appropriate charges were invoiced to the projects?**

8 A. In order to ensure that the Company and its customers received the full value of
9 the goods and services that were procured, the PTN 6 & 7 Business Manager and
10 his staff were responsible for reviewing each invoice received from the major
11 PTN 6 & 7 Project vendors including Bechtel, BVZ, McNabb Hydrogeologic
12 Consulting, Inc., Golder Associates and Environmental Consulting &
13 Technology, Inc. In aggregate, these contracts represent a majority of the
14 support received by the PTN 6 & 7 Project from outside vendors. To perform
15 this review, the Business Manager's staff received the invoices from each vendor.
16 Upon receipt, an Invoice Review/Verification Form that detailed what technical
17 or functional representatives was responsible for reviewing each section of the
18 invoice was attached to the invoice. This form and the respective invoice were
19 then sent to each reviewer to verify that the appropriate charges were included in
20 the invoice and that the work product met the PTN 6 & 7 Project's needs and
21 contractual provisions prior to payment. When discrepancies were identified,
22 FPL sought a credit on a future invoice or deducted the amount from the current
23 invoice depending on discussions with the vendor. Similar processes are utilized
24 by the departments supporting the PTN 6 & 7 Project.

1 **Q. Were there instances in 2009 where project vendors were found to be**
2 **including inappropriate charges in their invoices?**

3 A. Yes, for example, a vendor was noted to have included a small number of
4 markups to subcontractor billings since 2008. These charges were discovered by
5 the invoice review process and by an audit of the vendor's payments to
6 subcontractors in spring 2009. Upon discovery of this item, FPL withheld
7 payment of this amount when completing payment of the next monthly invoice.
8 From time-to-time, FPL also discovered and challenged minor, inappropriate
9 expenses from other vendors.

10 **Q. Does Concentric have any observations related to FPL's management of**
11 **the ISC process?**

12 A. Yes, Concentric believes that while the ISC and invoice review and approval
13 processes functioned appropriately in 2009, opportunities to further strengthen
14 these controls for future procurements may exist. These enhancements could
15 include a formal guideline for procurements in excess of \$5 million that any such
16 bids received in response to an RFP are reviewed by the ISC roughly
17 contemporaneously and with at least two people participating in the review
18 process. Similarly, when a material delay is granted to one RFP respondent, all
19 bidders should be notified of an opportunity to further revise their bid.
20 Concentric has not observed, and does not believe there have been, any instances
21 of impropriety in the PTN 6 & 7 RFP process in 2009 or prior years. This
22 observation is made solely with the intent to prevent future challenges or
23 concerns before they occur.

1 Concentric has also observed potential enhancements to the invoice review and
2 approval process. Again, Concentric has not observed instances where a
3 deficiency exists in the current system, but believes further enhancements are
4 warranted to ensure continued adequacy of this control. One manner of
5 addressing this observation might include developing a simple spreadsheet to
6 track invoice credits which are expected from project vendors. This centralized
7 tracking mechanism would allow for a more robust review of potential invoice
8 credits and assist the Business Manager's staff in making certain that these
9 invoice credits are received on time and as expected.

10 Concentric noted two opportunities to improve the transparency of the Invoice
11 Review and Approval process. Examples of how to improve this transparency
12 include modifying the existing Invoice Review/Approval Checklist to include the
13 magnitude of each individual's approval authority. This will create a more
14 transparent audit trail and is consistent with the PTN 6 & 7 Project's past
15 practices. Additionally, FPL could modify the Invoice Review/Approval
16 Checklist to eliminate the column whereby the technical representatives check a
17 box to concur with the invoice. The review process could then be modified such
18 that the persons responsible for the invoice review do not execute the Invoice
19 Review/Approval Checklist unless they concur with the invoice.

20 **Q. What internal reporting mechanisms were used to inform the Company's**
21 **senior management of the PTN 6 & 7 Project's status and the key**
22 **decisions?**

1 A. The PTN 6 & 7 Project Team used a number of periodic reports to inform the
2 project management team and the Company's Executive Steering Committee.
3 These reports are detailed in the direct testimony of Company Witness Scroggs
4 and are used to make certain that the costs the PTN 6 & 7 Project is incurring
5 are the result of prudent decision-making processes. These reports included
6 both weekly and monthly reports that detailed key budget and schedule
7 performance and solicited input for key project decisions.

8 **Q. Please describe what key decisions related to the PTN 6 & 7 Project were**
9 **made in 2009.**

10 A. Consistent with FPL's stepwise approach to managing the PTN 6 & 7 Project, a
11 number of decision points were addressed in 2009. These decisions include the
12 decision to withdraw the PTN 6 & 7 Project's request for a Limited Work
13 Authorization ("LWA") from the NRC, the decision not to enter into an EPC or
14 EP agreement in 2009, and the decision to extend the PTN 6 & 7 Project's
15 reservation agreement with WEC for the forging of certain ultra-heavy forgings
16 ("Reservation Agreement"). Each of these decisions is more fully described in
17 the testimony of FPL Witness Scroggs.

18 **Q. How have these decisions affected the PTN 6 & 7 Project?**

19 A. Foremost amongst the impacts of these decisions is the potential impact on the
20 overall project schedule. The decision to withdraw the Company's request for a
21 LWA is not likely to impact the overall project schedule as it was unlikely that
22 much of this scope of work could be completed in advance of the NRC's
23 issuance of the combined operating license. Similarly, the decision to extend the

1 Reservation Agreement is not likely to impact the project schedule or cost
2 estimate. This extension allows FPL to maintain its current position in line for
3 these forgings at no additional cost to the company. The decision not to enter
4 into an EPC or EP agreement in 2009, however, could lead to changes in the
5 current PTN 6 & 7 deployment dates. As discussed by FPL Witness Scroggs,
6 this decision results from extensive commercial negotiations, which have not
7 produced a commercial agreement that would appropriately manage the risk and
8 cost for FPL's customers.

9 **Q. How did the PTN 6 & 7 Project Team solicit FPL's senior management's**
10 **guidance on each of these decisions?**

11 A. On an approximately monthly basis, the PTN 6 & 7 Project managers provided
12 either a formal or informal presentation of issues facing the PTN 6 & 7 Project
13 in 2009. These presentations focused on specific challenges and decision points
14 such as the decision to execute an EPC or EP agreement or withdrawal of the
15 Company's application for a LWA. In these presentations the PTN 6 & 7
16 Project Team provided recommendations to FPL's senior management team and
17 then solicited senior management's feedback and approval of this
18 recommendation. In addition, where significant decisions to take action
19 occurred (i.e., the withdrawal of the Company's application for a LWA), the PTN
20 6 & 7 Project Team produced a Project Memorandum which explicitly discussed
21 why this decision was made. This Project Memorandum is in response to
22 Concentric's recommendations in 2009.

1 Q. Do you believe it was prudent for FPL to make these management
2 decisions in 2009?

3 A. Yes I do. These decisions clearly reflect a management philosophy that
4 maximizes FPL's, and its customers', flexibility in the near term. By accepting
5 increased risk to the deployment dates, FPL will likely receive greater cost
6 certainty in the future and avoid committing FPL and its customers to major,
7 long term agreements prematurely. Such a management approach is clearly
8 prudent in my opinion as it permits FPL to preserve the option to deploy
9 additional nuclear capacity in the future while minimizing near term expenditures
10 and risk.

11 Q. What other internal oversight & review mechanisms exist for the PTN 6 &
12 7 Project?

13 A. The PTN 6 & 7 Project is subject to FPL's corporate GO procedures, but is
14 being developed external to the FPL Nuclear Division. Thus, the PTN 6 & 7
15 Project is not automatically subject to the Nuclear Division's policies. To
16 address this condition, and to remain in compliance with the NRC's quality
17 assurance requirements, the FPL QA/QC department developed a procedure
18 that identifies which FPL Nuclear Division polices are applicable to the PTN 6
19 & 7 Project. In response to Concentric's 2009 recommendation, QA/QC staff
20 created an electronic reminder to revise and update this procedure, QI-2-NNP-
21 01, in order to adapt to the dynamic nature of the project.
22 Similarly, during 2009, the PTN 6 & 7 Project has continued to develop its own
23 set of New Nuclear Project Instructions which relate to the following activities:

- 1 • Project instruction preparation
- 2 • Document retention
- 3 • NRC Correspondence
- 4 • COLA submittal
- 5 • Project management briefings
- 6 • COLA related document reviews
- 7 • Department training requirements
- 8 • Project schedule and configuration control

9 Additionally, there were two primary active internal oversight and review
10 mechanisms for the PTN 6 & 7 project; the FPL Internal Audit Division and
11 the FPL QA/QC division.

12 **Q. Please describe the FPL Internal Audit Division and its function.**

13 A. The Internal Audit Division is separate from the PTN 6 & 7 Project Team and
14 reports to the FPL Group Chairman and CEO through the Vice President,
15 Internal Auditing. In 2009 the FPL Internal Audit Division tested the PTN 6 &
16 7 Project's internal and financial controls to make certain that only appropriate
17 charges were being billed to the project and that these charges were being
18 accounted for correctly. Internal Audit presented its recommendations to the
19 PTN 6 & 7 Project Team in a report that was issued in November 2008 and the
20 PTN 6 & 7 Project Team worked to address all of the issues raised in that audit
21 through additional training and procedure reviews. A similar internal audit is
22 currently underway.

23 **Q. Please describe the FPL QA/QC division and its purpose.**

1 A. The FPL QA/QC division is responsible for implementing the Company's
2 Quality Assurance Program which is mandated by the NRC in 10 CFR 50,
3 Appendix B. The QA/QC division is separate from the PTN 6 & 7 Project and
4 reports to the Company's Chief Nuclear Officer through the Director of Nuclear
5 Assurance. 10 CFR 50, Appendix B defines eighteen (18) criteria for a NRC
6 licensee's quality assurance program. It is the responsibility of the QA/QC
7 division to ensure that FPL's quality assurance program meets these criteria and
8 other regulatory guidance.

9 **Q. What quality assurances activities, related to the PTN 6 & 7 Project, took**
10 **place in 2009?**

11 A. In 2009, the QA/QC division was responsible for witnessing certain activities by
12 the PTN 6 & 7 Project's vendors. These surveillance activities included multiple
13 in-person reviews of the sufficiency of the project vendors' analytical techniques,
14 qualifications and quality assurance programs. Finally, the QA/QC division
15 monitored NRC quality assurance activities and suggested changes to the PTN 6
16 & 7 Project to respond the NRC's findings at other new nuclear projects. This is
17 an example of how lessons learned from other new nuclear developers were
18 implemented by the PTN 6 & 7 Project in 2009.

19 **Q. Does the Company maintain other internal oversight and review**
20 **mechanisms for the PTN 6 & 7 Project?**

21 A. Yes. The Company maintains other internal oversight mechanisms that ensure
22 that the PTN 6 & 7 Project is prudently incurring costs. The first of these
23 mechanisms is a FPL Corporate Risk Committee ("RiskCom"). This committee

1 consists of FPL director-level and other senior employees, and is tasked with
2 periodically reviewing the project and its associated risks. The PTN 6 & 7
3 Project Team did not go before the RiskCom in 2009, but the PTN 6 & 7
4 Project Team reports that it is making arrangements to do so in spring 2010.

5 **Q. Did Concentric have any observations related to the PTN 6 & 7 Project's**
6 **internal oversight mechanisms?**

7 A. Yes. Concentric believes it necessary to make certain that the PTN 6 & 7 Project
8 is reviewed by the RiskCom no less frequently than annually. If used
9 appropriately, this peer review process can provide invaluable guidance from
10 FPL's wide breadth and depth of subject matter experts. In addition, this
11 process can assist the PTN 6 & 7 Project management with identifying potential
12 future project risks.

13 In addition, Concentric believes it would be useful for each department
14 providing support to the PTN 6 & 7 Project to consider maintaining its own list
15 of project risks. Concentric understands that the current process calls for each
16 supporting department to meet with the PTN 6 & 7 Project management to
17 describe and discuss project risk. A consolidated risk tracker is then maintained
18 by the PTN 6 & 7 Project management. Concentric believes that by having the
19 supporting departments develop and maintain their own risk trackers which
20 provide input to the master project risk tracker these supporting departments are
21 more likely to maintain a sense of ownership of each risk.

22 Finally, Concentric recognizes that the economic and political climate in which
23 the project exists continues to evolve in ways that could create unique challenges

1 for FPL. In order to keep the Project's development on track, continued senior
2 management involvement and oversight will be necessary.

3 **Q. What external review mechanisms were used by the PTN 6 & 7 Project**
4 **Team in 2009 to ensure that the Company is prudently incurring costs?**

5 A. The PTN 6 & 7 Project and FPL have been subject to several external reviews.
6 These reviews are utilized to make certain industry best practices are
7 incorporated into the PTN 6 & 7 Project and to improve overall project and
8 senior management performance. These reviews include Concentric's review of
9 the Company's 2009 expenditures and project controls, and the Florida PSC
10 Staff's financial and internal controls audits. Additionally, as a publicly traded
11 company, FPL Group must undergo an annual company-wide audit of its
12 financial and internal controls. As discussed by FPL Witness Powers, these
13 reviews were conducted by Deloitte & Touche, LLP in 2009.

14 **Q. Are there other external information sources relied upon by the PTN 6 & 7**
15 **Project Team?**

16 A. Yes. In 2009 FPL maintained membership in several industry groups that relate
17 to the development of new nuclear projects. These groups include the NuStart
18 Consortium, APOG, Electric Power Research Institute and the Nuclear Energy
19 Institute, among others. Each of these groups provides the PTN 6 & 7 Project
20 Team with access to a breadth and depth of information that can be used to
21 enhance the PTN 6 & 7 Project Team's effectiveness. For instance, these
22 industry groups have been utilized during the preparation of the PTN 6 & 7
23 COLA to identify and analyze potential areas of concern by the NRC and the

1 appropriate response to the NRC's Requests for Additional Information.
2 Similarly, certain members of the ISC organization that maintain a matrix
3 reporting relationship to the PTN 6 & 7 Project are also members of the APOG
4 – Supply Chain Management Working Group. This is a collaborative group that
5 is working to enhance the supply chain management for all developers of the AP
6 1000 through information sharing and potential joint procurement initiatives.

7 **Q. Did Concentric have any observations related to the external oversight**
8 **mechanisms utilized by FPL in 2009?**

9 A. Based on Concentric's review to date, Concentric believes the PTN 6 & 7
10 Project Team is proactively seeking to incorporate best practices into the
11 management of the PTN 6 & 7 Project. This is being achieved by retaining
12 outside experts to review and comment on certain aspects of the project, and by
13 soliciting external information sources that can provide useful guidance to the
14 project team.

15 **Q. Did Concentric identify any other observations related to the PTN 6 & 7**
16 **Project in 2009?**

17 A. No, it did not.

18 **Section VII: Conclusions**

19 **Q. Please summarize your conclusions.**

20 A. In 2010, Concentric has conducted a review of the Projects. This review has lead
21 Concentric to a number of observations related to the Projects which are detailed
22 in sections two through six of my testimony. In addition, it is important to note
23 that for over three decades nuclear power has provided a number of substantial

1 benefits to utility customers in Florida. These benefits include electric generation
2 with virtually no GHG emissions, fuel cost savings, fuel diversity, reduced
3 exposure to fuel price volatility and more efficient land use. As a result, it is
4 prudent for FPL to develop additional nuclear capacity for the benefit of its
5 customers. In order to do so, FPL is carefully managing the EPU Projects and
6 the PTN 6 & 7 Project through capable project managers and directors who are
7 guided by detailed company procedures and appropriate management oversight.
8 In 2009, these Projects made progress toward receiving their respective federal
9 and state licenses necessary for implementation of each project. For the EPU
10 Projects, this progress included the submittal of the first LAR for PTN and
11 significant progress on the remaining three LARs required to complete the EPU
12 Projects. In the case of PTN 6 & 7, this progress included submitting the COLA
13 to the NRC and the SCA to the FL DEP.
14 Both Projects also appropriately responded to the dynamic nature of their
15 respective activities. For instance, the PTN 6 & 7 perceived a shift in the pace of
16 the project licensing and permitting activities and took action to defer long lead
17 procurement and construction activities. Similarly, the EPU Projects have
18 undergone an appropriate management transition with increased focus on site-
19 level staffing. This transition was necessary to complete the implementation of
20 the EPU Projects. This management shift included mobilizing the site resources
21 that will be responsible for the day-to-day execution of the projects

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

23 **A.** Yes, it does.

1 **Endnotes:**

2 ¹ Separate, concurring opinion of Justice Louis Brandeis, Missouri ex. Rel. Southwestern
3 Bell Telephone Co. v. Public Service Commission, 262 U.S. 276 (1923).

4 ² West Ohio Gas Co. v. Public Utilities Commission of Ohio (No.1), 249 U.S. 63,
5 (1935), Opinion.

6 ³ Staff recommendation in Docket no. 060658-EI – Petition on behalf of Citizens of the
7 State of Florida to require Progress Energy Florida, Inc to refund customers \$143
8 million, citing.

9 ⁴ Docket No. 820001-EU-A, In Re: Investigation of Fuel Cost Recovery Clauses of
10 Electric Utilities (Gulf Power Company – Maxine Mine).

11 ⁵ FL PSC Order No. PSC-07-0816-FOF-EI, Pg. 4.

12 ⁶ Decision of the Federal Energy Regulatory Commission, In Re: New England Power
13 Company, 31 FERC 61,047.

14 ⁷ Decision of the New York Public Service Commission, In Re: Consolidated Edison
15 Company, Opinion 79-1, January 16, 1979, Case No. 27123.

16 ⁸ Sears, Keoki S., Glenn A. Sears, and Richard H. Clough, Construction Project
17 Management: A Practical Guide to Field Construction Management. 5th Edition, John
18 Wiley & Sons, Hoboken, NJ, 2008, Pg. 20.

John J. Reed
Chairman and Chief Executive Officer

John J. Reed is a financial and economic consultant with more than 30 years of experience in the energy industry. Mr. Reed has also been the CEO of an NASD member securities firm, and Co-CEO of the nation's largest publicly traded management consulting firm (NYSE: NCI). He has provided advisory services in the areas of mergers and acquisitions, asset divestitures and purchases, strategic planning, project finance, corporate valuation, energy market analysis, rate and regulatory matters and energy contract negotiations to clients across North and Central America. Mr. Reed's comprehensive experience includes the development and implementation of nuclear, fossil, and hydroelectric generation divestiture programs with an aggregate valuation in excess of \$20 billion. Mr. Reed has also provided expert testimony on financial and economic matters on more than 150 occasions before the FERC, Canadian regulatory agencies, state utility regulatory agencies, various state and federal courts, and before arbitration panels in the United States and Canada. After graduation from the Wharton School of the University of Pennsylvania, Mr. Reed joined Southern California Gas Company, where he worked in the regulatory and financial groups, leaving the firm as Chief Economist in 1981. He served as executive and consultant with Stone & Webster Management Consulting and R.J. Rudden Associates prior to forming REED Consulting Group (RCG) in 1988. RCG was acquired by Navigant Consulting in 1997, where Mr. Reed served as an executive until leaving Navigant to join Concentric as Chairman and Chief Executive Officer.

REPRESENTATIVE PROJECT EXPERIENCE

Executive Management

As an executive-level consultant, worked with CEOs, CFOs, other senior officers, and Boards of Directors of many of North America's top electric and gas utilities, as well as with senior political leaders of the U.S. and Canada on numerous engagements over the past 25 years. Directed merger, acquisition, divestiture, and project development engagements for utilities, pipelines and electric generation companies, repositioned several electric and gas utilities as pure distributors through a series of regulatory, financial, and legislative initiatives, and helped to develop and execute several "roll-up" or market aggregation strategies for companies seeking to achieve substantial scale in energy distribution, generation, transmission, and marketing.

Financial and Economic Advisory Services

Retained by many of the nation's leading energy companies and financial institutions for services relating to the purchase, sale or development of new enterprises. These projects included major new gas pipeline projects, gas storage projects, several non-utility generation projects, the purchase and sale of project development and gas marketing firms, and utility acquisitions. Specific services provided include the development of corporate expansion plans, review of acquisition candidates, establishment of divestiture standards, due diligence on acquisitions or financing, market entry or expansion studies, competitive assessments, project financing studies, and negotiations relating to these transactions.

Litigation Support and Expert Testimony

Provided expert testimony on more than 150 occasions in administrative and civil proceedings on a wide range of energy and economic issues. Clients in these matters have included gas distribution utilities, gas pipelines, gas producers, oil producers, electric utilities, large energy consumers, governmental and regulatory agencies, trade associations, independent energy project developers, engineering firms, and gas and power marketers. Testimony has focused on issues ranging from broad regulatory and economic policy to virtually all elements of the utility ratemaking process. Also frequently testified regarding energy contract

interpretation, accepted energy industry practices, horizontal and vertical market power, quantification of damages, and management prudence. Have been active in regulatory contract and litigation matters on virtually all interstate pipeline systems serving the U.S. Northeast, Mid-Atlantic, Midwest, and Pacific regions.

Also served on FERC Commissioner Terzic's Task Force on Competition, which conducted an industry-wide investigation into the levels of and means of encouraging competition in U.S. natural gas markets. Represented the interests of the gas distributors (the AGD and UDC) and participated actively in developing and presenting position papers on behalf of the LDC community.

Resource Procurement, Contracting and Analysis

On behalf of gas distributors, gas pipelines, gas producers, electric utilities, and independent energy project developers, personally managed or participated in the negotiation, drafting, and regulatory support of hundreds of energy contracts, including the largest gas contracts in North America, electric contracts representing billions of dollars, pipeline and storage contracts, and facility leases.

These efforts have resulted in bringing large new energy projects to market across North America, the creation of hundreds of millions of dollars in savings through contract renegotiation, and the regulatory approval of a number of highly contested energy contracts.

Strategic Planning and Utility Restructuring

Acted as a leading participant in the restructuring of the natural gas and electric utility industries over the past fifteen years, as an adviser to local distribution companies (LDCs), pipelines, electric utilities, and independent energy project developers. In the recent past, provided services to many of the top 50 utilities and energy marketers across North America. Managed projects that frequently included the redevelopment of strategic plans, corporate reorganizations, the development of multi-year regulatory and legislative agendas, merger, acquisition and divestiture strategies, and the development of market entry strategies. Developed and supported merchant function exit strategies, marketing affiliate strategies, and detailed plans for the functional business units of many of North America's leading utilities.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
Chairman and Chief Executive Officer

CE Capital Advisors (2004 – Present)
Chairman, President, and Chief Executive Officer

Navigant Consulting, Inc. (1997 – 2002)
President, Navigant Energy Capital (2000 – 2002)
Executive Director (2000 – 2002)
Co-Chief Executive Officer, Vice Chairman (1999 – 2000)
Executive Managing Director (1998 – 1999)
President, REED Consulting Group, Inc. (1997 – 1998)

REED Consulting Group (1988 – 1997)
Chairman, President and Chief Executive Officer

R.J. Rudden Associates, Inc. (1983 – 1988)
Vice President

Stone & Webster Management Consultants, Inc. (1981 – 1983)
Senior Consultant
Consultant

Southern California Gas Company (1976 – 1981)
Corporate Economist
Financial Analyst
Treasury Analyst

EDUCATION AND CERTIFICATION

B.S., Economics and Finance, Wharton School, University of Pennsylvania, 1976
Licensed Securities Professional: NASD Series 7, 63, and 24 Licenses

BOARDS OF DIRECTORS (PAST AND PRESENT)

Concentric Energy Advisors, Inc.
Navigant Consulting, Inc.
Navigant Energy Capital
Nukem, Inc.
New England Gas Association
R. J. Rudden Associates
REED Consulting Group

AFFILIATIONS

National Association of Business Economists
International Association of Energy Economists
American Gas Association
New England Gas Association
Society of Gas Lighters
Guild of Gas Managers

REGULATORY AGENCIES

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Alaska Public Utilities Commission				
Chugach Electric	12/86	Chugach Electric	Docket No. U-86-11	Cost Allocation
Chugach Electric	6/87	Enstar Natural Gas Company	Docket No. U-87-2	Tariff Design
Chugach Electric	12/87	Enstar Natural Gas Company	Docket No. U-87-42	Gas Transportation
Chugach Electric	2/88	Chugach Electric	Docket No. U-87-35	Cost of Capital
California Energy Commission				
Southern California Gas Co.	8/80	Southern California Gas Co.	Docket No. 80-BR-3	Gas Price Forecasting
California Public Utility Commission				
Southern California Gas Co.	3/80	Southern California Gas Co.	TY 1981 G.R.C.	Cost of Service, Inflation
Pacific Gas Transmission Co.	10/91	Pacific Gas & Electric Co.	App. 89-04-033	Rate Design
Pacific Gas Transmission Co.	7/92	Southern California Gas Co.	A. 92-04-031	Rate Design
Colorado Public Utilities Commission				
AMAX Molybdenum	2/90	Commission Rulemaking	Docket No. 89R-702G	Gas Transportation
AMAX Molybdenum	11/90	Commission Rulemaking	Docket No. 90R-508G	Gas Transportation
Xcel Energy	8/04	Xcel Energy	Docket No. 031-134E	Cost of Debt
CT Dept. of Public Utilities Control				
Connecticut Natural Gas	12/88	Connecticut Natural Gas	Docket No. 88-08-15	Gas Purchasing Practices
United Illuminating	3/99	United Illuminating	Docket No. 99-03-04	Nuclear Plant Valuation
Southern Connecticut Gas	2/04	Southern Connecticut Gas	Docket No. 00-12-08	Gas Purchasing Practices
Southern Connecticut Gas	4/05	Southern Connecticut Gas	Docket No. 05-03-17	LNG/Trunkline
Southern Connecticut Gas	5/06	Southern Connecticut Gas	Docket No. 05-03-17PH01	LNG/Trunkline
Southern Connecticut Gas	8/08	Southern Connecticut Gas	Docket No. 06-05-04	Peaking Service Agreement

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
District Of Columbia PSC				
Potomac Electric Power Company	3/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Direct)
Potomac Electric Power Company	5/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Supplemental Direct)
Potomac Electric Power Company	7/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Rebuttal)
Fed'l Energy Regulatory Commission				
Safe Harbor Water Power Corp.	8/82	Safe Harbor Water Power Corp.		Wholesale Electric Rate Increase
Western Gas Interstate Company	5/84	Western Gas Interstate Company	Docket No. RP84-77	Load Fcst. Working Capital
Southern Union Gas	4/87	El Paso Natural Gas Company	Docket No. RP87-16-000	Take-or-Pay Costs
Connecticut Natural Gas	11/87	Penn-York Energy Corporation	Docket No. RP87-78-000	Cost Alloc./Rate Design
AMAX Magnesium	12/88	Questar Pipeline Company	Docket No. RP88-93-000	Cost Alloc./Rate Design
Western Gas Interstate Company	6/89	Western Gas Interstate Company	Docket No. RP89-179-000	Cost Alloc./Rate Design, Open-Access Transportation
Associated CD Customers	12/89	CNG Transmission	Docket No. RP88-211-000	Cost Alloc./Rate Design
Utah Industrial Group	9/90	Questar Pipeline Company	Docket No. RP88-93-000, Phase II	Cost Alloc./Rate Design

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Iroquois Gas Trans. System	8/90	Iroquois Gas Transmission System	Docket No. CP89-634-000/001; CP89-815-000	Gas Markets, Rate Design, Cost of Capital, Capital Structure
Boston Edison Company	1/91	Boston Edison Company	Docket No. ER91-243-000	Electric Generation Markets
Cincinnati Gas and Electric Co., Union Light, Heat and Power Company, Lawrenceburg Gas Company	7/91	Texas Gas Transmission Corp.	Docket No. RP90-104-000, RP88-115-000, RP90-192-000	Cost Alloc./Rate Design Comparability of Svc.
Ocean State Power II	7/91	Ocean State Power II	ER89-563-000	Competitive Market Analysis, Self-dealing
Brooklyn Union/PSE&G	7/91	Texas Eastern	RP88-67, et al	Market Power, Comparability of Service
Northern Distributor Group	9/92	Northern Natural Gas Company	RP92-1-000, et al	Cost of Service
Canadian Association of Petroleum Producers and Alberta Pet. Marketing Comm.	10/92	Lakehead Pipe Line Co. L.P.	IS92-27-000	Rate Case Analysis Cost of Service
Colonial Gas, Providence Gas	7/93	Algonquin Gas Transmission	RP93-14	Cost Allocation, Rate Design
Colonial Gas, Providence Gas	8/93	Algonquin Gas Transmission	RP93-14 - Rebuttal	Cost Allocation, Rate Design
Iroquois Gas Transmission	94	Iroquois Gas Transmission	RP94-72-000	Cost of Service and Rate Design
Transco Customer Group	1/94	Transcontinental Gas Pipeline Corporation	Docket No. RP92-137-000	Rate Design, Firm to Wellhead
Pacific Gas Transmission	2/94	Pacific Gas Transmission	Docket No. RP94-149-000	Rolled-In vs. Incremental Rates
Tennessee GSR Group	1/95	Tennessee Gas Pipeline Company	Docket Nos. RP93-151-000, RP94-39-000, RP94-197-000, RP94-309-000	GSR Costs

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Pacific Gas Transmission	2/95	Pacific Gas Transmission	RP94-149-000	Rate Design
Tennessee GSR Customer Group	3/95	Tennessee Gas Pipeline Company	Docket Nos. RP93-151-000, RP94-39-000, RP94-197-000, RP94-309-000	GSR Costs
ProGas and Texas Eastern	1/96	Tennessee Gas Pipeline Company	RP93-151	Declaration
PG&E and SoCal Gas	96	El Paso Natural Gas Company	RP92-18-000	Stranded Costs
Iroquois Gas Transmission System, L.P.	97	Iroquois Gas Transmission System, L.P.	RP97-126-000	Cost of Service, Rate Design
BEC Energy - Commonwealth Energy System	2/99	Boston Edison Company/ Commonwealth Energy System	EC99-___-000	Market Power Analysis - Merger
Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Power Corporation, Dynegy Power Inc.	10/00	Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Power Corporation, Dynegy Power Inc.	Docket No. EC00-___	Market Power 203/205 Filing
Wyckoff Gas Storage	12/02	Wyckoff Gas Storage	CP03-33-000	Need for Storage Project
Indicated Shippers/Producers	10/03	Northern Natural Gas	Docket No. RP98-39-029	Ad Valorem Tax Treatment
Maritimes & Northeast Pipeline	6/04	Maritimes & Northeast Pipeline	Docket No. RP04-360-000	Rolled-In Rates
ISO New England	8/04	ISO New England	Docket No. ER03-563-030	Cost of New Entry
Transwestern Pipeline Company, LLC	9/06	Transwestern Pipeline Company, LLC	Docket No. RP06-614-000	
Portland Natural Gas Transmission System	6/08	Portland Natural Gas Transmission System	Docket No. RP08-306-000	Market Assessment, natural gas transportation; rate setting

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Florida Public Service Commission				
Florida Power and Light Co.	10/07	Florida Power & Light Co.	Docket No. 070650-EI	Need for new nuclear plant
Florida Power and Light Co.	5/08	Florida Power & Light Co.	Docket No. 080009-EI	New Nuclear cost recovery
Florida Power and Light Co.	3/09	Florida Power & Light Co.	Docket No. 080677-EI	Benchmarking in support of ROE
Florida Power and Light Co.	3/09	Florida Power & Light Co.	Docket No. 090009-EI	New Nuclear cost recovery
Florida Senate Committee on Communication, Energy and Utilities				
Florida Power and Light Co.	2/09	Florida Power & Light Co.		Securitization
Hawaii Public Utility Commission				
Hawaiian Electric Light Company, Inc. (HELCO)	6/00	Hawaiian Electric Light Company, Inc.	Cause No. 41746	Standby Charge
Indiana Utility Regulatory Commission				
Northern Indiana Public Service Company	10/01	Northern Indiana Public Service Company	Docket No. 99-0207	Direct Testimony, Valuation of Electric Generating Facilities
Northern Indiana Public Service Company	01/08	Northern Indiana Public Service Company	Cause No. 43396	Asset Valuation
Northern Indiana Public Service Company	08/08	Northern Indiana Public Service Company	Cause No. 43526	Fair Market Value Assessment
Iowa Utilities Board				
Interstate Power and Light	7/05	Interstate Power and Light and FPL Energy Duane Arnold, LLC	Docket No. SPU-05-15	Sale of Nuclear Plant
Interstate Power and Light	5/07	City of Everly, Iowa	Docket No. SPU-06-5	Public Benefits
Interstate Power and Light	5/07	City of Kalona, Iowa	Docket No. SPU-06-6	Public Benefits
Interstate Power and Light	5/07	City of Wellman, Iowa	Docket No. SPU-06-10	Public Benefits
Interstate Power and Light	5/07	City of Terril, Iowa	Docket No. SPU-06-8	Public Benefits

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Interstate Power and Light	5/07	City of Rolfe, Iowa	Docket No. SPU-06-7	Public Benefits
Maine Public Utility Commission				
Northern Utilities	5/96	Granite State and PNGTS	Docket No. 95-480, 95-481	Transportation Service and PBR
Maryland Public Service Commission				
Eastalco Aluminum	3/82	Potomac Edison	Docket No. 7604	Cost Allocation
Potomac Electric Power Company	8/99	Potomac Electric Power Company	Docket No. 8796	Stranded Cost & Price Protection (Direct)
Mass. Department of Public Utilities				
Haverhill Gas	5/82	Haverhill Gas	Docket No. DPU #1115	Cost of Capital
New England Energy Group	1/87	Commission Investigation		Gas Transportation Rates
Energy Consortium of Mass.	9/87	Commonwealth Gas Company	Docket No. DPU-87- 122	Cost Alloc./Rate Design
Mass. Institute of Technology	12/88	Middleton Municipal Light	DPU #88-91	Cost Alloc./Rate Design
Energy consortium of Mass.	3/89	Boston Gas	DPU #88-67	Rate Design
PG&E Bechtel Generating Co./ Constellation Holdings	10/91	Commission Investigation	DPU #91-131	Valuation of Environmental Externalities
Coalition of Non-Utility Generators		Cambridge Electric Light Co. & Commonwealth Electric Co.	DPU 91-234 EFSC 91-4	Review Integrated Resource Management Filing
The Berkshire Gas Company Essex County Gas Company Fitchburg Gas and Elec. Light Co.	5/92	The Berkshire Gas Company Essex County Gas Company Fitchburg Gas & Elec. Light Co.	DPU #92-154	Gas Purchase Contract Approval
Boston Edison Company	7/92	Boston Edison	DPU #92-130	Least Cost Planning
Boston Edison Company	7/92	The Williams/Newcorp Generating Co.	DPU #92-146	RFP Evaluation

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Boston Edison Company	7/92	West Lynn Cogeneration	DPU #92-142	RFP Evaluation
Boston Edison Company	7/92	L'Energia Corp.	DPU #92-167	RFP Evaluation
Boston Edison Company	7/92	DLS Energy, Inc.	DPU #92-153	RFP Evaluation
Boston Edison Company	7/92	CMS Generation Co.	DPU #92-166	RFP Evaluation
Boston Edison Company	7/92	Concord Energy	DPU #92-144	RFP Evaluation
The Berkshire Gas Company Colonial Gas Company Essex County Gas Company Fitchburg Gas and Electric Company	11/93	The Berkshire Gas Company Colonial Gas Company Essex County Gas Company Fitchburg Gas and Electric Co.	DPU #93-187	Gas Purchase Contract Approval
Bay State Gas Company	10/93	Bay State Gas Company	Docket No. 93-129	Integrated Resource Planning
Boston Edison Company	94	Boston Edison	DPU #94-49	Surplus Capacity
Hudson Light & Power Department	4/95	Hudson Light & Power Dept.	DPU #94-176	Stranded Costs -- Direct
Essex County Gas Company	5/96	Essex County Gas Company	Docket No. 96-70	Unbundled Rates
Boston Edison Company	8/97	Boston Edison Company	D.P.U. No. 97-63	Holding Company Corporate Structure
Berkshire Gas Company	6/98	Berkshire Gas Mergeco Gas Co.	D.T.E. 98-87	Regulatory Issues
Eastern Edison Company	8/98	Montaup Electric Company	D.T.E. 98-83	Marketing for divestiture of its generation business.
Boston Edison Company	98	Boston Edison Company	D.T.E. 97-113	Fossil Generation Divestiture
Boston Edison Company	98	Boston Edison Company	D.T.E. 98-119	Nuclear Generation Divestiture
Eastern Edison Company	12/98	Montaup Electric Company	D.T.E. 99-9	Sale of Nuclear Plant
NStar	9/07, 12/07	NStar, Bay State Gas, Fitchburg G&E, NE Gas, W. MA Electric	DPU 07-50	Decoupling
Mass. Energy Facilities Siting Council				
Mass. Institute of Technology	1/89	M.M.W.E.C.	EFSC-88-1	Least-Cost Planning
Boston Edison Company	9/90	Boston Edison	EFSC-90-12	Electric Generation Mkts

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Silver City Energy Ltd. Partnership	11/91	Silver City Energy	D.P.U. 91-100	State Policies; Need for Facility
Michigan Public Service Commission				
Detroit Edison Company	9/98	Detroit Edison Company	Case No. U-11726	Market Value of Generation Assets
Consumers Energy Company	8/06	Consumers Energy Company	Case No. U-14992	Sale of Nuclear Plant
Minnesota Public Utilities Commission				
Xcel Energy/No. States Power	9/04	Xcel Energy/No. States Power	Docket No. G002/GR-04-1511	NRG Impacts
Interstate Power and Light	8/05	Interstate Power and Light and FPL Energy Duane Arnold, LLC	Docket No. E001/PA-05-1272	Sale of Nuclear Plant
Northern States Power Company d/b/a Xcel Energy	11/05	Northern States Power Company	Docket No. E002/GR-05-1428	NRG Impacts on Debt Costs
Northern States Power Company d/b/a Xcel Energy	09/06	NSP v. Excelsior	Docket No. E6472/M-05-1993	Industry Norms and Financial Impacts
Northern States Power Company d/b/a Xcel Energy	11/06	Northern States Power Company	Docket No. G002/GR-06-1429	Return on Equity
Northern States Power	11/08	Northern States Power Company	Docket No. E002/GR-08-1065	Return on Equity
Northern States Power	11/09	Northern States Power Company	Docket No. G002/GR-09-1153	Return on Equity
Missouri Public Service Commission				
Missouri Gas Energy	1/03	Missouri Gas Energy	Case No. GR-2001-382	Gas Purchasing Practices; Prudence
Aquila Networks	2/04	Aquila-MPS, Aquila_L&P	Case Nos. ER-2004-0034 HR-2004-0024	Cost of Capital, Capital Structure

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Aquila Networks	2/04	Aquila-MPS, Aquila_L&P	Case No. GR-2004-0072	Cost of Capital, Capital Structure
Missouri Gas Energy	11/05	Missouri Gas Energy	Case Nos. GR-2002-348 GR-2003-0330	Capacity Planning
Montana Public Service Commission				
Great Falls Gas Company	10/82	Great Falls Gas Company	Docket No. 82-4-25	Gas Rate Adjust. Clause
Nat. Energy Board of Canada				
Alberta-Northeast	2/87	Alberta Northeast Gas Export Project	Docket No. GH-1-87	Gas Export Markets
Alberta-Northeast	11/87	TransCanada Pipeline	Docket No. GH-2-87	Gas Export Markets
Alberta-Northeast	1/90	TransCanada Pipeline	Docket No. GH-5-89	Gas Export Markets
Indep. Petroleum Association of Canada	1/92	Interprovincial Pipe Line, Inc.	RH-2-91	Pipeline Valuation, Toll
The Canadian Association of Petroleum Producers	11/93	Transmountain Pipe Line	RH3-93	Cost of Capital
Alliance Pipeline L.P.	6/97	Alliance Pipeline L.P.	GH-3-97	Market Study
Maritimes & Northeast Pipeline	97	Sable Offshore Energy Project	GH-6-96	Market Study
Maritimes & Northeast Pipeline	2/02	Maritimes & Northeast Pipeline	GH-3-2002	Natural Gas Demand Analysis
TransCanada Pipelines	8/04	TransCanada Pipelines	RH-3-2004	Segmented Service
Brunswick Pipeline	9/06	Brunswick Pipeline	GH-1-2006	Market Study
TransCanada Pipelines Ltd.	3/07	TransCanada Pipelines Ltd.: Gros Cacouma Receipt Point Application	RH-1-2007	
Repsol Energy Canada Ltd	3/08	Repsol Energy Canada Ltd	GH-1-2008	Market Study
New Brunswick Energy and Utilities Board				
Atlantic Wallboard/JD Irving Co	1/08	Atlantic Wallboard/JD Irving Co.	MCTN #298600	Rate Setting for EGNB

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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Bus & Industry Association	5/90	Northeast Utilities	Docket No. DR89-244	Merger & Acq. Issues
Eastern Utilities Associates	6/90	Eastern Utilities Associates	Docket No. DF89-085	Merger & Acq. Issues
EnergyNorth Natural Gas	12/90	EnergyNorth Natural Gas	Docket No. DE90-166	Gas Purchasing Practices
EnergyNorth Natural Gas	7/90	EnergyNorth Natural Gas	Docket No. DR90-187	Special Contracts, Discounted Rates
Northern Utilities, Inc.	12/91	Commission Investigation	Docket No. DR91-172	Generic Discounted Rates
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Golden Nugget	3/87	Atlantic Electric	B.P.U. No. 837-658	Line Extension Policies
New Jersey Natural Gas	2/89	New Jersey Natural Gas	B.P.U. GR89030335J	Cost Alloc./Rate Design
New Jersey Natural Gas	1/91	New Jersey Natural Gas	B.P.U. GR90080786J	Cost Alloc./Rate Design
New Jersey Natural Gas	8/91	New Jersey Natural Gas	B.P.U. GR91081393J	Rate Design; Weather Norm. Clause
New Jersey Natural Gas	4/93	New Jersey Natural Gas	B.P.U. GR93040114J	Cost Alloc./Rate Design
South Jersey Gas	4/94	South Jersey Gas	BRC Dock No. GR080334	Revised levelized gas adjustment
New Jersey Utilities Association	9/96	Commission Investigation	BPU AX96070530	PBOP Cost Recovery
Morris Energy Group	11/09	Morris Energy Group	BPU GR 09050422	Discriminatory Rates
New Mexico Public Service Commission				
Gas Company of New Mexico	11/83	Public Service Co. of New Mexico	Docket No. 1835	Cost Alloc./Rate Design

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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Iroquois Gas. Transmission	12/86	Iroquois Gas Transmission System	Case No. 70363	Gas Markets
Brooklyn Union Gas Company	8/95	Brooklyn Union Gas Company	Case No. 95-6-0761	Panel on Industry Directions
Central Hudson, ConEdison and Niagara Mohawk	9/00	Central Hudson, ConEdison and Niagara Mohawk	Case No. 96-E-0909 Case No. 96-E-0897 Case No. 94-E-0098 Case No. 94-E-0099	Section 70
Central Hudson, New York State Electric & Gas, Rochester Gas & Electric	5/01	Joint Petition of NiMo, NYSEG, RG&E, Central Hudson, Constellation and Nine Mile Point	Case No. 01-E-0011	Section 70, Rebuttal Testimony
Rochester Gas & Electric	12/03	Rochester Gas & Electric	Case No. 03-E-1231	Sale of Nuclear Plant
Rochester Gas & Electric	01/04	Rochester Gas & Electric	Case No. 03-E-0765 Case No. 02-E-0198 Case No. 03-E-0766	Sale of Nuclear Plant; Ratemaking Treatment of Sale
Oklahoma Corporation Commission				
Oklahoma Natural Gas Company	6/98	Oklahoma Natural Gas Company	Case PUD No. 980000177	Evaluate their use of storage
Oklahoma Gas & Electric Company	9/05	Oklahoma Gas & Electric Company	Cause No. PUD 200500151	Prudence of McLain Acquisition
Oklahoma Gas & Electric Company	03/08	Oklahoma Gas & Electric Company	Cause No. PUD 200800086	Acquisition of Redbud generating facility
Ontario Energy Board				
Market Hub Partners Canada, L.P.	5/06	Natural Gas Electric Interface Roundtable	File No. EB-2005-0551	Market-based Rates For Storage

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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ATOC	3/96	Equitrans	Docket No. P-00940886	Rate Service - Direct
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Newport Electric	7/81	Newport Electric	Docket No. 1599	Rate Attrition
South County Gas	9/82	South County Gas	Docket No. 1671	Cost of Capital
New England Energy Group	7/86	Providence Gas Company	Docket No. 1844	Cost Alloc./Rate Design
Providence Gas	8/88	Providence Gas Company	Docket No. 1914	Load Forecast., Least-Cost Planning
Providence Gas Company and The Valley Gas Company	1/01	Providence Gas Company and The Valley Gas Company	Docket No. 1673 and 1736	Gas Cost Mitigation Strategy
The New England Gas Company	3/03	New England Gas Company	Docket No. 3459	Cost of Capital
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Southwestern Electric	5/83	Southwestern Electric		Cost of Capital, CWIP
P.U.C. General Counsel	11/90	Texas Utilities Electric Company	Docket No. 9300	Gas Purchasing Practices
Oncor Electric Delivery Company	8/07	Oncor Electric Delivery Company	Docket No. 34040	Rate Filing Package; Regulatory Policy, Rate of Return, Return of Capital and Consolidated Tax Adjustment
Oncor Electric Delivery Company	6/08	Oncor Electric Delivery Company	Docket No. 35717	Rate Filing
Oncor Electric Delivery Company	10/08	Oncor, TCC, TNC, ETT, LCRA TSC, Sharyland, STEC, TNMP	Docket No. 35665	Competitive Renewable Energy Zone

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
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AMAX Magnesium	4/88	Utah P&L/Pacific P&L	Case No. 87-035-27	Merger & Acquisition
Utah Industrial Group	7/90	Mountain Fuel Supply	Case No. 89-057-15	Gas Transportation Rates
AMAX Magnesium	9/90	Utah Power & Light	Case No. 89-035-06	Energy Balancing Account
AMAX Magnesium	8/90	Utah Power & Light	Case No. 90-035-06	Electric Service Priorities
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Benchmarking in support of ROE
Vermont Public Service Board				
Green Mountain Power	8/82	Green Mountain Power	Docket No. 4570	Rate Attrition
Green Mountain Power	12/97	Green Mountain Power	Docket No. 5983	Tariff Filing
Green Mountain Power	7/98	Green Mountain Power	Docket No. 6107	Direct Testimony
Green Mountain Power	9/00	Green Mountain Power	Docket No. 6107	Rebuttal Testimony
Wisconsin Public Service Commission				
WEC & WICOR	11/99	WEC	Docket No. 9401-YO-100 Docket No. 9402-YO-101	Approval to Acquire the Stock of WICOR
Wisconsin Electric Power Company	1/07	Wisconsin Electric Power Co.	Docket No. 6630-EI-113	Sale of Nuclear Plant

COURTS AND ARBITRATION

SPONSOR	Date	CASE/APPLICANT	DOCKET NO.	SUBJECT
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ProGas Limited	7/92	ProGas Limited v. Texas Eastern	Arbitration Panel	Gas Contract Arbitration
Attala Generating Company	12/03	Attala Generating Co v. Attala Energy Co.	Case No. 16-Y-198-00228-03	Power Project Valuation; Breach of Contract; Damages
Nevada Power Company	4/08	Nevada Power v. Nevada Cogeneration Assoc. #2		Power Purchase Agreement
Commonwealth of Massachusetts, Suffolk Superior Court				
John Hancock	1/84	Trinity Church v. John Hancock	C.A. No. 4452	Damages Quantification
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Questar Corporation, et al	11/00	Questar Corporation, et al.	Case No. 00CV129-A	Partnership Fiduciary Duties
State of Delaware, Court of Chancery, New Castle County				
Wilmington Trust Company	11/05	Calpine Corporation vs. Bank Of New York and Wilmington Trust Company	C.A. No. 1669-N	Bond Indenture Covenants
Illinois Appellate Court, Fifth Division				
Norweb, plc	8/02	Indeck No. America v. Norweb	Docket No. 97 CH 07291	Breach of Contract; Power Plant Valuation
Independent Arbitration Panel				
Alberta Northeast Gas Limited	2/98	ProGas Ltd., Canadian Forest Oil Ltd., AEC Oil & Gas		

SPONSOR	Date	CASE/APPLICANT	DOCKET NO.	SUBJECT
Ocean State Power	9/02	Ocean State Power vs. ProGas Ltd.	2001/2002 Arbitration	Gas Price Arbitration
Ocean State Power	2/03	Ocean State Power vs. ProGas Ltd.	2002/2003 Arbitration	Gas Price Arbitration
Ocean State Power	6/04	Ocean State Power vs. ProGas Ltd.	2003/2004 Arbitration	Gas Price Arbitration
Shell Canada Limited	7/05	Shell Canada Limited and Nova Scotia Power Inc.		Gas Contract Price Arbitration
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Wisconsin Gas Company, Inc.	2/97	Wisconsin Gas Co. vs. Pan-Alberta	Case No. 9322/CK	Contract Arbitration
Minnegasco, A Division of NorAm Energy Corp.	3/97	Minnegasco vs. Pan-Alberta	Case No. 9357/CK	Contract Arbitration
Utilicorp United Inc.	4/97	Utilicorp vs. Pan-Alberta	Case No. 9373/CK	Contract Arbitration
IES Utilities	97	IES vs. Pan-Alberta	Case No. 9374/CK	Contract Arbitration
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Transamerica Corp., et. al.	7/07	IMO Industries Inc. vs. Transamerica Corp., et. al.	Docket No. L-2140-03	Breach-Related Damages, Enterprise Value
State of New York, Nassau County Supreme Court				
Steel Los III, LP	6/08	Steel Los II, LP & Associated Brook, Corp v. Power Authority of State of NY	Index No. 5662/05	Property seizure
Province of Alberta, Court of Queen's Bench				
Alberta Northeast Gas Limited	5/07	Cargill Gas Marketing Ltd. vs. Alberta Northeast Gas Limited	Action No. 0501-03291	Gas Contracting Practices

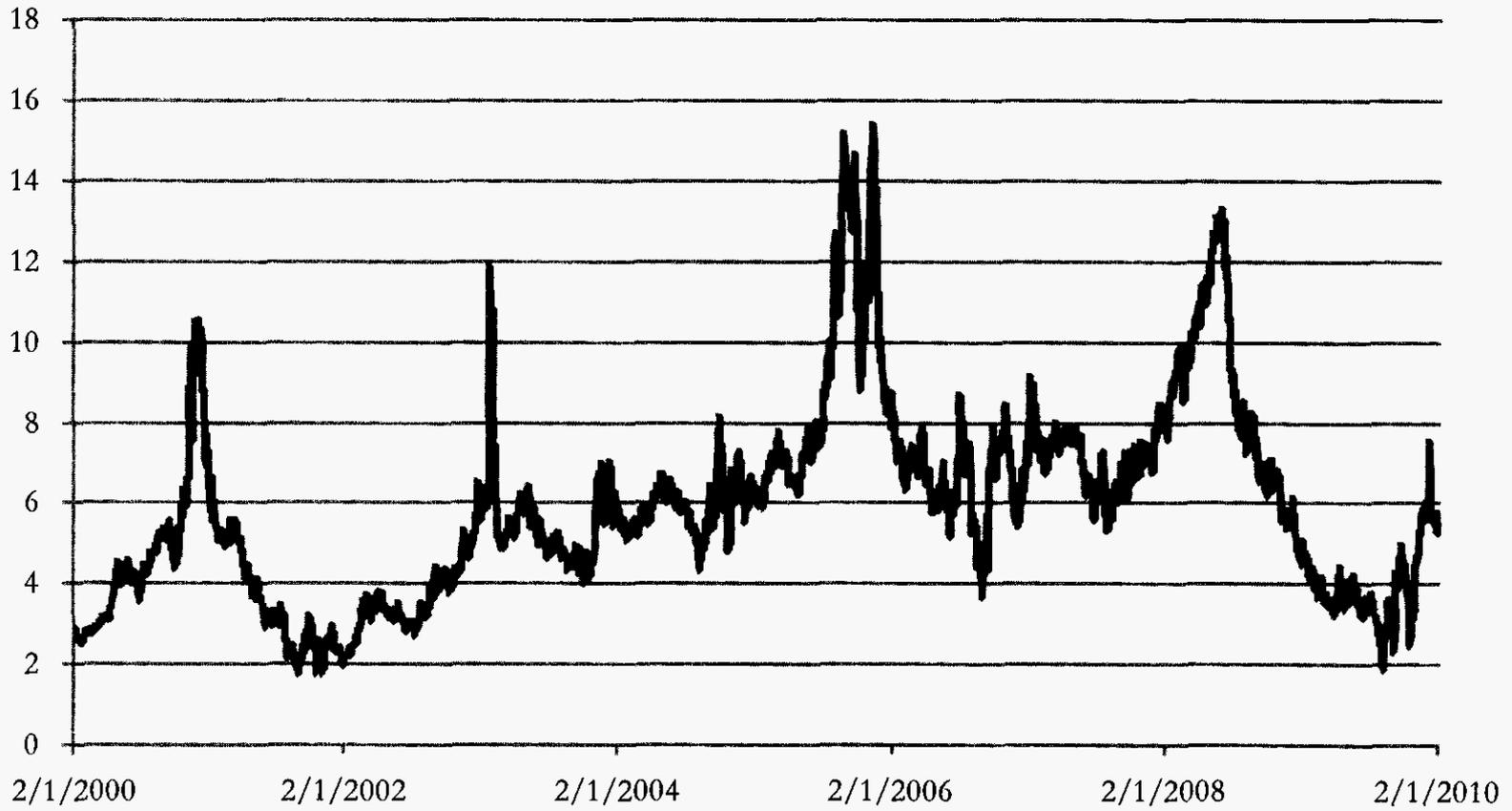
SPONSOR	Date	CASE/APPLICANT	DOCKET NO.	SUBJECT
State of Rhode Island, Providence City Court				
Aquidneck Energy	5/87	Laroche vs. Newport		Least-Cost Planning
State of Texas Hutchinson County Court				
Western Gas Interstate	5/85	State of Texas vs. Western Gas Interstate Co.	Case No. 14,843	Cost of Service
State of Utah Third District Court				
PacifiCorp & Holme, Roberts & Owen, LLP	1/07	USA Power & Spring Canyon Energy vs. PacifiCorp. et. al.	Civil No. 050903412	Breach-Related Damages
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EUA Power Corporation	7/92	EUA Power Corporation	Case No. BK-91-10525-JEY	Pre-Petition Solvency
U.S. Bankruptcy Court, District Of New Jersey				
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Cayuga Energy, NYSEG Solutions, The Energy Network	09/09	Cayuga Energy, NYSEG Solutions, The Energy Network	Case No. 06-60073-6-sdg	Going concern
U.S. Bankruptcy Court, So. District Of New York				

SPONSOR	Date	CASE/APPLICANT	DOCKET No.	SUBJECT
U.S. Bankruptcy Court, Northern District Of Texas				
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U. S. Court of Federal Claims				
Boston Edison Company	7/06	Boston Edison v. Department of Energy	No. 99-447C No. 03-2626C	Spent Nuclear Fuel Litigation
Consolidated Edison of New York	08/07	Consolidated Edison of New York, Inc. and subsidiaries v. United States	No. 06-305T	Leasing Litigation
Consolidated Edison Company	2/08	Consolidated Edison Company v. United States	No. 04-0033C	SNF Expert Report
Vermont Yankee Nuclear Power Corporation	6/08	Vermont Yankee Nuclear Power Corporation	No. 03-2663C	SNF Expert Report
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U. S. District Court, Northern California				
Pacific Gas & Electric Co./PGT PG&E/PGT Pipeline Exp. Project	4/97	Norcen Energy Resources Limited	Case No. C94-0911 VRW	Fraud Claim
U. S. District Court, District of Connecticut				
Constellation Power Source, Inc.	12/04	Constellation Power Source, Inc. v. Select Energy, Inc.	Civil Action 304 CV 983 (RNC)	ISO Structure, Breach of Contract
U. S. District Court, Massachusetts				
Eastern Utilities Associates & Donald F. Pardus	3/94	NECO Enterprises Inc. vs. Eastern Utilities Associates	Civil Action No. 92-10355-RCL	Seabrook Power Sales

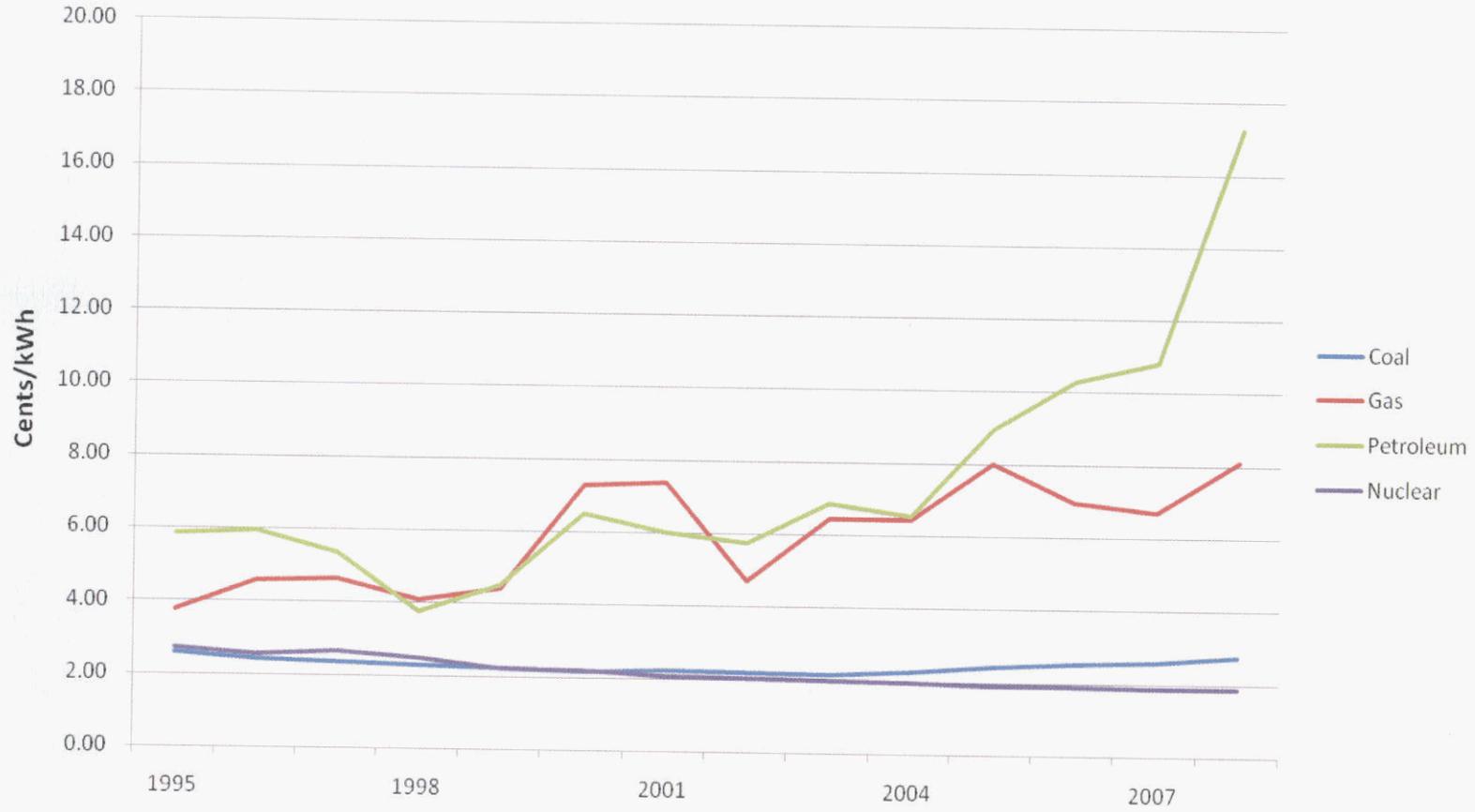
SPONSOR	Date	CASE/APPLICANT	DOCKET NO.	SUBJECT
Constellation Power Source, Inc.	12/04	Constellation Power Source, Inc. v. Select Energy, Inc.	Civil Action 304 CV 983 (RNC)	ISO Structure, Breach of Contract
U. S. District Court, Massachusetts				
Eastern Utilities Associates & Donald F. Pardus	3/94	NECO Enterprises Inc. vs. Eastern Utilities Associates	Civil Action No. 92-10355-RCL	Seabrook Power Sales
U. S. District Court, Montana				
KN Energy, Inc.	9/92	KN Energy v. Freeport MacMoRan	Docket No. CV 91-40-BLG-RWA	Gas Contract Settlement
U.S. District Court, New Hampshire				
Portland Natural Gas Transmission and Maritimes & Northeast Pipeline	9/03	Public Service Company of New Hampshire vs. PNGTS and M&NE Pipeline	Docket No. C-02-105-B	Impairment of Electric Transmission Right-of-Way
U. S. District Court, Southern District of New York				
Central Hudson Gas & Electric	11/99	Central Hudson v. Riverkeeper, Inc., Robert H. Boyle, John J. Cronin	Civil Action 99 Civ 2536 (BDP)	Expert Report, Shortnose Sturgeon Case
Central Hudson Gas & Electric	8/00	Central Hudson v. Riverkeeper, Inc., Robert H. Boyle, John J. Cronin	Civil Action 99 Civ 2536 (BDP)	Revised Expert Report, Shortnose Sturgeon Case
Consolidated Edison	3/02	Consolidated Edison v. Northeast Utilities	Case No. 01 Civ. 1893 (JGK) (HF)	Industry Standards for Due Diligence
Merrill Lynch & Company	1/05	Merrill Lynch v. Allegheny Energy, Inc.	Civil Action 02 CV 7689 (HB)	Due Diligence, Breach of Contract, Damages
U. S. District Court, Eastern District of Virginia				

SPONSOR	Date	CASE/APPLICANT	DOCKET No.	SUBJECT
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Eastern Utilities Association	10/92	EUA Power Corporation	File No. 70-8034	Value of EUA Power
District of Columbia Court City Council				
Potomac Electric Power Co.	7/99	Potomac Electric Power Co.	Bill 13-284	Utility restructuring

Price of Natural Gas at the Henry Hub (2000-2010)



Total Production Cost of Electricity, 1995-2008



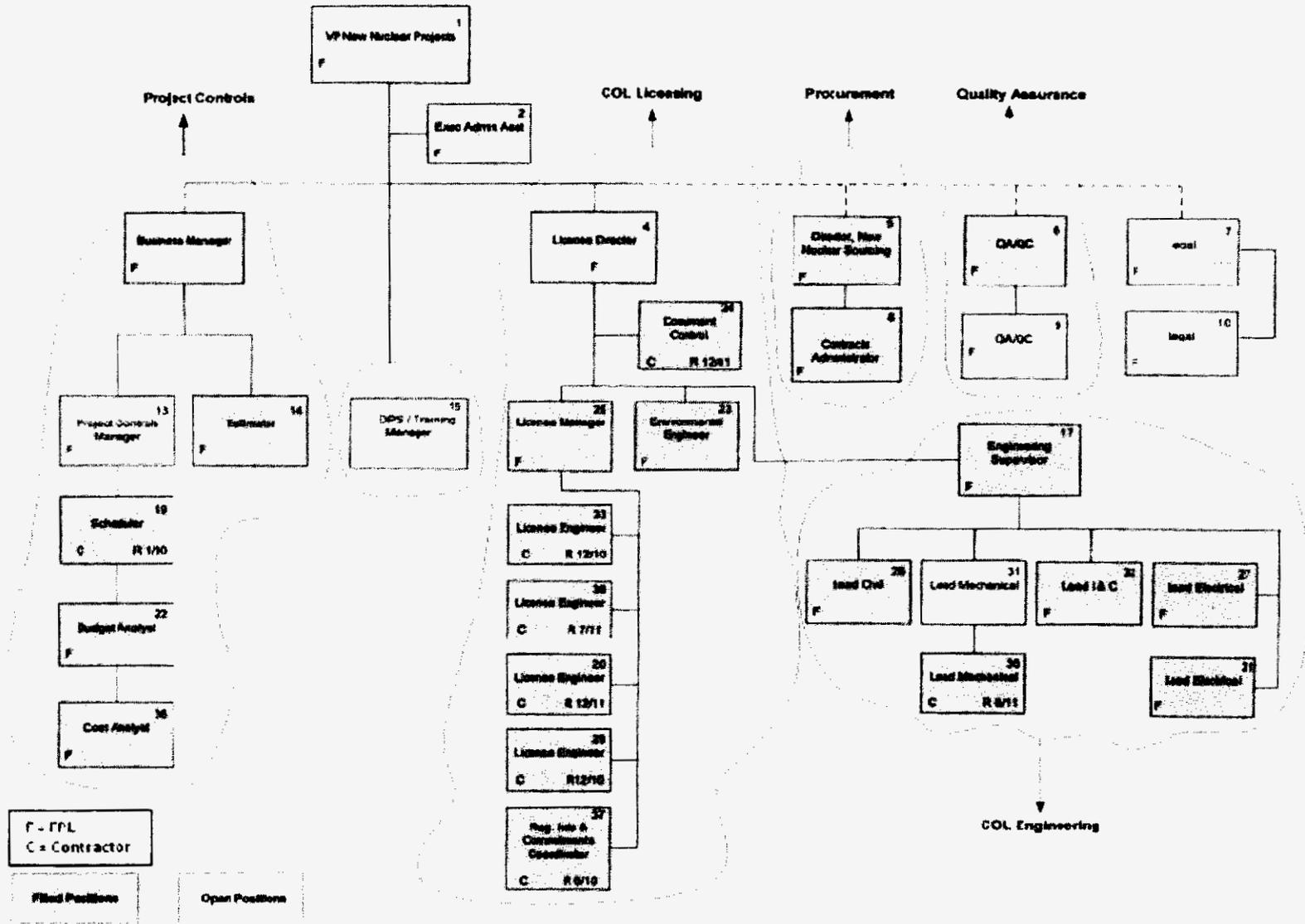
Index of EPU Project Meetings

Meetings

1. EPU Executive Steering Committee Meeting
 - a. Occurs: monthly
 - b. Attendees: EPU Executive Steering Committee
 - c. Purpose: Overview of major project issues, costs, schedule and budget
2. Plan of the Day Accountability Meeting
 - a. Occurs: daily
 - b. Purpose: review and report daily work plans
3. Change Control Board Review Meeting (PTN)
 - a. Occurs: weekly
 - b. Attendees: managers
 - c. Purpose: Review and approve Change/Trend at site level
4. Monthly Cost Reviews
 - a. Occurs: monthly
 - b. Attendees: FPL management and Bechtel
 - c. Purpose: review incurred and forecasted project costs
5. Risk Review
 - a. Occurs: weekly
 - b. Attendees: managers
 - c. Purpose: Review and track identified project risks
6. Review of Key Performance Indicators
 - a. Occurs: weekly
 - b. Attendees: managers
 - c. Purpose: Review Key Performance Indicators
7. EPU Leadership Meeting
 - a. Occurs: weekly
 - b. Attendees: FPL and Bechtel site managers
 - c. Purpose: discussion of project strategies and progress
8. Plant Change Modifications

- a. Occurs: weekly
 - b. Purpose: 8-week look ahead meeting
9. EPU Alliance
- a. Occurs: biweekly
10. Bechtel Schedule and Cost Performance meeting
- a. Occurs: weekly
 - b. Purpose: Review of Bechtel's CPIs and SPIs
11. Integrated Supply Chain meeting
- a. Occurs: weekly
 - b. Attendees: Senior management
 - c. Purpose:
12. Work Package Development Review meeting (starting in 2010)
- a. Occurs: weekly
13. FPL Senior Management Meeting
- a. Occurs: daily
 - b. Purpose: Discussion of progress
14. Project Station Work Control meeting (PTN)
- a. Occurs: weekly
15. Project Challenge Meeting (starting in 2010)
- a. Occurs: weekly
16. Vendor Integration Meeting
- a. Occurs: Quarterly
 - b. Attendees: Vendor Integration Committee and major vendors
 - c. Purpose: Review progress and interfacing between vendors
17. CNO Meeting
- a. Occurs: Biweekly

PTN Units 6 & 7 Project Organization New Nuclear Projects



Turkey Point 6 & 7 Development Project Organization Licensing Phase

