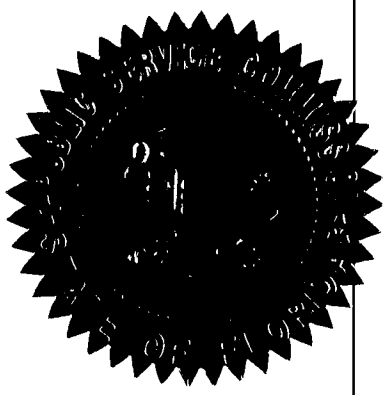
BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 080148-EI

In the Matter of:

PETITION FOR DETERMINATION OF NEED FOR LEVY UNITS 1 AND 2 NUCLEAR POWER PLANTS, BY PROGRESS ENERGY FLORIDA, INC.
_____/



VOLUME 2

Pages 58 through 218

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PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN MATTHEW M. CARTER, II COMMISSIONER LISA POLAK EDGAR COMMISSIONER KATRINA J. McMURRIAN COMMISSIONER NANCY ARGENZIANO COMMISSIONER NATHAN A. SKOP
DATE:	Wednesday, May 21, 2008
TIME:	Commenced at 9:30 a.m. Adjourned at 4:50 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	MARY ALLEN NEEL, RPR, FPR
PARTICIPATING:	(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER		ID.	ADMTD.
14	DLR-1		216
15	DLR-2		216
16	DLR-3		216
17	DLR-4		216
18	DLR-5		216
19	DLR-6		216
62	US New Reactors Online in 2016	97	
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66	NRC News No. 08-072	186	216

P R O C E E D I N G S

(Transcript follows in sequence from Volume 1.)

CHAIRMAN CARTER: We are back on the record. And when we left, we were getting ready for the beginning of the witnesses. Let me see. Let me get my notes together here.

Mr. Glenn.

MR. GLENN: Mr. Chairman, we would call Mr. Lyash.

CHAIRMAN CARTER: Mr. Lyash. Have you been sworn, sir?

Hang on a second before we do that. I just thought about that. I swore in the witnesses for the public testimony. Are there any other witnesses here in the room that are going to be testifying today? Would you please all stand, and we'll just do it at one time. And I'll ask counsel to kind of help me keep it straight. If someone comes up that has not been sworn, you can just kind of let me know at that point in time.

MR. BREW: Mr. Chairman, do you want all the witnesses that are here today?

CHAIRMAN CARTER: Yes. Yes, I do. And those of you that we don't get to today, just remember when you get up that you've been sworn in and conduct

yourselves accordingly.

(Witnesses collectively sworn.)

CHAIRMAN CARTER: You may be seated.

Mr. Glenn.

Thereupon,

JEFFREY J. LYASH

was called as a witness on behalf of Progress Energy Florida, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GLENN:

Q. Good afternoon, Mr. Lyash. Would you please state your name and business address for the record.

A. My name is Jeffrey Lyash. I'm President and CEO of Progress Energy. My business address is 299 First Avenue North, St. Petersburg, Florida.

Q. And have you prepared and caused to be filed 25 pages of prefiled direct testimony in this proceeding on the 11th day of March, 2008?

A. Yes, I have.

Q. Have you any changes or revisions to that testimony today?

A. No, I do not.

Q. And if I were to ask you the same questions today as were reflected in your direct testimony, would

your answers be the same?

A. Yes, they would.

MR. GLENN: Mr. Chairman, Progress Energy requests that the prefiled direct testimony of Mr. Lyash be inserted into the record as though read.

CHAIRMAN CARTER: The prefiled testimony will be accepted into the record as though read.

IN RE: PETITION FOR DETERMINATION OF NEED FOR LEVY UNITS 1 AND 2 NUCLEAR POWER PLANTS

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF
JEFFREY J. LYASH

I. INTRODUCTION AND SUMMARY.

Q. Please state your name and business address.

A. My name is Jeff Lyash. I am employed by Progress Energy Florida, Inc. ("Progress Energy" or the "Company"). My business address is 299 First Avenue North, St. Petersburg, Florida 33701.

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

A. I am President and Chief Executive Officer of Progress Energy Florida ("PEF" or the "Company"). In this role, I have overall responsibility for the operations of Progress Energy Florida.

Q. Please describe your educational background and professional experience.

A. I graduated with a bachelor's degree in mechanical engineering from Drexel University in 1984. Prior to joining Progress Energy, I worked with the U.S. Nuclear Regulatory Commission ("NRC") in a number of capacities. In 1993, I joined Progress Energy, and spent eight years at the Brunswick Nuclear Plant in Southport, North Carolina, ultimately becoming Director of Site Operations. In January 2002, I

assumed the position of Vice President of Transmission/Energy Delivery in the Carolinas. On November 1, 2003, I was promoted to Senior Vice President of Energy Delivery-Florida. On June 1, 2006, I was promoted to President and CEO of PEF, which is the position I currently hold.

Q. What is the purpose of your direct testimony?

A. I provide an overview of PEF's request for a determination of need to construct two new nuclear power plants at the Company's Levy County site, and introduce the other Company witnesses who will provide more detailed testimony supporting specific portions of our Need Petition. I outline why we need the generating capacity in the 2016 timeframe, why new nuclear generation is the best resource to meet our customers' needs, and the challenges we will face over the next eight to nine years in siting, licensing, and constructing these plants, as well as the significant transmission and other facilities associated with these large base load plants.

Q. Are you sponsoring any exhibits to your testimony?

A. No.

Q. Please summarize your testimony.

A. PEF needs approximately 2,200 megawatts ("MW") of firm resource capacity in the 2016-2019 timeframe to reliably meet its customers' growing demand for power. We have identified new nuclear generating plants as the most prudent means of meeting that need over the long term; one that will improve PEF's fuel diversity and security,

enhance the Company's and the State's energy independence, mitigate price volatility, add needed base load capacity to PEF's system, and play an essential role in reducing greenhouse gas and other air emissions. We recognize that these plants will have very high initial capital costs as compared to natural gas fired combined cycle plants. Furthermore, the Company appreciates that the long licensing and construction process for new nuclear plants involves inherent uncertainties that could affect the cost and schedule of such construction. Nevertheless, we believe that the Company and the State should not put all its eggs in one basket and build only new natural gas fired generation. Rather, we believe that new nuclear generation is a key to securing Florida's energy future, and a critical hedge against the future risk of volatile and increasing fossil fuel prices, and the likely significant future costs of carbon and other air emissions regulation. Our customers and the State will benefit over the long term by adding new nuclear generation in the state sooner rather than later.

Florida is the nation's fourth most populous state and ranks third in energy consumption per person. At PEF, we expect overall demand for electricity in our service area to grow significantly over the next ten years. We are committed to meeting the growing energy needs of the present and future with safe, reliable, environmentally responsible, and reasonably priced electric service. We will meet our customers' needs through a balanced approach that combines energy efficiency, alternative energy sources, and state-of-the-art power plants. Our balanced solution approach will result in reliable, cost-effective power for our customers, greater fuel diversity and security with less dependence on fossil and foreign fuels, a cleaner environment, and a stronger Company.

Energy Efficiency programs and alternative energy resources will play a critical role in PEF meeting its customers' growing demand for power. PEF is a national leader in energy efficiency programs. Through our efforts over the last 25 years, our customers have reduced energy usage in an amount equal to powering the City of Orlando for two years. Our programs have reduced energy demand by 1,500 MWs and eliminated the need for 3 new 500 MW generating power plants. This has resulted in reducing carbon dioxide emissions by 7,500,000 tons or the equivalent of taking 1,900,000 cars from Florida roads every year. Last year, we expanded our already successful demand side management ("DSM") and energy efficiency programs to add 39 new measures, including two new residential programs. We expect these additional measures to avoid the need to construct 527 MWs of new generation.

Similarly, PEF is a leader in using cost-effective, environmentally sensitive renewable energy sources within Florida. To mention just a few, we have invested in partnerships researching hydrogen fuel cell projects, including implementing Florida's first hydrogen fueling station. In 2006, we executed a contract with a renewable energy provider to build the largest carbon-neutral biomass plant in the world. In 2007, we executed two 75 MW contracts with another producer for the output of the largest wood waste power plants in the nation. Building on these successes and to promote the development of even more renewable energy resources within the State, in July of last year the Company issued a Request for Renewable Resources asking for any and all renewable energy developers to come forward with proposed renewable energy projects. We are in discussions with several respondents to hopefully develop

more renewable energy projects within the state. These efforts benefit the environment, reduce Florida's dependence on foreign fuel sources, and increase supply diversity.

Energy efficiency and alternative energy sources alone, however, are not and will not be enough to meet our customers' growing needs. Without Levy Units 1 and 2, PEF's reserve margins will fall below the minimum 20% planning criterion in the 2016 time period and beyond.

Given this, PEF examined and evaluated supply and non-supply side alternatives to meet our customers' growing energy needs. This included analyses of renewable energy technologies, demand side management programs (including energy efficiency programs), conventional generating alternatives such as natural gas fired combined cycle power plants and traditional coal-fired power plants, and advanced technologies such as integrated gasification combined cycle ("IGCC") plants, super critical coal-fired plants, and advanced light water nuclear reactor technology.

Based on our analysis, we selected advanced, state-of-the-art nuclear power plant generation as the most cost-effective means of meeting our need for power. New nuclear generation will further diversify our fuel and generation mix, enhance fuel security, minimize fuel price volatility with a low cost, stable fuel supply, provide an emissions-free electricity source in a carbon constrained future world, and add needed base load generating capacity to PEF's system. Selection of new nuclear to meet PEF's need is also consistent with the legislation, policies, and recommendations set forth by Congress, the State Legislature, the Florida Energy Commission, the Governor's Action Team, and rules issued by this Commission last year promoting

new nuclear power and recognizing the critical role that new nuclear generation must play in meeting the Nation's and State's energy demands in an increasingly carbon constrained world.

To keep new nuclear generation as a viable option in the 2016-2017 timeframe, however, the Company must act now. Equipment suppliers and key components are limited. As such, we must execute contracts and order long lead time equipment to hold our place in the queue and preserve our ability to commence construction in the 2011-2012 time period. In addition, we must prepare our combined construction and operating license application or "COLA," and file with the U.S. Nuclear Regulatory Commission ("NRC") later this year in order to assure receipt of the license by 2011 to support plant construction. Likewise, we must begin acquiring the rights-of-way needed to site and construct the significant new transmission facilities that will be needed across the PEF system to accommodate the new Levy plants. This process is already underway and is expected to take at least four years. Given these time pressures, the Company must file its Need Petition now and is requesting an affirmative determination of need by the Commission for the Company's Levy Units 1 and 2 nuclear power plants, together with the associated facilities, including transmission lines and substation facilities, that must be constructed in order to reliably deliver power from the Levy plants to PEF's customers.

Q. Please provide an overview of those, in addition to yourself, who will support PEF's Need Petition and the areas these witnesses will address.

A. In addition to my own testimony, the Company will present the testimony of the following witnesses:

- Mr. Ben Crisp, head of PEF's System Planning and Regulatory Performance, who will support the Company's Need Study and Petition for determination of need for Levy Units 1 and 2. Mr. Crisp will discuss PEF's Integrated Resource Planning process and how that process led the Company to identify Levy Units 1 and 2 to meet the Company's reliability need for the time period 2016 to 2019 and beyond. He will explain how the Company determined that Levy Units 1 and 2 were superior to other supply-side alternatives, including renewable generation resources that were commercially available to the Company to meet its reliability need, and how existing and planned Demand Side Management ("DSM") programs fail to mitigate the need for Levy Units 1 and 2. Mr. Crisp will explain why Levy Units 1 and 2 are the most cost-effective alternative to meet the Company's need taking into account increased fuel diversity and supply reliability, fuel independence, existing and future emission compliance costs, and long-term electric reliability that the Florida Legislature requires us to consider when determining the cost-effectiveness of nuclear power plants.
- Mr. Danny Roderick, Vice President – Nuclear Projects & Construction, who will explain the site selection process and the prudence of that site selection for Levy Units 1 and 2; explain the initial technology selection for Levy Units 1 and 2 and how that selection will provide the Company and its customers with a state-of-the art nuclear power plant that will operate more efficiently and

safely than the safe and efficient units of the current nuclear fleet; explain the preliminary, non-binding cost estimates of Levy Units 1 and 2 and how those costs will be managed through an engineering, procurement, and construction ("EPC") contract with an experienced contractor with this nuclear design and through other contracts; and explain the schedule for engineering, site work, and construction.

- Mr. Dale Oliver, Vice President – Transmission Operations and Planning, who will discuss the necessary transmission upgrades at the site and from the site to the Company's load centers; explain the general routes for transmission of power from the site to load centers; provide the preliminary cost estimates for the engineering, easement procurement, and construction work; and explain the reasonableness of the preliminary transmission design, engineering, and resulting cost estimates at this time.
- Mr. Michael Kennedy, Principal Environmental Specialist, who will explain the environmental approval process associated with construction and operation of Levy Units 1 and 2; explain the environmental regulations currently in place and how Levy Units 1 and 2 provide the Company and its customers with environmental benefits compared to fossil and certain renewable generation; describe the potential additional environmental benefits from the construction and operation of Levy Units 1 and 2 in the event of greenhouse gas ("GHG") regulations; and explain the estimated costs associated with such potential GHG regulations.

- Mr. Sasha Weintraub, Executive Director – Regulated Fuels, who will explain the Company's fuel resources and their respective cost differences; the Company's fuel forecasts; and the volatility and supply instability of fossil fuels (natural gas, oil, and coal), especially in Florida given its natural and physical supply constraints, compared to nuclear fuel.
- Mr. John Siphers, Manager – Nuclear Fuel, Management and Safety Analysis Section, who will explain the components of nuclear fuel assemblies used to produce energy and the respective costs of the components, including the uranium commodity market; the historical, current and future uranium commodity price; and the forecast for the cost of nuclear fuel when Levy Units 1 and 2 are expected to be commercially operational.
- Mr. Robert Niekum, Director – Account Management, Origination & Cogeneration, who will explain the Company's current and future renewable capacity and/or energy providers under contract; PEF's efforts to obtain additional renewable energy generation, including its Request for Renewables; and PEF's on-going negotiations with potential renewable energy providers.
- Mr. John Masiello, Director – DSM & Alternative Energy Strategies, who will explain the Company's DSM Programs, including its current and new energy efficiency programs and measures; the historical and projected MW savings from such programs and measures; the limits of existing, planned and future DSM programs; and their inability to mitigate the need for Levy Units 1 and 2.
- Mr. Javier Portuondo, Director – Regulatory Planning, who will explain the Company's estimated annualized base revenue requirements for the first

twelve (12) months of operation of Levy Unit 1 and Levy Unit 2, respectively, based on the Company's non-binding cost estimates in accordance with Section 403.519(4) (a) 4, Fla. Stats. and Rule 25-22.081(2) (c), F.A.C.

II. THE COMPANY'S NEED FOR ADDITIONAL GENERATING CAPACITY

Q. What is PEF's need for additional generating capacity in the 2016-2018 timeframe?

A. As Mr. Crisp discusses more fully in his testimony, PEF needs to add approximately 2,200 MW to maintain electric system reliability and integrity in the time period 2016 to 2019 and beyond.

Q. What is driving PEF's need for additional generating capacity?

A. Growth in the number of customers and their demand for power, as well as PEF's need to further diversify our fuel and generation mix, enhance fuel security, minimize fuel price volatility with a low cost, stable fuel supply, provide an emissions-free electricity source in a carbon constrained future world, and add needed base load generating capacity to PEF's system. In addition, as Messrs. Crisp and Roderick explain, building two units "back-to-back" will provide significant economic advantages in the form of cost savings from engineering and construction efficiencies and economies of scale.

Over the past two decades, PEF has seen more than 600,000 homes and businesses added within its service territory. The Company's customer base has grown by roughly 160 percent since 1975, from 622,000 customers to about 1.7

million today. PEF will continue to share in Florida's population growth. Even with expected slower population growth based on more recent experience and due to recent economic conditions affecting the Florida housing market, for example, PEF still expects customer growth. Over the last three years, PEF has added annually on average roughly 40,000 new customers (homes and businesses) to PEF's service area. That growth is equivalent to adding a medium-sized city each year. We expect overall demand for electricity in our service area to grow by 25% over the next ten years.

In addition to customer growth, our customers are using more energy today than ever before. Florida's per-capita electricity use currently ranks third in the country. Many factors contribute to this high and growing consumption of electricity, including the size of homes, the prevalence of air conditioning in Florida due to the subtropical environment, and more electronic equipment in homes and businesses that, even with technological advances in energy efficiency, consume an increasing amount of electricity. The average new home in Florida is 54 percent larger today than in 1970 and 12 percent larger than in 1990. Use of air conditioning in Florida is now nearly universal when, for example, in 1980 only about two-thirds of homes in the south had air conditioning. Computers, electronic games, plasma-screen TVs (which use more electricity than a refrigerator, traditionally the third-largest source of electrical use in a typical home), and other electronic devices have increased in number and use in each home and business. As a result, per-capita electricity usage among PEF's customers in Florida has grown more than 53 percent since 1975. Increasing electricity use by customers is expected to continue to contribute to increased load growth.

As a result and as discussed in greater detail by Mr. Crisp, by the summer of 2016, PEF's projected Reserve Margin will be 15.4 percent without the addition of Levy Unit 1, well below the Company's minimum 20 percent Reserve Margin commitment.

Q. Can PEF meet its need by non-generating resource alternatives?

A. No. PEF recognizes that the cleanest and greenest MW is the one that is never used. To this end, with this Commission's leadership, PEF has implemented some of the most aggressive DSM and Energy Efficiency programs in the nation. Since 1981, through its cost-effective programs, including direct load control programs, PEF has saved approximately 1,500 MWs, equal to avoiding the need to build 3 power plants, or reducing carbon emissions by 7,500,000 tons; the equivalent of removing 1,900,000 cars from Florida highways each year.

PEF, however, has not stopped there. Last year, PEF implemented 39 new cost-effective DSM measures. These included new attic insulation and duct test and repair programs, high-efficiency electric heat pump incentives, additional solar water heater incentives, and new low income weatherization assistance programs, to name only a few. The net effect of these programs will be to reduce PEF's demand by more than 527 MW.

Even under its revised DSM Plan, however, PEF still needs additional supply-side reserves over the next ten years, including Levy Units 1 and 2 in the 2016 to 2019 timeframe and beyond. The goal of utility DSM programs and incentives is to encourage customers to choose more energy saving options or equipment than they

would without a utility program. As Mr. Masiello discusses in his testimony, a number of these programs, have reached or are reaching saturation levels with customers. For example, although PEF's direct load management program (which allows the Company to shut off customers' air conditioning and pool pumps during peak periods in exchange for a credit on their utility bill) has been very successful, it is close to reaching the maximum amount that can be used to meet PEF's reserves, which is no more than 60 percent in the winter and no more than 50 percent in the summer. With expected customer and demand growth, PEF cannot provide DSM options in quantities needed to offset the need for additional generation. PEF will still need additional generation resources to serve customer needs.

Q. Has PEF utilized renewable energy resources and technologies to the extent such resources and technologies are reasonably available?

A. Yes. As part of our balanced approach, PEF also has been the most aggressive developer of renewable energy projects within the state. Most recently, in 2006, PEF executed a contract with Florida Biomass Energy Group to purchase the output of the largest biomass, "E-grass" plant in the nation. When it comes on line in the 2011 timeframe, PEF will receive about 117 MW of carbon neutral power generated in the state. Similarly, in July 2007, PEF executed a contract with Biomass Gas & Electric to purchase the output of the largest waste wood product biomass plant in the country. This plant is expected to come on line in 2011 and produce 75 MWs of renewable energy. The Company recently executed another contract with BG&E to acquire the

output of a second proposed 75 MW plant, which this Commission approved in February of 2008.

As Mr. Niekum discusses in more detail in his testimony, in July of 2007, PEF also issued a nationwide request for renewables (or "RFR") to foster development of even more renewable energy sources in the state. In our RFR, we asked for proposals from any renewable fuel project that, among others, would be located in Florida, sell the output at a cost equal to or below the cost to build new power plants, and be capable of predictable and reliable operation. In the same RFR, we sought to expand the Company's solar energy programs and sought additional prices for solar photovoltaics. The intent of the RFR is to provide flexibility in negotiations while complying with the regulatory requirement that renewable energy resources must be cost-effective to customers. PEF is in active discussions with several renewable energy developers to potentially bring on line even more renewable energy resources in the next five years.

Florida's geography and weather, however, significantly limit the types of renewable energy resources that are viable in the state. Traditional renewable energy resources like geothermal power, for example, are not available in Florida. Similarly, there is a small amount of hydroelectric power in Florida but the elevation changes required for large-scale hydroelectric power plants simply do not exist. Wind and solar resources also have limited application in PEF's service area. Florida has only marginal wind resources, and they are located along the coastline where local opposition can be expected to such facilities and the wind is not constant enough at levels necessary to sustain the cost-effective production of power. The current solar

photovoltaic technology is also not cost effective to produce significant, sustained power levels, even assuming the vast land necessary for such large scale photovoltaic resources was available and available at a cost-effective price. Other potential renewable energy sources, such as off-shore wind and ocean currents, are still in the development stages. Thus, while renewable energy sources are part of the Company's balanced solution to meet the economic and energy needs of its customers now and in the future and PEF remains committed to renewable resources, there simply are insufficient renewable energy resources available to PEF over the next decade to meet customer capacity and energy needs without the addition of other generation resources to PEF's system. Levy Units 1 and 2 are still necessary in the 2016 to 2019 timeframe to meet the Company's capacity and energy needs for its customers.

III. NEW NUCLEAR GENERATION IS PEF'S BEST OPTION TO MEET ITS 2016 NEEDS

Q. Why has PEF selected new nuclear power as its supply-side option to meet the Company's 2016 need?

A. PEF selected new nuclear generation to meet its 2016 need primarily because Levy Units 1 and 2 will:

- Increase PEF's fuel diversity and security and improve the Company's overall fuel mix.
- Emit no GHG or other air emissions and contribute toward significant and meaningful reductions in GHG emissions on PEF's system and in the State relative to alternative fossil fuel generation options.
- Add needed high capacity factor, base load power to PEF's system.

- Meet federal and state policy makers' call for the development of new nuclear generation.
- Provide the most cost-effective generating alternative for our customers over the long term taking into account fuel diversity and fuel supply reliability, the reduced reliance on foreign fossil fuels, existing and future emission compliance costs, and long-term electric reliability.

Q. How will the addition of Levy Units 1 and 2 help enhance PEF's fuel diversity and security?

A. PEF has the most diverse fuel and generation mix of any Florida utility. That notwithstanding, PEF has only one other nuclear power generating unit on its system. As Mr. Crisp shows, that nuclear unit currently represents 14 percent of the electrical energy generation on PEF's system. With the addition of Levy Units 1 and 2, by 2018 nuclear energy generation will represent 38 percent of the total electrical energy generation on PEF's system. Without these nuclear units, however, electrical energy generation from nuclear fuel will fall to 12 percent, and fossil fuels will account for 85 percent of the electrical energy generation on PEF's system by 2018. The addition of Levy Units 1 and 2 are critical to reducing PEF's reliance on fossil fuels and avoid a situation for PEF and its customers where, a decade from now, 85 percent of the total electrical energy generation is still dependent on fossil fuels. A decade from now Levy Units 1 and 2 will not simply maintain fuel diversity; they will enhance fuel diversity on PEF's generation system.

Q. Why are fuel and security diversity important?

A. Fossil fuel prices tend to be volatile. Nuclear generation, in contrast, provides low, stable, non-volatile fuel costs, which help to create more stable pricing to customers. Over the last 30 years, uranium has been the lowest and most stable fuel source in the world. We expect that to continue, with customers seeing that benefit over the next 60 years. This will be particularly true when weather and other factors make oil and natural gas prices extremely volatile. Using nuclear generation also improves fuel security and helps achieve greater energy independence from the Middle East and other volatile regions where fossil fuels are produced.

As Mr. Weintraub details in his testimony, hurricanes in 2004 and 2005 disrupted a significant portion of the Gulf of Mexico natural gas production where PEF and the State receive nearly all of our natural gas supplies, which stressed utilities' abilities to meet energy demands during those periods. While PEF has sought to mitigate its exposure by contracting for alternative, inland salt dome gas storage, and executing other physical and financial hedges, all new generation in the State before 2016 will be natural gas fired, and subject to the same supply and transportation risks. In contrast, as Mr. Siphers discusses, nuclear fuel is typically not subject to these same risks. Uranium is in plentiful supply, is mined in generally stable regions such as Canada, Australia, the United States, and Russia, and is processed and assembled in locations not subject to the same weather risks.

Q. How will Levy Units 1 and 2 help reduce GHG and other air emissions in Florida?

A. Nuclear power plants emit no air pollutants. Unlike fossil fuel powered generating facilities, the Levy nuclear units will produce no NOx, SO_2, mercury, or greenhouse gas emissions, such as carbon. A conventional coal-fired power plant of 1,092 MW capacity, for example, will emit up to approximately 48,000 tons of SO_2, 12,000 tons of NOx, and roughly 7.2 million tons of carbon dioxide (CO_2) per year. A nuclear plant with the same capacity emits virtually none of these compounds. Compared to a coal-fired facility of similar capacity, a 1,092 MW nuclear plant will avoid 2.9 million tons of SO_2, 720,000 tons of NOx, and 432 million tons of CO_2 over a 60-year lifetime. Levy Units 1 and 2 will avoid 1.4 million tons of NOx, 5.8 million tons of SO_2, 28,800 pounds of mercury, and 864 million tons of carbon emissions. For carbon alone, this equals removing 2.9 million cars per year off Florida roads over 60 years, or a total of 174 million cars, over the life of the plant. No other generating resource has these significant environmental benefits.

Q. How do potential GHG emissions costs affect the economics of the Levy nuclear units?

A. GHG costs significantly improve the economics of new nuclear generation. New nuclear generation provides a significant hedge against potential additional costs to consumers resulting from the likely future regulation of GHG emissions, and depending on the magnitude of GHG costs, favorably affects the economics of new nuclear generation. As set forth in the Company's Need Study and as explained by

Mr. Crisp, when GHG compliance costs are taken into account in PEF's base case analysis, Levy Units 1 and 2 are more economic than an all gas generation plan under the majority of possible scenarios, with the benefits for customers on a CPVRR basis ranging from a low of $85 million to a high of $12 billion in those scenarios. In the Company's judgment, over the course of the expected 60-year commercial life of Levy Units 1 and 2, the nuclear generation units are more cost effective than an all gas generation plan when the hedge against future GHG regulatory costs and the benefits of enhanced fuel diversity and supply reliability, greater fuel independence, and improved long-term stability and reliability of the electric grid are considered.

Q. What benefits do customers receive with the addition of new base load generating capacity to PEF's system?

A. PEF has not added new base load capacity to its system in more than two decades. During the last 15 years, PEF has added only peaking and intermediate natural gas-fired capacity to its generating fleet. Base load nuclear plants will run around-the-clock because of their low cost fuel and reliable operations, and will thus displace higher cost generation on PEF's system. This will benefit customers over the long term in more stable prices.

Q. How is building new nuclear generation consistent with federal and state policy?

A. Policy-makers at the federal and state levels have recognized new nuclear generation's critical role in gaining energy independence, enhancing fuel diversity and security, and lowering GHG and other air emissions, and have enacted legislation to promote

nuclear power as a key element of any balanced energy policy. In 2005, Congress expressed its clear support for nuclear power when it enacted the Energy Policy Act of 2005 ("EPAct of 2005"). In the EPAct of 2005, Congress established several federal incentives to foster new nuclear development.

Likewise, in 2006, the Florida Legislature passed by a 119-1 vote the Florida Renewable Energy Technologies and Energy Efficiency Act of 2006, which further promoted the development of new nuclear generation within the State and which (1) required the Commission to determine need based on electric system reliability and integrity, including fuel diversity, the need for base load generation, and the need for adequate electricity at a reasonable cost; and (2) required the Commission to consider the cost-effectiveness of nuclear power generation taking into account the need to improve the balance of fuel diversity, reduce Florida's dependence on fuel oil and natural gas, reduce air emission compliance costs, and contribute to the long-term stability and reliability of the grid. This legislation also directed the Commission to implement rules related to nuclear power plant cost recovery including, for example, the recovery of preconstruction costs and carrying costs through the capacity cost recovery clause and the allowance in base rates of the annual revenue requirements associated with the nuclear power plant when that plant is placed in commercial service.

Consistent with this legislative directive, the Commission subsequently enacted the nuclear power plant cost recovery rule to implement the 2006 Florida legislation. In its recommendation to the Commission regarding implementation of the nuclear cost recovery rule as directed by the Florida legislature, the Commission

Staff explained that the "clear intent of the 2006 Florida Legislation is to promote new nuclear generation in Florida by providing Florida utilities the incentives to overcome these obstacles [including federal regulatory review, the "extremely long" permitting and construction period, and public perception]; the Legislature was clearly concerned that without these incentives, Florida utilities will continue to build natural gas and coal fired generation to meet Florida's growing energy needs."

Similarly, as recent as October and November of last year, the Florida Energy Commission and the Governor's Action Team on Energy and Climate Change issued recommendations encouraging the development of new nuclear power within the State.

PEF's selection of Levy Units 1 and 2 clearly supports this public policy encouraging new nuclear generation.

Q. Are Levy Units 1 and 2 the most cost-effective and best means of meeting PEF's 2016 capacity needs?

A. Yes. Our analysis shows that new nuclear generation is more cost-effective than natural gas fired generation over the life of the proposed plants taking into account the factors of fuel diversity and fuel supply reliability, reduced reliance on foreign fossil fuels, existing and future emission compliance costs, and long-term electric reliability that the Florida Legislature requires us to consider. There is no question and we recognize that these plants will have very high, initial capital costs; particularly as compared to traditional natural gas fired combined cycle power plants. Our analysis shows, however, that new nuclear plants are the best economic choice to meet the

Company's future capacity needs when one considers the costs of carbon regulation, the strong possibility that natural gas prices will continue to rise more than our conservative forecasts, the critical need for enhanced fuel diversity, the need to reduce the Company's reliance on fossil fuels, and the plants' significant contribution to PEF making meaningful reductions in carbon and other air emissions.

The cost-effectiveness of the proposed nuclear facilities has reasonably been determined under the existing legislative requirements based on the circumstances we currently face and the information available to us at this time. However, the design finalization, financing, licensing, and construction processes are all long and complex and each carries risks and uncertainties that cannot be entirely avoided. We will be taking steps to mitigate those risks and will not proceed with a project that imposes an unreasonable portion of those risks on the Company or our customers. Nevertheless, we cannot proceed with a project without appreciating the existence and potential that such uncertainties and risks exist. Other PEF witnesses including Messrs. Crisp, Kennedy, Weintraub, and Roderick address these issues in greater detail.

Q. Has PEF had any discussions with other entities regarding potential joint ownership of a portion of Levy Units 1 and 2?

A. Yes. We have had discussions with nearly every, if not every, electric utility, including municipal electric utilities, power agencies, electric co-operatives, and other investor-owned utilities, within the state. PEF met with the Florida Municipal Power Agency ("FMPA") in the summer of 2006 when we were in the early stages of our evaluation of potential new nuclear plants in Florida. We also had a number of

separate discussions during that time with Orlando Utilities Commission ("OUC"), Seminole Electric Cooperative, Inc. ("SECI"), Jacksonville Electric Authority ("JEA"), Tampa Electric Company ("TECO"), and a number of other municipal electric utilities within the state. As the project became more defined, we held a second meeting in September 2007 with representatives of FMPA (representing 15 cities in its All Requirements Project), OUC, SECI, and JEA. We had separate discussions in September with representatives from Lakeland Electric, Gainesville Regional Utilities ("GRU"), Reedy Creek Improvement District, and the cities of Tallahassee, New Smyrna Beach, Homestead, and Vero Beach regarding what, if any interest, any of these entities had in ownership or purchasing output from the plant in the event PEF had any potential excess MWs to sell. PEF held another follow up meeting in November, and most recently last month. Our discussions to date have been encouraging and are ongoing.

Although PEF needs the full output of both units, joint ownership may have some potential benefits to PEF customers. These potential benefits include smoothing out the "lumpiness" of the large units when they come on line, spreading a portion of the significant capital risk to other non-PEF customers, and assisting in the siting of the significant transmission facilities required for the project. PEF will continue its negotiations with potential joint owners; however any ultimate decision will depend upon whether the parties can reach mutually agreeable terms and conditions, and whether joint ownership benefits PEF and its customers.

IV. KEY RISKS AND CHALLENGES PEF WILL FACE IN LICENSING AND CONSTRUCTING LEVY UNITS 1 AND 2

Q. Please explain the key risks and challenges PEF will face in bringing Levy Units 1 and 2 on line in 2016 and 2017.

A. PEF believes that adding new nuclear generation is the right decision for the Company, its customers, and the State. However, this will be a multi-billion dollar, decade long project involving not only the construction of the first nuclear plants in the country on a Greenfield site in more than 25 years, but also the siting and construction of one of the single, largest transmission infrastructure projects in the history of Florida. As such, there will be significant risks and challenges to completing this project on the aggressive schedule, and on budget – most of which will be beyond the Company's reasonable control. Such risks and challenges include, among others: permitting and licensing delays at both the state and federal level; litigation delays at both the state and federal level; labor and equipment availability; vendor ability to meet schedules; cost escalations; the imposition of new regulatory requirements; the ability to acquire necessary rights-of-way in a timely manner for all associated facilities, including those necessary to construct the new 500 kV and 230 kV transmission lines to reliably deliver the power from the energy complex to our customers; significant inflation or an increase in the cost of capital; the ability to obtain and maintain financing at reasonable terms; lack of public, investor, or policy maker support; and potential regulatory disallowances of costs incurred, to name only a few. Any one of these hurdles, if significant enough, could jeopardize the project.

Although we plan to move forward with this project upon receipt of an order by this Commission approving PEF's need, maintaining a cooperative dialogue to

monitor key project milestones, and education of and transparency to all key stakeholders during the next eight to nine years will be critical to overcoming these challenges and to successfully completing a project of this magnitude and cost.

Q. Should the Commission grant PEF's request for a determination of need for Levy Units 1 and 2?

A. Yes. As I discussed above, new nuclear generation will be critical to PEF's ability to meet its growing capacity needs, while at the same time, improving fuel diversity and security, enhancing fuel price stability, lessening the Company's reliance on fossil fuels, and contributing to significant reductions in GHG and other air emissions. We are mindful of the significant costs of this project; particularly as compared to traditional natural gas fired combined cycle plants. However, we believe that the Company and the State should adopt a balanced approach to our energy future, and not limit new base load generation additions to natural gas fired generation. Rather, new nuclear generation is a critical hedge against the future risk of volatile and increasing fossil fuel prices, and the likely significant future costs of carbon and other air emissions regulation. Our customers and the State will benefit over the long term by adding new nuclear generation in the state sooner rather than later.

Q. Does this conclude your testimony?

A. Yes, it does.

BY MR. GLENN:

Q. Mr. Lyash, have you prepared a summary of your testimony today?

A. I have.

Q. Would you provide that to the Commission, please?

A. Yes, I will. Our company needs approximately 2,200 megawatts of firm base load generating capacity in the 2016 to 2019 time frame to reliably meet our customers' needs for power. We believe new nuclear generating plants are the most prudent means of meeting that need over the long term.

These plants will improve PEF's fuel diversity and security. They will enhance our energy independence and the state's energy independence. They will reduce our customers' exposure to fossil fuel price volatility and provide our customers with immediate fuel savings when they commence operation. Finally, they will play an essential role in reducing greenhouse gas and other air emissions.

We recognize that these plants will have very high initial capital costs compared to natural gas-fired combined cycle plants. We also appreciate that the long licensing and construction process for new nuclear plants involves inherent uncertainties that could affect

the cost and schedule of such construction. Nevertheless, we believe that the company and the state should not put all its eggs in one basket and build only new natural gas-fired generation. Rather, we believe that new nuclear generation is a key to securing Florida's energy future, and our customers and the state will benefit by adding new nuclear generation sooner rather than later.

Even though we are in an economic downturn, we need to remember that Florida is the nation's fourth most populous state. It ranks third in energy consumption per person, and it is still growing, despite the current economic conditions. We expect overall demand for electricity in our service area to grow significantly over the next 10 years.

We are committed to meeting our customers' energy needs in a safe, reliable, and environmentally responsible way. We have adopted a balanced approach that combines energy efficiency, alternative energy sources, and state-of-the-art power plants. This balanced solution will result in reliable, cost-effective power for our customers, greater fuel diversity and security with less dependence on fossil and foreign fuels, a cleaner environment, and a stronger company.

I want to briefly address each part of our balanced solution to meet customer energy needs.

First, our energy efficiency programs and alternative energy resources will play a critical role. PEF is a national leader in energy efficiency programs. Over the last 25 years, our customers have reduced energy usage in an amount equal to powering the city of Orlando for two years. Our programs have also reduced energy demand by the equivalent amount of three new 500-megawatt generating power plants. This has reduced carbon dioxide emissions by 7,500,000 tons, which is equal to taking 1,900,000 cars off Florida roads every year. Last year we expanded our already successful DSM and energy efficiency programs. We expect these additional measures to avoid the need to construct 527 megawatts of new generation.

Similarly, PEF is a leader in using and investing in renewable energy sources. To mention just a few, we have invested in partnerships researching hydrogen fuel cell projects, including Florida's first hydrogen fueling station. In 2006, we signed a contract for the largest carbon-neutral biomass plant in the world. In 2007, we signed two contracts for the output of the largest wood waste power plants in the nation.

Building on these successes, and to promote

even more renewable energy resources within the state, last year we issued a request for renewable resources for any and all proposed renewable energy projects. We are in discussions with several entities that responded to hopefully develop more renewable energy projects.

Our energy efficiency and alternative energy resources alone, however, will not be enough to meet our customers' needs. Given this, we examined and evaluated supply and non-supply-side alternatives, and based on our analysis, we selected advanced, state-of-the-art nuclear power plant generation as the most cost-effective means of meeting our need for power.

New nuclear will further diversify our fuel and generation mix, enhance our fuel security, minimize fuel price volatility with a low cost, stable fuel supply, provide emissions-free electricity in a carbon constrained future world, and add needed base load generating capacity to the PEF system.

We are mindful that selecting new nuclear to meet our needs is also consistent with legislative policies and recommendations set forth by Congress, the State Legislature, the Florida Energy Commission, and the Governor's Action Team promoting new nuclear power. We join these bodies in recognizing the critical role that new nuclear generation must play in meeting the

nation and state's energy demands in an increasingly carbon constrained world.

We want to make clear that we are taking reasonable steps to mitigate the risks associated with a project of this magnitude. These include selecting a nuclear technology with a design that has already been certified, modular construction, and our project management controls. We plan to continue to seek to control and manage the costs of this project to bring it to a successful conclusion.

I want to talk briefly too about potential joint ownership. We have been engaged in significant and meaningful negotiations with a consortium of municipal electric utilities and with other IOUs in the state to sell a portion of the Levy project. Although PEF has a need for 100 percent output from both plants, we recognize that there are benefits of joint ownership, including spreading some of the capital risk to help mitigate some of the project's price impact on our customers. Although any joint ownership will ultimately depend upon the terms and conditions of any agreement, we are encouraged by the negotiations to date and are optimistic that we will reach mutually agreeable terms with our potential partners.

To keep new nuclear generation as a viable

option in the 2016-2017 time frame, however, the company must act now. Equipment suppliers and key components are limited. As such, we must execute contracts and order long lead time equipment to hold our place in the queue and preserve our ability to commence construction in a timely manner. We must prepare our combined construction and operating license application, or COLA, and file with the U.S. Nuclear Regulatory Commission, the NRC. We've got to do that later this year in order to assure receipt of the license by 2011 to support plant construction. Likewise, we must begin acquiring the rights-of-way needed to site and construct the significant new transmission facilities that will be needed across our system to accommodate the Levy plants.

Given these time pressures, the company must file its need petition now and is requesting an affirmative determination of need by the Commission for the company's Levy 1 and 2 nuclear power plants, together with the associated facilities that must be constructed in order to reliably deliver power from the Levy plants to PEF's customers. We believe this is the right decision for our company, our customers, and the state, and we hope that you will agree with us after hearing our evidence in this proceeding.

Thank you.

CHAIRMAN CARTER: Thank you. Mr. Glenn.

MR. GLENN: Mr. Chairman, I tender the witness for cross-examination.

CHAIRMAN CARTER: Thank you. Mr. Burgess.

MR. BURGESS: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. BURGESS:

Q. I have some questions, Mr. Lyash, about an area that -- I don't know how much you'll be able to answer publicly, but if you'll guide me on that, I have some questions about potential partnerships. Is there a time frame that you anticipate having something arranged to where the details of it can then be made public?

A. We have been in discussions with potential partners for well over a year. We've met on a number of occasions and shared information on the technical aspects of the project, the site itself, costs, the schedule. We have provided to our potential partners a draft owners agreement they're preparing comments on, and we'll meet again next week to discuss their feedback on that joint owners agreement.

It is a complicated process. We are not in control, as I know it's obvious, of the counter-parties in this, who have questions and concerns and due diligence efforts to go through themselves. So I'm

really not in a position to put a specific time line on it, other than to say that the discussions have priority for both us and they, and we're moving at what I consider to be a good pace and very productively.

MR. BURGESS: Thank you, Mr. Lyash. That's all I have.

CHAIRMAN CARTER: Thank you, Mr. Burgess. Mr. Brew.

MR. BREW: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. BREW:

Q. Good afternoon, Mr. Lyash.

A. Good afternoon.

Q. Is it fair to say that your testimony provides a general overview of the company's position in the need study?

A. It is.

MR. BREW: I would like to mark this document as Exhibit 1. I probably should start here.

CHAIRMAN CARTER: Ms. Fleming?

MS. FLEMING: Sixty-two.

CHAIRMAN CARTER: Sixty-two?

MS. FLEMING: Yes.

CHAIRMAN CARTER: Commissioners, it will be marked for identification, Item Number 62. And give us

a title. Give us a title for it.

MR. BREW: It's a McGraw-Hill publication entitled "US new reactors more likely online in 2016 and beyond, NEI official says."

CHAIRMAN CARTER: How about let's go with "US new reactors online in 2016"?

MR. BREW: That's fine.

CHAIRMAN CARTER: Okay.

(Exhibit 62 was marked for identification.)

BY MR. BREW:

Q. Mr. Lyash, when you're ready, my question is real simple. I've highlighted a paragraph for you, if you see that.

A. I do.

Q. And that says that NEI believes the cost is about 7 billion to 8 billion per reactor, assuming the unit comes online in 2016 to 2017 -- this is referring to Marvin Fertel, senior VP at the Nuclear Energy Institute -- and that last year, NEI had estimated a new unit to cost in the range of 5 billion to 6 billion, but commodity and infrastructure expenses have pushed up costs for nuclear and other electricity generation projects.

The question is real simple. Do you agree with that assessment from NEI regarding the cost for

nuclear generation?

A. Well, I'm not really familiar with the basis for NEI's cost numbers. I'm more familiar with our cost numbers in our need filing.

Q. Are your cost numbers consistent with 7 to $8 billion per reactor?

A. As our need filing shows, 17 billion, 3 billion in transmission, for this comprehensive price for a site-specific reactor.

Q. Okay. And Levy Unit 1 is about $7,600 a kW according to the need study, is that right, Table 3?

MR. GLENN: If you have the need study, Mr. Brew, you can provide it to him.

BY MR. BREW:

Q. Let's try it a different way, Mr. Lyash. Would you agree with NEI's assessment that commodity and infrastructures are driving up nuclear construction cost estimates?

A. Well, I certainly think that commodity prices over the last several years have risen, and those prices are incorporated into the price estimate that we have as the basis for the need filing.

Q. Okay. Thank you. That was actually going to be where I was going next.

Mr. Lyash, I've got another document for you.

CHAIRMAN CARTER: Mr. Brew, hold on with your verbiage, because she's trying to type it, so wait until you get to the --

MR. BREW: I'll wait until I get to the microphone.

CHAIRMAN CARTER: To speak, yes, sir.

Commissioners, this will be marked for identification as Number 63. And let's just say Wall Street Journal, May 12, 2008. Did you get one for the court reporter?

Mr. Brew, will that be okay for a title, Wall Street Journal, May 12, 2008?

MR. BREW: Yes, Mr. Chair.

(Exhibit 63 was marked for identification.)

BY MR. BREW:

Q. Mr. Lyash, when you have a chance, I would like to refer you to the first full paragraph on the second page of this article that begins, "Moody's worries." Do you see that?

A. I do.

Q. The full paragraph reads, "Moody's worries that continued cost increases, even if partially offset by billions of dollars worth of federal subsidies, would weaken companies and expose consumers to high energy costs."

Your testimony on page 22, when you have a chance, at line 10 refers to the company's intent to mitigate the risks and uncertainties that you describe in your testimony. Do you see that?

A. I'm sorry. You're on page 22?

Q. Page 22 of your direct, lines 10 through 12.

A. Yes.

Q. Are the risks and uncertainties that you're talking about in that testimony similar to the worries that Moody describes in the Wall Street Journal article?

A. I'm not clear on what specifically Moody defines as their worries. I will say that these concerns that are listed on this page I think are certainly risks to the project that we have to be sensitive to and that we have to ensure that we put reasonable and prudent measures in place to mitigate.

Q. Okay. Would you believe that the Commission in this docket also needs to be concerned about those issues?

A. Yes, I think they do.

Q. On page 2 of your testimony, the answer that describes the purpose of your testimony, and you reference on line 12 the challenges that Progress will face over the next eight to nine years in siting, licensing, and constructing these plants. Do you see

that?

A. Yes, I do.

Q. Would you agree that one of the core challenges is maintaining control over the project schedule?

A. I'm sorry. Can you repeat that question?

Q. Yes. Would you agree that one of the core challenges is maintaining control over the proposed project schedule?

A. Yes. I certainly think that implementing project management and project controls and fielding a strong team that will maintain oversight of the project schedule and costs and risks is key to this effort, and I would expect that to be a central topic of the annual reviews that we support here at the Commission.

Q. Would you agree that in-service delays to either unit could cause a substantial impact on project costs to consumers?

A. That is unclear to me. Project delays may or may not escalate project costs. It's difficult to predict what the timing and nature of the delay is and whether it would have a significant adverse effect or not.

Q. Are you aware of any projects, nuclear projects previously built that experienced substantial

schedule delays that didn't see material increases in overall project costs?

MR. GLENN: Objection as to the form and lack of foundation.

BY MR. BREW:

Q. Have you ever -- have you looked at the construction experience of prior nuclear plant construction in the U.S.?

A. Yes, we have. We have looked at prior experience both as a company and an industry, and the lessons learned, I think, from that prior experience form the basis for the Nuclear Regulatory Commission's new licensing process, for standard and certified designs, and for our approach to construction management, which I believe mitigate both the risks of delay and the potential impact.

Q. What's your understanding of the purpose of the NRC streamlining process? What's it supposed to accomplish?

A. Well, fundamentally, the NRC's process is to ensure that reactor designs are safe and constructible and testable.

Q. What was the purpose in streamlining the construction and operating license?

A. The NRC's purpose, I believe, was to take into

account the lessons learned during the last wave of construction and to adjust the licensing process to make it more effective and more efficient.

Q. Well, was one of the lessons learned that failure to control the construction schedule led to dramatic cost overruns?

MR. GLENN: Object as to form. What time period and what plants are you talking about when you say dramatic cost overruns? Could you give us some specifics, please?

MR. BREW: Sure. Mr. Chairman, I'm circulating another document. It is a reprint of a Forbes February 1985 magazine article entitled "Nuclear Follies."

CHAIRMAN CARTER: Commissioners, this will be marked for identification as Exhibit Number 64. Let's see if I can -- Number 64, let's just say Forbes, February 11, 1985. Would that be okay with you, Mr. Brew?

MR. BREW: Yes, sir.

(Exhibit 64 was marked for identification.)

CHAIRMAN CARTER: Okay. You may proceed.

BY MR. BREW:

Q. Mr. Lyash, have you ever been directly involved in the construction of a nuclear plant?

A. Yes.

Q. Which one was that?

A. The Susquehanna station in Berwick, Pennsylvania, while employed with Pennsylvania Power & Light, and the Hope Creek generating facility in New Jersey while employed with the Nuclear Regulatory Commission.

Q. The Hope Creek plant?

A. Yes.

Q. If I can refer you to the table on the document that I just handed you, that is, the fourth page of that handout. Do you see that?

MR. GLENN: Mr. Lyash, if you would like to take a moment to read the entire article, that's your option.

CHAIRMAN CARTER: Mr. Lyash, do you need a moment there?

THE WITNESS: Yes, just a moment.

CHAIRMAN CARTER: Okay. Let's everybody kind of take five in place.

THE WITNESS: (Examining document.) Okay. Without having taken time to read the whole article, perhaps I should entertain a question.

CHAIRMAN CARTER: Mr. Brew, you may proceed.

BY MR. BREW:

Q. Yes. I wanted to refer you to the chart showing various nuclear projects and their expected total costs. Do you see the column labeled "Total expected cost in billions"?

A. Yes, I do.

Q. And Hope Creek was at 3.8 billion?

A. Yes, I see that.

Q. Was that its originally estimated cost?

A. I don't know.

Q. Okay. Do you know if Hope Creek experienced substantial cost overruns?

A. No, I don't.

Q. Okay. Looking at the top of the chart, the Shoreham nuclear plant, total expected cost, 4.2 billion. Do you know if that was anything close to its originally estimated construction cost?

A. No, sir. Because the information is not on the table, I would not speculate.

Q. Do you have any knowledge as to whether or not construction cost overruns were at all commonplace among the last generation of nuclear plants?

A. Yes, I do. In the last generation of nuclear plants, the plants were designed one of a kind as opposed to standard designs, and they entered construction in many cases without final design being

completed and under a licensing process that allowed for the commencement of construction with the question as to whether the design or the specific plant would be approved left to the conclusion of the construction process. I think that and a number of other factors contributed to the delays and cost overruns that you cite in the last wave of nuclear construction.

In the intervening years, a number of things have happened. We have incorporated the lessons learned from the last round of construction. Designs now are standard and certified under the NRC's Part 52 process. In fact, our selection of the AP-1000 is a standard and already certified design. The design details are completed and a quite substantial basis formed for the number of units, feet of pipe, feet of cable, number of welds, attendant man-hours, to estimate both cost and schedule. When the site-specific project is submitted to the Commission, reviewed, and approved, a license is issued for both construction and operation.

I think these items are relevant, not because they eliminate risk, but they are certainly substantial in mitigating that risk, so that I am not in agreement that a direct comparison at this high level of cost and schedule delays of nuclear construction 30 years ago in an industry in its infancy is directly transferable to a

mature industry with decades of successful operation.

Q. How many Westinghouse AP reactors have been constructed?

A. None have been completed. The design has been vetted through the NRC's process and the standard design approved.

Q. No, that wasn't my question. My question was how many have been constructed.

CHAIRMAN CARTER: Let him finish his answer.

A. Zero have been completed. The design itself has been vetted through the NRC's process, and there are plants in China, which I believe Mr. Roderick will address in a little more detail, that are entering construction and will be completed ahead of the Levy project.

Q. Okay. Earlier this month, the Congressional Budget Office issued a study on nuclear power's role in generating electricity, and the CBO reported that for the 75 nuclear plants built in the United States between 1966 and '86, the average actual cost of construction exceeded the initial estimates by over 200 percent. Do you have any reason to disagree with that?

A. I'm very sorry. I spilled a bit of water while you were framing the question, and I beg a little indulgence.

Q. Why don't you clean up, and I'll try again.

A. I'm through.

Q. The question was, a May 2008 Congressional Budget Office study on nuclear power's role in generating electricity stated for the 75 nuclear power plants built in the U.S. between 1966 and '86, the average actual cost of construction exceeded the initial estimates by over 200 percent. My question is, do you have any reason to disagree with the CBO assessment?

A. I'm unfamiliar with the study, but on the face of it, I don't find reason to disagree with it.

MR. BREW: Okay. That's all I have, Your Honor.

CHAIRMAN CARTER: Thank you, Mr. Brew. Mr. Jacobs.

MR. JACOBS: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. JACOBS:

Q. Good afternoon, Mr. Lyash.

A. Good afternoon.

Q. I have some brief questions on just a couple of topics. In your testimony, you characterize Progress Energy's status in terms of its participation in energy efficiency and renewables as leading the nation. What are the -- my apologies. I thought I turned that all

off.

What are the measuring, the metrics or the standards by which you make that assessment? What data or what data and metrics do you use to make that assessment?

A. I think Mr. Masiello is a better witness to answer this question in specifics. In general, we implement a wide variety of programs and literally dozens of measures, ranging from home energy audits to insulation upgrades, duct leak testing, appliance upgrade incentives, solar thermal hot water heating, direct load control. And we monitor the amount of capacity addition avoided by those programs as well as the energy saved by those programs. We also monitor percentage of customer involvement or customers that take advantage of it. We file plans with the Public Service Commission that set goals for those programs, and both we and they monitor our performance in achieving those goals.

Q. Thank you. I will have some questions for Mr. Masiello on that.

If I may, first of all, just on one point. Are you aware of any analysis by the company as to the company's expenditures as a percent of revenue -- I'm sorry, expenditures for DSM as a percent of revenue?

A. I'm sure that information is available, but I can't cite you the figure at the present time.

Q. Okay. If it's okay, I would like to request that analysis if it's available.

MR. GLENN: No, we object to that. That is discovery, and discovery is closed.

MR. JACOBS: If it's discovery, we'll simply tag on to that exhibit. And I can proceed rather than belabor the point if it's in discovery. And I apologize. I missed it, or I would have raised that exhibit. We can move on.

CHAIRMAN CARTER: Let's proceed.

BY MR. JACOBS:

Q. That being the case, are you aware, Mr. Lyash, of what percentage of sales Progress Energy's expenditures for DSM amount to?

A. I'm sorry. You're asking what is our budget for DSM and energy efficiency?

Q. No. I'm asking of your total expenditures for DSM, are you aware of what percentage that is of your total revenue?

A. No, I'm not aware of that number. We focus -- I think as a measure, rather than percentage of revenue, effectiveness measures, capacity avoided, energy saved, participation by the customers, and whether we're

implementing all the programs that are deemed effective under the RIM test that's used in Florida are, in my view, better, more focused metrics.

Q. Do you look at your savings in terms of -- in relation to your expenditures at all, i.e., your savings from DSM as it relates to your expenditures for DSM programs?

A. Mr. Masiello, I think, can cover this in detail, but we certainly measure the cost-effectiveness of our programs, which inherently looks at expenses versus benefits.

Q. Okay. So not to belabor the point, as I'm hearing you now, your characterization of the company's participation in DSM management as a leader is based on those measures that you've given me, and we'll speak to Mr. Masiello more in particular about the details of how it compares to your actual expenditures and revenues.

MR. GLENN: Objection as to the form of the question. It was --

MR. JACOBS: Actually, it wasn't a question. I was just kind of summarizing our discussion.

MR. GLENN: I object to it as -- it's not a question.

MR. JACOBS: I can withdraw it.

CHAIRMAN CARTER: Let's proceed.

BY MR. JACOBS:

Q. Mr. Lyash, are you familiar with the testimony entered in this proceeding by Mr. Bradford, Peter Bradford?

A. Only generally.

MR. JACOBS: Okay. If I may, I don't want to mark this. It's just an excerpt from Mr. Bradford's testimony just for his reference, unless he has a copy of it available.

THE WITNESS: I do not.

CHAIRMAN CARTER: Okay. If you could just make sure we have it.

MS. FLEMING: Mr. Chairman, I would note that this is --

CHAIRMAN CARTER: Ms. Fleming.

MS. FLEMING: This handout is part of Mr. Bradford's prefiled testimony that's already in this docket.

CHAIRMAN CARTER: So we don't need to mark this?

MS. FLEMING: No, sir.

CHAIRMAN CARTER: Okay. Thank you.

MR. GLENN: Mr. Chairman.

CHAIRMAN CARTER: Yes, sir.

MR. GLENN: I would object at this point. He

was only given one page out of the testimony, and really, to be fair, the witness needs to see the entire piece of testimony, if you have it, Mr. Jacobs.

MR. JACOBS: I'm sorry. I do not have a hard copy. I have it on my laptop. I assumed that there would be an entire copy of his testimony available from counsel.

MR. GLENN: Mr. Jacobs, I see that I've just been handed a copy, so I can provide a copy to the witness if that's okay with the Chairman.

MR. JACOBS: I'm happy for him to do that. This is an isolated discussion.

CHAIRMAN CARTER: Okay. You may proceed.

BY MR. JACOBS:

Q. Mr. Lyash, I'll give you a moment so that you can review that excerpt that I gave you in context that begins on page 17 of Mr. Bradford's testimony.

A. Is there a specific piece of this you would like to direct me to?

Q. Yes. I wanted to direct you to the quote that begins on line 10 on page 17 and extends over to page 18, line 6. And quite frankly, the gist of my question probably can be isolated to on page 17, lines 26 through 37.

A. Yes.

Q. Are you familiar with the individual whose comment is being described here?

A. Generally, yes.

Q. And he is the chief executive officer of Exelon Corporation; is that correct?

A. Exelon Generation.

Q. Generation. I'm sorry. Thank you. I would ask for your general reaction to the quote, specifically to the lines I've pointed you to.

A. I think the point that Mr. Crane makes is that we need to take a substantially different approach to the construction of nuclear power plants today than we did in the early days of the industry. And I believe that is fundamentally the approach that the industry is in fact taking.

Once again, as I said earlier, the notion that we will build standard, precertified designs which have a very high degree of design detail, and therefore a great basis for the estimation of the price, a price book backed up by a library, so that you can be clear about what he says here, what are the costs, and that we take strategies to mitigate, reasonable and prudent strategies to mitigate, to the extent we can, exposure to commodity price increases, and that in our negotiations with the EPC contract, that we, to the

extent we can, get favorable terms in that contract. My impression is that those as concepts are the right thing, and they're the direction that both Progress Energy and the company are headed.

Q. Without speculating too much, I would ask for your general opinion and view. As an executive of a utility, is it your understanding of Mr. Crane's comments here that he is expressing policy for his company?

MR. GLENN: Objection. That calls for speculation.

CHAIRMAN CARTER: Sustained.

MR. JACOBS: I tried.

BY MR. JACOBS:

Q. Let me ask you this. I want to go specifically now to lines 26 to 28. And here he indicates that in new nuclear contracts, parties have to resolve with fixed variables -- fixed elements, I'm sorry, for variable costs, and bounds must be set on allowable percentages of error or rework. What I would like to do is just get your interpretation of that in terms of generic nuclear contracts.

A. Well, just to make sure I'm clear on the statement, the statement you're referring to says, "In practice, parties to new nuclear contracts must figure

out in advance what costs in the contract would be fixed and what would be variable, and bounds must be set on the allowable percentage of error or rework." That's the statement?

Q. That's the statement, yes, sir.

A. And my impression of that is that we, as others, will need to engage in negotiations once a technology selection is made that ultimately lead to an EPC contract. The terms and conditions of that EPC contract may need to address these as well as a long list of other issues to achieve some clarity over risk allocation and incentives and penalties. That is a natural part of this process and is ongoing.

Q. And you really segued to my next question. This is a matter of risk allocation between the company and its contractor; do you agree?

A. Well, I'm not sure I would characterize it that narrowly. The EPC contract sets the terms and conditions for the design, construction, and commissioning effort, as well as any warranties for performance.

Q. Okay. Now, finally on this point. Are you familiar with the marketplace in Texas at all?

A. Just very generally. I have no specific experience in the Texas market.

Q. In the proposal that Exelon Generation would be making here, the marketplace here is not a regulated market, is it?

MR. GLENN: Objection. Relevance, and calls for speculation.

CHAIRMAN CARTER: Sustained. He said he had no experience with Texas market. Move on, Mr. Jacobs.

BY MR. JACOBS:

Q. Let me give you a hypothetical outside of Texas. In any market where a company will be building essentially a merchant plant, the risk would be totally on that company, would it not be?

MR. GLENN: Objection. Lack of foundation.

MR. JACOBS: It's a hypothetical.

MR. GLENN: Mr. Chairman, if I might, he has established no foundation as to what markets he's talking about, whether or not Mr. Lyash has any knowledge whatsoever about unregulated markets versus regulated markets. There's absolutely no foundation for that question.

MR. JACOBS: I'll be happy to --

CHAIRMAN CARTER: Sustained.

BY MR. JACOBS:

Q. Mr. Lyash, in your course of dealings and in your experience as a chief executive officer and your

experience in the industry, have you had the opportunity to study and understand the dynamics of unregulated markets?

A. Not to any great extent. Our company, Progress Energy, operates in North Carolina, South Carolina, and Florida, so we understand the markets we operate in and the regulatory structures around them very well. You know, the discussion today revolves around the need for and the effectiveness of a nuclear power plant construction here in Florida, and so that's really where I've focused my attention.

Q. Thank you. One final moment. I think I may have just one more round of questions, and then we'll be done.

Earlier there was a round of questions between you and Mr. Brew as to reactions from the financial community on the trend towards the building of new nuclear plants. Has there been a report provided to your company in response to your proposal from either Moody's or any other financial institution -- rating institution?

A. We have -- no, not that I'm aware of. We have not approached investment banking or rating agencies and asked them for specific feedback yet on this project or any potential financing plan that may be developed.

Q. I believe you indicated in your testimony -- excuse me, I'm sorry -- that one risk management strategy that you anticipate engaging in in this project is to diversify your risk by bringing on partners. Is that a correct statement?

A. Where in my testimony are you referring to?

Q. I'm sorry. I thought in your opening just now you indicated that.

A. What I said, I believe, is that we believe we have a need for 100 percent of this two-unit nuclear power station. However, we also understand that there are benefits of co-ownership to those potential partners and to the state and citizens of Florida, and those benefits -- but also benefits to our company and our customers, and those benefits include the spreading of capital risk, smoothing the price transition for these first plants, as well as gaining support in those areas where we would be required to build transmission from municipal and co-op agencies that have strong relationships and good understandings of those markets.

MR. JACOBS: Okay. I probably think the next line of questioning would be more appropriate for another witness, so I'll end with that. Thank you.

CHAIRMAN CARTER: Thank you, Mr. Jacobs. Commissioners, before I go to staff, I want to see if

you have any questions. Obviously, even after staff, we can always come back to the bench. Commissioners, any questions at this point in time?

COMMISSIONER ARGENZIANO: I'll go later.

CHAIRMAN CARTER: Okay. Staff, you're recognized.

MS. FLEMING: Thank you.

CROSS-EXAMINATION

BY MS. FLEMING:

Q. Good afternoon, Mr. Lyash.

A. Good afternoon.

Q. During your summary, you discussed what Progress is doing with respect to joint ownership; correct?

A. That's correct.

Q. And you stated during your summary that Progress is currently engaged in joint ownership discussions; correct?

A. Yes, that's correct.

Q. Mr. Lyash, you prepared the response to staff's fifth set of interrogatories, Number 101, is that correct, which discusses joint ownership?

A. I believe so. May I see it? I just want to make sure I'm looking at the response you're referring to. Yes.

Q. And in your initial response to this interrogatory was confidential; correct?

A. That's correct.

Q. And as of yesterday, Progress provided an updated, nonconfidential response to this interrogatory; is this correct?

A. Yes, it is.

MS. FLEMING: Commissioners, at this time we're handing out the nonconfidential response to Interrogatory Number 101. We would like it identified as Hearing Exhibit Number 65, please.

CHAIRMAN CARTER: Be sure you give one to the court reporter. This will be Exhibit Number 65. Ms. Fleming, title, please.

MS. FLEMING: Progress's Nonconfidential Response to Interrogatory Number 101.

CHAIRMAN CARTER: Thank you. How about --

MS. FLEMING: Response to 101?

CHAIRMAN CARTER: That sounds better, Response to 101. Excuse me. Response to Interrogatory 101.

(Exhibit 65 was marked for identification.)

BY MS. FLEMING:

Q. Mr. Lyash, is this the response that you prepared?

A. Yes.

Q. Could you please briefly summarize the information contained in this interrogatory response, please?

A. Yes. In response to the question about our plans at Progress on joint ownership, what we provided was an overview that in fact we have been and are continuing to have discussions with potential joint owners in Florida. This effort began over a year ago and initially involved municipal and co-op entities serving load here in Florida. It also involved some discussions with other investor-owned utilities.

As I said earlier, those discussions involved technical briefings on the nature of the project, the AP-1000 selection, the merits of the site, our transmission construction plans, the anticipated costs, cash flows, and schedules.

We are presently in discussions on specific terms and conditions of joint ownership agreements and ongoing operating agreements. While those discussions are not near completion, they have been very productive. I think there is a high level in interest of all the parties involved. And while I can't predict the schedule that they'll complete on nor the ultimate degree of co-ownership, I can say that in my opinion it's very likely that we'll have co-owners in this

project. There is a lot of other detail provided in confidential documents underpinning that summary.

Q. Thank you. In response to -- I believe it was Mr. Jacobs' questioning, you had stated that Progress is pursuing joint ownership as a means to spread capital risk; is that correct?

A. That's not really our objective in pursuing joint ownership. As I said, we feel like we have a need for 100 percent of the energy from these plants, so necessarily, any joint ownership that we undertake will result in us needing to add replacement megawatts of another nature at some point in time. However -- and so our co-ownership essentially reduces the benefit of the plant to our customers. We recognize that.

However, we also recognize that there are benefits to having co-ownership in a project of this nature. By taking on co-ownership, we have other capital participants in the project, which, as I said in my testimony, provides some capital risk mitigation. It perhaps is supportive of the ultimate financing plan when we reach the point where that becomes clear.

Particularly, the municipals and co-ops are very knowledgeable of their local conditions, their local citizens, and can be very effective in helping us site transmission and the attendant facilities as well.

And lastly, co-ownership by its nature would help to smooth the price transition as we complete construction and commission the plants.

And so those are all what we see as benefits of co-ownership and why entertaining co-ownership is not only good for our partners, but also good for our customers.

Q. Mr. Lyash, you just mentioned transmission. Would joint ownership help assist in the siting of some of these transmission facilities?

A. As I said, I think the transmission facilities that will need to be constructed are far-reaching. They affect 10 counties, and much of the service territory where the transmission siting will take place is areas served by municipal and cooperative power agencies, and so their support in the process I think would be helpful in completing those activities efficiently.

Q. Would joint ownership spread the cost of the transmission facilities like on a pro rata basis?

A. That is unclear. At the outset, we did not intend to take on co-owners in our transmission system. However, that still remains an open question. It is a possibility, although I think it's not likely.

Q. You discuss how you're still pursuing joint ownership discussions and you're still continuing to

have discussions with potential joint owners; correct?

A. Yes.

Q. Do you have any fixed deadlines as to what occurs beyond this point?

A. No, we don't. We have a priority on these discussions, so understanding who our partners are and what their share of the project would be is important, and we will move those discussions forward expeditiously. It is very difficult for me to put a time line on it, because there are multiple parties involved whose activities I don't have control over.

Q. Thank you. I would like to you turn to page 20 of your testimony, please, and I'm looking specifically on lines 1 through 4. You state that in the Energy Policy Act of 2005, Congress established several federal incentives to foster new nuclear development; correct?

A. That's correct.

Q. What federal incentives are you referring to in this statement?

A. Fundamentally, there are three under consideration. The first is DOE loan guarantees. The second is standby support. This is a form of delay insurance. And the third is production tax credits.

Q. During staff's depositions of witnesses Crisp

and Roderick, we asked a number of questions with respect to these federal incentives, and a series of questions that we asked related to the loan guarantees, and our series of questions with respect to the loan guarantees and the standby support agreements were deferred to you, so I would like to ask you a series of those questions, please.

A. Yes.

Q. What is your understanding of the Department of Energy loan guarantee program as it pertains to the construction of nuclear power plants?

A. As we said, the Energy Policy Act created the loan guarantee, and it is in the process of being promulgated. That loan guarantee would provide some level of default insurance for financing for a certain number and certain dollar cap for new nuclear, advanced nuclear power plants.

Q. So how much money could be available to Progress for Levy Units 1 and 2?

A. That's unclear. There has been an appropriation made for year one. I believe it's 18-1/2 billion for the entire program. It's less clear to me how that will be allocated, whether that funding will be carried on on a year-by-year or otherwise continuous basis, what the cost of that insurance would be and what

the terms and conditions might be.

I think this is a very positive program that we are staying very close to and evaluating to determine whether there's a benefit and whether it might be effective. I don't think we've reached the point where we've made a conclusion on that or where I can characterize for you a specific number.

Q. At this time, are you able to determine how this loan guarantee would be of benefit to Progress's customers?

A. No, it's not clear. There are a number of open issues on it, what would be the fee for the insurance, and given the fee, would it be cost-effective. There are questions regarding first mortgage bonds and the position that DOE would want to take with respect to a lien on the facility. We've also got questions as to the effect of co-owners on the loan guarantees, particularly municipal co-owners who might finance with bonds. Can we get loan guarantees without 100 percent ownership of the facility? And so these are open questions. I think they're questions that will be resolved in time, and if there is benefit here, then we would certainly take advantage of it.

Q. Thank you. During your summary, you also stated that Progress must get in the queue and must

execute contracts now in order to meet the 2016-2017 time frame; is that correct?

A. That's correct.

Q. Does Progress have a place in the queue for securing DOE loan programs or loan guarantees?

MR. GLENN: I'm going to object to the form of the question. I think it may mischaracterize the DOE loan guarantee. There is no queue for that program.

BY MS. FLEMING:

Q. And that was going to be our follow-up. Is there a queue as we see for getting ready for reactors? Is there a queue for the DOE loan guarantee programs?

A. There will be an application process. I couldn't characterize it as queue, though.

Q. Will they be available on a first come, first served basis?

A. You know, I'm not sure.

Q. Okay. What arrangements or safeguards does Progress have in place to ensure that the Levy project is considered for these loan guarantees?

A. Well, we will stay engaged with the process. As these issues of how the money will be allocated and what the restrictions and what the fees are, we will ensure that those are evaluated. And as I said earlier, if we reach a conclusion that this has benefit, then we

would certainly apply for those. Our treasury organization is actively engaged in this.

Q. Does the loan guarantee program require a utility to build two nuclear units back to back?

A. I'm unsure. I don't believe so.

Q. So then Progress could potentially receive or qualify for the DOE loan program with just one unit; is that correct?

A. As I said, I'm unsure.

Q. I would like to now turn to the standby support agreements that we discussed briefly earlier. Can you describe your understanding of these standby support agreements, please?

A. This also, I believe, is at the early stages of development. The concept is that some level of assurance -- I believe it's $500 million for the first two units and $250 million for the next four units, subject to check -- would be available if delays are caused as a result of government action or inaction in the licensing process.

Q. And so to date, has Progress been able to determine how a DOE standby support agreement would be of benefit to its customers?

A. Not specifically.

Q. Have you been able to determine generally how

a standby support agreement would be of benefit to its customers?

A. Well, certainly, depending on the cost and the qualifying requirements of the program, if that standby support can be achieved and we meet the test for the first two or the first six reactors, you know, it would appear on the surface that would be a benefit to our customers in the event of an agency-caused delay.

Q. What actions must Progress take to ensure that the Levy project can qualify or is eligible for the standby support agreements?

A. I don't have that specific information in front of me, but as I said, our treasury folks are very closely monitoring loan guarantees and standby support, and in the case, for example, of production tax credits, ensuring that we, to the extent we can, execute our schedule to meet the milestones to be able to keep these open as an option until such time as we can make a decision as to whether they're beneficial.

Q. Does this standby support agreement require a utility to build two units back to back?

A. I am not sure, but I do not believe it does.

Q. So potentially, Progress could still be eligible for standby support agreements with only one unit; correct?

A. Potentially, yes.

Q. Let me have you turn to page 22 of your testimony, please. I'm looking specifically at lines 8 through 12. I think we touched on it briefly with some of the other cross questions with respect to the risk mitigation. You testify that Progress will be taking steps to mitigate those risks and will not proceed with a project that imposes an unreasonable portion of those risks on the company or our customers; correct?

A. That's correct.

Q. Can you define for me what constitutes an unreasonable portion of those risks?

A. As this project develops, I think we will need to assess and reassess each of these risks and their potential consequences on the company and the customer and will need to evaluate whether we have taken or can take effective or prudent steps to mitigate those risks. I'm unable to place a specific definition of it at this time, because I believe it will change as the project matures. As we move from concept to a site-specific design, from a site-specific design to an executed EPC contract, from there to obtaining an NRC COLA, the profile of these risks diminish. It narrows, and their nature changes somewhat.

I think my intent with this section of the

testimony is to make it clear that we are very mindful of our responsibility to identify and understand risk and to implement prudent measures to mitigate that risk as the project proceeds.

Q. Let me have you turn to page 23 of your testimony, please, starting on line 15, where you discuss the potential benefits, which include smoothing out the lumpiness of the large units when they come online and spreading a portion of the significant capital risk to other non-PEF customers. And I'm looking specifically at the phrase "spreading a portion of the significant capital risk to non-PEF customers." In this statement, are you saying that Progress's customers are assuming a significant capital risk with Levy Units 1 and 2?

A. No. My intention here is just to say that this project is of very long duration, very great magnitude, and by its nature, requires very large up-front capital costs, and that by involving partners in the process, we strengthen the financial resources brought to bear, and we spread the capital expenditures out among a greater number of parties and across a greater population or customer base.

Q. So in other words, Progress is using joint ownership as a risk mitigation tool? Is that what

you're saying?

A. No. What I'm saying is that as a by-product of taking on co-owners, this is one of the potential benefits that accrues. Our objective here in taking on co-owners is not necessarily a risk mitigation strategy, because we have a need for the units, and taking on co-ownership -- and the units have a strong benefit for our customers, so in reducing that benefit, we look for what is the benefit secured by taking on co-owners, and these are some of those.

MS. FLEMING: At this time I would like to hand out two exhibits. One has a purple cover page, and one has a pink cover page. Both of these are already compiled in staff's composite exhibit, which is the big stack in front of you. We're handing this out for ease of reference so that the parties do not have to shuffle through a lot of paper.

BY MS. FLEMING:

Q. Mr. Lyash, I'm going to start with the purple handout first, which is Progress's response to staff's third set of interrogatories, Number 57. The next series of questions were originally posed to Mr. Portuondo during his deposition, but these were deferred to you. You sponsored the interrogatory response; is that correct?

A. That's correct.

Q. In this interrogatory response, staff has asked Progress to provide the debt and equity financing plan for the period of 2009 through 2017 necessary to complete the Levy Units 1 and 2 project; correct?

A. Yes.

Q. And Progress's response or partial response is, "PEF is in the process of analyzing its potential financing options"; is that correct?

A. Yes.

Q. If the same question were asked today, would your response change?

A. No, it would not.

Q. So is it the company's position that it can't provide the specifics at this time regarding the financing plan for the Levy projects?

A. Yes, that's correct. In the early stages of this project, the preconstruction stages, we'll finance this much as we would any other investment, with debt and equity. We have spent the last few years solidifying the company's balance sheet, improving our leverage and our credit metrics to ensure that we have flexibility for financing for these and other large capital investments.

As the project moves forward, there are a

number of milestones that necessarily must be accomplished in order to arrive at a specific financing plan. Of course, one of those milestones that helps us even get to this point in the process is the 2006 legislation that allows for recovery of preconstruction in the AFUDC. It's a strong element of the plan.

A certificate of need that clearly expresses the need and regulatory support for the project is also another milestone that must be achieved.

One that we discussed earlier was negotiations with co-owners. We must understand the degree to which we'll have partners, what size stake they will take, and what the terms and conditions of that agreement are, as well as completion of our EPC contract negotiations so that we understand what the final terms and conditions and nature of the EPC contract is.

So while it is clear how we will finance the activities in front of us, and that's very traditionally, the ultimate structure of the financing plan will necessarily have to come into focus as these other elements of the project fall into place.

Q. Thank you. Now I would like you to turn to the pink handout, please. It's Progress's response to Interrogatory Number 56. In this interrogatory, staff asked to identify or describe what assurances PEF can

provide the Commission that it will have the ability to obtain and maintain financing under reasonable terms for a project of this scale. During the deposition of witness Portuondo, we posed the same questions, and he was able to respond with respect to the economy, lender and investor confidence that there remains a stable and constructive regulatory environment in Florida and the ultimate cost of the project. He deferred the question with respect to whether and the extent to which PEF may sell a portion of the Levy project to its joint owners to you.

So my question for you, Mr. Lyash, is, that factor listed, whether and the extent to which PEF may sell a portion of the Levy project to joint owners, specifically how will this factor impact Progress's ability to obtain and maintain financing?

A. Well, it's my belief that we would be able to obtain and maintain financing for 100 percent of the station. However, if we obtain partners and sell off a portion of this station to joint ownership, that would likely make the financing approach more straightforward. Hopefully that's addressing your question. I think we can finance this plant without joint owners, but certainly accommodating joint owners lessens the financing burden on the company.

Q. Will the Commission have the benefit of the assessment with respect to joint ownership at the time it decides on Progress's need determination?

A. I can't say. I cannot put a schedule on the negotiations for joint ownership, as I mentioned earlier. So while we have a high priority on these discussions, I can't promise that they'll be concluded before the need decision is made.

Q. Do you have a general idea of when these decisions may be made?

A. As I've said several times, I think that they are a priority for us and the co-owners. They're very encouraging and productive. I think it is likely that we will have some significant co-ownership in the facility, but I just cannot say what the course of the negotiations -- what course the negotiations will take or in what time frame they will finish.

Q. Beyond the four factors that were identified in this interrogatory response, are there any other factors that may impact Progress's ability to obtain and maintain financing for the Levy units?

A. I'm sorry. Can you say again what four factors you're referring to?

Q. I'm referring to the second sentence, "Ultimately, any financing will depend, in part, on the

economy, lender and investor confidence, whether and the extent to which PEF may sell a portion of the project to joint owners, and the ultimate cost of the project." Are there any additional factors or items that may impact Progress's ability to obtain and maintain financing for its Levy projects?

A. No, I think these are the primary factors of concern, although, as we discussed a short time ago, other issues such as DOE loan guarantees and standby support are relevant to the financing plan, but likely not critical in the end.

MS. FLEMING: We have no further questions. Thank you.

CHAIRMAN CARTER: Thank you. Commissioners? Commissioner Argenziano, you're recognized.

COMMISSIONER ARGENZIANO: Thank you, Mr. Chair. And forgive me. I may have had to leave at one point, and staff may have asked you the question, and if I did, excuse me. I'm sorry I wasn't here to hear the answer. And I have questions, I guess, that I was going to ask you, but now I realize they're better off for another witness and I'll wait.

But the one I think would be helpful for me to ask is, I guess looking at the transcript that we've referred to before and Mr. Crane's statement that's in

the testimony, the model that he says he needs to change, I wasn't sure what your answer was before. And the reason he's saying is because there were companies that went bankrupt and that the risk was then a lot on the customers as well as the owners of the companies. Did we change the model or did PEF change the model, what we're looking at here?

THE WITNESS: Yes, I think the industry has changed its model. The regulator, the Nuclear Regulatory Commission, has clearly changed its model, as has the State of Florida with the 2006 legislation and the annual prudence process that you've put in place to evaluate this. And we expect that process to be very open and transparent, an open book on cost and performance so that the Commission has the ability to see how this project is proceeding. And Progress Energy internally has certainly changed our approach and rigor with respect to engineering and project management and contract management in the intervening decades.

COMMISSIONER ARGENZIANO: That's great. In respect to, I guess, knowing or must figure out in advance more of the costs, the fixed costs, if we don't have that and it's more elusive right now as we're trying to determine, as staff has asked some questions, how does that fit into changing the model?

THE WITNESS: During the last wave of construction, designs were one of a kind, primarily. There were no standard designs that had been entirely reviewed by the Nuclear Regulatory Commission and vetted through a public process and approved. As a result, we entered construction with an uncertain design. That generated substantial rework. It generated design changes and things done in the field.

This time around, these designs are standard. They're certified. Having spent some time looking at what is called the price book, Westinghouse and Shaw, Stone & Webster's estimate of the price, and the library of material, literally the library of material that underpins that identifying units, feet of pipe, cable, man-hours, number of welds, they put us in a position to estimate the price of this project off of a foundation that is much different than it was last time.

That is not to say that these risks of escalation don't exist. It's just to say that I think the model has changed. The steps that we've implemented should mitigate much of the risk. And I think witness Roderick will get into this in some detail.

COMMISSIONER ARGENZIANO: Okay. And just one other point to that. Because the 2006 Legislature changed and allowed recovery even if the plant is

scrapped for some reason, and I don't know if you can answer this, but at what point -- if things escalated beyond where's feasible anymore, at what point do you think that -- I don't know how to ask the question. Could there come a point that you just have to abandon the plant? And, of course, my concern is that it goes all to the consumer, because you're allowed to recover at that point even if the plant is not built. So I'm seeing escalating prices, and I'm wondering if you have thought about a point where it's no longer feasible for the plant to continue.

THE WITNESS: I certainly think it's our obligation to take the prudent steps it takes to mitigate those risks of escalation, and I believe as part of the annual review process, we will focus very directly on the progress, the expenses, the schedule, and the process even includes a discussion of feasibility.

It's difficult to pick a point where you would consider the project not feasible this far in advance, because that is dependent on so many circumstances. But I think that very active management assessment of the costs, assessment of the progress against the schedule on an ongoing basis, year on year as we proceed through the pendency of construction, certainly puts us in a

position to make that evaluation in a way that perhaps didn't exist last time, when the project proceeded and in some cases really didn't get perhaps the look it deserved until very late in the process.

COMMISSIONER ARGENZIANO: Thank you.

CHAIRMAN CARTER: Thank you, Commissioner. Commissioner Skop, you're recognized, sir.

COMMISSIONER SKOP: Thank you, Mr. Chairman.

Mr. Lyash, on page 20 of your testimony, you indicated that Congress established several federal incentives to foster new nuclear development. And with respect to the production tax credit aspect of those incentives, would it be correct to understand that it's limited, I think, to the first 6,000 megawatts of nuclear generation that comes into production?

THE WITNESS: I believe that's correct.

COMMISSIONER SKOP: Thank you.

THE WITNESS: Might I add -- I'm sorry.

CHAIRMAN CARTER: Go ahead. You're recognized.

THE WITNESS: The design and construction and commissioning schedule for the Levy units as they're currently laid out meet the milestones to qualify for that program.

COMMISSIONER SKOP: Thank you.

CHAIRMAN CARTER: Thank you. Commissioners, any further questions?

Mr. Glenn.

MR. GLENN: No redirect.

CHAIRMAN CARTER: No redirect. Ms. Fleming, I think we have Commissioners' Exhibits 62, 63, 64, 65. Any objections?

MR. BURNETT: Yes, Commissioner. We would object to Exhibits 62, 63, and 64 on four grounds. They're unauthenticated, they're unsupported by a witness, and constitute single, double, if not triple hearsay. And then finally, Mr. Lyash was asked questions about those exhibits, questions such as what are your general reactions to these, what are your interpretations, and do you agree with statements. And while Mr. Lyash's testimony would constitute competent evidence, the articles in and of themselves do not.

CHAIRMAN CARTER: Okay.

MR. BREW: Your Honor, if I may.

CHAIRMAN CARTER: Mr. Brew, you're recognized.

MR. BREW: Taking them one at a time, first, with respect to the Forbes article, Mr. Lyash stated that he had worked on the Hope Creek plant. He was asked a specific question regarding a chart in the article that referenced the cost of the Hope Creek plant

where he worked, so it's directly germane to his testimony.

CHAIRMAN CARTER: And he answered your question -- not to cut you off, but I wanted to catch you before you go to the rest. His answer to you was, no, he didn't know. You asked about the expected cost, and he said no, and then you asked him was there any additional cost.

MR. BREW: Yes. I asked him --

CHAIRMAN CARTER: And he said no.

MR. BREW: He said he worked on the plant during the construction phase. So I showed him a document that showed the construction cost and asked him if he was familiar with that number, if it reflected cost overruns or not. So that was a very specific question relating to a number in the article, besides which, more generally, Forbes magazine and the Wall Street Journal are generally published and widely acknowledged publications in general circulation. The authenticity of the articles can be readily checked very quickly on any source. So as to the authenticity of documents, is the company challenging that a copy of the Wall Street Journal isn't competent evidence to ask the question?

CHAIRMAN CARTER: If you've got a witness that

you can bring this in with, that's fine. But based upon the answers that were given by this witness, I'm going to have to sustain the objection.

MR. BREW: I'm sorry?

CHAIRMAN CARTER: I will have to sustain the objection.

MR. BREW: Could I ask what's the basis for sustaining the objection?

CHAIRMAN CARTER: You asked this witness about these exhibits, which he said he had no knowledge about, and based upon the foundation for the objections that were raised by Mr. Burnett, I find it persuasive.

MR. BREW: Respectfully, I asked the witness about information on the exhibits that pertained, specifically the Forbes article, to the statement he made as to a unit he had worked on during the construction phase. The article gave information regarding -- as to the construction cost at that unit, so the information in that article goes directly to what he testified to, so it's --

CHAIRMAN CARTER: Well, my ruling stands. That's not the fact.

MR. JACOBS: May I be heard, Mr. Chairman?

CHAIRMAN CARTER: On what, Mr. Jacobs?

MR. JACOBS: May we request that these

articles be taken as official recognition?

CHAIRMAN CARTER: Do what? I'm sorry. I didn't hear the last --

MR. JACOBS: May we request that at least the Forbes article and the Wall Street Journal article, which are major publications, be accepted as official recognition -- official notice, I'm sorry.

CHAIRMAN CARTER: If you want to put these articles in in your case in chief, let's look at that. But based upon what has been raised here, my ruling stands.

MR. JACOBS: Okay. Thank you.

CHAIRMAN CARTER: Anything further?

MR. GLENN: Mr. Chairman, may the witness be dismissed and excused from the proceeding?

CHAIRMAN CARTER: Anything further for this witness?

MS. FLEMING: Chairman, has Exhibit 65 been moved into the record? I believe there was --

CHAIRMAN CARTER: I think the objection was on 62, 63, and 64; correct?

MR. BURNETT: That is correct, sir. No objection to 65.

CHAIRMAN CARTER: Show it done. The witness is excused.

(Exhibit 65 was admitted into the record.)

CHAIRMAN CARTER: Commissioner Argenziano.

COMMISSIONER ARGENZIANO: Just a point of clarification on the last motion, just so I understand it. And I understand your reasoning, but if I remember correctly, in the question and answer, I believe -- Mr. Bradford?

MR. BREW: Brew.

COMMISSIONER ARGENZIANO: I'm sorry. Asked Mr. Lyash a question, and Mr. Lyash said do you have information on that particular -- can you come up with information on that particular question, meaning which plants he was talking about. So I don't understand how it can be excluded. And I'm just trying to figure out -- I think what he did was came up with this after Mr. Lyash had asked him for supporting -- if there was something to see.

MR. BREW: Actually, what had happened is I asked --

CHAIRMAN CARTER: Wait a minute. He asked him what plants had he worked on, and he listed some plants that he had worked on.

COMMISSIONER ARGENZIANO: No.

CHAIRMAN CARTER: And then he asked him about the costs that are in here, and Mr. Lyash said he did

not know about the costs on these plants. One was Hope Creek, and the other one was Shoreham.

COMMISSIONER ARGENZIANO: And I think he asked him a previous question before he asked him what plants he worked on, which led Mr. Lyash to ask, you know, what plants are you talking about. And then he came up one, and then I think the question was, did you work on any of these plants. And I just didn't know. I'm trying to understand, and maybe you can help me as to why there would be a problem.

MR. BREW: If I could walk a little bit further on this.

COMMISSIONER ARGENZIANO: And it's already ruled on. I don't mean to elaborate on it. I just wanted to try to figure out in my mind why it wasn't --

CHAIRMAN CARTER: Here it is, Commissioner. The purpose for which he's trying to offer this was not the information that Mr. Lyash offered in his testimony.

COMMISSIONER ARGENZIANO: Oh, okay. Now I understand. All right. Got it.

MR. BREW: If I may, Mr. Chairman --

CHAIRMAN CARTER: No, sir. We're moving forward. Call your next witness.

MR. GLENN: Mr. Chairman, Progress Energy calls --

CHAIRMAN CARTER: Let's do this, Commissioners. We've been going at it for a while, and the court reporter probably could use a break and get all this evidence marked in. I'm looking at the clock on the wall this time. I think about 30 after. Let's come back at 30 after.

(Short recess.)

CHAIRMAN CARTER: We are back on the record. Mr. Glenn, would you call your next witness.

MR. GLENN: Thank you, Mr. Chairman. Progress Energy calls Mr. Danny Roderick.

Thereupon,

DANIEL L. RODERICK

was called as a witness on behalf of Progress Energy Florida, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GLENN:

Q. Good afternoon, Mr. Roderick. Would you please state your name and business address for the record?

A. Yes. My name is Daniel Roderick. My business address is 15760 West Power Line Street, Crystal River, Florida.

Q. And by whom are you employed, and in what

capacity?

A. I'm employed by Progress Energy as the Vice President for Nuclear Projects and Construction.

Q. And have you caused to be filed in this docket 21 pages of prefiled direct testimony on March 11, 2008?

A. Yes.

Q. And do you have any changes --

CHAIRMAN CARTER: Excuse me. Mr. Roderick, could you bend your mike a little closer toward you?

THE WITNESS: Okay.

BY MR. GLENN:

Q. Do you have any changes to that testimony today?

A. No, I don't.

Q. And if I were to ask you the same questions today as are reflected in your direct testimony, would your answers be the same?

A. Yes.

MR. GLENN: Mr. Chairman, Progress Energy requests that the prefiled testimony of Mr. Roderick be inserted into the record as though read.

CHAIRMAN CARTER: The prefiled testimony will be entered into the record as though read.

BY MR. GLENN:

Q. Mr. Roderick, you're also sponsoring six

exhibits to your testimony; correct?

A. That's correct.

Q. And those consist of nine pages, including one confidential page, I believe?

A. That's correct.

IN RE: PETITION FOR DETERMINATION OF NEED FOR LEVY UNITS 1 AND 2 NUCLEAR POWER PLANTS

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF DANIEL L. RODERICK

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Daniel L. Roderick. My business address is Crystal River Energy Complex, Nuclear Administration 2C, 15760 West Power Line Street, Crystal River, Florida 34428.

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

A. I am employed by Progress Energy Florida ("PEF" or the "Company") in the capacity of Vice President – Nuclear Projects & Construction. As Vice President Nuclear Projects & Construction, I am responsible for the management and oversight of all large, capital nuclear projects for the Company. These include the Crystal River Unit 3 ("CR3") power uprate project, the CR3 steam generator replacement project scheduled for 2009, and the development, siting, engineering, and construction of two new nuclear generating facilities at the Company's Levy County site. Prior to assuming my current position, I served as the CR3 Director of Site Operations. In that capacity, I was responsible for the safe, efficient, and reliable generation of electricity from the Company's CR3 nuclear plant. All

plant functions, including the Plant General Manager, Engineering Manager, Training Manager, and Licensing, reported to me and were under my supervision.

Q. Please summarize your educational background and work experience.

A. I have a Bachelor of Science and Master of Science degree in Industrial Engineering from the University of Arkansas and have held a Senior Reactor Operator License. I have been at CR3 since 1996. Prior to serving as Director Site Operations, I held the positions of Plant General Manager, Engineering Manager, and Outage Manager. Prior to my employment with the Company, I was employed for twelve years with Entergy Corporation at its Arkansas Nuclear One plant in Russellville, Arkansas with responsibilities in Plant Operations and Engineering.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support the Company's request for a determination of need for its proposed Levy Units 1 & 2 nuclear power plants. Specifically, I support the selection of the Levy site, the selection of the Westinghouse AP-1000 advanced reactor technology, and the benefits of the new, advanced nuclear plants. In addition, I sponsor the Company's current cost estimates for the project, explain the procedures in place to ensure the costs incurred for the project are reasonable and prudent, and outline the current project schedule.

Q. Are you sponsoring any sections of the Company's Need Study, Exhibit No. ___ (JBC-1)?

A. Yes. I am sponsoring Sections III, A., B., C., D., E., and F of the Need Study, which describe Levy Units 1 and 2, the Levy site, the nuclear reactor design initially selected, the estimated capital and operation and maintenance ("O&M") costs and expected cost savings, the projected plant performance, the fuel supply, and the environmental benefits from operating nuclear power plants.

Q. Do you have any exhibits to your testimony?

A. Yes, I have supervised the preparation of or prepared the following exhibits to my direct testimony.

- Exhibit No. ___ (DLR-1), a map showing the State of Florida and the Levy County site location.
- Exhibit No. ___ (DLR-2), an aerial map showing the Levy site.
- Exhibit No. ___ (DLR-3), an aerial map showing the site and the proposed location of the two nuclear units.
- Exhibit No. ___ (DLR-4), a composite of graphics of the AP-1000 advanced reactor plant.
- Exhibit No. ___ (DLR-5), a cost breakdown summary for Levy Units 1 and 2.
- Exhibit No. ___ (DLR-6), a confidential detailed project schedule.

All of these exhibits are true and accurate.

Q. Please summarize your testimony.

A. To meet its customers' growing demand for electricity in the 2016 and 2017 time frame, PEF is pursuing the development of two state-of-the-art Westinghouse Advanced Passive 1000 ("AP-1000") advanced light water reactors at the Company's 3,100 acre Levy County site. The Company plans to have Units 1 & 2 commercially operational in June 2016 and 2017 respectively. Each unit will supply approximately 1092 megawatts (summer) of emissions-free electricity. Levy Units 1 & 2 will be highly efficient, base load nuclear plants, with low fuel costs, low forced and planned outage rates, and high availability and capacity factor rates. Adding new nuclear generation to Progress Energy's existing nuclear fleet further builds upon the Company's core strength of operating nuclear plants.

The Levy project will produce significant economic benefits to Levy and surrounding Counties. The plants will employ approximately 800 full-time, high-paying positions, generate another 1,000-2,000 indirect jobs, and employ approximately 3,000 people at the height of the construction. As a result, the Company expects an overall economic benefit to the State from the Levy project.

At this time, we estimate that Units 1 & 2 will cost approximately $14 billion in 2016 dollars, including Allowance for Funds Used During Construction ("AFUDC"), and excluding approximately $3.1 billion in associated transmission facility costs. These estimates are based on the latest pricing obtained from the vendor, Westinghouse and its joint venture partner Shaw Stone & Webster (collectively referred to as the "Consortium"). The cost estimates assume that

cost savings will be realized on the second unit, as long as the second unit is constructed within approximately 12 to 18 months of Unit 1.

These estimates are based on the best information available to the Company at this time. Any number of factors, however, could affect the project cost. These include, but are not limited to, the terms and conditions of any final engineering, procurement, and construction ("EPC") contract with the Consortium; permitting and licensing delays at the local, state and federal level; litigation delays at both the state and federal level; labor and equipment availability; vendor ability to meet schedules; cost escalations; the imposition of new regulatory requirements; significant inflation or increase in the cost of capital; the ability to obtain and maintain financing at reasonable terms; and lack of public, investor, or policy maker support, to name only a few.

EPC contract negotiations are ongoing with the Consortium and we expect to execute an EPC contract by the end of 2008. In order to meet our 2016 in-service date, we will begin to order long lead-time equipment, such as large reactor vessel forgings, and will make several key regulatory filings in 2008. Most significantly, we plan to file our Site Certification Application ("SCA") with the Florida Department of Environmental Protection ("DEP") in the second quarter of 2008, and the Combined Construction and Operating License Application ("COLA") with the U.S. Nuclear Regulatory Commission ("NRC") in the third quarter of 2008. We expect the DEP approval process to take 12-15 months and the NRC license approval process to take approximately 42 months. Obtaining key regulatory approvals on a timely basis will be critical to

maintaining the construction schedule, meeting budgets, and moving forward with the project.

III. SITE AND TECHNOLOGY SELECTION

Q. Please describe PEF's actions since 2005 regarding the potential addition of new nuclear generating capacity to PEF's generation resource portfolio.

A. Beginning in 2004, PEF began to look seriously at the possibility of adding new nuclear generation in Florida, as well as other types of generation resources, including solid fuel plants, such as pulverized and super-critical coal facilities. This was based, in part, on the 2004 hurricane season, the general increases in oil and natural gas commodity prices, consistently increasing load growth and the increased demand for power within PEF's service territory, the increased focus on climate change and greenhouse gas emissions, and the potential benefits of adding new base load generating capacity to PEF's generation portfolio.

During that time period, Congress also passed the Energy Policy Act of 2005 ("EPAct 2005"). EPAct 2005 included various provisions intended to foster the construction of new nuclear generation, to increase the country's fuel diversity and security, lessen the nation's dependence on fossil and foreign fuels, and reduce greenhouse gas emissions. Among other things, Congress established production tax credits ("PTCs") that would be available to new nuclear capacity using advanced nuclear technologies if certain eligibility requirements and deadlines were met. Companies that met these eligibility requirements and milestones would be eligible to receive PTCs equal to $0.018/kWh for the first eight years of the facility's operation. EPAct 2005 further directed the

Department of Energy ("DOE") to provide certain loan guarantees and standby support agreements for new nuclear plants in an effort to lower the financing costs of such plants.

Subsequent to the enactment of EPAct 2005, the Florida Legislature passed an omnibus energy bill, the Florida Renewable Energy Technologies and Energy Efficiency Act of 2006, in May 2006, which then Governor Bush signed into law in June of that year. That legislation, which passed unanimously in the Senate and 119-1 in the House, expressed the Legislature's clear intent to promote new nuclear power development in Florida. The Act revised the Power Plant Siting Act to foster the siting of new nuclear plants, and provided certain financial incentives aimed at not only fostering the development of new nuclear facilities but at lowering the overall cost of the plants to Florida customers.

Following the enactment of EPAct 2005, Progress Energy's Nuclear Generation Group ("NGG") established a project organization, Nuclear Plant Development ("NPD"), dedicated to evaluating the development of new nuclear plants by Progress Energy. Most significantly, the NPD group conducted detailed site and technology selection evaluations, and developed cost estimates for potential plants in Florida.

In addition, Progress Energy along with other nuclear utilities, including Southern Company, FPL, Exelon, and Entergy, formed NuStart Energy Development, LLC ("NuStart") to pool resources to advance the development of new nuclear plants. This included, among other things, the development of a standard COLA that would shorten the NRC review process for new nuclear

license applications. NuStart submitted the reference COLA for the AP1000 reactor technology to the NRC last year based on TVA's Bellefonte site.

A. SITE SELECTION

Q. What process did the Nuclear Plant Development Group use to analyze and select a preferred site for new nuclear generation in Florida?

A. In 2005, NPD began reviewing sites potentially suitable for new nuclear plants in Florida. NPD followed the Electric Power Research Institute ("EPRI") siting guide, a widely accepted guidance document for evaluating new nuclear power plant sites, and applicable NRC regulatory guidance, in reviewing and evaluating potential sites. NPD also retained nationally recognized environmental consulting firms to assist in the site evaluation process.

The EPRI Siting Guide, as adopted for the PEF siting study, provided four steps in the site selection process. First, NPD identified "regions of interest," which were initially subjected to exclusionary considerations, resulting in the identification of "potential sites." Second, NPD further analyzed the "potential sites" against avoidance considerations reducing that list to a smaller number of "candidate sites." Third, NPD performed a suitability evaluation of specific criteria on the "candidate sites" and then determined the highest ranked "alternative sites" best suited for a nuclear plant. Finally, NPD evaluated the "alternative sites" against various strategic considerations to determine the "preferred site."

NPD analyzed potential sites within PEF's 35 county service territory, plus counties bordering PEF's service territory. Within that area, NPD identified 20 potential sites. NPD reviewed each site through successive layers of analysis including, among other screening measures, health and safety criteria, population density restrictions, geotechnical and seismological suitability, water supply and rail/barge access, wetlands impact, important species and habitats, and high-level transmission system impacts. The screening resulted in a short list of eight candidate sites.

Continued screening evaluation of the candidate sites included an increased level of detail associated with water management, population profiles, reconnaissance level information, which resulted in the identification of five alternative sites in Levy, Dixie, Putnam, Highlands, and Citrus Counties. NPD then completed on-site analyses (environmental and geotechnical drilling) at the Levy, Dixie, Putnam and Highlands sites. Based on the on-site analyses, the prior screening analyses, and on weighing strategic and transmission considerations, NPD ultimately concluded that the Levy County site presented the best overall site, and therefore the preferred site for potential new nuclear generating facilities.

Q. Please describe the preferred Levy County site.

A. The site consists of approximately 3,105 acres of forested land just east of U.S. Highway 19 and several miles north of S.R. 40 in Levy County. The site is approximately 10 miles from PEF's existing Crystal River Energy Complex in Citrus County. Maps of the site are included in my testimony as Exhibits Nos. ___,

___, and ___ (DLR-1 through DLR-3). The property has been used for silviculture for many years and is approximately 8 miles from the Gulf of Mexico. The plants will draw their cooling water makeup from and discharge blowdown to the Gulf. In December 2007, PEF acquired a second 2,100-acre tract contiguous with the southern boundary of the Levy property, which provides access to water supply and heavy load path and transmission exit corridors from the plant site.

Q. Why is the Levy site PEF's best site for a new nuclear plant?

A. Levy rated the highest site for several principal reasons. First, it had access to adequate water supply. Second, the site is at a relatively high elevation, which provides additional protection from wind damage and flooding. Third, unlike a number of other sites considered, the Levy site has more favorable geotechnical qualities, which are critical to siting a nuclear power plant. Fourth, although the Crystal River Energy Complex site has many favorable qualities, adding new nuclear generating capacity to the Crystal River Energy Complex at this time would result in a significant concentration of PEF's generating assets in one geographical location. This increases the likelihood of a significant generation loss from a single event and a potential large scale impact on the PEF system. Finally, the Levy site ranked the highest from a transmission deliverability perspective. In this regard, NPD retained Navigant Consulting, a well-respected international engineering firm, to analyze the potential transmission upgrades necessary for each alternative site and the estimated costs associated with each alternative site. Both the Levy and Crystal River sites scored the best due to lower estimated direct connect and upgrade costs. Levy, however, offered a

significant advantage by not co-locating transmission lines in the same corridor with the Crystal River Energy Complex, thereby avoiding loss from a single event and a resulting large scale impact on the PEF system. Considering the collective results of all these reviews and analyses, PEF selected the Levy site as the preferred location for new reactor technology deployment in Florida.

Q. Following selection of the Levy County site as the preferred site, what further steps did NPD take to analyze the potential viability of the site?

A. First, PEF negotiated and executed an agreement with the landowner for an option to purchase the property upon PEF's completion of its more detailed site characterization of the property and suitability for a nuclear plant. Upon execution of the Purchase and Sales Agreement in November 2006, NPD conducted additional, detailed comprehensive on-site testing and evaluations of the property consistent with industry and NRC regulatory guidance and regulations. The detailed analyses included months of on-site geotechnical analysis that included more than 80 borings, geophysical logging, and detailed examination of soil/rock core samples. The analyses showed that the site was suitable for new nuclear plants.

PEF closed on the property on September 13, 2007. PEF paid approximately $[redacted] for the 3,105 acre site, or approximately $[redacted] per acre. Upon receipt by PEF of its NRC COL, PEF will pay to the seller an additional $[redacted] or $[redacted] per acre.

As I noted above, in December 2007, PEF acquired another 2,100-acre tract that is contiguous with the southern border of the Levy site from an adjacent

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landowner. This parcel will provide PEF with access to the Cross Florida Barge Canal, which in turn provides access to the Gulf of Mexico -- the cooling water source for the plants. This additional parcel also provides PEF access to heavy load paths necessary for the construction of the plant, and transmission exit corridors. In addition, the tract included a parcel adjacent to the northwest corner of the Levy site off U.S. 19, which will provide construction and employee access to the site. PEF paid approximately $[redacted] for this tract.

As indicated in Exhibit No. ___ (DLR-3), the actual developed area for the nuclear power blocks will be approximately 500 acres, with a large Exclusionary Area Boundary ("EAB") as required by the NRC for a nuclear power plant. NPD assessed the entire property to ensure that no issues existed with respect to the presence of hazardous materials or previous incompatible uses. NPD also conducted other detailed assessments of the site, including assessments of threatened and endangered species, and archeological/cultural resources, none of which identified any significant issues.

Q. Has PEF taken any other steps to assure that the site will be suitable for new nuclear generating facilities?

A. Yes. PEF has worked with Levy County in obtaining amendments to the Levy County Comprehensive Plan to change the land use designation of the property from agricultural/rural residential to public use, and to clarify that power generating facilities are a permitted use within the public use land use designation. The County approved the Comprehensive Plan amendments in

March 2007. The Florida Department of Community Affairs has provided comments on the proposed amendments and we expect final adoption by the County in March of this year. In addition, in September 2007, the County adopted revisions to its zoning code to allow for the siting of the nuclear facility on the property.

B. TECHNOLOGY SELECTION

Q. How did PEF select the Westinghouse AP-1000 technology?

A. Similar to its Site Selection process, NPD performed a methodical, detailed quantitative and qualitative evaluation of commercially available advanced reactor technologies. NPD issued RFPs to the three vendors that had advanced reactor designs: General Electric ("GE"); Westinghouse; and Areva, for the GE Economic Simplified Boiling Water Reactor ("ESBWR"), the Westinghouse AP-1000 advanced passive pressurized water reactor, and the Areva European Pressurized Reactor ("EPR"), respectively. NPD completed a thorough and extensive evaluation of the vendor proposal responses associated with technical and operational requirements for licensing, design, construction, and capability input by the vendors. Following nearly a year of detailed evaluation, NPD initially selected the Westinghouse AP-1000 design as the best advanced technology for PEF.

Q. Following the initial selection of the AP-1000 technology, did PEF continue to evaluate this and other advanced reactor technologies?

A. Yes. Since the preliminary selection of the Westinghouse AP-1000 design in January 2006, NPD continued to monitor industry changes, advanced reactor technology developments, and other information that might affect PEF's technology selection, or the assumptions NPD used in its initial analysis. In January 2007, NPD updated its January 17, 2006 technology evaluation. Among other things, NPD included a review of the GE Advanced Boiling Water Reactor ("ABWR"), a 1,350 MW plant similar to existing boiling water reactor technology. NPD chose to analyze the GE ABWR because two U.S. utilities announced their intent to construct the ABWR following NPD's initial technology evaluation. In addition, NPD requested all vendors to provided updated pricing information to the extent available.

Q. What did your updated analysis show?

A. Following the same evaluation criteria as our initial analysis, NPD's updated evaluation confirmed the initial recommendation to utilize the Westinghouse AP-1000 design.

IV. THE AP-1000 DESIGN

Q. Please describe the Westinghouse AP-1000 design.

A. The Westinghouse AP-1000 design (See Exhibit No. __ (DLR-4)) is a standardized, advanced passive pressurized water nuclear reactor. It is an advanced generation nuclear technology that employs "passive" rather than traditional "active" safety systems. In other words, the design uses gravity and

natural recirculation of air and water in emergency situations that do not require engines or pumps to power key safety systems. The result is an extremely safe and much simpler design that requires significantly less cable, pumps, valves, and other equipment than existing nuclear power reactors. The two proposed units at the Levy site each will generate approximately 1092 MW electric (summer) and 1120 MW electric (winter) and will occupy about 300 acres of the approximately 3100 acre site.

PEF initially will store used nuclear fuel on-site in a storage pool. The used fuel pool will be located in a hardened building, which will meet all applicable NRC safety requirements. At this time, we expect the Federal Government to take title to the used fuel and dispose of it in a permanent geologic repository. Even in the event the Federal Government fails to accept used fuel from the plants in a timely manner, the on-site storage pool will have capacity to safely store all of the plant's used fuel for approximately 19 years. The site also will be designed to accommodate an Independent Spent Fuel Storage Installation or "ISFSI," if one is needed, which will be capable of safely storing all used fuel generated at the site for at least 60 years. Like Progress Energy's existing nuclear fleet, any low-level radioactive waste ("LLW") generated by plant operations will be minimized, compacted, and sent off-site for disposal in a NRC-licensed LLW disposal facility.

Q. Has the NRC approved of the Westinghouse AP-1000 Design?

A. Yes. The NRC approved a final rule amending 10 CFR Part 52 on December 30, 2005 certifying the Westinghouse AP-1000 advanced reactor standard plant design.

Q. Why is NRC pre-approval of the design important?

A. Having a standard design that the NRC already has approved should help facilitate the NRC's review of PEF's Levy COLA, limit the number of issues that may be litigated in a COL hearing, and hopefully shorten the NRC licensing schedule.

V. NON-BINDING COST ESTIMATE

Q. What is PEF's estimate of the installed cost of Levy Units 1 & 2?

A. We estimate the installed cost for Levy Units 1 and 2 will be approximately $14 billion in 2016 dollars. This includes approximately $3.2 billion in AFUDC. It does not include the costs of transmission, which is addressed in Mr. Oliver's testimony. This estimate includes costs for: land; COLA preparation and NRC review; the AP-1000 plant; initial core load; site specific structures, such as cooling towers, intake and discharge structures, land clearing and engineering; owner's costs, such as training and staffing, certain owner construction oversight, permits, fees, insurance, and taxes; AFUDC; escalations and contingencies. Based on our negotiations with the Consortium to date, we expect to achieve efficiencies and cost reductions on the second unit if that unit is constructed within 12 to 18 months of the first unit. A more detailed breakdown of the costs,

including the Unit 1 and Unit 2 comparative costs, is included in confidential Exhibit No. __ (DLR-5).

Q. How did you arrive at this cost estimate?

A. We based this estimate on (1) site specific pricing received from the Consortium in February 2008, and (2) our best assumptions regarding the escalation of certain parts of the project, such as labor, commodities (like steel and concrete), and equipment.

Q. Will any of the project costs be fixed?

A. We are in negotiations with the Consortium on the terms and conditions of an acceptable EPC contract, including the pricing structure. We expect that some, but not all, of the costs will be firm. In other words, the cost for those elements will be established at the time of EPC execution, but would still be subject to escalation tied to particular indices. We also expect that there will be substantial costs that will not be firm and for which we will have target price estimates at the time of EPC execution. We expect to finalize and execute the EPC contract by the end of 2008.

Q. How might the costs increase or decrease on this project?

A. Costs could increase or decrease based on a number of factors. Some of these factors include: labor availability and price; equipment escalation rates; commodity prices; forgings and other key equipment availability; the ultimate

terms and conditions of the EPC contract; permitting and licensing delays at both the state and federal level; litigation delays at both the state and federal level; vendor ability to meet schedules; the imposition of new regulatory requirements; significant inflation or an increase in the cost of capital; and the ability to obtain and maintain financing at reasonable terms.

Q. What are the steps PEF is taking to mitigate the potential impact of these factors on the ultimate cost of and schedule for the project?

A. PEF is taking steps to mitigate potential cost increases. For example, we have created a new organization, Nuclear Projects & Construction, which I lead and which is focused solely on and dedicated to managing our large nuclear projects, including the new Levy nuclear project. This organization will allow our Operations organization to focus on the continued safe, reliable, and efficient operation of our existing nuclear fleet, while the Nuclear Projects & Construction group will be singularly focused on the CR3 uprate, CR3 steam generator replacement, and new Levy construction project.

My organization has also implemented an internationally recognized project management guide that is used in managing some of the largest public and private construction projects in the world. This project management guide is a tool we can use to assure the aggressive and efficient oversight of the project and our key contractors.

Finally, China recently announced that it will construct at least three Westinghouse AP-1000 units for commercial operation as early as 2013 to 2015.

Not only should this help Westinghouse gain experience in the construction of its design, which should benefit our customers, but Progress Energy anticipates sending employees to China for extended periods of time to review on-site the construction of the first AP-1000 units. We will use the lessons learned on these projects at our Levy project.

Q. Are you also attempting to mitigate risks through your EPC contract?

A. Yes. We are negotiating terms and conditions in the EPC contract with the Consortium where commercially feasible to reasonably allocate the risk among the parties and to protect our customers' interests. At this time we have not completed the negotiation of the EPC.

VI. DISCUSSIONS WITH POTENTIAL JOINT OWNERS

Q. Has PEF had any discussions with other entities regarding potential joint ownership of a portion of Levy Units 1 & 2?

A. Yes. We have had discussions with nearly every, if not every, electric utility within the state, including municipal electric utilities, power agencies, electric cooperatives, and investor-owned utilities. We have also had a series of meetings with those municipal electric utilities and electric cooperatives who have expressed serious interest in owning a portion of the project. The discussions to date have been encouraging and are ongoing.

Although, as Mr. Crisp establishes, PEF needs the full output of the units, joint ownership may have some potential benefits to PEF customers. These

potential benefits include "smoothing out" the "lumpiness" of the large units when they come on line, spreading a portion of the significant capital risk, and assisting in the siting of the significant transmission facilities required for the project. PEF will continue its negotiations with potential joint owners; however any ultimate decision will depend upon whether the parties can reach mutually agreeable terms and conditions, whether joint ownership benefits PEF's customers and the Company, and whether it is reasonable and prudent to have joint owners in Levy Units 1 and 2.

VII. PROJECT SCHEDULE

Q. Please provide a summary of the project schedule and key milestones.

A. As shown in more detail in Exhibit No. ___ (DLR-6), our next near term schedule milestones include the execution of the EPC contract in the second or third quarter of 2008, the filing of the DEP SCA in June 2008, and the filing of the NRC COLA in third quarter of 2008. Timely receipt of the SCA and COL will be critical in meeting all of the other construction milestones. In 2008, we likely will also place orders for certain long-lead time equipment, including the reactor vessel, the steam generators, and the turbine generators.

In order to ensure the proposed commercial operation date for Unit 1 is met, pre-construction activities must begin in 2008. This includes certain site infrastructure such as site access roads, an office building and a training facility. Assuming we receive all regulatory approvals on schedule, we will commence on-site preparation and pre-construction activities in 2010. We plan to begin the pour

of safety-related concrete; i.e., starting with the reactor foundation in 2012, and we expect completion of the balance of plant by the end of 2015.

Concurrent with construction, we will commence training of the new reactor staff. We plan to commence start up testing in late 2015, and go commercial with Unit 1 in June 2016, and with Unit 2 in June 2017.

As discussed in greater detail by Mr. Oliver, on a concurrent path with the construction of the generating units, we will acquire necessary rights-of-way for the associated transmission facilities, and commence construction of the associated facilities beginning in 2010 or sooner, if possible. We anticipate completing transmission construction by 2015 to meet our start up testing schedule.

Q. Does this conclude your testimony?

A. Yes, it does.

BY MR. GLENN:

Q. Mr. Roderick, have you prepared a summary of your testimony?

A. I have.

Q. Would you provide that to the Commission, please?

A. Good afternoon, Chairman Carter and the other Commissioners. I would like to thank you for the opportunity to for us to present our needs case to you for our Levy 1 and 2 project.

To meet Progress Energy's customers' growing demand for electricity in the 2016 and 29 time frames, we have actively developed plans to construct two state-of-the-art Westinghouse advanced passive reactors or AP-1000 design plants at the company's 5,200-acre site in Levy County. We have developed plans that will utilize the most modern construction and project management tools to have Units 1 and 2 commercially operational in the June 2016 and 2017 time frame respectively.

Each of these units will supply about 1,110 megawatts of reliable, emissions-free electricity. Levy Units 1 and 2 will be a highly efficient base load nuclear unit with low fuel costs, low forced outage and planned outage rates, and high availability and capacity

factor rates that have incorporated a culmination of the 104 reactors in the United States that have been in service for over 30 years. These lessons learned have been incorporated not only from the plants in the United States, but from significant amounts of international operating units worldwide that we have incorporated into our plant design. Adding new nuclear generation to Progress Energy's existing nuclear fleet further builds upon our company's core strengths of operating nuclear plants.

The Levy project will produce significant economic benefits to Levy and all the surrounding counties in which we live. The plant will employ over 800 full-time, highly skilled positions and generate between 1- and 2,000 additional indirect jobs and employ about 3,000 people at the height of construction.

At this time, we estimate that Levy 1 and 2 will cost approximately $14 billion in 2016 dollars, including allowance for funds used during construction and excluding the transmission facility costs, which Mr. Oliver will address in his testimony. These non-binding cost estimates are based on the latest pricing informing that we have obtained from our vendor, Westinghouse, and its venture partner, Shaw, Stone & Webster, which we refer to as the consortium.

We expect to gain significant efficiencies and economies of scale by constructing the two units close together in time. We expect that this will result in a lower cost to build the second unit by limiting the demobilization of labor forces and critical construction equipment, also by reducing our training costs, components costs, and avoid duplicative work on common facilities.

And while a project of this size and complexity has risks, some of which are beyond our control, we are taking and will continue to take reasonable steps to mitigate those risks. And just to give some examples of those risks that we are talking about openly and transparently, utilizing a design that has already been certified by the Nuclear Regulatory Commission and which has been based on existing, proven technologies that we have. We are also taking advantage of the Nuclear Regulatory Commission's more streamlined combined operating and construction and licensing process.

We are using international techniques for construction that were not available back when we built our first set of plants with modular construction. It allows much of the unit to be built in parallel, where before the series construction methods were used.

We also have obtained a front-of-the-line position for key plant equipment and design and engineering labor, creating a separate nuclear construction organization with dedicated employees that know the design requirements of nuclear power plants, and have added to them expertise in construction to be able to manage the Levy project. We have also utilized tested and successful project management tools. We have used the Project Management Institute and others to validate that we are using tools that are state of the art to be able to manage a project of this size.

In addition, right now, we are able to leverage the experience that we have gained at the $3 billion worth of work that we have going on right now in our system, such as the Bartow repowering, the Crystal River 4 and 5 environmental controls project, the Crystal River 3 power uprate, and our steam generator replacement. These projects alone at Crystal River in 2009 will have over 3,000 workers just at Crystal River.

As Mr. Lyash discussed, in addition, we are taking the benefits of working with potential joint owners as part of our process.

Finally, we will be before this Commission each year in an open and transparent annual cost

recovery process, where all of our costs and decisions will be fully vetted and reviewed. In order to meet our 2016 in-service date for Unit 1 and keep this option open for our customers, we have already begun to order long lead time equipment, such as large reactor vessel forgings, and will make several key regulatory filings this year. Most significantly, we plan to file our site certification application with the Florida Department of Environmental Protection in the second quarter of 2008, and we will file our combined operating license or COLA in the third quarter of 2008. We expect the DEP process will take between 12 and 15 months, and the NRC process will take approximately 42 months for approvals. Obtaining these key regulatory approvals on a timely basis will be critical to maintaining the construction schedule and moving forward with the project.

And with that, I would offer that we would recommend approval of our needs case. That concludes my summary.

MR. GLENN: Mr. Chairman, I tender the witness for cross-examination.

CHAIRMAN CARTER: Thank you.

MR. BURGESS: We have no questions.

CHAIRMAN CARTER: Mr. Brew.

MR. BREW: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MR. BREW:

Q. Good afternoon, Mr. Roderick.

A. Good afternoon.

Q. Mr. Roderick, can I refer you to your exhibits, and specifically the exhibits labeled DLR-4. By the way, have we marked them for identification?

A. Pardon me?

MR. BREW: Have they been marked for identification?

MR. GLENN: They have not been marked for identification. We can do that.

CHAIRMAN CARTER: Ms. Fleming, you're recognized.

MS. FLEMING: Mr. Roderick's prefiled exhibits have been marked for identification. They're part of the comprehensive exhibit list, and they're shown as Exhibits 14, 15, 16, 17, 18, and 19.

MR. GLENN: Okay. Thank you.

CHAIRMAN CARTER: Let's use that system for ease of -- for easability of all the parties involved. The exhibits are marked for identification, 14 through 19. Mr. Brew, you're recognized, sir.

MR. BREW: Thank you.

BY MR. BREW:

Q. Mr. Roderick, this would be what has been marked as Exhibit 17, which is your DLR-4. Do you see that?

A. Yes. I have DLR-4 in front of me.

Q. Okay. That's fine. And this is sort of a rough schematic of the Westinghouse AP-1000 nuclear steam supply system?

A. That's correct.

Q. And I assume it's not really to scale, but it's just illustrative; is that right?

A. Yes.

Q. And the reactor vessel will heat water and create steam?

A. Yes. The reactor vessel will provide the heat that we will transfer over to steam generators that will actually create the steam.

Q. Okay. So the heated, pressurized water goes from the hot leg to the steam generator?

A. That's correct.

Q. And the hot leg is a pipe?

A. It is.

Q. That's containing water that's under what temperature and pressure?

A. Well, those are design features. It receives pressures of over 2,000 pounds and temperatures in

excess of 600 degrees.

Q. Okay. So the pipes containing this heated, pressurized water, they are hung and secured by pipe hangers?

A. Yes.

CHAIRMAN CARTER: I'm sorry, Mr. Brew. Excuse me one second. Chris, we've got that feedback again in the system. Have we got someone on the line?

MR. POTTS: No, sir. That's a power line.

CHAIRMAN CARTER: A power line?

MR. POTTS: Yes, sir.

(Pause in the proceedings.)

CHAIRMAN CARTER: Thank you, Mr. Brew, for bearing with us. I'm just trying to make sure everyone gets a chance to be heard, particularly the court reporter. That's good for all of us. I hope you can remember what -- you were in the middle of asking a question. You're recognized, sir.

MR. BREW: I think I'll just ask it again.

BY MR. BREW:

Q. I was asking you if the steam lines or the hot leg pipe is suspended and secured by pipe hangers.

A. Yes, it is.

Q. Okay. And am I correct that how they are hung and secured is pursuant to very specific NRC rules?

A. Yes. There is a design criteria that is established for how those hangers are hung, and then the design criteria that has to be met for the plant to be certified lays out that criteria.

Q. Okay. So a pipe hanger in a building like this would be like a little metal doll holding on to the pipe. A pipe hanger for the main hot leg line at a nuclear plant is much more substantial, is it not?

A. Yes. They could weigh thousands of pounds.

Q. Thousands of pounds. And the pipe hanger itself needs to be fabricated from materials, steel or whatever, that are produced by an NRC qualified vendor?

A. Well, yes. They have to be in compliance with our QA program requirements, which would be that they're from a vendor that we have traceability on that material and quality, yes.

Q. So they would have to be qualified by your program before they could provide materials for the site?

A. The plate steel -- you're asking about the hangers now, not the pipe itself. But the steel that we have all has to be qualified. It would all have to be through certified vendors.

Q. Okay. So that means that the production of the steel has to be consistent with your requirements

and thoroughly documented in its production?

A. That's correct.

Q. And once it gets to the site, it has to be installed by properly qualified steam fitters or whoever is responsible for that installation; is that right?

A. Yes. That material has to be materially traceable from the time it gets on-site until it's installed in the field by a qualified person.

Q. By a qualified person. And once it's installed, that installation has to be inspected by a qualified quality control inspector?

A. That's correct.

Q. Okay. And all of that has to be documented?

A. That's correct.

Q. So if the material that's supplied isn't properly documented or documented in accordance with the requirement, it would have to be rejected; right?

A. Well, you would do an evaluation to see what the deficiency was. If it did not meet the standards, it would be rejected on receipt inspection before it went to the field.

Q. Okay. And once the hanger was installed, further work could not be done until a QC inspector had reviewed and approved that work; is that right?

A. On that hanger itself?

Q. On that hanger, right.

A. That's correct.

Q. Because you have to follow everything in stepwise function.

A. Uh-huh.

Q. So it's conceivable then that you could have delays in getting a part made?

A. Well, it's conceivable. Remember, in the new construction, unlike the construction 30 years ago, the modules that we build are built before we even pour concrete, so many of these hangers are actually installed in the modules and inspected and qualified in the modules before we actually start stacking them into the plant. So from that standpoint, if it was -- it wouldn't necessarily delay anything for it to be in a module, whereas it might if it was in direct construction in a non-module area.

Q. Okay. In a non-module case then, you can have delays if the parts aren't available on time?

A. You could.

Q. You could have delays if the parts are available, but the qualified personnel aren't available to install it?

A. You could.

Q. You could have delays if the parts are made

and shipped to the site, but don't have the required documentation?

A. You could.

Q. The materials could be made and shipped and documented to the site and installed, but you don't have sufficient QC inspectors to check all the work right away?

A. Correct, but that goes back into the project management and flow of work. I mean, what is different significantly from 30 years ago is that we have the inventory system so that we don't wait until we have to have material in order to install it. We don't wait until we need the labor until we go get the labor. And so I think these are some of the major improvements as the industry matured, is the recognition that some of these components, the people, the labor, the QC inspections, and the items you've mentioned, that we have to resource plan each one of those things individually and go through that.

Q. So delays in the areas we just discussed go more to project management than the cost of the commodities?

A. Well, you brought cost in. You were talking about schedule earlier.

Q. Okay. We'll stick to schedule.

A. Okay.

Q. Those are schedule related issues that have to do with project management.

A. Yes, work flow and control.

Q. Right. Okay. And that's something that Progress has control over?

A. Well, I think what we defined is, there are elements we do have control over. There's other elements that we don't. And we have -- you know, we went after this project from the standpoint of putting those programs and processes together, working with our vendors, based on all the operating experience that we've had in our industry.

Q. But inventory flow, available resources, proper scheduling, and timing of work, making sure that quality control inspections are done in a timely and complete fashion are all part of that project management process?

A. That's correct, given that we've identified that as a risk that we have to manage through.

Q. That Progress has to manage through?

A. That's correct.

Q. Okay. You mentioned in your summary that you're looking to have something like 3,000 employees on-site maximum during the construction of the project?

A. That's correct.

Q. How many of those 3,000 have to have some sort of NRC approval or training?

A. Well, all of them will require some level of training to be on-site.

MR. BREW: All right. Mr. Chairman, I would like to circulate a document.

CHAIRMAN CARTER: Do you want it marked, Mr. Brew?

MR. BREW: Yes, please.

CHAIRMAN CARTER: Commissioners, this will be Exhibit Number 66. What about NRC News, April 8th, '08? Mr. Brew, will that be fine for a title?

MR. BREW: Mr. Chairman, how about NRC Number 08-072. Reference to their document number may be more accurate than the date.

CHAIRMAN CARTER: NRC -- say that again. 08 --

MR. BREW: 072.

CHAIRMAN CARTER: 08-072. Okay.

(Exhibit 66 was marked for identification.)

CHAIRMAN CARTER: You're recognized, sir.

BY MR. BREW:

Q. Mr. Roderick, if you could read the document and just let me know when you're ready.

A. Okay.

COMMISSIONER SKOP: Mr. Chairman?

CHAIRMAN CARTER: One second.

COMMISSIONER SKOP: Thank you, Mr. Chairman. Just a point of clarification. Does this document go to safety or a cost issue?

MR. BREW: My question goes to cost.

COMMISSIONER SKOP: Thank you.

CHAIRMAN CARTER: Thank you, Commissioner.

THE WITNESS: Okay. I've read the document.

BY MR. BREW:

Q. Mr. Roderick, have you seen this document before?

A. Yes.

Q. Would you agree that it's an NRC reminder reinforcing the NRC's concern about using only properly approved parts at new reactors?

A. Yes.

Q. Okay. And would you agree that the NRC takes quite seriously the need to install properly pedigreed materials on-site?

A. Yes.

Q. If inspections revealed that materials have been installed that were considered counterfeit parts or were not properly pedigreed, how would the NRC respond?

A. Well, if you actually had the situation that this notice or this note, a reminder that was sent out, you would write a nonconforming condition report, and then you would document that by disposition to determine whether the part could or could not be used, and then you would do an extent of condition to make sure that you knew everywhere that you had that part, if you had anything like it, to make sure that that problem wasn't anywhere else.

Q. Okay. So in the case of our earlier discussion of our pipe hanger, if it turns out that the steel, the plate hadn't been fabricated in the approved fashion, it's possible that the response would be to take it out and install properly qualified materials?

A. Well, at the end of the project, we will have fully qualified materials in the unit. That's a legal requirement for us, and so it would be case dependent. There may be cases where there's a technical justification to use the product the way that it is. It just depends on the severity of the issue.

And again, the solution to that from a risk standpoint is the receipt inspection and the fabrication oversight which we are required to do before we get there. Some of these experiences were in international plants that don't have the Nuclear Regulatory Commission

and don't have the rules or standards that we have today.

Q. And in our case, with the NRC and the NRC's rules and oversight, if you needed a particular type of material that was in short supply, the solution is to wait until you can get it as opposed to using nonconforming materials?

A. Well, we won't use nonconforming materials. They have to be able to made in conformance. And so what you have is -- again, in the work management process, the key is for us to be able to identify early and find those parts, those commodities that we need that are fully qualified for us to be able to use.

Q. So that's another part of Progress's responsibility in managing the project?

A. Yes.

Q. Over which you have control?

A. Yes.

MR. BREW: Okay. That's all I have. Thank you.

CHAIRMAN CARTER: Thank you, Mr. Brew. Mr. Jacobs.

CROSS-EXAMINATION

BY MR. JACOBS:

Q. Good afternoon, Mr. Roderick.

A. Good afternoon.

Q. Earlier you indicated that the company had begun its preordering for long lead time items.

A. Uh-huh.

Q. Does that include the pressure core, the pressure vessel?

A. The reactor vessel?

Q. Yes.

A. Yes. I mentioned that.

Q. So is it the case that you are in queue for that item?

A. Yes. What our letter of intent that we issued was was to keep us in that queue to be able to support the time lines that we have for our commercial operation need dates.

Q. And could you walk us through exactly what the level of that commitment is? Does that mean you have the item?

A. Well, that's a part that --

MR. BURNETT: Excuse me one second. I'm sorry, Commissioner. I just wanted to note that we're about to get into confidential material, so I just wanted to give the witness a flag in case Mr. Roderick wasn't familiar that he's not allowed to publicly discuss the confidential material. Pardon my

interruption, please.

CHAIRMAN CARTER: It's very timely to do that.

THE WITNESS: The otherwise confidential document that we have, we have put that into the Commission. It is confidential, because it's part of negotiations that are in progress right now.

BY MR. JACOBS:

Q. Thank you for that clarification. As to the -- let me digress for a moment. It is the case that for certain critical items, there's very limited worldwide capacity for production of those items; is that correct?

A. Yes. As I mentioned, you know, that's one of the advantages we have by being one of the first in line right now. And by the design and layout that we have worked, we have taken that risk and minimized it by being in queue, in line for these components on the first wave of them. Those same components if you tried to go back and order them today might be delayed out six to eight years to get back into the queue.

Q. And are those -- let me see if I can carefully craft this. In your commitments, are there risk mitigation practices in place in those commitments?

A. The one advantage that we're all sitting here today on, we have more risks identified, we have a better detailed scheduled, we have much more detailed

cost information than what we had 30 years ago anywhere near this part of the process. And so, you know, we are taking those risks one by one, and we're putting together contingency plans and strategies to minimize those risks as we go forward.

Q. That segues to my next question. The baseline data from which you derive your estimates, could you walk me through how you derive that?

Let me digress for a moment. It is the case that there has been no real activity in constructing a facility of this type in this country in some time; is that correct?

A. Yes.

Q. And internationally, there's only very limited activity under way with regard to constructing a facility of this type; is that correct?

A. No, that's not correct. There are significant -- the United States is the only country that was in nuclear that stopped. The Japanese continued to build significant amounts of nuclear power plants. The French continued to build. The Koreans have built. The Russians have built. The world continued to build nuclear power plants, and some of the learnings that we have now on modular construction are from those plants around the world.

Q. Thank you. Those ongoing programs, however, are of prior designs and not of the design that you've elected; is that correct?

A. That's correct. In China right now, they are starting construction of this design that we have selected for us. It's an identical set of twin units for the reactor in the AP-1000 Westinghouse design.

Q. And it's your position then that the baseline data that comes from these prior building programs of the older designs is a relevant predictor for your projections and estimates in the new design?

MR. GLENN: Objection as to form. Vague and ambiguous. I don't know what you mean by baseline or --

CHAIRMAN CARTER: Rephrase, Mr. Jacobs.

BY MR. JACOBS:

Q. Okay. I think we established just a moment ago that there are ongoing programs in other countries, but those programs are of older technical design; is that correct?

A. Well, in France, for example, the EPR that's being marketed in the United States is considered a state-of-the-art design. It's being built in two countries right now.

Q. Okay. And I think we established that the design that you've elected in your proposal is not the

same technical design as either that -- I'm sorry, the QRC or QVC or the other designs that have been built in other countries; is that correct?

A. The AP-1000 has not been built in another country yet.

Q. And my question is this: The baseline data that you referred to earlier which you say now allows you to approach this design with a better level of understanding and predictability, does that baseline data come from the experience from older designs and earlier experience, or does it come from your new experiences?

A. Well, you know, a lot of the consortium's experience comes from Toshiba, the parent company of Westinghouse, which continued to build plants in Japan all the way through this process. That's one of the key models that are used for the modular construction.

You know, these modules are a million pounds in size and would sit -- this whole building would sit inside of some of those modules. They're huge. And the technology to build those in parallel and have the designs so that instead of I form a wall, and then I have to wait and let it dry, and then I form another wall in concrete and have to wait and let it dry, I can actually build that entire module to the side in

parallel with other modules, not wait on concrete to dry, move the entire module over with cranes that can reach the long side of a football field and lift 5 million pounds.

So those are the things where we have watched the international community that did keep building and built our construction strategy around that same modular construction, which has shortened the schedules very significantly from where they were many years ago.

Q. Let me phrase my question this way. Is the predictability of data which comes from the industry, and let's be specific, the nuclear construction industry, is it your understanding that the predictability of that information is enhanced most when it's derived from consistent designs in construction and implementation as opposed to differing models or differing designs?

MR. GLENN: Objection to the form. It's vague and ambiguous, but also it lacks foundation as to what you're talking about on the industry costs and baseline.

CHAIRMAN CARTER: Can you rephrase, Mr. Jacobs?

MR. JACOBS: Very well.

BY MR. JACOBS:

Q. Let me back up just a moment, Mr. Roderick.

If I recall, earlier you said that you approached this process with new design with a higher level of confidence, and it's my understanding -- and do not let me misstate you, but that confidence is because you have gained experience from practice; is that correct?

A. The experience that's gained isn't -- that part of it isn't unique to a reactor design, the modular construction, for example. You know, we think we can continue to gain experience with the plants that are going to be built in China. But our modules, that concept of using modules that stack on top of each other so we don't have to stop and wait for concrete to dry, that experience is relative to the new plant design.

Q. Okay. Now, where I want to go is, the experience that we just spoke about that has caused you to have this higher level of confidence comes from the experiences of older -- of the construction of designs other than the AP-1000?

A. Well, the newer design EPR, for example, that's being built in Flamanville in France, which I've been to, those units are using that modular construction. It's an advanced design plant. It just doesn't have a design certification yet in the United States.

Q. Can I take that as a yes or a no?

A. Does it -- then restate your question. I'm sorry.

Q. My question was, does the experience that you cited which allows you to approach this projected cost, the experience that you've cited that allows you to approach this projected cost with a higher level of confidence, does it come from AP-1000 -- I may be stating it wrong, AP-1000 experience or from other designs?

A. Other design experience.

Q. Okay. And it is your testimony then that the experience with these other designs is the correct predictor of what you would experience with the AP-1000?

A. Yes.

Q. Okay. Are you familiar with the construction under way at the Olkiluoto 3 site?

A. Yes, I am.

Q. Could you give me the benefit of what your understanding of that experience is?

A. It is an EPR design that is being built. It's a French design plant that is being built in Finland.

Q. Okay. And are you aware of what the status of that plant is now?

A. It's just in construction.

Q. And is it on schedule?

A. I don't know what their schedule was.

Q. Okay. Do you know what its status is in terms of cost, whether it's over or under cost?

A. I do not.

Q. Just one moment. In your testimony -- let me get there for you. I'm at page 16, beginning at line 12, 12 to 23, I guess, to line 1 of page 17. Just a very narrow question. It's clear here that your estimate here does not include transmission costs; is that correct?

A. The $14 billion estimate does not.

Q. Okay. Do you have an estimate that includes transmission costs?

A. Yes. That's in our total submittal for the whole need case.

Q. Okay. And what section -- I'm sorry. What is the number that you've arrived at for transmission costs?

A. Mr. Oliver will testify to that. It's in there. That's in his area.

Q. Okay. Just a bit further. On page 17, beginning at line 20, and going over to page 18, line 5, here you kind of outline drivers of uncertainty; is that an accurate statement?

A. Well, what we're trying to demonstrate here is

that -- is to be transparent with what are the risks that we are working through to manage right now.

Q. And consistent with the discussion that you had with Mr. Brew, you have put in place specific strategies and risk management mechanisms to deal with each one of these?

A. We are in the process of developing all those right now. Again, part of that strategy is to have our EPC contract negotiated, which is in progress right now, and so many of those are still in progress as we talk about them.

Q. Okay. You were here earlier when I had a conversation with Mr. Lyash and we talked about a section of the testimony from Mr. Bradford, specifically the comment from the CEO of Exelon Generation?

A. Uh-huh.

Q. Okay. Subject to check, that comment indicates that one model of approaching this decision is to do all these things in advance of engaging in the process. How do you contrast your approach versus the statement, the view of that company?

MR. GLENN: Objection as to form. It calls for speculation. Mr. Roderick is not Mr. Crane. Mr. Crane is not here, and we can't ask Mr. Crane what he thought, what he knew when he was asking those

questions. And to ask Mr. Roderick those questions is not relevant, and it lacks any foundation.

MR. JACOBS: If I may, Mr. Chairman, that's not my question. My question was not to speculate on what Mr. Crane said. We have that. My question is, how does Mr. Roderick contrast the position of his company to the position that Mr. Crane stated. It's taking the words as they sit.

MR. GLENN: Again, we object, because he's characterizing this as what another company's position is taking. It's not even clear that they are taking any kind of position.

MR. JACOBS: Okay. I'll rephrase it.

CHAIRMAN CARTER: You can ask the question without Mr. Crane.

MR. JACOBS: Okay.

BY MR. JACOBS:

Q. Is it a correct statement, Mr. Roderick, to say that you have deferred the decision of putting hard numbers in place until you have begun the construction process as opposed to doing that analysis in advance of beginning? Is that a correct statement?

MR. GLENN: Objection. Vague and ambiguous. It's completely unclear what you mean by hard numbers.

MR. JACOBS: Okay. Let me try again.

BY MR. JACOBS:

Q. Let me go back to your testimony, Mr. Roderick, again on page 17. Let's walk through this.

A. Okay.

Q. As to labor availability, have you finalized your risk with regard to labor availability in advance of construction, or will that be done during construction?

A. We do an annual labor study to make sure we understand the labor market that's in the area. We just finished that for Crystal River for next year, for the 2009 outage, which I said will have over 3,000 people on-site at Crystal River next year. And so we annually look at the labor strategies and massage those. As we get closer to construction, then obviously we'll refine those more and more as we go through them.

Q. Okay. To help us through this whole list, I'm going to request that maybe you can give me a yes or no at the beginning and then feel free to go ahead and explain your answer if you like.

A. All right.

Q. As to labor price, have you -- and this is same question all the way through. I don't want to be redundant or to insult you in any way, but I just want

to walk through that whole analysis through each of these elements here. And the question essentially is, are there strategies or metrics in place in advance of the beginning of construction that allows you to put some kind of cap or limit on your risk with regard to these elements?

A. No.

MR. JACOBS: Okay. Thank you.

Just one final area, Mr. Roderick. The -- actually, it will probably be better to go more precisely into this with Mr. Masiello, so thank you.

CHAIRMAN CARTER: Are you --

MR. JACOBS: I'm done. Thank you.

CHAIRMAN CARTER: Thank you very kindly. Commissioners, I'm going to go to staff and then come back to the bench. Is that okay?

Staff, you're recognized.

MR. YOUNG: No questions.

CHAIRMAN CARTER: No questions from staff. That was quick, wasn't it? Commissioners? Commissioner Edgar, you're recognized.

COMMISSIONER EDGAR: Thank you, Mr. Chairman.

Good afternoon. On page 10 of your prefiled testimony, you go through and enumerate some of the -- and I can wait for you to get there, although you may

not need to. Are you at page 10?

THE WITNESS: Yes, I am.

COMMISSIONER EDGAR: Okay. You go through and enumerate some of the reasons that you have identified the Levy site as the best alternative. One of them -- it's lines 12 and 13, I think. It says that this site has more favorable geotechnical qualities. Could you elaborate on that, just -- not too technical.

THE WITNESS: It comes down to rock. What we have, you know, we do a very comprehensive analysis in a site selection process. And as we've found in Levy in the geotechnicals, the closer to the surface that you can find rock, the less your construction costs are, because that's what you have to be able to put the plant on top of. And so as we looked at Levy, we found that we had a better geotechnological situation there that enables us to keep the construction costs as low as we can get them.

COMMISSIONER EDGAR: Thank you. Just one additional, Mr. Chairman.

Last week in my very uneventful but now infamous testimony in Washington, I was asked a question by Senator Bingaman as to whether Florida took into consideration, their words, not mine, but the potential for future sea level rise when siting new generation

facilities. And so I'm just wondering if you could speak to the benefits, if any, of the Levy site, Levy County site over the Crystal River site due to the more inland location, if indeed that is a factor.

THE WITNESS: I mean, we didn't look at the global, you know, rises of oceans, but what I would say about Levy, the Levy site is 44 feet above sea level, where Crystal River is nine feet above sea level.

And so when you look at the natural benefits Levy has for hurricanes, storm surge, you would have to have a very significant storm surge of over 40 feet to reach Levy, whereas you would hit -- at Crystal River, remember, the plant is built up on a big mountain that we had to build. At Levy we won't have to do that, because we're at an elevation that we're already well protected from storm surges and from the things that would come with that.

COMMISSIONER EDGAR: Thank you.

CHAIRMAN CARTER: Commissioner Argenziano.

COMMISSIONER ARGENZIANO: Thank you. In regards to Commissioner Edgar's question about picking the Levy County site, and your answer was that the rock there made a big difference, and, of course, the storm surge. Is that limestone? Is it just limestone?

THE WITNESS: Yes. It's how close limestone

is to the surface, yes.

COMMISSIONER ARGENZIANO: And given some of the concerns that we've heard about an evacuation route because they're kind of in between two power plants, the Crystal River plant and then there would be the Levy plant, have you given that consideration?

THE WITNESS: Yes. We actually have to submit with our combined operating license those emergency evacuation plans, and one of the things you look at, you'll have a set of sirens that go off. And remember, those sirens are not actuated by Progress Energy. They're actuated by the counties.

And before they actuate those, they have control of the roads so that people will know where to go, because it's not obvious that even though -- you know, if there was a problem in Levy, depending on the way the wind was blowing, you may want to go a different way. And that's why what is important is that the sirens can be heard and that people go and follow what the sheriffs and Florida highway patrolmen tell them to go, because they know the direction of the wind, and they know which evacuation route they should choose.

COMMISSIONER ARGENZIANO: And in regards to that, I know that there's plenty sirens. I live on Lake Rousseau, so I'm familiar with it very well. But are

you adding additional -- will you be adding additional sirens on the Levy County side?

THE WITNESS: Well, Levy is already for the most part in the planning zone for Crystal River. There is a section of it that we'll add, and then we'll actually go into Marion County just a little bit for that planning zone.

COMMISSIONER ARGENZIANO: Through Dunnellon?

THE WITNESS: Yes.

COMMISSIONER ARGENZIANO: And one other question which we've heard frequently and a concern of mine is the water access. Part of the Levy County plant, part of it has to be access to water, and could you just go through that?

THE WITNESS: Well, in our site selection, when we were looking at Levy, the one advantage Levy has is that it has the Gulf of Mexico several miles inland off the Gulf, and so that makes it a little hardier away from hurricanes again and storm surge and things like that.

You know, we will draw water from the Gulf of Mexico that goes to our cooling towers, and that's a little over 100 million gallons of water per day will go over those cooling towers. And then some of that will evaporate off as it cools the water, and there will be

returned to the Gulf of Mexico about 60 percent of it, and about 40 percent of it will go as vapor and come back to us as rain, because it will go up into the atmosphere, for the salt water that we use.

COMMISSIONER ARGENZIANO: And the transmission of the water to the plant?

THE WITNESS: The transmission of the water to the plant -- I know you're familiar with the area there. When we come out of the Gulf of Mexico with the Barge Canal, we'll actually go up and over the Withlacoochee River. And that has been a significant design criteria we've set for the plant, is to not impact the Withlacoochee River at all. So we'll go over the Withlacoochee River with our pipes and then go underground on Highway 40 and then up to the site. We've purchased the property that gets us from Highway 40 all the way to the power plants, and I think that will provide the least amount of impact to anything there.

COMMISSIONER ARGENZIANO: Okay. So the only water you're going to be drawing is --

THE WITNESS: We'll also draw --

COMMISSIONER ARGENZIANO: Well, the 100 million gallons a day will be coming from the Gulf?

THE WITNESS: From the Gulf of Mexico.

COMMISSIONER ARGENZIANO: The Barge Canal and then over the Withlacoochee, I guess west of Lake Rousseau, and that's the bulk of where the water is coming from. And the discharge?

THE WITNESS: The discharge of that, as you vapor off this water for the cooling and you return it back, that water -- right now, our design is that we'll come back down to the Barge Canal area and take it past the bridge, and then we're going to route it back to Crystal River to the discharge canal at Crystal River.

What that does for us, as you vapor that water off, it becomes a little saltier.

COMMISSIONER ARGENZIANO: Right.

THE WITNESS: And so what we're able to do is take advantage of the discharge already at Crystal River to remix the salinity back so that we have no impact to the Gulf of Mexico when we return that water back.

COMMISSIONER ARGENZIANO: Okay. Thank you.

CHAIRMAN CARTER: Commissioner Skop.

COMMISSIONER SKOP: Thank you, Mr. Chair, and thank you, Mr. Roderick.

Just in relation to a question that Mr. Brew raised with respect to the counterfeit parts, I think you referred generically to quality control in terms of the function that that performs. Can you briefly

elaborate on how nuclear quality control is performed in the commercial applications? I mean, I'm familiar with the Navy nuclear, but do they have a specialized function for nuclear procurement quality control, nuclear construction cost -- nuclear construction quality control, if you can just briefly elaborate on that?

THE WITNESS: There are formal qualifications that those people that are involved in the inspection of facilities, that will make parts that we'll use at the plant. There are formal qualifications for routine audits of those companies.

Many of the large components, we'll put Progress Energy people in the factory while they're being built. Just like in Canada right now, the steam generators we're building for Crystal River, we have full-time people watching that project just to make sure our interests are protected, that the product is a quality product. So we have qualified people that are qualified to our QA, quality assurance programs in place in the field during these construction evolutions or the fabrication evolutions.

And I'll note, this document from the NRC, when they issue a reminder, if the NRC really wanted to make a statement, that would issue an order. And so

this is just a good reminder to us that our QA programs have to be solid and they have to be complete. That is an obligation that we have to comply with the law.

In this fabrication process, you know, we do audits of inspections of the fabrication, did we get the quality of metal that we bought, did we get the height, the width, the size, the weight, did we get what we bought, and we inspect all that before it ever leaves the factory. And then once it is shipped, we reinspect it on the site to ensure that it is what we shipped and it didn't get damaged in shipment or something changed on it or anything like that.

So all of that happens before we ever get to the point of installing that part. And those are done by fully qualified people that do receipt inspections and do vendor inspections of the process. If a vendor was found to have a problem like this, they would be removed from our quality vendor list until we could recertify them after they showed us they had fixed that problem, that it wouldn't recur.

COMMISSIONER SKOP: Thank you. And then on the nuclear procurement side, that's just one element of multiple inspections that would happen after the material is sourced and received and then --

THE WITNESS: Correct.

COMMISSIONER SKOP: -- put into use. There would be other inspections, such as when it's constructed and installed, and then additional inspections by the NRC. Would that be correct?

THE WITNESS: That's correct. You know, even though you have a contractor, for example, that will have their own QC, we will provide additional oversight of that contractor to sample, to inspect, to make sure again that they're doing what it is we're paying for them to do.

COMMISSIONER SKOP: Thank you.

CHAIRMAN CARTER: Thank you, Commissioner. Commissioners, any further questions?

Mr. Glenn.

MR. GLENN: Just a couple on redirect, sir.

REDIRECT EXAMINATION

BY MR. GLENN:

Q. Earlier, Mr. Roderick, Mr. Jacobs asked you questions as to whether increased cost certainty for the AP-1000 was based on design experience with non-AP-1000 plants. Do you recall that?

A. Yes.

Q. Is the Westinghouse AP-1000 plant an entirely new design?

A. No, it's not.

Q. How is it not an entirely new design?

A. Okay. What the AP-1000 design did, the reactor that's in the AP-1000 is very similar to what our plants at the Harris nuclear plant is, the Robinson nuclear plant that we have in service today, and it's very similar to how pressurized water reactors work today, so the operating experience we have with that is pretty significant.

What is different in the design of the plant is the safety systems that actually support the reactor if there was an event at the plant that the safety systems had to actuate, not the normal systems that operate day to day. That has been a significant redesign to make the plant even safer beyond the plants that we have today, which have set the mark for significant safety records.

The turbine building, for example, where the actual generator is that actually makes the electricity, that structure is very similar to what we have today. So what's really been built into the AP-1000 design is, it has incorporated the lessons learned that we have accumulated as our industry has matured over the last 30 years from the over 100 reactors in the United States, and it also has incorporated the advanced design for the safety systems which has enabled us to have -- not

require so many, man or machine, things that have to have happen for a safety system to operate. It uses much more of a passive design which works without a person doing anything or a piece of equipment doing anything except letting gravity work for us.

Q. Mr. Roderick, Mr. Jacobs also asked you were there any price risk aversion mechanisms that are in place right now to mitigate potential price risks. Do you recall that?

A. Yes.

Q. Now, once an EPC contract is executed by the company, will some price risk mitigation measures then be available?

A. Yes.

Q. And will that be available for review of the Commission?

A. Yes, it will be.

Q. And once labor contracts and agreements are reached, will that provide an additional level of risk mitigation that will then be available to this Commission?

A. Yes.

Q. And how are you already mitigating some of the price risks through your project management controls?

A. Well, again, these are the things about us

being in our first-in-line positioning that we have. We are also again using our EPC contract as a way to get that. We have a design certification right now.

So many of the problems -- when I started out in this business many years ago when we were building the first set of plants, we didn't have a certified design that is being used by multiple vendors. We're designing and going to build a plant that is going to be used all over the Southeast. It's a plant that has been announced by Georgia Power. It has been announced by Duke Power. It has been announced at several sites, including here in Florida at Florida Power & Light. And so this is a design that we're going to be able to use repeatedly. That lowers the cost, because we'll be able to replicate and split costs as we find problems that come up through this process.

And so, you know, those are the things that we have in place right now and we're working that will help us not have big surprises. And again, I would say that many of these things that are transparent that we're talking about today weren't talked about until many years into construction of those original units, and I think that has been a significant change for us in that risk profile.

MR. GLENN: Thank you. Nothing further.

CHAIRMAN CARTER: Commissioner Argenziano.

COMMISSIONER ARGENZIANO: I'm sorry. I just thought of a couple of other things, just briefly. What diameter, what size pipe are you talking about for 100 MGDs a day?

THE WITNESS: You know, we're still coming to a final, because we're talking about something in excess of 50 inches.

COMMISSIONER ARGENZIANO: Okay. And would that run in the Barge Canal or alongside the Barge Canal?

THE WITNESS: No. That pipe would actually run -- are you talking about when it returns to Crystal River or --

COMMISSIONER ARGENZIANO: Well, your extraction and return, I guess.

THE WITNESS: Okay. The supply up to the plant will go aboveground. Some of it will go underground where we can put it underground. And we're still finalizing right now the routing over to Crystal River, so we don't know how much of that will be underground versus aboveground.

COMMISSIONER ARGENZIANO: So basically alongside the Barge Canal on the Barge Canal lands?

THE WITNESS: Correct.

COMMISSIONER ARGENZIANO: And how high will it go over the Withlacoochee?

THE WITNESS: It will clear -- I don't know the exact height right now, but it will be a supported structure that will not interfere with anything --

COMMISSIONER ARGENZIANO: Boating or anything?

THE WITNESS: Right.

COMMISSIONER ARGENZIANO: Okay. Great. Thank you.

CHAIRMAN CARTER: Okay. Commissioners, anything further?

Exhibits. I think we've got exhibits that have been marked for identification as 14 through 19, and also marked for identification is Number 66.

MR. GLENN: That's correct.

CHAIRMAN CARTER: Any objections? Show it done.

(Exhibits 14 through 19 and 66 were admitted into the record.)

CHAIRMAN CARTER: Call your next witness. You may be excused.

MR. GLENN: And he's dismissed? Thank you.

CHAIRMAN CARTER: So you're not -- Mr. Roderick isn't going to be coming back to us any more?

MR. GLENN: Oh, I'm sorry, no. He's on rebuttal, yes. So he's excused, but not dismissed.

CHAIRMAN CARTER: Almost. Almost home.

MR. GLENN: Don't get on that plane.

(Proceedings continue in sequence in Volume 3.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA:

COUNTY OF LEON:

I, MARY ALLEN NEEL, Registered Professional Reporter, do hereby certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were thereafter translated under my supervision; and the foregoing pages numbered 58 through 217 are a true and correct record of the aforesaid proceedings.

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

DATED THIS 22nd day of May, 2008.

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