BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060658-EI

In the Matter of:

PETITION ON BEHALF OF CITIZENS OF THE STATE OF FLORIDA TO REQUIRE PROGRESS ENERGY FLORIDA, INC. TO REFUND CUSTOMERS $143 MILLION.
_____/

ELECTRONIC VERSIONS OF THIS TRANSCRIPT ARE
A CONVENIENCE COPY ONLY AND ARE NOT
THE OFFICIAL TRANSCRIPT OF THE HEARING,
THE .PDF VERSION INCLUDES PREFILED TESTIMONY.

VOLUME 6

Pages 697 through 866

PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN LISA POLAK EDGAR COMMISSIONER MATTHEW M. CARTER, II COMMISSIONER KATRINA J. MCMURRIAN
DATE:	Tuesday, April 3, 2007
TIME:	Commenced at 2:00 p.m. Concluded at 5:55 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	JANE FAUROT, RPR Official FPSC Reporter (850) 413-6732
APPEARANCES:	(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER:		ID.	ADMTD.
125,126			754
223	Excerpt, Application For Test Burn	790	796
224		790	796
127 - 134			795
135 - 143			864

PROCEEDINGS

(Transcript follows in sequence from Volume 6.)

CHAIRMAN EDGAR: We will go back on the record.

Mr. Burnett, I think before break we were at your next witness.

MR. BURNETT: Yes, ma'am. We call Mr. Wayne Toms.

WAYNE TOMS

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

DIRECT EXAMINATION

BY MR. BURNETT:

Q Mr. Toms, will you please introduce yourself to the Commission and provide your address?

A My name is Wayne Toms, Clifford Wayne Toms. My address is 15760 West Power Line Street, Crystal River, Florida.

Q And have you already been sworn as a witness?

A Yesterday.

Q Who do you work for and what is your position, please?

A I work for the plant manager at Crystal River, the Fossil Plant Manager, Bernie Cumbie (phonetic). And what do I do?

Q Yes. What is your position?

A I'm the Manager of Shift Operations.

Q Have you filed prefiled direct testimony and exhibits in this proceeding?

A Yes.

Q And that is what you have with you today?

A Yes.

Q Do you have any corrections to your prefiled testimony and exhibits?

A I do not.

Q If I asked you the same questions in your prefiled testimony and exhibits, would you give the same answers that are in your prefiled testimony?

A Yes.

MR. BURNETT: Madam Commissioner, we request that Mr. Toms' testimony be entered into the record as if it were so read today.

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

IN RE: PETITION ON BEHALF OF CITIZENS OF THE STATE OF FLORIDA TO REQUIRE PROGRESS ENERGY FLORIDA, INC. TO REFUND CUSTOMERS $143 MILLION

FPSC DOCKET NO. 060658

DIRECT TESTIMONY OF

CLIFFORD WAYNE TOMS

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Wayne Toms. My business address is 15760 West Power Line St., Crystal River, Florida 34428.

Q. Please tell us how you are employed and describe your background.

A. I am employed by Progress Energy Florida ("PEF" or the "Company"), currently serving as the Manager of Shift Operations for the Crystal River fossil units. Prior to this role, I was the operations and maintenance superintendent at Anclote Power Plant, the superintendent of technical services for Crystal River fossil units, and the training manager for Florida Power Corporation. I have a Bachelors of Science in Human Resources and management and an MBA. I have been employed by PEF since 1992.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony?

A. I will explain the current and historical operation of Crystal River Units 4 and 5 ("CR4" and "CR5") as part of PEF's generation system. CR4 and CR5 are base load units and as such they are important to PEF's generation fleet and to PEF's customers. I will also discuss the generation output from these units, how these units have historically performed, and how they are expected to perform. I will explain that the historical and current performance and Company expectations for the performance of CR4 and CR5 are dependent on the quality and efficiency of our operation and maintenance of the units and the quality of the coal product put in the units.

I will also describe the process that PEF uses when it considers burning a new type of coal in CR4 and CR5. From our perspective, with the operational obligations at the plant, we will require some demonstration of the probable performance impacts of any new coal and especially a new coal type at CR4 and CR5, so that we can evaluate those impacts and make a decision about the coal. Typically, this means a "test burn" needs to be conducted. I will explain why test burns are needed from an operational and safety perspective. I will also explain our goals with respect to any such test burn.

Finally, I will discuss issues raised by the potential use of PRB coal blends at CR4 and CR5. These issues have been addressed by expert consultants retained by

the Company, first Sargent & Lundy and now Rod Hatt, but I will again provide a perspective from fossil operations.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. I am sponsoring the following exhibits that I prepared or that were prepared under my supervision and control, or they represent business records prepared at or near the time of the events recorded in the records, which records it was a regular practice for me or those who worked with me to keep to perform our responsibilities:

- Exhibit No. ___ (CWT-1), which is an aerial map of the Crystal River Energy Complex; and
- Exhibit No. ___ (CWT-2), which are the original Babcock & Wilcox boiler design documents for CR4 and CR5.

These exhibits are true and correct.

Q. Please summarize your testimony.

A. CR4 and CR5 are base load, coal-fired units that have historically operated at overpressure to produce between a gross 750 megawatts (MW) and 770MW at full capacity when called on to provide that level of capacity and energy to customers. The original boiler and turbine design was 665MW gross energy production at full capacity. The design and construction of the units, in particular the large boilers, and the high quality, high Btu content bituminous coal historically used by PEF, have allowed PEF to achieve these levels of gross energy production. Customers have

benefited from this level of production by receiving additional base load generation capacity and energy at a lower relative cost to other generation on PEF's system.

We are, as a result, concerned with changes in the quality and type of coals for CR4 and CR5. Such changes can impact the safe and efficient operations at the units and their performance. Before coals with different qualities or of a different type than what we have specified and used are burned, we will want to evaluate the impact of those differences on the operations at and production in the units before making any commitment to purchase such coals. This is particularly true with respect to sub-bituminous coals from the Powder River Basin (PRB), which are dusty, volatile, difficult to handle, low Btu content, and high moisture content coals. We will want to know how these PRB coals affect our responsibility to safely and efficiently operate the units, affect their commercial availability when called upon to produce energy, and affect their production at between a gross 750MW and 770MW when called upon to produce at full capacity to meet customer load.

There are safety issues, cost issues, and performance issues with PRB coals at CR4 and CR5. Capital upgrades are necessary to safely and efficiently handle such coals on site. Capital upgrades are also necessary to ensure that the coals can be safely and efficiently burned in the units. De-rates or loss of load can be expected. Finally, there will additional training of employees to handle PRB coals and additional maintenance at all points on site affected by the PRB coals. Time is required to implement the additional capital and maintenance necessary to safely and efficiently handle the PRB coals and operate the units with PRB coal blends. An

estimate of the time to accomplish the necessary changes for PRB coals is between 18 months and 30 months.

III. CR4 AND CR5 OPERATION

Q. What are Crystal River Units 4 and 5?

A. CR4 and CR5 are two of four coal-fired units located at the Crystal River Energy Complex. They are located north of the other units, coal-fired units 1 and 2 and unit 3, the nuclear unit, and thus are sometimes referred to as Crystal River North. They were built and operational in 1982 and 1984, respectively, and have been providing PEF and its customers with base load electrical capacity and energy ever since then. An accurate aerial photograph of the Crystal River Energy Complex showing the location of CR4 and CR5, as well as the other units and related facilities at the site, is Exhibit No. ___ (CWT-1) to my testimony.

Q. What are base load units?

A. Base load units are those units that are called on first to meet the load or customer demand for electrical energy on the system. They are called on first because they have a relatively low incremental cost for producing electrical energy. All units are placed in the dispatch stack and called on by the Energy Control Center (ECC) based on the incremental cost of producing energy from the unit.

ECC is responsible for ensuring that the production of energy is equal to the load, or demand for energy by PEF's customers, every hour of every day. The unit

with the lowest incremental cost will be called on first, followed by the next lowest cost unit on the system, and so on until the customers' energy needs are met. CR4 and CR5 are very low in the dispatch stack, typically following only the nuclear unit.

Base load fossil units like CR4 and CR5 generally operate all hours over the course of the year except for forced outages due to equipment issues or failures or scheduled outages for maintenance.

Q. When Units 4 and 5 are called on, how much electrical energy do they produce?

A. Units 4 & 5 regularly produce at full capacity between 750MW and 770MW. These are gross numbers, however, representing the total production of electrical energy at full capacity. The units also supply the power to operate the units themselves and provide power for use at the Crystal River Energy Complex. If these power needs are accounted for, the production from the two units will typically produce about 735MW and 732MW at full capacity. This is called the net MW production and is what PEF customers receive.

Q. What were the boilers for Units 4 and 5 designed to produce?

A. The original Babcock & Wilcox design of the boilers and associated turbine was for a gross production of 665MW for each unit at full capacity, under perfect conditions. This design guaranty was based on a coal blend of western sub-bituminous coal and eastern bituminous coal with a heating value of 10,285 Btu/lb. The Btu content per ton measures the amount of energy that is derived from burning a ton of that coal. A

copy of the Babcock & Wilcox design documents is Exhibit No. ___ (CWT-2) to my testimony.

Q. How can PEF obtain up to 770MW from Units 4 and 5 at full capacity if the design guaranty was only for 665MW at full capacity?

A. The design guaranty for the CR4 and CR5 boilers was for an equal blend of bituminous and western sub-bituminous coal. Bituminous coal has a higher Btu content than western sub-bituminous coal. The boiler design took this lower Btu content of western sub-bituminous coal into account by providing for larger boilers than you find in a boiler design for only bituminous coal. In other words, CR4 and CR5 were designed and built with over-sized boilers by industry standards for pulverized coal units that burn only bituminous coals.

Other elements of the units were also included in the design for this same reason, namely to accommodate burning the design blend of sub-bituminous and bituminous coals, and many but not all of these elements were included in the construction of the two units. These attributes of CR4 and CR5, in particular the large boilers, set the units apart from other pulverized coal units of the same vintage that were designed with smaller boilers to handle bituminous coals. The Company can burn large quantities of bituminous coal in the boilers because they are large boilers and, as a result, the Company can generate more thermal energy by burning more coal than other boiler units of the same vintage that were designed only for bituminous coals.

Another important contributing factor for the Company to obtain up to 770MW at full capacity in the units is the quality of the coal that PEF has burned at CR4 and CR5. PEF has typically burned a high Btu, low moisture, low volatility, bituminous compliance coal with good ash characteristics. For example, only recently has the Btu content dropped below 12,000 Btu/ton for the bituminous coals used at the plant, and historically the units have received bituminous coals above 12,500 Btu/ton. A higher Btu/ton content coal means more energy is generated per ton of coal burned than a lower Btu/ton content coal. CR4 and CR5 have also received low moisture bituminous coals, which means less thermal energy is necessary to dry and burn the coals, which also contributes to the energy per ton of coal burned. These quality characteristics have been incorporated into the coal specifications for the units and there is no doubt that a quality coal product, in particular a high Btu, low moisture content coal, plays a significant role in the ability of CR4 and CR5 to exceed their design basis in energy production.

With more thermal energy generated by the boilers from large quantities of high quality bituminous coals, the CR4 and CR5 units are capable of operating at "overpressure" on a sustained basis, thereby producing more steam and more energy. CR4 and CR5 typically operate at overpressure at full capacity and have done so for years. The result is sustained energy production at full capacity of between 750 and 770MW.

If PEF were burning a blend of even a high quality, high bituminous coal -- for example, a 12,500 Btu/ton bituminous coal -- and a high, 8,800 Btu/ton sub-bituminous coal at CR4 and CR5, however, the Company could not go to

overpressure and generate the gross 750MW to 770MW at full capacity that it has historically produced at the units.

Q. What do you mean by "overpressure?"

A. Overpressure is the term we use to designate when we have deviated from the design bases pressure setpoint of 2,400 pounds pressure at the first stage steam turbine. When we have all the critical equipment in operation, we are allowed by Babcock & Wilcox to operate the boiler at 105 percent of design bases pressure setpoint. Applying 105 percent times 2,400 pounds pressure equals 2,520 pounds pressure at the first stage turbine blades. Once this pressure is reached by the boiler and turbine, the units are producing around 750MW. As I mentioned though, all critical equipment must be operable. We must have all six pulverizers, both condensate pumps, both high pressure and low pressure heater drain pumps, and all eight feed water heaters in service to be able by the technical manual to go to overpressure.

Q. Is it safe?

A. Absolutely. It merely reflects the ability to operate above what was considered "normal" operation of the units but still well within the design capabilities from a safety perspective. The units have been consistently operating at overpressure at full capacity for years; in fact back to the late 80's, and producing more energy than contemplated under the original design.

Q. You mentioned that some but not all of the design elements were included in CR4 and CR5. Was something included in the design that was needed that was not built?

A. No, nothing that was needed to operate the units safely and efficiently in the design documents for the units was excluded when the units were built. However, several years passed between the design and construction of the units. During that time, I understand that the Company determined a sufficient supply of bituminous coals existed and that it was economical to commence operations with bituminous coals. As a result, certain design elements that were necessary only if the units commenced operation with an equal blend of bituminous and sub-bituminous coals, such as, for example, a seventh pulverizer and the inert steam to the pulverizer, were not built.

This is not unusual. The actual construction of power plants often differs from the design because any number of factors can affect the expected actual operation of the units and lead to construction changes. There is no reason to construct and charge the utility customers for something in the design of the units, for example, that is not expected to be needed for the actual safe and efficient operation of the units.

There is, however, space at CR4 and CR5 to add these additional design elements should the Company decide to go to operation with an equal blend of sub-bituminous and bituminous coals. But the units were not constructed with everything that would be needed to safely and efficiently operate with an equal blend of sub-bituminous and bituminous coals because that was not the expected operation of the units at the time of construction.

Q. Has PEF relied on the extra megawatts of energy production from CR4 and CR5 for its generation system?

A. Yes. The Company has three expectations for the CR4 and CR5 units. First, we are expected to safely and efficiently handle the coal and operate the units. Our employees are our most valuable resource so their safety is a primary concern. Of course, safety issues can affect unit operation as well if a problem with safely handling the coal product requires us to take the unit off line to deal with the problem.

Second, the units are expected to be commercially available all the time when they are not out of service for maintenance. This means that they are expected to respond when called upon by the ECC for service. As I mentioned, the ECC controls the order of bringing units on line and up to the required production to meet the load 24 hours a day, every day of the year. ECC will call on units based on their incremental cost of energy production. Because CR4 and CR5 have a low relative incremental cost of producing energy to most other units on PEF's generation system, they are expected to be commercially available most of the time during the course of the year. This is what it means for them to be base load units.

Additionally, the Company expects CR4 and CR5 to produce energy at between 750MW and 770MW when called on by ECC. More recently the units have been generating 768MW and 763MW, respectively, when called on by ECC for commercial availability at full capacity. This gross energy production is necessary for the Company to meet its expected net production. I understand that the Company's resource planning group relies on the production today of 735MW and 732MW, respectively, from CR4 and CR5. These are the net energy production

numbers if the units produce 768MW and 763MW, respectively, on a gross basis at full capacity.

It is my obligation as the Manager of Shift Operations for the fossil units, including CR4 and CR5, to ensure that the Company's expectations for CR4 and CR5 are met.

Q. What do you need to satisfy the Company's expectations for CR4 and CR5?

A. I must continue to maintain and operate the units as efficiently and effectively as we have been doing for years to continue to meet the expectations for base load energy production that the Company has for CR4 and CR5. Any changes in the coal product or units themselves that alter the maintenance and operation of the units will have an impact on the ability to maintain the energy production that is expected from the units.

The quality of the coal product will have an impact on the ability to meet the expectations for energy production from CR4 and CR5. Changes in the Btu content, moisture content, or other characteristics of the coal procured for the units will affect the maintenance, operation, and energy production at CR4 and CR5. We know, for example, that if the Btu content of the coal burned at CR4 and CR5 falls below a range between 11,000 Btus/ton and 11,300 Btus/ton, we will not be able to operate at overpressure and meet the expected energy production requirements at full capacity. Other changes in the quality of the coal burned at CR4 and CR5, such as higher moisture content than specified and generally expected, will also have an adverse impact on the energy production from the units. As a general rule, then, from an

operational perspective we prefer to have a coal product that more closely matches the typical specifications that we have historically burned at the units.

Q. Do customers benefit if the Company's expectations for CR4 and CR5 are met?

A. Yes, they do. As I have explained, CR4 and CR5 are base load units because they are relatively more economical than other generation alternatives on PEF's system. Therefore, more production from a base load unit, like CR4 and CR5, to meet the load means less energy production is needed from more expensive production sources available to PEF to meet customer energy needs. By producing energy at overpressure at full capacity on a consistent basis, PEF has provided its customers with a more economical source of energy production than they otherwise would have had at the production level the units were originally designed to achieve at full capacity.

IV. CHANGES IN COAL PRODUCTS AT CR4 AND CR5

Q. Are you concerned about changes in the type and quality of coal products for CR4 and CR5?

A. Yes. From an operational perspective, we always want to understand what is being procured for CR4 and CR5 and how it will affect the maintenance and operation of the units and the production of energy from the units. So, we will want to know what the supplier considers to be the "typical" quality of the coal offered and how that "typical" coal offered varies from our coal specifications and historical experience.

We have even been wary when existing suppliers of bituminous coals switch mines or new bituminous suppliers are added. In those situations, we have asked for smaller shipments of their coals to be brought on site and evaluated those limited shipments before the full shipments of what has been purchased is brought on site. This is because there can be variations in the quality of the coal product provided, even from existing suppliers with new mines, from what they have provided to the Company in typical specifications for their coal products.

When the quality of the coal or type of coal changes on the typical specifications offered by the supplier from what we have specified and historically used, we will want to evaluate the impact of those changes on the units and the production from those units before any commitment is made to purchase coal of that quality or type. We have required this evaluation even for significant changes in the quality of bituminous coals. In the past few years, we have been offered import bituminous coals that had a lower Btu and higher moisture content from our specification and experience with domestic bituminous coals. Before those low Btu content, higher moisture content import coals were purchased we requested and performed a test burn of the coals at one of the units to evaluate the impact of those coals on operation and energy production.

Q. What are "test burns?"

A. A test burn is a process where PEF obtains a small quantity of a new quality or type of coal that it is considering burning on a long-term basis and burns that coal in one of the units for which the coal is being considered. During this time, PEF monitors

handling and safety issues, unit operation and performance, and environmental emissions. The test burn can either be on a short-term or long-term basis. Typically, when first evaluating a coal product of different quality or type, a short-term test of two to three days will be conducted. The purpose of a short-term test burn is to see if any immediate handling, performance, environmental, or safety issues are present. Short-term test burns are also sometimes required for environmental permitting.

A long-term test burn can last anywhere between three and six months. The purpose of a long-term test burn is to see how the unit will perform over a sustained period of operation and under variations in environmental conditions that the units typically experience over a longer period of time. With long-term test burns, PEF can get a good idea of whether a new type of coal will be suitable for PEF to use in the plants on an extended basis.

Q. Why is it important for PEF to conduct test burns prior to introducing a new type or quality of coal into the units?

A. Certain equipment in the plants, such as the boiler and electrostatic precipitator for example, are especially sensitive to changes in coal quality and types. It is important, therefore, for PEF to know how the plants will react to new types and qualities of coal on a short- and long-term basis. New coal products may cause de-rates (or loss of energy production or load) or forced outages in the units. Either way, the units are not producing the energy that is expected from them. Test burns allow PEF to identify any such operational and production issues prior to making a full-scale commitment to switch to or use a new coal product.

The Company further needs to know if changes in the quality or type of coal will affect the cost of handling the coal or operating the units. Coals with higher moisture content than historically specified and used at the units, for example, create handling and operational issues. Additional effort will need to be made on the coal piles in handling the coal to assist in drying it out, and more heat will need to be used at the pulverizers to dry the coal out before it is blown into the boilers to be burned. This will increase the maintenance costs and increase the wear and tear on certain equipment, like the pulverizers, in the units. These impacts are important to know because they may lead to additional forced outage and maintenance time and cost.

Test burns can also be important from a safety perspective because certain types of coal require different handling and use procedures. This is particularly true for sub-bituminous coals from the PRB, which are dustier, more volatile, and thus more difficult to handle from a safety standpoint than bituminous coals. Test burns allow PEF to become accustomed to such changes in use and handling procedures, and to adjust them as necessary from actual experience, prior to full-scale use.

Q. What are your goals with respect to test burns for new coal products at CR4 and CR5?

A. I want to know how the new coal product is going to affect my responsibilities to safely and efficiently operate CR4 and CR5, make CR4 and CR5 commercially available for ECC, and to achieve full capacity production at between 750MW and 770MW when called upon to do so to meet customer load. If there is an impact on our ability to safely and efficiently handle the new coal product, or our ability to

operate the plants and meet our performance obligations, we would expect our concerns and costs to be taken into account in any decision weighing the costs and benefits of using the new type or quality of coal at CR4 and CR5.

V. PRB COALS AT CR4 AND CR5

Q. Are you aware that the Company has considered PRB coals for CR4 and CR5?

A. Yes. I am aware of and I have had some involvement with the Company's evaluation of a possible switch to a PRB coal blend at Crystal River.

Q. Was a test burn conducted for PRB coals?

A. Yes, a short-term test burn was conducted at CR5 with a small blend of PRB with bituminous coals in May 2006. I also am aware of an earlier test burn at CR4 in 2004 using a blend of PRB and bituminous coals.

Q. Has the Company evaluated the use of PRB coals at CR4 and CR5?

A. Yes. The Company has designated internal engineers and other employees from various operational groups in the Company to focus on evaluating the issues surrounding the use of a PRB blend of coal at CR4 and CR5, and the Company hired an outside consultant, Sargent & Lundy, to assist the Company in this evaluation. I further understand that the Company has hired a recognized PRB coal expert, Mr. Rod Hatt, to look at the issues surrounding the use of PRB coals at CR4 and CR5. The retention of such experts to assist the Company in evaluating potential fuel and

other changes that impact the operation and performance of the Company's fossil units is typical Company practice and consistent with the utility industry practice.

Q. What do you know about PRB coals?

A. I know that PRB coals have different qualities from the bituminous compliance coal products we are used to handling and burning at CR4 and CR5 that will present a number of safety, handling, operational, and performance issues for us at CR4 and CR5. PRB coals are more volatile and dustier, they have a higher moisture content and are more susceptible to absorbing moisture, they have a lower Btu content, and they have a lower ash quality than the bituminous coal products we have historically used at CR4 and CR5.

Q. What are your issues with PRB coals?

A. I have a number of issues with the use of PRB coals at CR4 and CR5. First, the volatility and dustiness of PRB coals presents significant safety and handling issues for the operational group at CR4 and CR5. PRB coals can spontaneously combust. As a result, additional care and maintenance will have to be taken with the PRB coals from the moment they arrive on site at the barge unloader, to their placement on the conveyors to the north yard for blending, to the coal piles and blending operations, and to their placement on conveyors to the units for storage and burning. As you can see from Exhibit No. ___ (CWT-1) to my testimony, the use of PRB coals in CR4 and CR5 would involve nearly the entire Crystal River site.

This is a safety issue and a cost issue. We would have to improve the barge unloader, conveyors, and transfer stations on the conveyors to suppress the dust and control spillage. We would have to have additional employees trained specifically in handling PRB coals to monitor and control for dust and spillage to prevent potential fires. We would also need additional equipment and trained employees to monitor and take care of any PRB coal pile for the same reason. This would require constant packing of the PRB coal on the pile and maintenance of the pace of the PRB coal use in the yard and to the plants.

Our current equipment on site is inadequate to handle PRB coal piles and blend PRB coals. The existing dozers and stacker reclaimers were acquired and are used for dealing with less volatile and dusty bituminous coals. Stacker reclaimers are large pieces of equipment with spinning buckets to move coal from piles onto conveyor belts. The stacker reclaimers are not and never were intended to be precision blending equipment since there real purpose is simply to move coal quickly from the piles on the ground onto the conveyors. We would need equipment for pile maintenance and blending specifically designed for handling and blending PRB coals.

I have similar safety and cost issues when the PRB coal is transported to the cascade rooms in the units and then to the silos until the coals can be sent to the pulverizers for grinding and burning in the units. Dust and fire suppression upgrades and additional maintenance by employees trained to deal with PRB coals are necessary there too in order to prevent PRB dust and coals from spontaneously combusting and causing fires.

There are also a number of operational and performance concerns with burning a PRB coal blend. The higher moisture and lower Btu content of PRB coals means that there will be problems pushing enough coal through the pulverizers, drying and crushing it, and blowing it into the boilers on a consistent basis to maintain our load at overpressure. We can expect de-rates then from the units if an equal blend of PRB coals and bituminous coals are used. Also, the PRB coals are a higher slagging and fouling coal than bituminous coals, which means that we may also suffer de-rates from additional time off line to clean the boilers. These issues also mean that all boiler-related equipment in the units used to generate energy, from the pulverizers to the soot blowers to the boilers themselves, will have to work harder and require more maintenance because PRB coals are being used. This adds additional wear and tear and additional maintenance costs to these internal parts of the units if PRB coals are used.

These are some of the issues that I am concerned about if PRB coals are used at CR4 and CR5. Sargent & Lundy and Mr. Hatt have addressed some of these same issues, and additional issues, in greater detail. In sum, though, I can say that PRB is a maintenance and operational nightmare from my perspective as the person responsible for the operation and performance of CR4 and CR5. In addition, the units will be scrubbed in 2009 and 2010 so I am not sure if it makes sense to continue to consider PRB coals for CR4 and CR5. With scrubbers on the units we will be able to move to higher sulfur coals and burn them at the units.

Q. Have you reviewed the modifications that Mr. Hatt says are necessary to safely handle and burn PRB coals at the Crystal River site?

A. Yes, I have.

Q. How would you go about making these modifications if you had to do them?

A. Before making any modifications to the coal handling and operational systems at CR4 and CR5, a significant amount of planning must be done to ensure that the work can be done efficiently so that the base load units are taken off line for as short a time as possible. Scheduled maintenance for the units, for example, occurs during the "shoulder," not the "peak" months of the year. The "peak" months are the months where the customer demand for energy is at its highest, in the winter and summer months, and the units are needed to produce energy to meet the load. The "shoulder" months occur in the spring and fall when temperatures and conditions in Florida are mild and not all generation units are needed to meet customer demand for energy. Still, care is taken to ensure that both base load units are not down at the same time, even in the "shoulder" months, because they are still base load units and generally needed whenever there is customer demand for energy on the Company's system.

As a result, the necessary work to handle and operate with PRB coals at CR4 and CR5 will probably occur sequentially at the units so that they are not off line at the same time. Additionally, there are other operating units at the site, including the nuclear unit, which present issues regarding the scheduling of work for CR4 and CR5 to handle and operate on PRB coals. Careful planning will be necessary to ensure that any work for CR4 and CR5 does not interfere with the operation of these other

units, which are also base load units. The fact that there is a nuclear unit on site will also present security issues that must be taken into account in any construction project at the site requiring off-site employees, material, and equipment being brought onto the site.

Finally, there are always the issues of including the time to design or identify, order, and purchase necessary equipment and material for the work and to identify and contract for the necessary labor and contractors. All of this needs to be included in developing any timeline for the work contemplated to ensure that the PRB coals can be safely and efficiently handled and burned in the CR4 and CR5 units.

Q. How long would it take to make the modifications?

A. No determination has been made because no decision has been made for a fuel switch. The Company, however, has engaged in other large construction and maintenance projects at the fossil units at the Crystal River Energy Complex in the past and, based on that experience, I have provided a rough estimate of the time to make the modifications recommended by Mr. Hatt to the units in order for them to handle and burn PRB coals at the site. That estimate is anywhere from 18 months to 30 months.

Q. Does this conclude your testimony?

A. Yes.

BY MR. BURNETT:

Q Sir, do you have a summary of your prefiled testimony?

A I do.

Q Would you please read it now.

A Yes.

My name is Wayne Toms, and I'm employed by Progress Energy as the Manager of Shift Operations for the Crystal River fossil units, including Crystal River 4 and 5. Crystal River 4 and 5 are base load units that have historically operated at overpressure to produce between a gross of 750 megawatts and 770 megawatts at full capacity when called on to provide that level of energy to customers.

Base load units are those units called on first to meet the load or customer demand on Progress Energy's system. Units 4 and 5 regularly produce at this gross 750 megawatts and 770 megawatts. But since they provide the energy that runs the units themselves, the net capability or capacity received by the customers is about 732 and 735 megawatts.

We are able to get this kind of overpressure output from these units because we burn high quality, high Btu bituminous coal. In addition, by taking advantage of the larger boiler that was built for these units, we are able to push more coal through the units to get more megawatts output.

The units were originally designed for a 50/50

bituminous/subbituminous coal blend. This explains the difference in the boiler size. Progress Energy's ratepayers have gotten the benefit of this larger boiler by Progress Energy Florida using this higher quality coal to generate more output and from the units' ability to burn a variety of coal types. The quality of the coal product will have an impact on Crystal River 4 and 5's ability to produce the expected megawatts. Changes in Btu and moisture of the coal, among other things, can drastically affect the maintenance, operation, and energy production at Crystal River 4 and 5.

For example, if we fall below the range of 11,000 and 11,300 Btu, we will not be able to operate at overpressure and meet the expected energy production. I know this because I have seen such derates happen in real life when subpar coal has been sent to Progress Energy by coal suppliers. I base my knowledge on what these units can do on running them 365 days a year and not what documents from the late 1970s allegedly say. I have also seen these units operate in various conditions and in situations where equipment was down for maintenance, and I know what they are capable of doing in real life, not in theory.

Because coal quality is so important to the efficient operation of Crystal River 4 and 5, we are always wary when there are significant changes in the coal specs, even for changes with other bituminous coal. For example, in the past

few years, we have closely evaluated foreign bituminous coal. Because these coals had lower Btu and higher moisture than the domestic bituminous coals, as part of that evaluation we requested a test burn be done to monitor the new coals' performance in the units. A test burn can be done on a short-term basis, two or three days, or a long-term basis, three to six months.

Short-term test burns are done to see if any immediate handling, performance, environmental or safety issues are present. The long-term test burn is to see how well the unit will perform over a sustained period of operations and under various environmental conditions.

Now I'm going to specifically discuss the use of a PRB bituminous blend of coals at CR4 and 5. PRB coal has significantly different qualities from the bituminous coal Progress Energy currently handles and burns at these units. It is dustier and more volatile. It has a higher moisture content and has a lower Btu content, and also has a lower ash quality.

I have a number of issues with the use of PRB coal at Crystal River 4 and 5. The volatility and dustiness of PRB coal presents significant safety and handling issues. PRB coal can spontaneously combust if the proper equipment is not used and if additional care is not taken to control the dust and pack down the PRB coal piles.

Additional equipment is necessary from every point at

the plant, from the barge unloader, along the conveyor belts, transfer stations, and into the cascade rooms in the units. Because the stacker reclaimers are ill-suited to do the sort of precise blending required for PRB/bituminous coal blends, new equipment for blending PRB coal is necessary.

There are also a number of operational and performance concerns with burning a PRB coal blend. The high moisture and low Btu content of PRB coal means that there will be more problems pushing enough coal through the pulverizers. If an adequate amount of coal cannot get into the boilers, Crystal River 4 and 5 will not be able to maintain overpressure, and we will experience a derate. Also, the PRB coals cause more slagging and fouling in the boilers than bituminous coals, which mean more off time to clean the boilers. Overall, I can say that PRB is a maintenance and operational nightmare from my perspective as the person responsible for the operation and performance of Crystal River 4 and 5.

Beyond the handling characteristics, the biggest concerns for me in terms of operation of Crystal River 4 and 5 is a potential derate. The company's energy control center expects me to be able to run these units and to get 732 and 735 net megawatt output. The PRB coal blend asserted by OPC witnesses has a heating value of 10,285 Btus. I can tell you, based on the quality of coals I have seen going into the units,

that Progress Energy most certainly would not reach 750 to 770 megawatt output on that low of a Btu value. If I put that low Btu content coal into those units, we would most definitely see a derate of the units.

I have reviewed the modifications that Mr. Hatt say are necessary to safely handle and burn PRB coals at the Crystal River site. I agree with his assessment of the types of equipment we would need, including the dust suppression devices, the blending equipment and the fire protection systems. To make the modifications he suggests, I anticipate that it would require careful planning to ensure that the operation of the other units at the Crystal River site are not interrupted. The modifications to Crystal River 4 and 5 would also likely need to be done sequentially to limit the amount of down time of a base load capacity. Given these constraints, I estimate that these modifications would take anywhere from 18 to 30 months.

In summary, the safe use of PRB coal at Crystal River 4 and 5 require substantial upgrades to all aspects of the units' operating systems and would most assuredly cause a significant derate in megawatt production. As the person responsible for making sure that these essential base load units supply energy to our customers, I would not want to do anything that would compromise the safe and efficient operation of these units, and the use of PRB coal as OPC suggests would

do just that.

Thank you.

MR. BURNETT: We tender Mr. Toms for cross examination.

CHAIRMAN EDGAR: Mr. McGlothlin.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Mr. Toms, I will begin with a question regarding your statement at Page 12 of your prefiled testimony. You say there we know, for example, that if the Btu content of the coal burned at CR4 and CR5 falls below a range between 11,000 Btus per ton and 11,300 Btus per ton, we will not be able to operate at overpressure. Do you see that statement?

A I do. On Lines 18 and 19?

Q Yes. First of all, should that read 11,000 Btus per pound as opposed to ton?

A Yes.

Q Now, as I understand the situation from subsequent conversation with you during your deposition, with respect to these incidents, you were able to return to overpressure, were you not, after adjusting feeder speeds to supply more coal to compensate for the lower Btus?

A Yes. We increased the feeder speeds from around 65 percent up to 70 percent, and that allowed us to achieve the overpressure rating of 750 megawatts.

Q So, in that situation, it was a matter of adjusting the Btus being input to the boiler in compensation for the lower Btus per pound, is that correct?

A Yes.

Q If you will turn to your Exhibit CWT-2, and Page 7 of 13, there is a nameplate rating of 665,000 kW. Do you see that?

A I do.

Q That rating applies not to the boiler, but to the turbine that actually generates the megawatts, is that correct?

A That is the turbine rating, yes.

Q And would you agree that the 665 output of the turbine would be -- the anticipated megawatt output when steam is supplied to the set point indicated, regardless of the type or quantity of coal that is being consumed at the time?

A Say that again.

Q Yes. Would you agree that the 665 nameplate rating is a function of the steam being supplied from the boiler to the turbine?

A Yes.

Q And it doesn't matter which type of coal being burned to supply the steam, if the steam is at the set point indicated, then the turbine would generate the nameplate rating?

A If you are producing that amount of steam, yes, you

would produce 665 megawatts. That amount of steam is 4.7 million pounds mass per hour.

Q And, similarly, the overpressure condition that has been referred to in this hearing is also a matter of steam pressure, is it not?

A Yes, it is.

Q And for purposes of this particular unit, are these units, that is defined to be 105 percent of the normal set point?

A Of 2500 pounds, yes. It equates to 2640 pounds of steam at the super heater output.

Q And if steam is supplied in that quantity and in that pressure to the turbine, the nameplate rating of which is 665, the additional pressure will cause the turbine to generate more than 665, is that correct?

A That is correct.

Q And that is why you see gross numbers in the 750 range, is that correct?

A Yes.

Q And, again, the overpressure situation which -- and perhaps this is a good time to make this observation. We use the term MCR, or maximum continuous rating, is that synonymous with the overpressure situation or condition?

A It is.

Q Would you agree with me that if steam is being

supplied in that quantity, at that pressure, to meet the definition of MCR, or maximum continuous rating, the output of the turbine will be the 750 megawatts or thereabouts, regardless of whether the fuel being burned is 100 percent bituminous coal or a blend of coals?

A Yes.

Q And over time Progress Energy has been able to achieve and maintain this maximum continuous load with those units when burning bituminous coal, is that correct?

A Yes, we have.

Q So in terms of the physical capability of the unit to hold together while that amount of steam is being supplied from the boiler to the turbine, that capability has been established with the bituminous coal?

A Yes.

Q You have described Crystal River Units 4 and 5 as base load units, have you not?

A I did.

Q But isn't it true that the extent to which they are called upon to produce the megawatt output is a function of the load on the system at any given point in time?

A Yes. They are right after CR-3. CR-3 we maintain at 100 percent, and then CR4 and 5 fluctuate, dependent upon the load, and then it goes down dependent upon the incremental cost of the fuel being burned.

Q And do I understand correctly that the nature of the load on the units or on the system typically means that during the nighttime hours and, perhaps, also seasonally, the output of each unit is not 750, but perhaps is in the vicinity of 300 megawatts?

A It could be anywhere from 300 to overpressure of 750, 760, yes, dependent upon the season, the temperature outside, winter, summer, if people are using their heaters or their air conditioners.

Q If you will turn to Page 14 of your testimony. Beginning at Line 13 you describe an experience with purchasing and burning imported bituminous coals that have a lower Btu and higher moisture content from the Appalachian coals that you usually burn, do you not?

A Yes.

Q And you say at Lines 17 and 18 that before those coals were utilized, you performed a test burn of the coals at one of the units, is that correct?

A Yes.

Q And is it also correct that the duration of the test burn that was performed was four days?

A It doesn't say that here. We would do different test burns dependent upon the coal that we were bringing in. We could do it up to four days, yes.

Q And following the four-day test burn, Progress Energy

did begin to use the imported coal in those units, correct?

A We did. We used Colombian, Venezuelan.

Q Now, if you will turn to your Exhibit CWT-2, Page 9 of that exhibit. And this page is one of several pages that -- excuse me, time out.

My error, sir. Please refer to Page 6 of 13. This page is one of several that comprise some contract information sheets supplied by Babcock & Wilcox in conjunction with providing the boilers for the units, are they not?

A Are we on Page 6 or Page 9?

Q Page 6.

A Okay. And your question?

Q This page and the balance of this particular exhibit comprise the contract information sheets provided by Babcock & Wilcox in conjunction with supplying the boilers for Units 4 and 5?

A Yes.

Q Would you agree that the values listed on the performance summary sheets are expressed in pounds of steam per hour?

A Can you tell me where on the page?

Q In the column for steam flow, which is one, two, three, the fourth -- the very top of the fourth column from the left. It is difficult to -- under the column called predicted performance?

A Okay. Predicted performance.

Q Would you agree that those are expressed in terms of pounds of steam per hour?

A The top two rows?

Q Yes.

A Yes, those are pressures.

Q Would you agree with me that with respect to the value shown for steam flow under predicted performance, the last two columns correspond to the maximum continuous rating of the unit?

A The last two in that -- the whole column of predicted performance?

Q The right-most or the right -- the one that has the value of 5,240?

A There are two that have 5,240.

Q Yes, sir. Would you agree that those values correspond to the overpressure condition, also called MCR?

A Yes.

Q And, let's see. Would you agree that the efficiency listed under the column for MCR is 87.67 percent?

A I would agree that it's 87.67 percent for the blend coal at the 5,240. It is 88.34 for the Illinois coal.

Q Yes. I was speaking in terms of the blend. Thank you for the clarification.

And when in your answer you refer to the blend,

Mr. Toms, let me refer you to the upper left-hand part of the page, and the entry that says 50/50 blend of eastern and western. And is that the blend that you were assuming when you pointed me to the MCR value?

A Yes.

Q And would you agree with respect to the column for which we identified the MCR value of 5,240 to the right-hand side of predicted performance, that there is an entry, a steam pressure entry for each of the places under the 5,240, that there is a complete representation of the MCR condition there?

A I don't know what you're asking.

Q I'm asking you to agree simply that there's -- for every predicted performance setting or condition, there has been a value entered for each of those columns?

MR. BURNETT: Joe, are you asking him is there writing on the page in those columns?

MR. McGLOTHLIN: I'm asking him to agree that there is a representation of a value that corresponds to each of the conditions, leaving super heater, leaving super reheater, entering reheater, all of those various points have a value corresponding to the MCR condition?

A Except for a few rows, they have numbers in them, yes.

Q Now, on the same page, Mr. Toms, on the right-hand side under equipment per unit, in the middle of the page, there

is an entry for pulverizers of coal. Do you see that?

A I see pulverizers.

Q And do you see that it also indicates that for a capacity of five pulverizers is the 5,240 pounds for steam associated with the MCR condition, and assuming that the blend is being burned?

A I see the type of NPS, the size of 89G, or golf, the number of six, capacity five pulverizer is 5,240, and it looks like there is something there and then pounds steam. Yes, that is what it says.

Q Would you agree then that this is Babcock & Wilcox's representation that with five pulverizers the units are capable of maintaining the overpressure condition?

MR. BURNETT: Objection, calls for speculation as to what Babcock & Wilcox is intending.

MR. McGLOTHLIN: Well, this is the contract information sheet and the witness has testified to his belief as to the capabilities of the unit. This is the supplier of the boilers expressing in quantitative terms the capacity of the pulverizers and the steam condition that will be realized at that point. So I think he is capable of agreeing or disagreeing.

CHAIRMAN EDGAR: The witness can answer the question if the witness can answer the question.

THE WITNESS: I didn't hear it. I can answer the

question?

CHAIRMAN EDGAR: Yes, sir.

THE WITNESS: This sheet of paper, it looks like that is what it is saying. I know that with five pulverizers, I cannot achieve 750 megawatts with a 12,500 Btu coal.

BY MR. McGLOTHLIN:

Q Well, are there any other conditions with that scenario -- for instance, you have indicated earlier that you lose megawatts if you supply fewer Btus and don't change feeder speed. Are you saying that there is no adjustments that you could make to compensate for the presence of five pulverizers that would still get you to the MCR condition?

A I think Mr. Hatt testified that you could do that if you reduced the grindability and allowed larger particle coal sizes to go into the boiler, which would slag the boiler and screw up your combustion. So I guess you could do that. That is what Mr. Hatt had testified.

I'm telling you that when I lose a pulverizer, my max load is around 680 megawatts. When I have a pulverizer in a rebuild -- I just rebuilt 503 pulverizer. I was derated. ECC knew that I was derated on Unit 5 to 680 megawatts. That's what I run.

Q And did you make any adjustments to particle size in that situation?

A No, not at all. The pulverizers --

Q Did -- go ahead.

A The pulverizers are set up to grind the coal to a specific fineness, and then the primary air fans pick up that coal, and it blows it through the nine coal pipes to the burners at the front and the back of the boiler. That is all -- that is all set. When we change the feeder speeds to burn the different Btu coal, that was a -- you know, the engineers came in and said we are going to make some adjustments. We are going to increase the feeder speed to allow more coal to go to the pulverizers so that we could get the output that we expected.

We found that for a number of years Crystal River 4 and 5 had been -- have had a steady supply or diet of 12.5 Btu coal, and that coal supply is going away, as Mr. Weintraub indicated. We are not finding that. We are finding the lower value coal, so we are having to find a way to maintain the high pressure -- I mean the high load, the 750 megawatts with the boiler that we have. I know that we have burned down to 11,000 Btu coal. At 11,000 Btu coal, I was just making the 750 megawatts.

And then coal isn't homogeneous. I was pulling the coal out of a barge, and the barge is a big, you know, vessel with a tug boat that is at the end, and it has four holes in it, and it is filled up with coal. And as we dig out the barge, the holes from the barge, you know, the top part of that

hole could be 11,200, and then the middle of that it could be a 10.9 or something. But, you know, it is not homogeneously all the way spread out at 16,000 pounds of the same value coal. So I could actually see a dip in the megawatt output based on the coal I was burning at that time, and it is instantaneous as it goes onto the conveyor and up through to Crystal River 4 and 5 to be burned.

MR. McGLOTHLIN: If I could have a second, I think I am about through.

BY MR. McGLOTHLIN:

Q Mr. Toms, are you familiar with the reports of the test burns performed during 2004 and 2006?

A I am only a little bit familiar with 2004. I was at the plant for the 2006 test burn.

Q Well, answer it, if you know. Isn't it true that the reports indicated that pulverizer capacity was not a constraint to carrying the amount of load in those tests?

A I think if you look at the Btu value it was very high. I know in the test in May of 2006 the Btu value was 11.7.

Q But in those tests pulverizer capacity was not a limitation?

A Right. But go back to the Btu value of the coal, that is what determines what your load is going to be. The lower the Btu value the lower your load will be.

Q I believe you mentioned Btu value, but isn't it true that the equation is the number -- the tons of coal you put in will determine, and the Btu value will determine the megawatt output?

A It is. But you have to be able to put the amount of tons that you are talking about in.

MR. McGLOTHLIN: Those are all my questions.

MR. McWHIRTER: No questions.

CHAIRMAN EDGAR: Mr. Twomey.

MR. TWOMEY: Thank you, Madam Chair.

CROSS EXAMINATION

BY MR. TWOMEY:

Q Good afternoon, Mr. Toms.

A Good afternoon.

Q I just have a question or two. At the very outset of Mr. McGlothlin's cross-examination of you, he asked you a question related to the feeder value or the feeder speed, do you recall that?

A I do.

Q And he referenced it to a portion of your testimony. Was that on Page 12, do you recall? Or do you recall where it was?

A I do not recall where it was.

Q I think it was Page 12. If you would turn to Page 12.

And I tried to make a note at the time, but I want to ask you if you recall if it was. At 12, starting at Line 17 there is the statement in your testimony, we know, for example, that if the Btu content of the coal burned at CR4 and CR5 falls below a range of 11,000 Btus per ton and 11,300 Btus per ton, we will not be able to operate at overpressure and meet the expected energy production requirements at full capacity. Was that the portion of your testimony that he questioned you about, do you recall?

A Say the last thing.

Q Was that the portion of your testimony that he asked you the question about in relation to feeder speed?

A I'm not sure if that was related to feeder speed at that time.

Q Well, let me ask you this way. If you increase the feeder speed -- what is the typical feeder speed when you are burning bituminous coal of your 12.5 range to get your maximum, to get your overpressure?

MR. BURNETT: Object as ambiguous. Which feeders are you talking about, Mike?

MR. TWOMEY: What I thought was the feeder speed that feeds the coal to the pulverizers.

THE WITNESS: Each pulverizer has a silo above it, and each silo comes down to a feeder, and that feeder feeds a mill, a pulverizer. The feeder speed of the 12,500 Btu coal

was set up at around 65 percent feeder speed. That allowed enough coal to go into the pulverizer, the pulverizer spins its wheels around to crush that coal, and you didn't flood out the pulverizer. You could keep that amount of coal, 65 percent of the coal dropping on that belt could drop into the pulverizer, and that pulverizer could grind that up and take it up to the boiler. That was all engineered and set up, and the veins and everything was put together with that 12.5. As we started to experience the lower Btu coal coming in that we had to start burning, we had to start adjusting that feeder speed up a little bit. We've adjusted it up to around 70 percent now.

Q From 65 to 70?

A Yes, sir.

Q To compensate for having fallen down to what level of Btu per ton?

A Down to the 11,300, which is on Page 12 here.

Q I see. So the feeder speed, in a crude sense, is almost like an accelerator?

A Almost, yes.

Q Okay.

A You could actually put more coal in the pulverizer than the pulverizer has the capacity to grind, at which time you lose that pulverizer. You lose 100 megawatts. You are derated rate then and there until you grind out that coal to start it back up.

Q I see. Is 70 percent, the 70 percent rate the maximum?

A Dependent upon what operator is sitting on the board, yes. They don't like to even go up to 70 percent. We push them to the 70 percent level. It's safe, it's okay, but some operators they -- you know, if they get a sense that this thing might flood out, they don't want to go into a big plant shakeup where they lose 100 megawatts, and then they could lose the entire plant.

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

CHAIRMAN EDGAR: Mr. Brew. No questions.

Mr. Bradley. No questions.

Questions from staff?

MR. YOUNG: Yes, Madam Chair. Three to four questions.

CROSS EXAMINATION

BY MR. YOUNG:

Q Mr. Toms, you mentioned particle size. Can you please explain the importance of the particle size in the combustion process for CR Units 4 and 5?

A The smaller the better.

Q Okay.

A Do you need more than that?

Q That's fine.

A Okay.

Q You also mentioned -- you talked about feeding more coal into -- if you can feed more coal, can the boilers use it to achieve the maximum continuous rating?

A Say that again, please.

Q If you can feed more coal, can the boilers use it to achieve the maximum continuous rating for CR4 and 5?

A Yes. If we had another pulverizer, yes, we could do that.

Q Okay. And the final question is did Babcock & Wilcox guarantee that CR4 and 5 would gross 750 to 770 megawatts using 50/50 blend of PRB coal?

A No, sir. They did guarantee 665.

Q One final question. Earlier you mentioned that you can hit 750 using 1100 Btu coal, correct?

A Yes.

Q If that is the case, why is PEF or PFC's specifications of the RFP call for 12.3, 12,300 Btus per pound coal?

MR. BURNETT: Objection, it's a mischaracterization. I believe Mr. Pitcher testified on the nature of that specification earlier with respect to the RFPs and bids, and made it clear that that was not a minimum requirement. That that simply was the basis by which the economic evaluations were made. Maybe you want to ask the question a different way, but I object to it as asked.

MR. YOUNG: We withdraw the question. Thank you.

CHAIRMAN EDGAR: Thank you.

Mr. Burnett.

MR. BURNETT: Thank you, Madam Chairman.

REDIRECT EXAMINATION

BY MR. BURNETT:

Q Mr. Toms, one of the last questions you were just asked was about guarantees. Mr. Young just asked you that, do you recall that?

A I do.

Q I want to ask you a couple of questions with regard to your CWT-2. Do you have that in front of you?

A I do.

Q Now, you were asked some questions about this earlier with Mr. McGlothlin, and I want to ask you, this is the column, correct me if I'm wrong, but this was the column Mr. McGlothlin was asking you questions about, about MCR and the steam value there of 2640, is that correct?

A Yes.

Q And I believe by answering Mr. McGlothlin's questions you identified this 2640 in MCR as being synonymous with the overpressure condition, am I correct or incorrect?

A You are correct.

Q Okay. And that overpressure condition, am I correct, that it was established by Mr. McGlothlin's question, that is

what will lead to the 770 megawatts in your experience?

A Say that again.

Q The steam value of 2,640, is that the overpressure condition that let's these units produce enough steam to turn the turbine to produce the megawatts you are used to getting?

A The steam value of 5,000,240?

Q Yes.

A Yes.

Q Okay. Now, with respect to guarantee, do you see that column right there? Can you read what that says?

A That column is on the 4.7 million pounds mass steam with a blend, and there is the guarantee.

Q Do you see guarantee there?

A I see -- well, I see G-U-A-R.

Q Okay. And what, if anything, do you interpret that G-U-A-R to mean?

A I don't think you can interpret it from this. You have to go back to page --

Q Well, let me ask you this, did you just testify that you interpret that G-U-A-R to mean guarantee, is that right or wrong?

A That is right.

Q Do you see G-A-U-R (sic) in the column that Mr. McGlothlin was questioning you about?

A No.

Q And this value of 2500 under the column with the G-U-A-R in it, is that the psig value that you associated earlier with the nameplate rating of 665 megawatts?

A It is.

Q Okay. I would like you to turn to Page 7 of 13 of your prefiled testimony. Now, here we see that 2640 again and maximum continuous load again. Is that the same figure we were just talking about on the other page?

A Yes.

Q Now, here we see that G-A-U-R (sic) load again. What, if anything, do you interpret those words to mean?

A Guaranteed load.

Q And I just highlighted the 2500 psig, do you see that?

A I do.

Q And, again, that was the nameplate associated psig of 665 megawatts?

A Yes.

Q Turning the page again, I believe that you saw -- you established earlier with Mr. McGlothlin that the term MCR is equal to overpressure, correct?

A Right.

Q And you see that there?

A I do.

Q Do you see the term G-A-U-R (sic) that I just

highlighted there?

A G-U-A-R, yes.

Q G-U-A-R. And do you interpret that as meaning the same thing as MCR or something different?

A No, I think the G-U-A-R is standing for the guarantee or the nameplate data of 665.

Q And, again, over to Page 11 of 13 of your prefiled testimony. Basically, are we seeing the same distinctions here?

A We are.

Q Have you seen Mr. Barsin's testimony?

A I have.

MR. McGLOTHLIN: If he is going to question about Mr. Barsin's testimony, I object as beyond the scope of cross-examination.

MR. BURNETT: It goes to guarantees. Some of the guarantee documents that were put forward by Mr. Barsin were put forth as guarantee documents. They've opened on cross the issue of what the units were guaranteed and specified to do. So I would like to use the documents that Mr. Barsin calls the guarantee documents to question the witness on.

MR. McGLOTHLIN: My question on cross related to this witness' exhibits, Mr. Toms. I did not broach Mr. Barsin's testimony. Counsel will have an opportunity to cross-examine Mr. Barsin when he takes the stand.

CHAIRMAN EDGAR: I will look to staff.

MR. YOUNG: Madam Chairman, I think you should sustain the objection. It's beyond the scope of cross-examination.

CHAIRMAN EDGAR: On the recommendation of staff, we will sustain the objection.

MR. BURNETT: Fair enough.

BY MR. BURNETT:

Q I think one final question with respect to the documents in your prefiled testimony. Bear with me one second.

Mr. Toms, other than where I have highlighted here the letters G-U-A-R and the columns Mr. McGlothlin was questioning you about, do you see G-U-A-R anywhere else?

A On the second column, one, two, three, four, five, six rows down, it says over to the left, right there, I see guarantee -- or G-U-A-R there.

Q And is that the psi value associated with the G-U-A-R there, 2500?

A Yes.

Q And, again, that is the same 2500 associated with the nameplate rating that you told me about earlier?

A Yes.

Q And that is 665 megawatts?

A Yes.

Q You were also asked a couple of questions about your

belt speeds earlier. Let me ask you some questions related to that. What, if anything, do you need to put into a boiler to make steam?

A Put into a boiler to make steam? Heat.

Q And how do you get that heat in there?

A The coal and the air chemical reaction.

Q Is the amount of heat value that coal produces rated by any sort of scale?

A British thermal unit.

Q And the British thermal unit what, if anything, happens if you don't put enough British thermal units into your boiler with respect to steam?

A I won't make the amount of steam that I need to turn the turbine.

Q In the instances that you were telling me about -- telling Mr. McGlothlin about where you increase feeder speeds, what was the Btu value or British thermal unit value of the coal you were using then?

A It was between 11,000 and 11,300.

Q 11,000 and 11,300. And what is the Btu value of the coal that OPC suggests we should use in this case?

A 10,285, I want to say.

Q So, Mr. Toms, irrespective of feeder speeds, is 11,300 the same number as 10,285?

A No, sir.

Q Have you ever seen your plants, Crystal River 4 and 5, operate with coal that had a British thermal unit value of less than 11,000 Btus per pound?

A I have.

Q What, if anything, happened?

A We reduced load below -- we were around 750, 755, and we peeled off, I don't know, 10, 12 megawatts. And when we checked later, we found out that that portion of the barge -- we were feeding directly from the barge into the plant, and we found out that -- remember I told you that the coal shipment isn't homogeneous. We found that we had a lower Btu value of coal in that portion of the barge, and that's why we had peeled off the load. But, subsequently, when you go above that value, the 11,000, 11,300 you could increase your Btus -- I mean, your megawatts, sorry.

Q Earlier Mr. Young asked you if you could get 750 megawatts if you put more coal into the boiler, and I believe you said yes if you had six pulverizers. Was that your answer?

A I said if I had the seventh pulverizer.

Q An additional seventh pulverizer?

A One more, yes.

Q And what, if any, coal were you assuming with respect to Btu value were you talking about?

A Say that again.

Q With respect to the coal that would be moving through those pulverizers, what Btu value, if any, were you assuming when you answered that question?

A Oh, lower than the normal diet that we burn right now, 12,000.

Q And that would be the need for the seventh pulverizer?

A I think his question was could I raise -- could I have more load coming out -- is there another way I could get more load coming out? And I said, yes, I could put more fuel into the boiler. I'm limited with the six pulverizers I have. If I have the seventh pulverizer, then I could -- I actually could put more fuel in there and make the steam.

Q And do you have that seventh pulverizer now?

A No, I don't.

MR. BURNETT: No further questions.

THE WITNESS: However, the pulverizers, it's interesting to note, are labeled. You have Unit 4 and you have Unit 5. Unit 4 the pulverizers are labeled 402, 403, 404, 5, 6 and 7. They don't have a 401. There is a spot for it, and the one right next to it is labeled 402, and the same thing with Unit 5. They start off 502. So, I mean, everyone believes that there is a space, we were going to have one. It was going to be because it was -- that boiler was designed for a 50/50 blend with a lower Btu value, it needed more fuel to go in

there to make the load.

MR. BURNETT: Thank you, sir. No further questions.

CHAIRMAN EDGAR: Exhibits.

MR. BURNETT: We would move Mr. Toms' exhibits into evidence, and, unfortunately, I have lost my list.

CHAIRMAN EDGAR: I've got mine. 125 and 126 will be entered into the record as evidence.

(Exhibits 125 and 126 admitted into the record.)

CHAIRMAN EDGAR: And the witness is excused.

MR. BURNETT: Thank you. May he be dismissed?

CHAIRMAN EDGAR: He may be dismissed.

MR. BURNETT: Thank you.

CHAIRMAN EDGAR: Thank you.

Okay. Let's push forward for a little while longer.

Mr. Burnett, your witness.

MR. BURNETT: I'm turning it over to Ms. Triplett.

MS. TRIPLETT: I call J. Michael Kennedy.

J. MICHAEL KENNEDY

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

DIRECT EXAMINATION

BY MS. TRIPLETT:

Q Would you please introduce yourself to the Commission and provide your address?

A Yes. My name is J. Michael Kennedy. I am a

Principal Environmental Specialist employed by Progress Energy Services Company, P.O. Box 14042, St. Petersburg, Florida.

Q And have you filed prefiled direct testimony and exhibits in this proceeding?

A Yes, I have.

Q And do you have those with you?

A Yes, I do.

Q Do you have any changes to make to your prefiled testimony and exhibits?

A No, no changes.

Q And if I asked you the same questions in your prefiled testimony today, would you give the same answers that are in your prefiled testimony?

A Yes.

MS. TRIPLETT: We request that the prefiled testimony be moved into evidence as if it was read in the record.

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

IN RE: PETITION ON BEHALF OF CITIZENS OF THE STATE OF FLORIDA TO REQUIRE PROGRESS ENERGY FLORIDA, INC. TO REFUND CUSTOMERS $143 MILLION

FPSC DOCKET NO. 060658

DIRECT TESTIMONY OF

MIKE KENNEDY

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. J. Michael Kennedy, P.O. Box 14042, St. Petersburg, Florida 33733.

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

A. I am employed by Progress Energy Service Company as a Principal Environmental Specialist.

Q. What do you do?

A. In my current role, which I assumed in August 2005, my responsibilities include working on emerging air legislative and regulatory issues for Progress Energy Florida ("PEF" or the "Company") and Progress Energy Carolinas. Prior to that, I managed the environmental permitting and compliance activities in support of Florida Power Corporation's and then PEF's generating fleet, including air permitting and Title V issues. For ease of reference I will refer to Florida Power

Corporation and PEF together as PEF except when circumstances may warrant a distinction between the two companies.

Q. What is the purpose of your testimony?

A. My testimony will address OPC's expert's claims regarding PEF's ability, pursuant to its environmental permits, to burn Powder River Basin ("PRB") sub-bituminous coal at Crystal River Units 4 and 5 ("CR4 and CR5"). My testimony will explain the development of the various environmental permit requirements, as they apply to CR4 and CR5. Finally, I will demonstrate that Mr. Sansom's claims that the lack of inclusion of sub-bituminous coal into PEF's Title V permit was imprudent are inaccurate.

Q. Please describe your education background and professional experience.

A. I earned a Bachelor of Science degree in Meteorology from Purdue University in 1978. Before coming to work at then-Florida Power Corporation, from January 1990 to June 1992, I was a Senior Environmental Scientist at Indianapolis Power & Light Company, where my responsibilities included support of generating plants in the area of air permitting and compliance. From August 1986 to December 1989, I was the Permitting and Planning Manager for the Indianapolis Air Pollution Control Division. I managed the areas of air operating and construction permits, air quality modeling and planning, and regulatory development for Indianapolis/Marion County, Indiana. From June 1978 to July 1986, I worked as an Air Quality Planner for the Indianapolis Air Pollution

Control Division. There I helped develop the State Implementation Plan for compliance with the 1977 Clean Air Act Amendments. I also reviewed air operating and construction permit applications and assisted with compliance inspections at the major sources in the county.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. I am sponsoring the following exhibits that I prepared or that were prepared under my supervision and control, or they represent business records prepared at or near the time of the events recorded in the records, which records it was a regular practice for me or those who worked with me to keep to perform our responsibilities:

- Exhibit No. ___ (JMK-1), which is a copy of the Conditions of Certification for CR4 and CR5;
- Exhibit No. ___ (JMK-2), which is a copy of the Conditions to Approval;
- Exhibit No. ___ (JMK-3), which is the opinion letter regarding the enforceability of the long-term Massey contract and the transmittal letter to the DEP;
- Exhibit No. __ (JMK-4), which is the initial stack test performed at CR4 using bituminous coal;
- Exhibit No. __ (JMK-5), which is the proof of publication of the public notice of intent to issue Title V air operation permit;

- Exhibit No. __ (JMK-6), which is the Final Determination regarding PEF's Title V permit modification request, including proof of publication of the public notice of intent regarding the same;
- Exhibit No. __ (JMK-7), which is PEF's application for an air construction permit for a short-term trial burn of a sub-bituminous/bituminous mixture; and
- Exhibit No. __ (JMK-8), which is the Notice of Final Permit for the short-term test burn of PRB coal blend at CR4 and CR5.

All of these exhibits are true and correct.

Q. Please summarize your testimony.

A. PEF was granted site certification for CR4 and CR5 in 1978. As part of that certification process, PEF had to comply with certain environmental restrictions regarding the emission of various pollutants, including particulate matter and opacity limits. Prior to the passage of the Title V amendments to the Clean Air Act, PEF only burned bituminous coal in CR4 and CR5 and was able to stay within the emission limits. Sub-bituminous, or PRB, coal, which Mr. Sansom asserts PEF should have been burning at CR4 and CR5, has a different composition and thus is more likely to result in increased particulate matter and opacity. It is possible that burning PRB coal would have caused PEF to violate the limits set by the site certification process. And if a violation could just possibly occur when burning a coal, then PEF would not have burned that coal without taking some additional steps to convince itself and the DEP that the limits

would not be violated. Thus, despite Mr. Sansom's assertions that PEF had the authority to burn sub-bituminous coal in CR4 and CR5 prior to the Title V amendments, PEF did not have the unconditional authority to burn sub-bituminous coal during this time period.

So when applying for its Title V permit, PEF did not, as Mr. Sansom suggests, "abandon" any authority to burn sub-bituminous coal at CR4 and CR5. Rather, to comply with the new, much more rigorous regulatory regime, PEF submitted its application and included the only type of coal for which it could provide reasonable assurance that the emission limits would be met: bituminous coal. This is because bituminous coal was the only coal that CR4 and CR5 had burned and PEF knew that the bituminous coal would meet the emission limits.

In addition, the fact that PEF did not apply for a Title V permit to burn sub-bituminous coal at some prior point in time is not imprudent. It takes approximately 14 months to apply for and obtain a Title V permit modification. The capital changes that must be made in advance of a long-term test burn, which is prudent and necessary before burning a PRB coal blend, would take at least 18 months to install. So even if the Title V permit had been in place, PEF would have still needed to wait for the capital upgrades and the long-term test burn before switching to PRB coal. In essence, not having a Title V permit in place resulted in "no harm, no foul," in terms of timing.

Finally, the fact that the Company is planning to install scrubbers on CR4 and CR5 is relevant to any decision regarding the use of PRB coal at the units. PEF decided in 2004 to add scrubbers to comply with the new mercury

regulations passed by the Environmental Protection Agency ("EPA"). With a scrubber, CR4 and CR5 can burn cheaper, high-sulfur coal and still maintain compliance with other emission limits. But the PRB coal, given its chemical composition, is resistant to the removal of mercury. In fact, even with the scrubbers, if PEF were to burn PRB coal in the units, additional equipment would be needed to remove the mercury from the PRB coal. This information is a factor in the decision whether to switch to a PRB/bituminous coal blend.

II. AIR PERMITTING REQUIREMENTS FOR CR4 AND CR5 FROM 1980's TO 1995

Q. Please explain how air quality was regulated by the state and federal governments prior to the passage of Title V for generating units like CR4 and CR5.

A. The passage of the Title V amendments to the Clean Air Act in 1990 ("Title V") was a watershed event that changed the entire landscape of environmental requirements for power plants. Prior to Title V, in the time period in which CR4 and CR5 were sited, environmental regulations did not require power plant operators to obtain permits that were as specific and detailed as those that are currently required. Owners of proposed power plants were required to comply with state and federal regulations, but they did not have to apply for and satisfy the substantial technical requirements that now must be met with a Title V permit.

The federal permitting process ran concurrently with the state permitting

process and involved much of the same information. On the state side, the owner of a proposed power plant submitted a Site Certification Application to the Florida Department of Environmental Protection ("DEP") that was designed to be "one-stop shopping" for all permits, including water and air. If the site application was approved, the DEP then issued Conditions of Certification. These conditions included requirements regarding emission limits within which the plant was required to stay. But the specific manner in which those emission limits were met was not specified, meaning specific types of fuel that could be used in the unit were not enumerated in the site certification Conditions of Certification.

In addition to these state certification conditions, the owner of the proposed power plant had to obtain a federal construction permit from the EPA. This permit was known as a new source permit or a prevention of significant deterioration ("PSD") permit, and it required similar information to that required for the air portion of the state site certification process. Pursuant to amendments to the CAA passed in 1977, the EPA was most concerned with improving air quality in geographical areas that were not in compliance with certain ambient air standards. So the federal construction permit, once approved, included "Conditions to Approval," which in many ways were quite similar to the state Conditions of Certification. Importantly, the EPA's Conditions to Approval did not contain specifics regarding the type of fuel allowable in the unit. They merely included emission limitations, much like those found in the state Conditions of Certification.

Q. When did PEF receive its site certification for CR4 and CR5?

A. PEF received the site certification approval order for CR4 and CR5 in 1978.

Q. So were CR4 and CR5 subject to the pre-Title V regulatory environment?

A. Yes, CR4 and CR5 were subject to certain Conditions of Certification issued by the state DEP, as well as Conditions to Approval issued by the federal EPA.

Q. Please explain the Conditions of Certification that PEF was required to meet to operate CR4 and CR5.

A. The Conditions of Certification for CR4 and CR5 provided that stack emissions shall not exceed 1.2 pounds of SO_2 per million BTU heat input, nor shall they exceed 0.70 pounds of NOx per million BTU heat input. PEF was required to continuously monitor the emissions, as well as the amount and types of fuel used, to ensure the continued compliance with the emission limits.

The conditions further required that PEF provide to the Department of Environmental Protection ("DEP") the characteristics of the coal to be fired in CR4 and CR5. PEF also had to provide information about long-term contracts in place to ensure that low-sulfur coal would be available to burn at the plant. A copy of the Conditions of Certification can be found in Exhibit No. __ (JMK-1).

Q. How did the EPA's Conditions to Approval compare with the DEP's Conditions of Certification?

A. The federal and state requirements for CR4 and CR5 were very similar, with the exception of particulate matter emissions. The EPA's Conditions to Approval included a mass emission rate limit of 0.10 pounds per million Btu. These Conditions to Approval also provided that opacity limits from stack emissions could not exceed 20%. This emission limit, like the SO_2 and NOx limits, was required to be monitored by periodic stack tests. A copy of the Conditions to Approval can be found in Exhibit No. __ (JMK-2).

Q. Please explain what opacity and mass emission rates measure.

A. Both opacity and mass emission rates are ways to measure the amount of particulate matter released into the atmosphere upon burning a particular fuel. Opacity is a type of visibility measure that limits the density of emissions. An opacity limit of 20% means that only 20% of the light passing through the plume at the point of discharge (i.e. the stack) is obscured. In other words, the plume must be 80% clear.

Mass emission rates actually measure the amount of particulate matter emitted into the air. This limit is enforced by measuring the amount of particulates that are emitted at the stack, as expressed in terms of the amount of heat input to the boiler (which is a measure of the amount of fuel being burned).

Q. In terms of compliance by PEF, how did DEP's Conditions of Certification and EPA's Conditions to Approval interact?

A. PEF was required to comply with both sets of conditions. While there was much overlap between them, the federal Conditions to Approval also addressed limits not addressed in the state Conditions of Certification.

Q. How did PEF comply with the requirements, contained in both the Conditions of Certification and the Conditions to Approval, regarding proof of availability of coal?

A. PEF provided the DEP with a long-term compliance coal contract, the Massey contract, and an opinion letter verifying the enforceability of that contract. A copy of this opinion letter and the transmittal letter to the DEP are attached as Exhibit No. __ (JMK-3).

Q. What kind of coal was contracted for in the Massey contract?

A. The Massey contract gave Electric Fuels Corporation ("EFC") the right to purchase, on behalf of PEF, coal with a maximum of 0.75 percent sulfur and 10.5 percent ash, and a minimum of 12,500 Btu. The coal mines from which the Massey contract coal would be mined were located in Boone County, West Virginia. The term of the contract was for 20 years. Given the specifications described in this correspondence, and the location of the coal mines, the Massey contract that was submitted to the DEP to satisfy the Conditions of Certification for CR4 and CR5 was for bituminous coal.

Q. And did CR4 and CR5 in fact burn this bituminous coal, some of which came from the Massey contract?

A. Yes, CR4 and CR5 burned only bituminous coal from the moment they came online.

Q. What other steps did PEF have to take to comply with the Conditions of Certification and the Conditions to Approval?

A. PEF was also required to conduct a stack performance test for particulates and SO_2 within 180 operating days after each unit came online. PEF provided the DEP with a written report of the results of each test. A copy of the initial test performed at CR4 is provided in Exhibit No. __ (JMK-4). As seen on page 4 of this exhibit, the sample coal had a Btu level of 12,472. Therefore, the type of coal tested for compliance with the emission limits was bituminous coal.

In addition to these initial tests, PEF has conducted annual performance tests for compliance with the particulate matter limits. Because CR4 and CR5 have only burned bituminous coal, each of these stack tests, year after year, has only measured particulate matter produced by burning bituminous coal.

Q. Was PEF able to stay within the 20% opacity limit set by the Conditions of Certification by burning bituminous coal at CR4 and CR5?

A. Yes, during the time period before PEF's Title V permit was issued, PEF maintained compliance with the 20% opacity limit by burning exclusively bituminous coal in CR4 and CR5.

Q. Can you determine, based on your experience, whether PEF would have complied with the opacity limit if PEF had burned sub-bituminous coal in CR4 and CR5 during this pre-Title V period?

A. By burning sub-bituminous coal, it is possible I could not guarantee that PEF would not have violated the 20% opacity limit for CR4 and CR5. Sub-bituminous coal tends to have a relatively high ash content, and is a "dustier" coal, potentially resulting in increased particulate matter emissions and opacity levels. That is why a test burn is important to perform. The DEP is aware of these characteristics of sub-bituminous coal as well, which is why the agency now requires a test burn and a specific permit modification in order to obtain approval to burn this type of coal.

Q. What would happen if PEF exceeded the 20% opacity limit for CR4 and CR5 during this time period?

A. PEF would be in violation of its Conditions to Approval, and the DEP and EPA could issue Notices of Violation. This could result in a penalty of up to $25,000 for each day of the violation.

Q. So is it fair to assert, as Mr. Sansom does, that PEF had authority to burn sub-bituminous coal before the Title V amendments were enforced?

A. No, it is unclear at best whether PEF could have burned sub-bituminous coal. To comply with its Conditions of Certification, it provided the DEP with an actual

contract that indicated a long-term commitment to buy bituminous, not sub-bituminous, coal. The initial stack tests were performed with bituminous coal, not sub-bituminous coal. And the units never burned anything except bituminous coal. Because burning sub-bituminous coal increases particulate matter and opacity levels, and PEF had to adhere to opacity and mass emission rate limits, PEF could not have burned sub-bituminous coal at CR4 and CR5 without at least notifying the DEP and EPA and probably doing a test burn of sub-bituminous coal. PEF did not do such a test burn, thus it did not have the unconditional authority to burn sub-bituminous coal at CR4 and CR5 prior to Title V enactment in 1990, despite Mr. Sansom's assertions.

Q. Does the fact that PEF indicated in its Site Certification Application that it was designing CR4 and CR5 to use a variety of fuels, including sub-bituminous coal, have any effect on the authority to burn sub-bituminous coal?

A. No, because the statements made by PEF in its Site Certification Application are only examples of what the Company planned to do with the units once they came online. PEF was trying to be as flexible as possible in its options for coal. But as the units were being constructed, and the economics and operational issues associated with burning sub-bituminous coal became clearer, PEF opted to burn only bituminous coal. So the only type of coal actually burned in the units, and actually tested for SO_2 and particulate matter, was bituminous coal.

PEF never guaranteed that it would use a blend of sub-bituminous and bituminous coals. And neither the Conditions of Certification nor the Conditions to Approval include any requirement that PEF burn a blend of sub-bituminous coal. The conditions do require that emission levels be met, and that certain tests be conducted to ensure compliance with those levels. And as explained above, because sub-bituminous coal was never actually burned in the units, PEF did not have unconditional authority to burn sub-bituminous coal in CR4 and CR5.

Q. By the way, were PEF's initial Site Certification Application and subsequent fulfillment of its Conditions of Certification and Conditions to Approval matters of public record?

A. Yes, both the initial Site Certification Application, and the subsequent proceedings approving the Application, were matters of public record. In fact, there were public hearings involving the siting of CR4 and CR5. And the records associated with the site certification process were, and still are, available for public review at the Department of Administrative Hearings. These records include the various stack testing reports and contract information provided to the Department.

Q. Did PEF act in any way to conceal its actions in certifying CR4 and CR5 or in reporting the type of coal burned at CR4 and CR5?

A. No, PEF did not conceal, and indeed could not have concealed, its actions. Pursuant to the public records law, now found in Chapter 119, every document

submittal to the Department, as a state governmental agency, is subject to review pursuant to a public records request. Accordingly, all the documents and information described above that were associated with the siting and permitting of CR4 and CR5 are accessible to any member of the public, including the Office of Public Counsel.

III. TITLE V AND ITS EFFECT ON CR4 AND CR5

Q. Please explain the change in the regulatory environment that took place with the passage of the Title V amendments to the Clean Air Act.

A. The 1990 Clean Air Act Amendments, including Title V, were a watershed event, drastically changing the way air pollution was regulated and controlled. This extensive federal legislation imposed several new limitations on power plants.

Specifically, Title V requires owners and operators of existing facilities that are major sources of regulated air pollutants to obtain an operating permit to continue to operate the facility. The operating permit issued pursuant to Title V imposes much more detailed requirements than the previous state air permits and Conditions of Certification that applied to power plants. The permit imposes requirements on how much air pollution the facility may emit, how the plant is to be operated, and the types of pollution control devices required for operation of the plant.

The information that must be provided by the owner/operator to obtain a Title V permit is also more extensive than the information needed to obtain the

previous conditions of site certification. Examples of the additional detail required in the Title V permit applications include: 1) a detailed accounting of all potential air-emitting points through the facility, such as vents, parts washing equipment, and maintenance activities (painting, floor maintenance, etc.); 2) a detailed flow diagram of all significant air-emitting sources at the facility; and 3) detailed fuel specifications and data demonstrating assurance of compliance with all regulatory and permit condition limitations and requirements. The Title V permit process is administered by each state environmental agency, but EPA retains final review over whether a permit will be issued.

Q. How did the standard for obtaining a Title V permit change from obtaining environmental site certification approval, if at all?

A. The application process for obtaining a Title V permit is much more rigorous than that previously required to obtain the federal PSD permit (with the Conditions to Approval) and the state Conditions of Certification. The permit application process significantly changed once the Title V amendments came into effect. For example, before a particular type of coal can be included in the Title V permit, the applicant must be able to provide the DEP with reasonable assurances that the coal can be burned in the unit without violating the emission limits for SO_2, NOx, and opacity.

Q. What must an owner/operator show to provide reasonable assurance to add additional allowable fuels, as required in the Title V permit?

A. Each facility is different, but there are several ways to provide reasonable assurance. If the facility has been burning the particular type of coal, it can provide information regarding the historical emissions of that coal. In the alternative, depending on the type of fuel change requested, the owner/operator of the power plant can use engineering calculations to assure the DEP that emission limits will not be violated. Reliance on engineering analyses, however, is only adequate when the proposed change will clearly not affect an emission limits. For any type of change that may increase any of the emission limits, the DEP and EPA will probably require a test burn of the new requested fuel type. Even if a test burn is not required to obtain a permit modification, a trial burn may be advisable to ensure that the unit can handle the new fuel from an operational standpoint.

Q. Is the Title V permit application process a matter of public record?

A. Yes. Obtaining any type of Title V permit is a matter of public record. First, the entire application file, excluding confidential information, must be made available for public inspection at a DEP office. The applicant for the permit must also publish a notice that specifies the nature and location of the proposed facility, as well as the location of the DEP office where the application and proposed permit may be reviewed. The notice must be published in a newspaper of general circulation in the county in which the permit activity will take place, and it must also be displayed in the appropriate DEP local office. Further, this notice provides that anyone in the public may, within thirty days of the publication of the

notice, send written comments to the DEP about the proposed permit or request a hearing on the proposed permit. So I would certainly characterize the Title V permit process as a matter of public record and open to the public.

Q. Once Title V permits are approved after this notice and comment period, is the final permit available to the public?

A. Yes, for a period of time, all environmental permits were available online at the DEP. More recently, after September 11, the permits can be obtained through a public records request to the DEP, or simply by going to the DEP and requesting to review any permit on file. In fact, the public availability of any environmental permit, in addition to the public nature of the pre-1990 process as I described above, make it hard for me to understand how OPC and Mr. Sansom can contend that PEF did anything to conceal any of these facts.

Q. Did PEF apply for a Title V permit for CR4 and CR5?

A. Yes, PEF submitted its application for a Title V operating permit on June 14, 1996.

Q. Was PEF's Title V application in 1996 and subsequent permit concealed from the public?

A. No, of course not. PEF's application, consistent with the regulations requiring notice and public recordation, was filed in the public record. When PEF's proposed Title V permit was issued by the DEP, the proposed permit was

published and interested parties were given an opportunity to request a hearing, as seen in Exhibit No. __ (JMK-5).

Q. Once an initial Title V permit has been issued, and circumstances arise in which the applicant seeks to modify the permit, how long does it take for an applicant to obtain a modification to that existing Title V permit?

A. That depends on whether a test burn is required to provide reasonable assurance. Assuming that such a trial burn is necessary, the applicant would actually need two permits. The first is a construction permit, which is issued by the state DEP. A construction permit takes about 3-6 months to obtain. The construction permit allows the holder of the permit to conduct a short term trial burn, normally less than 30 days in length, pursuant to the terms of the construction permit. Usually the permit requires the holder to monitor the emissions during the short term test burn and report the findings to the DEP after the burn.

Once the test burn is completed, the applicant then decides whether to seek a permanent modification to the Title V operating permit. A permanent modification allows the applicant to burn the requested fuel on a longer-term basis. The standard for obtaining a permanent modification is the same standard applied to receive the initial Title V air permit. The applicant must provide reasonable assurances that the requested change in fuels will not result in a violation of the unit's emission limits. On average, a permanent modification to a Title V operating permit takes about 6-8 months to obtain.

Q. What reasonable assurance did PEF use to support its Title V permit application in 1996?

A. PEF supported its permit application with historical data, because bituminous coal had been burned at CR4 and CR5 since the units went online. Because compliance with emission limits was maintained while the bituminous coal was burned, this provided adequate reasonable assurance that CR4 and CR5 would remain in compliance with the limits.

Q. Why did PEF only include bituminous coal in its initial Title V permit application?

A. PEF had only burned bituminous coal at CR4 and CR5 since the units went online. In addition, no other type of coal was considered economic at the time the permit application was submitted. Other types of coal, including sub-bituminous, also have certain handling and operational issues that make them significantly different from bituminous coal. For all these reasons, PEF only included bituminous coal in its Title V permit application.

Q. Do you agree with Mr. Sansom's testimony on pages 19-20, where he indicates that PEF abandoned its authority to burn sub-bituminous coal by not including that type of coal in its Title V permit application?

A. No, as I explained above, bituminous coal was the only type of coal burned at CR4 and CR5 prior to the Title V permit application. It was also the only type of coal for which performance tests were completed pursuant to the original

Conditions of Certification. It was the only type of coal that we knew satisfied all requirements of the Conditions of Certification and Conditions to Approval. PEF did not have the authority to burn sub-bituminous coal prior to the Title V permit application, because the characteristics of sub-bituminous coal render it possible to violate the opacity and particulate emission requirements of the Conditions to Approval and Conditions of Certification. And if a violation could just possibly occur when burning sub-bituminous coal, then PEF would not have burned that coal without taking some additional steps to convince itself and the DEP that the limits would not be violated. And so PEF could not have abandoned something it did not have.

In addition, it is like comparing apples to oranges for Mr. Sansom to equate the general "coal" in the original Conditions of Certification to PEF having authority to burn sub-bituminous coal in the more rigorous regulatory environment created by the Title V amendments. As explained above, the requirements to obtain a Title V permit are quite different from what was required to receive the prior conditions of site certification. Because the Title V permit required the reasonable assurance regarding specific types of coal, Mr. Sansom is incorrect to state that PEF had authority to burn sub-bituminous coal in its prior site certification conditions that could simply transfer to the Title V permit.

Q. Did PEF modify its original Title V application?

A. Yes, in the spring of 1999, PEF submitted an application to DEP requesting the modification of its existing air construction Title V permit, to also allow units CR4 and CR5 to use a bituminous coal/briquette mixture as an allowable fuel.

Q. Was a notice of intent published for this proposed permit?

A. Yes, the public notice of intent was published in the Citrus County Chronicle, the county in which the Crystal River site is located, on June 3, 1999. See Exhibit No. __ (JMK-6).

Q. Why did PEF request this modification?

A. I understand that at that time, the briquettes, also known as synfuel, had become an economical choice as a fuel alternative for CR4 and CR5.

Q. What reasonable assurances did PEF have to supply DEP to support its modification request for a briquette/coal mixture of fuel?

A. To provide reasonable assurances to the DEP that the use of the briquette/coal mixture would not result in an increase in emissions, PEF guaranteed that emission levels resulting from the briquettes would be limited at CR4 and CR5 to the average emissions from the prior three years at the units. Because PEF had been emitting at less than the allowable emission levels at the units that were set by the initial Title V permit, this guarantee was sufficient because it actually resulted in a lower emissions level at the units. In addition, the synfuel had a

bituminous base and was to be burned in a mixture with bituminous coal, so the units would never be burning 100% synfuel.

Q. Had PEF ever burned a briquette mixture in the units prior to the modification request?

A. No, PEF had not burned a briquette/coal mixture at CR4 and CR5 prior to its request for a permit modification. But PEF was able to provide reasonable assurances that emission levels would be met, because briquettes have the same base as bituminous coal. Briquettes are formed by taking a bituminous stock and applying chemicals to that stock. PEF had always burned bituminous coal in CR4 and CR5 and thus was quite familiar with how that coal would affect emissions when burned in those units. In addition, as stated above, because the briquettes are formed from bituminous coal (briquettes are 98% to 99% coal and 1% to 2% binder), PEF was able to provide the additional assurance that emission levels would be limited to actual emission output from prior years.

Q. Was PEF's requested modification granted by the DEP?

A. Yes, on June 29, 1999, the DEP issued a modified Title V air construction permit to allow PEF to burn a coal/briquette mixture at CR4 and CR5.

III. PERMIT MODIFICATIONS FOR SUB-BITUMINOUS COAL

Q. Please explain the events surrounding PEF's 2004 test burn.

A. In April 2004, the PEF fuels department began burning a blend of PRB and bituminous coal at CR4. PEF's environmental department learned of the test burn, reviewed the plant's Title V permit, and realized that the units were not specifically permitted to burn sub-bituminous coal. The environmental department then notified the fuels department, which indicated that the test burn was done because the people in the fuels department believed that the units were permitted to burn sub-bituminous blend. The test burn was immediately stopped. PEF then notified the DEP of the test burn. No action was taken by the DEP.

Q. What steps, if any, has PEF taken to be able to burn sub-bituminous, or PRB coal, at CR4 and CR5 pursuant to its Title V permit?

A. In early 2006, the fuels department notified the environmental department that it wanted to test burn a blend of up to 30% PRB coal with the remainder being bituminous coal. On March 3, 2006, PEF applied for an air construction permit for a short-term trial burn of a sub-bituminous/bituminous mixture for about 226 full load operating hours. See Exhibit No. __ (JMK-7).

Q. How did the DEP respond to this permit request?

A. The DEP responded favorably. A little more than a month from the date PEF submitted its application, on April 26, 2006, DEP issued its final construction permit for the short-term test burn of sub-bituminous coal at CR4 and CR5. See Exhibit No. __ (JMK-8).

Q. Did PEF complete a trial burn of the sub-bituminous/bituminous coal mixture at CR4 and CR5?

A. Yes, in May 2006, PEF test burned a blend of the sub-bituminous coal.

Q. What, if anything, did PEF do after this test burn?

A. Because PEF may want to explore a more comprehensive review of the sub-bituminous coal in a long-term test burn, PEF applied for a permanent modification to the Title V operating permit to burn a 30% blend of sub-bituminous coal in CR4 and CR5. PEF submitted its application on September 1, 2006.

Q. What is the status of PEF's requested Title V permit application modification?

A. The DEP has drafted a permit, which has been submitted for public review. This permit received no comments and was forwarded to EPA for review. Pursuant to discussions with the DEP, PEF expects to have the final permit modification issued during the first quarter of 2007.

Q. Are you aware of Mr. Sansom's claims regarding early test burns of sub-bituminous coal?

A. Yes, on page 45 of Mr. Sansom's testimony, he claims that PEF should have test burned sub-bituminous coal at least during the early 1990s, and possibly even right after the units came online in the early 1980s. This way, according to Mr.

Sansom's argument, PEF would have been permitted and ready to buy PRB coal once that coal became more economical.

Q. Do you agree with Mr. Sansom's claims?

A. No. Even assuming that there came a time when PRB coal looked economical, PEF could not have done a test burn in the early 1990's to include sub-bituminous coal in the permit as a "placeholder." As explained by Rod Hatt, a long-term test burn must be done relatively close in time to when the plant expects to burn the different coal. So any test burn completed a significant amount of time before the plant expected to burn that coal would essentially be a waste. The test burn would have to be repeated for operational purposes.

In addition, the length of time in which PEF could have obtained a Title V permit modification is shorter than that needed operationally to complete a long-term test burn. As explained above, it takes approximately 3-6 months to obtain a construction permit to authorize a short-term test burn. After the completion of the short-term test burn, if PEF wanted to consider a long-term burn, it would apply for a Title V permit modification. This permit modification process takes about 6-8 months to complete. So in total, PEF could have obtained a Title V permit modification in approximately 14 months. As Wayne Toms, plant manager at CR4 and CR5, explains in his testimony, the capital improvements necessary to begin a long-term test burn would take a minimum of 18 months, and possibly up to 30 months, to complete. So by the time the capital improvements

necessary to do the long-term test burn were operational at the plant, PEF would have been able to complete the entire permitting process.

Q. Do you have any other issues to discuss regarding the use of a PRB/bituminous coal blend at CR4 and CR5?

A. Yes, I would like to mention the impact that the installation of scrubbers on CR4 and CR5 may have on the issue of whether PRB coal should be burned in these units.

Q. What are scrubbers?

A. A scrubber is a pollution control device that is installed at a coal-fired unit to remove sulfur dioxide from the unit's exhaust. Because scrubbers remove 95% or more of the sulfur dioxide, a unit with a scrubber has a great deal of flexibility in terms of the type of coal that it can burn, including higher-sulfur, less expensive coal, and still remain within the limits of its environmental permit.

Q. Are scrubbers currently required to operate a coal-fired power plant?

A. No, but with the recent promulgation of EPA's Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR), which cap the amount of sulfur dioxide, nitrogen oxides, and mercury that coal-fired units can emit, most utilities will have to install scrubbers on many of their units.

Q. What effect, if any, does burning PRB coal have on scrubbers?

A. It is more difficult to remove mercury from PRB coal. Even though there is less mercury in PRB coal than in bituminous coal, the chemical composition of PRB coal reduces the effectiveness of the scrubber in removing the mercury. Therefore, the scrubber can remove a higher percentage of the mercury from bituminous coal than it can from the PRB coal. Other devices, such as sorbent injection and baghouses, may need to be installed to sufficiently remove the mercury from PRB coal.

Q. Does the Company have any plans to install scrubbers on CR4 and CR5?

A. Yes, currently PEF will install scrubbers on CR5 by the end of 2009 and on CR4 by spring of 2010. The Company is installing these scrubbers to comply with the CAIR and CAMR requirements. It began planning the installation of these scrubbers in 2004, prior to the enactment of CAIR and CAMR, because the Company realized that the rules were being proposed and would likely become requirements.

Q. What concerns, if any, do you have with burning a PRB/bituminous coal blend at CR4 and CR5, given the planned installation of these scrubbers?

A. As explained above, with a scrubber a plant can burn cheaper, higher-sulfur coal. If one of the alleged benefits of PRB coal is the reduced SO_2 emissions, the need for lower-sulfur coal is greatly reduced with a scrubber. And the cost of PRB coal must be compared to high-sulfur coal, not to low-sulfur Central Appalachian "compliance" coal. This makes the price of PRB coal appear less economical. In

addition, because the scrubbers will be less effective at removing the mercury from the PRB coal, additional equipment may be required to maintain compliance with the new mercury emission limits. These additional costs make PRB coal look even less economical.

Q. Does this conclude your testimony?

A. Yes, it does.

BY MS. TRIPLETT:

Q Do you have a summary of your prefiled testimony?

A Yes.

Q Will you please summarize your prefiled testimony for the Commission?

A Yes.

CHAIRMAN EDGAR: Mr. Kennedy, were you sworn?

THE WITNESS: Yes, I was sworn yesterday.

CHAIRMAN EDGAR: Thank you.

A (Continuing) Madam Chairman, Commissioners, my name is Michael Kennedy, and I'm employed by Progress Energy Service Company as a Principal Environmental Specialist.

PEF did not, as OPC's witness, Mr. Sansom, alleges, have unconditional authority to burn a subbituminous coal blend in CR4 and CR5 prior to the Title V Amendments of the Clean Air Act. Before Title V, PEF was required to comply with the state conditions of certification and the federal conditions to approval, both of which provided for various emission limitations, including particulate matter.

From the moment the units came on-line, PEF only burned bituminous coal in CR4 and CR5. In addition, as part of the site certification process, PEF provided the State DEP, Department of Environmental Protection, with a 20-year bituminous coal contract as proof that there was a supply of coal for the units. When the required stack tests for both

units were performed, both tests were completed using bituminous coal. PEF was required to meet its emission limitations as set forth in the conditions of certification and conditions to approval. PEF knew it could meet those limitations with bituminous coal, but because it had never tested or burned a subbituminous blend, it could not be assured that burning such a blend would comply with the limitations.

Subbituminous coal has a different composition than bituminous coal, which makes it more likely to increase particulate matter and opacity when burned. It is possible that burning PRB coal would have caused PEF to violate those site certification limits. Because of this possibility, PEF would not have burned PRB coal and risked violating these limitations without taking steps to assure that burning it would not result in a violation.

Thus, Mr. Sansom is incorrect when he asserts that PEF had the unconditional authority to burn subbituminous coal prior to the Title 5 Amendments. In fact, PEF did not have the unconditional authority to burn the coal. The authority to burn it is conditioned on successful testing in a compliance demonstration. That means that when applying for the Title V permit in 1996, PEF did not, in fact, abandon authority, as alleged by Mr. Sansom, because it did not have such authority.

The Title V permitting process is more rigorous than

what existed under PEF's site certification conditions. If PEF had wanted to include a subbituminous coal as an allowable fuel in its Title V permit application, it would have needed to provide the DEP with reasonable assurance that the plant would stay within emission limits. Because PEF had never used or tested the subbituminous coal in CR4 and CR5, it could not have provided this reasonable assurance for subbituminous coal.

In addition, the fact that PEF did not apply for a Title V permit to burn subbituminous coal at some prior point in time is not imprudent. It takes approximately 14 months to apply for and obtain a Title V permit modification.

As testified to by Mr. Toms, the capital changes needed for a long-term test burn would take at least 18 months to make, if not longer. So even if the Title V permit had been in place, PEF would still have needed to wait for the capital upgrades and the long-term test burn before switching to PRB coal. In essence, not having a Title V permit in place resulted in no harm, no foul, in terms of timing.

I also note that the company is planning to install scrubbers on CR4 and CR5 by 2009 and 2010. This is very relevant to any decision to make a fuel switch. Scrubbers will enable the plant to burn cheaper, higher sulfur coal. If one of the alleged benefits of PRB coal is the reduced SO2 emissions, sulfur dioxide emissions, the need for lower sulfur coal is eliminated with a scrubber. Comparing the cost

of PRB coal to higher sulfur coal will make the PRB coal appear even less economical.

In addition, the scrubbers remove mercury from CR4's and CR5's emissions. The characteristics of PRB coal, however, make it more difficult for the scrubbers to remove the mercury. So if the company wanted to burn PRB coal, it may have to install additional equipment to ensure adequate mercury removal. This is another factor that must be taken into account when considering whether the company should switch or should have switched to a PRB coal blend.

Thank you.

MS. TRIPLETT: We tender Mr. Kennedy for cross-examination.

CHAIRMAN EDGAR: Mr. McGlothlin.

MR. McGLOTHLIN: I have only a few questions for this witness. I wonder if I could impose on Progress Energy to use the overhead for a second.

MR. BURNETT: Absolutely.

MR. McGLOTHLIN: Chairman Edgar, I do have copies, but they are stapled to a document that has been misplaced or mistakenly included in this. I can provide copies for everyone with just a couple of minutes in place, but to go ahead with the questioning, I thought we could perhaps put it on the projector, and I could follow up with distribution in a moment.

CHAIRMAN EDGAR: Okay.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Mr. Kennedy, we've provided you with a page marked Introduction and Executive Summary. It's taken from the company's application for permission to conduct a test burn in May of 2006. Are you familiar with the document?

A Yes.

Q And if you would -- and is this the application that was submitted to the Department of Environmental Protection in support of a request for authority to conduct a test burn?

A I don't know if this is part of the application or a document that accompanied the application. It's a page from -- it's entitled Introduction and Executive Summary, so it would appear to be part of that application package.

Q You are familiar with the document?

A I am not intimately familiar with the entire document. I was not involved in preparing it.

Q If you would read beginning with the second full paragraph, read that first three sentences into the record, please?

A As discussed in a meeting with the department on February 7th, 2006, Crystal River Units 4 and 5 were originally designed to burn a 50/50 percent blend of eastern bituminous (Illinois Basin), and western subbituminous coal, PRB. The design specifications provided by Babcock & Wilcox are included

in Appendix A of this application. The original site certification language attached as Appendix B allowed for a 50 percent blend of PRB coal.

MR. McGLOTHLIN: Thank you.

Could I have an exhibit number marked and then I will provide copies.

CHAIRMAN EDGAR: I am on -- no. Hold on. 223.

(Exhibit 223 marked for identification.)

BY MR. McGLOTHLIN:

Q And is it true, sir, that the request for authority to conduct the test burn was received, and the test burn conducted in May of 2006?

A Yes.

Q And pursuant to the results, the successful results of that test burn, did the company then apply for authority to utilize a blend of bituminous and subbituminous coals on a permanent basis?

A Yes.

MR. McGLOTHLIN: I have another document to distribute.

CHAIRMAN EDGAR: This will be 224.

MR. McGLOTHLIN: Thank you.

(Exhibit 224 marked for identification.)

BY MR. McGLOTHLIN:

Q Mr. Kennedy, the exhibit marked 224 is captioned

Technical Evaluation and Preliminary Determination. Have you taken a moment to review that document?

A Well, I have reviewed the cover, yes.

Q Well, is it true, sir, that as a general practice in the course of evaluating an applicant's request for a permit, the Department of Environmental Protection staff will prepare an analysis of the project and the merits of the project in support of its proposed action?

A Correct, that is the technical evaluation.

Q And do you recognize this to be the technical evaluation that was prepared by the DEP in conjunction with its consideration of Progress Energy Florida's request for authority to utilize a blend of bituminous and subbituminous coals on a permanent basis?

A Yes.

Q And that particular request became part and parcel of a more -- of a larger project, did it not, including the proposed scrubbers and proposed SCR?

A That's correct.

Q Now, under -- if you will turn to Page 5 of 27?

A Yes.

Q Under the paragraph numbered 3 there is a caption low-NOx burners and maximum heat input rates. Do I understand correctly that as a function of the permits governing Units 4 and 5 currently, the permits impose a limitation on the total

heat that can be input to Units 4 and 5?

A Correct.

Q And as part of the overall package that include the requests for permission to burn blends of subbituminous and bituminous coal, do I understand correctly that Progress Energy Florida represented that the units have the ability to receive more heat than the present limitation?

A Yes.

Q And does this part of the technical evaluation treat the representations of the company in that regard?

A Yes, it does.

Q Now, if you will turn to Page 10 of 27.

A Okay.

Q In the middle of the page, you will see in bold, fuel blend, request for blend of up to 50 percent by weight of subbituminous coal. Do you see that?

A Yes.

Q If you will read into the record the second sentence of that paragraph that begins the applicant proposes?

A Okay. The applicant proposes to fire a blend of up to 50 percent by weight subbituminous coal with bituminous coal. The maximum sulfur content -- do you want me to continue?

Q That's all I need. Thank you.

A Okay.

Q And is it true, sir, that recently the department issued a permit in response to the application?

A Yes, I believe the permit is in draft form. It allows up to 20 percent blend.

Q But this correctly states the proposal of the company, which was a request to be allowed to burn up to 50 percent by weight, correct?

A The original request, yes. I believe that's correct.

MR. McGLOTHLIN: Those are all of my questions.

CHAIRMAN EDGAR: Mr. McWhirter?

MR. McWHIRTER: No questions.

CHAIRMAN EDGAR: No questions.

Mr. Twomey.

MR. TWOMEY: No, ma'am.

CHAIRMAN EDGAR: No questions.

Mr. Brew.

MR. BREW: No, ma'am.

CHAIRMAN EDGAR: No questions. No questions.

Questions from staff?

MS. BENNETT: No questions.

CHAIRMAN EDGAR: No questions. Commissioners. No questions.

Ms. Triplett.

MS. TRIPLETT: Just very brief redirect.

REDIRECT EXAMINATION

BY MS. TRIPLETT:

Q Mr. Kennedy, Mr. McGlothlin asked you some questions about Progress Energy's permit application, the exhibit you were just looking at, 224. Can you just clarify what the draft permit will allow Progress Energy to burn in terms of percentage of subbituminous coal?

A Yes. We, of course, conducted a trial burn last year, and followed that with a permit application to burn a blend. And the department is allowing -- the DEP is allowing us up to 20 percent, as I understand it, with this draft permit, a 20 percent blend with the ability to test higher amounts if we should so choose to do. And this is along the lines of prior to allowing a change in fuel or, in this case, an increase in the amount of subbituminous coal that's allowed to be burned, that a compliance demonstration and a test burn be performed in order to provide the reasonable assurance that we can attain and maintain compliance with the emission limitations that apply to those two units.

Q So would Progress Energy have to do an additional test of a higher -- to burn more than the 20 percent?

A Yes.

MR. McGLOTHLIN: Object to leading the witness.

MS. TRIPLETT: Pardon?

MR. McGLOTHLIN: That was a leading question. I object to leading the witness.

MS. TRIPLETT: I'll rephrase.

BY MS. TRIPLETT:

Q If Progress wanted to burn higher than a 20 percent blend of subbituminous coal, what would they have to do, if anything?

A I believe by terms of this permit, we would have to conduct another test burn at that higher amount to ensure that we could attain and maintain compliance.

MS. TRIPLETT: Thank you. No further questions.

And we would ask that Exhibits 127 to 134 be admitted into evidence.

CHAIRMAN EDGAR: Exhibits 127 through 134 will be admitted.

(Exhibits 127 through 134 admitted into the record.)

MR. McGLOTHLIN: I move 223 and the yet to be supplied 224.

MS. TRIPLETT: No objection.

CHAIRMAN EDGAR: Okay.

MS. HOLLEY: Excuse me. Did we ever get a title for Document 223?

CHAIRMAN EDGAR: Mr. McGlothlin?

MR. McGLOTHLIN: I'll think of one. Excerpt Application for Test Burn.

CHAIRMAN EDGAR: Okay. We will go ahead and admit Exhibit 224.

(Exhibit 224 admitted into evidence.)

CHAIRMAN EDGAR: And, Ms. Holley, what do we need to do for Exhibit 223?

MS. HOLLEY: I understand we are still waiting for the actual copy.

MR. McGLOTHLIN: Yes. I can supply that in the next five minutes.

MS. HOLLEY: I think we can -- unless there is an objection from Progress, we can go ahead and enter that into the record.

MS. TRIPLETT: No objection.

CHAIRMAN EDGAR: Okay. We will go ahead and enter 223 into the record as evidence, with the understanding that the copy is forthcoming in a few minutes.

(Exhibit 223 admitted into evidence.)

MR. McGLOTHLIN: I appreciate your indulgence on this little paper shuffling snafu.

CHAIRMAN EDGAR: The witness is excused. Thank you.

MS. TRIPLETT: May Mr. Kennedy be dismissed from the proceeding?

CHAIRMAN EDGAR: He may.

MS. TRIPLETT: Thanks.

CHAIRMAN EDGAR: Mr. Burnett.

Ms. Triplett.

MS. TRIPLETT: We call John Franke.

JOHN FRANKE

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

DIRECT EXAMINATION

BY MS. TRIPLETT:

Q Mr. Franke, have you been sworn?

A Yes, I have.

Q And would you please introduce yourself to the Commission and provide your address?

A Yes. My name is John Franke. My address is 15760 West Power Line Street, Crystal River, Florida. And if I might ask, I have my summary over at my desk, if I can get it.

CHAIRMAN EDGAR: Sure.

MR. BURNETT: Madam Chairman, apparently Mr. McGlothlin isn't the only one with technical difficulties. May we please stand by one second?

CHAIRMAN EDGAR: Sure, we can wait a moment. We'll all get our paper in order. (Pause.)

THE WITNESS: I apologize. I didn't anticipate us to be able to move so quickly through the other witnesses, based on the previous experience of the day.

CHAIRMAN EDGAR: It is often difficult to predict.

THE WITNESS: Yes.

BY MS. TRIPLETT:

Q Okay. Mr. Franke, who do you work for and what is

your position?

A I work for Progress Energy Florida. I am the plant general manager of the Crystal River 3 station, which is a nuclear plant.

Q Have you filed prefiled direct testimony and exhibits in this proceeding?

A Yes, I have.

Q And do you have that prefiled testimony with you?

A Yes, I do.

Q And do you have any changes to make to your prefiled testimony?

A Yes, I do. On Page 14, I refer to Information Notice 98-64. There was a typo there. It is actually Information Notice 89-64.

Q And to your exhibits, are there any changes?

A No.

Q Okay. And if I asked you the same questions in your prefiled testimony today, would you give the same answers, other than that correction, that are in your prefiled testimony?

A Yes, I would.

MS. TRIPLETT: We request that the prefiled testimony be moved into evidence as if it were read in the record today.

CHAIRMAN EDGAR: The prefiled testimony will be entered into the record as though read with the correction

noted by the witness.

IN RE: PETITION ON BEHALF OF CITIZENS OF THE STATE OF FLORIDA TO REQUIRE PROGRESS ENERGY FLORIDA, INC. TO REFUND CUSTOMERS $143 MILLION

FPSC DOCKET NO. 060658

DIRECT TESTIMONY OF

JON FRANKE

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Jon Franke. My business address is 15760 W. Powerline St., Crystal River, FL 34442.

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

A. I am employed by Progress Energy Florida, Inc. ("PEF" or the "Company") in the Nuclear Generation Group and serve as Plant General Manager at Crystal River Unit 3 ("CR3"), PEF's nuclear plant.

Q. What do you do?

A. As Plant General Manager I am responsible for the safe operation of the nuclear generating station. The Operations, Maintenance, Scheduling, Radiation Protection and Chemistry units report to me. Through my management team I have about 300 employees that perform the daily work required to operate the station.

Q. What is the purpose of your testimony?

A. My testimony will explain the impact of bringing Powder River Basin ("PRB") coal to the Crystal River site with respect to PEF's nuclear unit, Crystal River 3 ("CR3"). Such a change in coal selection represents a significant challenge to my facility. There are major nuclear plant concerns that must be addressed before PRB coal could even be considered for wide-scale use at the Crystal River Energy Complex. My testimony will discuss those concerns and explain what would be required before any significant amount of PRB coal could be allowed at the Crystal River site.

Q. Please describe your education background and professional experience.

A. I have a Bachelor's degree in Mechanical Engineering from the United States Naval Academy at Annapolis. I have a graduate degree in the same field from the University of Maryland and a Masters of Business Administration from the University of North Carolina at Wilmington.

I have over 20 years of experience in nuclear operations. I received training by the US Navy as a nuclear officer and oversaw the operation and maintenance of a nuclear aircraft carrier propulsion plant during my service. Following my service in the Navy I was hired by Carolina Power and Light and have been with the company through the formation of Progress Energy. My early assignments involved engineering and operations, including oversight of the daily operation of the Brunswick nuclear plant as a Nuclear Regulatory Commission ("NRC") licensed Senior Reactor Operator. I was the Engineering Manager of that station for three years prior to assignment to my present job, approximately five years ago.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes, I am sponsoring the following exhibits that were prepared by me or prepared under my direction.

- Exhibit No. __ (JF-1), which is an aerial photograph of the Crystal River site;
- Exhibit No. __ (JF-2), which is a composite exhibit of pictures of the barge unloader, which were taken from various places at CR3;
- Exhibit No. __ (JF-3), which is a composite exhibit of pictures of various points along the conveyor belt that would transport PRB coal, which were taken from CR3;
- Exhibit No. __ (JF-4), which is a picture taken of CR3 from the tripper floor at CR4;
- Exhibit No. __ (JF-5), which is a picture taken of CR3 from a conveyor belt that would transport the PRB coal;
- Exhibit No. __ (JF-6), which is a diagram of the transmission lines that provide power to the CR3 nuclear unit;
- Exhibit No. __ (JF-7), which is a composite exhibit of pictures of transmission lines at Crystal River as they cross over the conveyor belts;
- Exhibit No. __ (JF-8), which is an analysis of the steps taken to evaluate a proposed change at a nuclear facility;
- Exhibit No. __ (JF-9), which is a list of the risks that would require analysis pursuant to the CR3 operating license before significant quantities of PRB coal could be brought onto the Crystal River site.

These exhibits are true and correct.

Q. Please summarize your testimony.

A. The use of significant quantities of PRB coal at the Crystal River Energy Complex may cause a reduction in the safety margin at the nuclear plant which would need to be evaluated by the Company. The characteristics of PRB coal are vastly different from the bituminous coal currently handled, burned and stored at the Crystal River Energy Complex. The risk of spontaneous combustion, as well as the increased production of flammable PRB dust, present additional hazards and risks that may not have been previously analyzed in PEF's original nuclear operating license.

As the nuclear plant general manager, I believe that the use of significant quantities of PRB coal is not prudent in the vicinity of a nuclear plant. Frankly, I would not want this volatile PRB coal in the vicinity of the CR3 nuclear unit on a long-term basis. I have had my licensing group contact every nuclear plant that is sited with a coal facility. No similar condition, i.e. having PRB coal on-site with a nuclear facility, exists or has been evaluated.

If PRB coal was to be used at the Crystal River site on a long-term basis, the NRC would oblige the Company to evaluate whether this change in coal would result in more than a minimal increase in risk. This evaluation is rigorous and will likely require months of engineering analysis and study. The unique nature of the situation, because to my knowledge no other nuclear unit has ever evaluated the risks of PRB coal near the unit, means that this analysis will be that much more time-consuming and difficult. After the evaluation, if the Company finds that, even with mitigation

strategies, the use of PRB coal would cause a more than minimal increase in risk to plant safety under 10 C.F.R. 50.59, then the Company would have to submit a license amendment request to the NRC. At this point, because PEF has not completed the extensive evaluation, I cannot say whether a license amendment application and formal NRC approval would be required. Whether formally or informally, I would expect the NRC would want to review this change, along with PEF's proposed solutions.

What is clear is that this sort of risk has not been analyzed before by the NRC, and there is no certainty in how the NRC will react to it. Before PEF could bring the PRB coal onto the site, it would have to make any required modifications and upgrades identified by the engineering reviews to ensure the change can be implemented safely.

II. GENERAL OVERVIEW OF CRYSTAL RIVER 3 NUCLEAR UNIT

Q. Please describe the Crystal River Site.

A. The Crystal River complex is a 4,700 acre site located in Citrus County, Florida that contains four coal-fired generating units, one nuclear generating unit, and related support facilities, such as fuel transportation and storage facilities.

Q. Please describe the Crystal River 3 ("CR3") nuclear unit.

A. CR3 is a B&W pressurized water reactor that includes a Primary and Secondary System. It currently produces approximately 838 MWe of electricity. CR3 came online in early 1977. The unit generates power onto the 500 kV grid and receives

power from two independent 230 kV lines that come into a switchyard located just north of the CR3 Reactor Building. That switchyard, in turn, is supplied by several 230 KV transmission lines.

The major physical difference between CR3 and other steam electric plants is the equipment used to create the steam. Rather than having a simple oil or coal boiler, CR3 uses a nuclear reactor and support systems to create heat to produce that steam. Those components are housed primarily in the Reactor Building and Auxiliary Building.

Q. Please describe the CR3 nuclear unit, as well as its source of offsite power, in relation to the other units and equipment located at the Crystal River site.

A. The CR3 nuclear unit is located east of two of the coal-burning units, Crystal River Units 1 and 2 ("CR1" and "CR2," respectively). The three units share a common set of intake and discharge canals. That common intake canal acts as the northern boundary of the south coal yard and the coal receiving area. Barges use that intake to transport coal to the station.

CR3's Reactor Building is approximately 1,140 feet from the barge unloader, where OPC alleges that PEF should be offloading 100% PRB coal. The coal pile at which PEF would have to temporarily store PRB coal during offloading is located just south of the barge unloader, about 1,520 feet from the CR3 Reactor Building. This coal yard is approximately 1,900 feet from CR3's switchyard. At the closest point, the conveyor belts that transport the coal from the barge unloader to the north coal yard are located as close as 620 feet from the CR3 Reactor Building. The coal

pile used to store the coal for use in Crystal River Units 4 and 5 ("CR4" and "CR5," respectively) lies 3,000 feet to the northeast of CR3 and approximately 1,500 feet from the switchyard. This coal yard is also where PEF would have to blend the 100% PRB coal with bituminous coal, as alleged by OPC in its Petition.

The railcar coal unloader is approximately 950 feet to the southeast of the CR3 Reactor Building. CR4 and CR5, at which OPC contends PEF should have been burning a blend of 50/50 PRB coal, are located 3,450 feet from the CR3 Reactor Building. Therefore, the nuclear plant would be virtually surrounded on three sides by this volatile PRB coal. These distances and the layout of the Crystal River site are reflected in Exhibit No. __ (JF-1).

To further illustrate, attached as composite Exhibit No. __ (JF-2) are pictures of the barge unloader, which were taken from various places at CR3. Attached as composite Exhibit No. __ (JF-3) are pictures of various points along the conveyor belt that would transport PRB coal, again taken from CR3. Exhibit No. __ (JF-4) is a picture taken of CR3 from the tripper floor at CR4. Exhibit No. __ (JF-5) is a picture taken of CR3 from a conveyor belt that would transport the PRB coal.

Regarding the location of the 500 kV and 230 kV lines that supply power to the CR3 switchyard, these lines run east from the CR3 unit and switchyard and cross directly over the conveyor belts that transport coal to the north coal yard. These lines are only about 20 to 25 feet in the air above these conveyor belts. The northernmost transmission line, a 230kV line, runs only about 100 feet to the south of the north coal yard. A diagram of these transmission lines is shown in my attached Exhibit No. __

(JF-6). Composite Exhibit No. __ (JF-7) shows some of these transmission lines as they cross over the conveyor belts.

Q. Is there an agency that regulates nuclear plants like CR3?

A. Yes, the federal NRC regulates and licenses nuclear units. NRC enforces strict safety regulations for the operation of nuclear units.

Q. Please explain the NRC's licensing process, including how and when an operating license must be modified.

A. When applying to receive an initial operator's license, the applicant must present detailed information about the unit, including an analysis of certain types of risks that may affect the unit's safe performance. Included within that analysis is a description of the design basis of the plant and how the plant will respond to and handle each challenge to safe plant operation. The details of plant design, construction, operation, geography, location, geology, environmental hazards and many other factors must meet strict requirements.

Important to this analysis is the requirement that the nuclear operator, or licensee, must understand any risks to nuclear plant safety such as those risks imposed by nearby activities. This can include risks created by neighboring industrial facilities or the plant's proximity to natural hazards. After thorough review of the design basis and the various risks that could affect the plant, an operating license is issued. The license includes specifications and requirements that are specific to the nuclear plant. When a change to either the nuclear plant or the plant's surrounding

environment is contemplated, the plant operator must evaluate whether the change is something that will affect the safety of the plant.

If the plant operator finds that the change may increase the probability of a potential risk, or that the change may increase the severity of a risk, then the operator must engage in a rigorous analysis under 10 CFR 50.59. Subsection (c)(2) of this regulation states that "a licensee shall obtain a license amendment . . . prior to implementing a proposed change, test, or experiment if the change, test, or experiment would: (i) Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the final safety analysis report (as updated); (ii) Result in more than a minimal increase in the likelihood of occurrence of a malfunction [of equipment important to safety as it had previously been reviewed by NRC]; or (iii) Result in more than a minimal increase in the consequences of an accident previously evaluated in the final safety analysis report (as updated)."

After the licensee completes this detailed engineering analysis, it must decide whether the proposed change can be mitigated such that there will be no more than a minimal increase in the likelihood or severity of an accident or malfunction. If it finds that it passes the test set forth in 10 C.F.R. 50.59, the licensee does not need to seek a license amendment from NRC.

If, however, the licensee concludes that the change would result in more than a minimal increase, then the licensee must submit a license amendment application to NRC pursuant to 10 CFR 50.90. As part of the application, the licensee must identify the proposed change and present all proposed modifications to the plant that are necessary to show no undue risk will be presented to the plant and the plant operator

will be subject to lengthy review by the NRC staff prior to the plant being able to implement that change to the facility as described in its license.

Q. Is CR3 subject to these licensing requirements?

A. Yes, CR3 is licensed and regulated by NRC. PEF's CR3 operating license was issued by the NRC on December 3, 1976.

Q. Please briefly explain the nature of PEF's requirements pursuant to its operating license.

A. There are strict regulations that control the manner in which we maintain, modify, test and operate the nuclear plant. Incorporated into our license are commitments to industry standards and specific federal regulations. In addition to the CFR regulations, the NRC imposes requirements on operating plants as needed through a variety of mechanisms (Bulletins, Generic Letters, and NUREGS). Other operational conditions can be imposed on operators such as those that occurred after the Three Mile Island event, and more recently, the security upgrades that were required following the terrorist activities of 9/11. Many of these requirements are detailed within our Technical Specifications regarding the areas of safety limits, limiting conditions for operation, surveillance requirements, design features, and administrative controls. A part of our licensing basis is the Updated Final Safety Analysis Report (UFSAR) which provides detailed information about the plant design, environment, staffing, surrounding community, and proximate land use, in addition to other details. The original version of the document was the Final Safety

Analysis Report, FSAR, which was used extensively by the NRC to justify granting our existing license. This document is required to be maintained as various changes to the facility are implemented.

The license basis of the plant covers virtually all aspects of what my staff does on a daily basis. To ensure that the safety systems are working correctly, the technical specifications include hundreds of various surveillance tests that PEF must perform, at various frequencies, at CR3. Many of my employees' normal work day involves the performance of these surveillances. The training of my employees, the educational and experience levels they have, the calibration of instruments, the monitoring of plant equipment, the material used in specific components, the quality standards used in their manufacture, the tests used to validate their construction, the procedures used to repair and operate that equipment and many other things are detailed in CR3's license basis.

Q. Can you provide some examples of these regulations and specifications?

A. Yes. As required in the regulatory response to Three Mile Island, one NUREG requires nuclear unit licensees to "ensure that control room operators will be adequately protected against the effects of accidental release of toxic and radioactive gases and that the nuclear power plant can be safely operated or shut down under design basis accident conditions." In other words, to safely operate CR3, there must be no hazardous conditions that will cause the evacuation of the operators in the control unit. CR3 must have operators in its control room or special remote operating locations in the plant at all times.

To comply with this requirement, PEF must, for example, ensure that the CR3 control room has an adequate emergency zone with critical files and a washroom, self-contained breathing apparatus, and is sufficiently shielded from radiation and toxic gases infiltrating into the room. Under this regulation, fires are considered to be a hazard from which the operators must be protected. It is important to note that my operators cannot simply shutdown the unit during a fire and evacuate the plant. They must remain on station or retire to a remote operating station in a separate fire zone. Should a large fire emerge in the vicinity of the plant, the ventilation system for the control building must protect them from the fumes for the expected duration of the fire.

Another important area of regulation is the availability of offsite power to the nuclear unit. The offsite power system of a nuclear power plant provides the preferred source of electrical power to all the station auxiliaries. Loss of the offsite source results in a plant upset condition and the start of the backup power sources. Power can be lost by things like smoke and dust interfering with the transmission lines or the switchyard. If offsite power is lost, there is a large amount of equipment which must function to mitigate such an event. The NRC imposes requirements as to that back-up equipment, to ensure that the nuclear unit can be safely operated even when its offsite power source is interrupted. There are also several requirements designed to prevent the loss of the offsite power, including maintenance of the power lines and other offsite equipment.

The NRC also regulates each nuclear unit's safety or protection systems. Section 50.55a, "Codes and Standards" of 10 C.F.R. Part 50 requires that protection

systems at nuclear units must meet the standards set forth either in IEEE Std. 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations," or IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations." Both standards basically define a safety or protection system as a system that is designed to detect conditions at the plant that could cause safety issues or concerns with the operation of the plant.

These standards also require that the safety or protection system must perform even in the presence of a single failure within the system. In other words, the safety or protection system must operate even if any one part of it has failed. In addition certain features must be designed so that no single failure could cause inadvertent operation of the safety system. To comply with this requirement, plants employ a redundant safety system, where two trains of the same safety system operate simultaneously to ensure that at least one will function at all times.

To maintain the integrity of these systems, plants must prevent common mode failures from occurring. A "common mode failure" is a condition or hazard that affects both trains of systems such that neither of the systems functions to notify the plant of a safety issue. For example, if the two trains of a safety system are located in the same room, the plant must take care to ensure that that room will not be flooded, because this would subject both trains to the same environmental threat. Problems with the operation of one component are reviewed to ensure that similar components on the other train do not present the same problem. Excessive dust must be evaluated against this criteria.

Q. Are there any other ways that the NRC communicates with PEF, as an operator of CR3?

A. Yes, the NRC regularly issues Information Notices to all holders of operating licenses for nuclear power reactors. These notices alert the operators of recent events at other nuclear plants that have resulted in various issues with plant safety or operation. Although the notices are not legal requirements, the holders of the operating licenses are expected to review the information in the notices and determine whether the lessons in the notices apply to their own plants.

Q. Can you provide examples of these information notices?

A. Yes, on October 20, 1985, the NRC issued Information Notice 93-85 to provide details concerning safety related relays that failed to operate properly due to dirt intrusion into electrical contacts. In another Information Notice, IN – 2002-34, dated November 25, 2002, the NRC noted where the accumulation of dirt and dust within the grease of safety related breaker auxiliary contacts lead to the failure of emergency diesel output breakers at another nuclear plant. In Information Notice ~~98-64~~ 89-64 the NRC noted examples of electrical bus bar failures, including those in which dirt had contributed to the failure of safety related electrical components leading to bus bar explosions.

Q. How would you characterize the operating requirements imposed by the NRC on PEF's operation of CR3?

A. The NRC's regulation of all nuclear units, including CR3, is very extensive. NRC's main focus is on operating safety of the nuclear units. The NRC consistently works to evaluate all nuclear units to anticipate most problems that could arise and then find a way to limit the risks of those problems. As time passes, and incidents occur at nuclear facilities, the NRC notifies all operators of nuclear units to evaluate whether that particular incident could be prevented at other facilities. I literally have a library room full of binders and bound copies of the various regulations, interpretations of regulations, and industry standards with which I am committed to comply. My licensing supervisor has estimated there are over 600,000 pages of regulatory guidance which apply to the operation and maintenance of the station. Each engineer is required to demonstrate a basic understanding of the regulatory structure before they are allowed to work without direct supervision. I have a group of six licensing engineers whose only function is to review and prepare regulatory correspondence and support NRC inspection functions.

III. SPECIFIC CONCERNS WITH HANDLING AND BURNING PRB COAL AT CRYSTAL RIVER

Q. Are you generally aware of the characteristics of handling and burning PRB coal?

A. Yes, I have been informed that the chemical composition of the PRB coal that OPC proposes PEF should have been burning in its CR4 and CR5 units, unlike the bituminous coal currently used in those units, can cause the PRB coal to

spontaneously combust. There is also increased dustiness with PRB coal, and that dust can catch on fire as well. The volatility of the PRB coal is explained in more detail in the testimony of Rod Hatt.

Spontaneous Combustibility

Q. Taking first the spontaneous combustion characteristic, what concerns, if any, do you have regarding handling and storing PRB coal on the same site as the CR3 nuclear unit?

A. I am very concerned about the risk that piles of PRB coal could go up in flames so close to CR3. The PRB coal would be stored and transported quite close to CR3, at times coming as close as 620 feet. Clearly, the storage of PRB coal significantly increases the chances of coal fires in the vicinity of the nuclear plant. My concerns in addressing that increased plant risk are primarily in three areas. The first area is in the ability to protect the nuclear operators who cannot evacuate during a large fire. The second concern is what effect a coal fire might have on the equipment required to operate the plant safely. Lastly, I am concerned by the possibility that this flammable and potentially explosive coal pile might provide an opportunity to an adversary terrorist group which would challenge our nuclear security.

With regard to the ability to protect the operators, this represents an unanalyzed challenge to the control room ventilation system. That system is placed in recirculation, passing the air through charcoal filtration trains in the unlikely event of a release of significant amounts of radiation. The ventilation system must also

ensure that the control room staff is protected from potential airborne hazards, such as toxic smoke from burning coal.

With regard to the performance of plant equipment, there are numerous concerns. There is operating experience from another facility, where a local grass fire lead to the loss of off site power due to the smoke affecting the plant switchyard. The effect on the switchyard can be especially great when fighting the fire. There have been many examples where fires in the area surrounding nuclear plants have caused a loss of off site power to the facilities. The conveyor belts that will transport PRB coal to CR4 and CR5 are also quite close to the power lines that supply CR3 with its offsite power. Bringing large quantities of PRB coal onto the site would threaten to interrupt CR3's offsite power in the event of a fire in the arriving barge or on the coal pile to the south of the switchyard, or while being conveyed to the north plant as it passes underneath the transmission line.

To make matters worse, the plant depends on emergency diesel generators in the event of a loss of off site power. Significant amounts of smoke coming from a coal pile fire would represent a challenge to the operation of those diesels. They are located on the south east side of the reactor building, only a few hundred yards from where the coal would be stored. Should significant amounts of smoke envelope the diesel building, I would be unable to ensure that the diesels would operate at capacity. Their operating margin is relatively small and any reduction in their ability to produce sufficient power in the event of a loss of offsite power would represent a significant challenge to any review by the Company.

Lastly, the plant staff is required to maintain a nuclear security force which must be capable of protecting the station from a terrorist threat, as outlined in the NRC's Design Basis Threat (DBT). While the details of the DBT are not public, in general, it outlines threats and adversary characteristics that these facilities must defend against with high assurance. The type of coal currently used at CR4 and CR5 does not present any specific threat to nuclear security. It would be fairly difficult to start a large fire using this bituminous coal and such a fire would be quickly extinguished. My understanding of PRB coal is that it not only spontaneously combusts but under certain circumstances it can become explosive. Given the possibility that PRB coal is explosive, I believe we would need to also evaluate the potential that this material could be used by an adversary force to create a diversion that permits security to be compromised. In addition, CR3 is protected by armed sharpshooters in guard houses. If a PRB coal fire occurred, it would cause toxic, black smoke that could impair the guard's ability to see enemy persons on the site.

Increased PRB Coal Dust

Q. Please explain the effects that increased coal dust would have on the prevention of common mode failure.

A. Industry experience demonstrates that electrical components do not perform well with significant amounts of dirt and dust. From breakers to relays, there are numerous examples where keeping electrical components clean is important to ensuring their reliability. The NRC has issued the results of a large review on the common causes of electrical breaker failures in the industry. This was published as NUREG/CR 6819

Vol. 4. Within that document, the accumulation of dirt and dust within breaker components was cited as one of the most significant contributors to breaker failure.

With the introduction of large amounts of powdered coal dust, maintenance costs associated with keeping the nuclear unit clean will increase. As part of the design of nuclear plants certain safety features must utilize redundant trains to ensure the failure of one train does not prevent the successful mitigation of a plant event. In this case, however, all trains of every safety system would be subject to the same challenge. That challenge would be the introduction of large amounts of fine coal dust in the air surrounding the components. This represents a potential common mode failure for a wide array of electrical components. In other words, the potential for a common mode failure would have to be evaluated to determine the effect on the safety system trains. Dust problems like this have been the subject of several information notices, as explained above on page 14.

Another potential risk posed by the increased PRB dust is that it is flammable. The PRB dust could settle in the cable trays at CR3, which may increase the risk of a fire in those cable trays. Cable trays hold the power cables and logic circuitry for safety and non-safety components necessary for plant operation. A cable tray fire is extremely dangerous to the safe operation of the plant. A fire in the cable tray could cause extensive damage to the plant.

Q. Have any other nuclear plants violated NRC regulations for allowing a common mode failure?

A. Yes, in one example, at the Fermi 2 nuclear plant operated by Detroit Edison, the utility failed to recognize the potential for ice to cause a common mode failure of critical cooling water pumps. The utility was found to be in violation of NRC regulations. There are other examples of such common mode failures resulting in NRC violations.

Steps to Evaluate Bringing PRB Coal to Crystal River on Long-Term Basis

Q. What steps would PEF have to take to analyze this proposed change, to bring significant amounts of PRB coal onto the Crystal River site on a long-term basis?

A. A summary of the steps taken by a nuclear plant licensee prior to making a change at the plant can be found in Exhibit No. __ (JF-8) to my testimony. Each of these steps is discussed in detail below.

Step 1: Does the proposed change require a 50.59 analysis?

Q. What is the first step in the analysis of the proposed change?

A. Any change to the nuclear plant has to be fully evaluated for its potential impact on safety. As part of that review, The Company must consider whether bringing the PRB coal onsite for long-term use is something that needs to be analyzed pursuant to 10 C.F.R. 50.59. To decide this question, PEF must decide whether there is a chance that the proposed change will affect any of the safety systems at the plant, or will affect the likelihood or frequency of an accident occurring at the plant. Given the

type of hazards presented by PRB coal, the spontaneous combustibility and the increased dustiness, it is my opinion that a 50.59 analysis would be required.

Step 2: If a 50.59 analysis is necessary, what does such an evaluation involve?

Q. Please explain the next step in the process.

A. The second step required to analyze a change, if the first step shows that it is necessary, is the 50.59 evaluation. Such an evaluation would be difficult and time consuming. The possible effects of the PRB coal on plant conditions would have to be evaluated and a determination made if this change represented a condition which would represent an "un-reviewed safety question." In other words, the Company must determine whether the 10 C.F.R. 50.59 test would be met or not. If it was not met, meaning that the proposed use of PRB coal represented more than a minimal increase in risk, then submittal to the NRC would be required. There are at least three areas I believe would have to be analyzed: 1) a potential increase in the likelihood of a loss of offsite power in combination with a potential degradation of the emergency diesels; 2) an additional hazard to control room habitability; and 3) the potential for a common mode failure to critical electrical components.

Q. Taking each of these concerns in turn, please explain the risks that fire and smoke would have to CR3's offsite power.

A. As explained above, the CR3 nuclear unit is supplied with offsite power by various transmission lines that connect to the CR3 switchyard. It is important to mention that the reliability of off-site power is one of the most important factors to nuclear safety.

The first risk is that all four of these lines cross over the conveyor belts that would transport the PRB coal to the north coal yard. In addition, one of the 230 kV lines comes within about a 100 feet of the north coal yard itself, where OPC alleges that PEF should blend the PRB coal. If a coal fire were to break out in these locations, the resultant fire and smoke could affect the lines and interfere with the supply of power to the CR3 unit.

Perhaps the most significant threat to offsite power would be a coal fire that would carry smoke and soot into the switchyard. Industry experience shows that even small fires represent challenges to switchyard components. There are physical connections in the switchyard which act as large scale switches carrying the 230 KV and 500 KV loads. Soot and smoke could cause arc events in a switchyard which could in turn cause the switches to open in a faulted condition. This would result in a loss of offsite power. A similar situation occurred at the Diablo Canyon nuclear power plant when a grass fire erupted near the unit. The dust from that fire caused a loss in offsite power to the plant. The Institute of Nuclear Power Operations, INPO, reported in October of 1982 that there had been six documented forest fires in the preceding 10 years that had resulted in a loss of off site power to the industry. Since that time plants have taken the precaution of preventing and eliminating fire hazards in the vicinity of their offsite power supplies. Undergrowth is controlled near lines and transmission corridors are maintained to significantly reduce the chances of a fire. Bringing PRB coal onto the site would increase the risk of fire and be a hindrance to these efforts to reduce the risk of forest fires interfering with the offsite power supply.

In addition, discussed above, this hazard might also challenge the on site emergency diesels. This fact makes this change significantly more complex and risky.

Q. How serious is a loss of offsite power to a nuclear facility?

A. Losing offsite power is probably one of the worst occurrences that could happen at the unit. If CR3 lost its offsite power, it would have to shut down for several days. The NRC would likely investigate the incident as well. To illustrate, if such an event is caused by unforeseen events like a hurricane, wind storm or wild fire, the response by the NRC would be mild. If it was determined that the fire was caused by actions taken by the Company which created the fire hazard, an NRC special inspection team could be assigned.

Q. Regarding the next concern, control room habitability, please explain the risks posed by the characteristics of the PRB coal.

A. As I stated previously, the control room staff must remain at the plant under all conditions. This requires a control room envelope which protects them from all potential hazards. For example, there are plants which have large chlorine tank cars stored in the vicinity of the control room ventilation. Their control room ventilation systems are designed to detect and automatically protect the control room staff from the hazard of a tank car failure, which causes a large cloud of chlorine gas. This is done even though these events are very rare. In this case, the likelihood of a coal fire during the life of the plant would be fairly high if PRB coal was used. As such, the

engineering staff would have to demonstrate that the toxic smoke from that fire would not represent a significant challenge to the operators. This might be something that can be evaluated, or it might require significant modifications to the systems utilized, similar to those plants with chlorine tank cars.

Q. As for the final area of concern, common mode failure, how would this risk be analyzed under 50.59?

A. As explained above, the increased dustiness of the PRB coal may affect the electrical components in the nuclear plant. This dust increases the risk that safety systems in the unit could experience a common mode failure. The 50.59 analysis would include an evaluation of various ways to control or prevent the dust, such as dust suppression at the coal yard and filters within the nuclear plant. The evaluation would also include an assessment of the amount of risk that a common mode failure of the safety systems would occur, even with the mitigating strategies to control the dust.

Q. Have you created a preliminary list of issues that would need to be analyzed and resolved pursuant to 10 C.F.R. 50.59?

A. Yes, I have created a preliminary list, which is reflected in the attached Exhibit No. __ (JF-9). This list is an initial assessment of the required analysis. The list may change, however, once the actual evaluations began.

Step 3: Does the change pass the 50.59 analysis?

Q. What is the next step in the overall analysis?

A. PEF must evaluate the results of the 50.59 analysis and determine whether the tests outlined in 10 C.F.R. 50.59 were met or passed. In other words, the Company would have to determine whether there was no more than a minimal increase in risk posed by the PRB coal.

Q. What would happen if the Company determined that it passed the 50.59 evaluation?

A. The Company would not have to submit a formal application for a license amendment to the NRC. It could bring PRB coal on the site, provided that it made the changes needed for the mitigating strategies that were evaluated (like dust suppression and fire protection). I should note, however, that PEF would be taking the regulatory risk that the NRC could come back and challenge the Company's assessment of the PRB coal hazards.

Step 4: Submittal of License Amendment Application to the NRC

Q. What is the final step in the analysis of the proposed change?

A. The Company would need to submit a license amendment application if the result of the 50.59 evaluation indicated that the proposed change would result in more than a minimal increase in risk. In other words, if PEF did not "pass" the 50.59 test, a license modification would be required.

Q. Would PEF be required to submit a license modification request that analyzed the additional risks posed by the PRB coal?

A. It would take a significant engineering effort to know the answer to that question and fully understand what the potential effects of the PRB coal dust and fire hazard on the electrical components. It could take six months to a year and might require special testing of components. This is not a condition that is well understood by the nuclear industry and we would therefore be treading new ground.

Q. Does the fact that, as Mr. Hatt testifies, there are certain actions that can be taken to control the risk of fire and suppress the dust, affect your assessment whether a license modification would be needed?

A. Again, I cannot say at this point whether these mitigation strategies will be adequate for PEF to avoid having to submit a license amendment application to the NRC. What I can say is that the mitigating actions referred to in Mr. Hatt's testimony would have to be thoroughly evaluated by the Company to determine whether an increased amount of risk is posed by the change. When it comes to nuclear power, you do not roll the dice and take unnecessary risks without completely and fully evaluating those risks, including mitigating strategies to control those risks.

Q. What would PEF have to do if it decided it needed to apply for a license modification after the 50.59 evaluation?

A. As I have described, the Company must evaluate the additional risks that the hazards of spontaneous combustion and increased dustiness would pose to the nuclear unit. To do this, it must conduct an engineering evaluation of the systems that could be affected by the new risks. This is a long process and it involves analysis from several

different angles. For each identifiable effect on the plant, as explained above, the Company must provide detailed analysis regarding the solution it suggests to eliminate or mitigate the problem. In order to evaluate these risks, the Company might have to extensively test and conduct studies to assure that a significant reduction in the identified risk could be achieved by the proposed mitigation measure. Since there is significant experience with PRB coal available in the fossil generation industry, the Company would evaluate that experience to see if an increase in risk is still present with the proposed mitigation strategies.

For example, consider the risk that a coal fire on a barge or in the temporary coal staging area could introduce a common mode failure for the emergency diesel generators. Such a fire could envelope the diesel building for some period of time. This is not a simple grass fire, like in the example from the other facility I mentioned earlier, but a significant cloud of soot and hazardous gasses. PEF would have to demonstrate that the diesel generators would be capable of supplying the required electrical loads with this cloud serving as the air supply for the diesels. That would most likely require a demonstration test using a diesel of similar construction and a simulated cloud of smoke. Special filters might have to be installed to address both the smoke challenge to the diesels and the effects of the continuous coal dust. An alternative to this might include compensatory measures. We might have to install additional fire suppression systems near the coal storage and handling locations. We might then also have to permanently staff an independent fire brigade for the coal yard which would have significant regulatory requirements for their training,

approximately 10 foot wall in front of the diesels to protect them from the wind. The cost of this capital modification was approximately $1.7 million.

Q. Once the application has been submitted, what happens next?

A. The NRC then reviews the application and considers whether the capital modification that PEF has suggested will adequately ensure the safe operation of the plant. Again, given the number of different things to be analyzed, and because PRB coal presents a new type of hazard to the nuclear industry, this would not be a simple evaluation.

Q. What standard does the NRC apply when considering a license modification such as this?

A. The NRC is, first and foremost, concerned with the safety of the nuclear unit. Before a license modification request will be approved, the licensee requesting the amendment must show that the requested change will not create any undue risk to the plant's safety.

Q. If PEF could demonstrate that the PRB coal would represent a significant savings in coal expenditures, would that impact NRC's decision to issue a license modification?

A. The price of coal is secondary to safety. The NRC is concerned with maintaining and ensuring the safety of the nuclear unit. To prevent accidents at CR3, the NRC strictly enforces its safety regulations. The focus is on safety.

Q. Are there any other nuclear plants in the country that are located on the same site as a fossil-fuel unit that is burning PRB, sub-bituminous coal?

A. No, there are no other nuclear units located near a coal unit that burns sub-bituminous or PRB coal. In fact, CR3 is one of the few nuclear units located near a coal unit burning bituminous coal.

Q. What effect, if any, will the fact that no other nuclear plant is located on the same site as a PRB-burning coal plant have on NRC's review of an application to amend PEF's license to permit long-term use of PRB coal at CR4 and CR5?

A. First, this lack of prior nuclear experience with the risks presented by PRB coal will increase the difficulty and length of PEF's evaluation of the change. In addition, the NRC is likely to review the application even more carefully than it would any other, more routine requests. Without any precedent of another nuclear unit being so close to the handling and burning of PRB coal, the NRC may take an even longer amount of time to evaluate the Company's proposed mitigating strategies and the risk.

Q. Does the NRC have any special reaction to the risk of fire?

A. Yes, the NRC is very sensitive to fires near and within nuclear plants. There are several regulations, most notably Appendix R to Part 50 of the CFR, which are meant to prevent and mitigate fires. Appendix R and other NRC regulations and guidance constitute a lengthy set of compliance-based requirements that provides details with regard to everything from plant design, cable routing, pre-fire planning, fire mitigation strategies and fire fighting capabilities. In addition, as part of the licensing

condition of all plants, including CR3, there must not be a reduction in the effectiveness of the plant's ability to prevent and mitigate fires.

Q. To speed up the process, could PEF go ahead and make the capital modifications suggested in its license modification application, should one be required?

A. No, until the NRC gives its final approval of the license modification, the Company, being prudent, would not make any capital modifications. This is because it is quite possible that the NRC will not approve the application as written and will require additional or different types of capital upgrades.

Q. Is it possible that, even with the detailed analysis and evaluation, the PRB coal could be determined to be unsafe?

A. Yes, because the complete analysis has not been done, it is not clear that the Company could convince itself or the NRC that bringing a significant amount of PRB coal onto the Crystal River site on a long-term basis would be safe. Given the characteristics of the PRB coal, even mitigating strategies may not provide adequate assurance that no undue risk will be created.

Q. Even if the NRC would approve the use of PRB at the Crystal River site, would you feel comfortable with the coal being near the CR3 nuclear unit?

A. Absolutely not. As the plant manager, I am most concerned with safety. Given the risks posed by the volatile PRB coal, I do not want large quantities of it in the vicinity of the CR3 nuclear plant. After what I have heard about this coal I would not propose

we go through the process of evaluating the effect of the coal on the design and license basis of the plant.

IV. EFFECTS ON CR3 DURING 2006 TEST BURN

Q. Were you working at CR3 during the time May 20-23, 2006, when PEF did a test burn of a blend of PRB coal?

A. Yes, I was at the plant during that time period.

Q. What, if anything, did you notice during this test burn period?

A. I and other employees at CR3 noticed a significant increase in the amount of dust at CR3. On Saturday, May 20, when the barge of the PRB coal blend was offloaded, there was a significant and noticeable increase in the amount of coal dust on the floor of the plant. The increased dust was so noticeable that, even after sweeping the floor in the morning, by the afternoon the floor once again had swirling piles of coal dust.

Q. Isn't there always some amount of coal dust present at CR3 on a normal basis?

A. Yes, but the amount of dust in the plant that day was significantly more than what is usually found at CR3, when bituminous coal is burned and handled at Crystal River.

Q. During that time period, was there a particular day on which the dust was heaviest?

A. The increased dust was definitely more noticeable when the barge was being offloaded, on May 20, 2006. But the CR3 plant experienced more dust than normally experienced during the entire trial burn, even after the barge was unloaded.

Q. Does the increased level of dust at CR3 give you any concern?

A. The amount of dust experienced during this relatively brief trial burn, especially while offloading the barge, gives me a great amount of concern. As explained above, the presence of dust may give rise to a common mode failure of one of CR3's safety systems, and this failure may result in violations of NRC regulations.

Q. Do you have an understanding as to the amount of PRB coal that was used during the trial burn in May 2006?

A. I understand that an 18% PRB coal, 82% bituminous coal blend was used to conduct the test burn. I further understand that the coal was blended off-site, offloaded from the barge, and sent straight to the CR5 unit.

Q. Are you aware that OPC's expert, Mr. Sansom, alleges that PEF should bring in 100% PRB coal by barge to Crystal River, and blend it on-site with bituminous coal before burning it at CR4 and 5?

A. Yes, I am aware that Mr. Sansom advocates bringing in pure PRB coal by barge into Crystal River.

Q. Based on what happened at CR3 during the test burn of an 18% PRB blend, do you have any additional concerns with PEF offloading and handling pure 100% PRB coal?

A. Yes, with CR3 being so close to the barge offloader, I am very concerned with the level of dust that a barge of 100% PRB coal will cause in the CR3 nuclear plant. The amount of dust caused by just an 18% blend of PRB coal was alarming enough; the prospect of Crystal River taking in routine barges of 100% pure PRB coal is a major concern. Likewise, the increased dust from the handling and blending of 100% PRB coal is of great concern to PEF's ability to maintain CR3's safety systems.

Q. Do the dust suppression and dust collection mechanisms, as described by Mr. Hatt in his testimony, address those concerns?

A. Not completely. As Mr. Hatt explains, even with the dust suppression and dust collection mechanisms, it is very unlikely that all the dust can be eliminated. In fact, these dust suppression and collection systems are least likely to be effective during offloading. The most dramatic increase of dust was observed during offloading. At a minimum, the dust suppression and dust collection mitigating strategies must be subjected to the rigorous evaluation I explained earlier in my testimony, to ensure that they would effectively limit the risk to an acceptable level.

Q. Please explain why it was not necessary for the Company, from a nuclear standpoint, to evaluate the decision to bring PRB coal onto the site for the short-term test burn.

A. The trial test burn was for a limited period of time, such that the PRB coal was only on the site for a matter of days. The total amount of PRB coal was relatively small. It was also never stored long-term at the site, because it went straight from the barge to the coal unit. In addition, the blend of PRB/bituminous coal that was brought onsite was so low (only 18% PRB) that the effect on the nuclear plant was not substantial enough to require an analysis. However, the decision, to bring in 100% PRB coal for long-term use, storage, on-site blending, and handling, would have to be evaluated as explained above.

V. FUTURE TEST BURNS

Q. Are you aware that there may be future, longer-term test burns of PRB or sub-bituminous coal, at Crystal River?

A. Yes, I am aware that such trial burns are being considered.

Q. What, if anything, do you plan to do about these plans?

A. Prior to any significant amounts of PRB coal being off loaded at the site, PEF must evaluate the effect of that coal on the nuclear plant and if required, submit to the NRC to seek an operating license modification for CR3. And, as explained above, the review of this type of change is quite lengthy and there is no guaranty that it can be performed without prior approval of the NRC.

Q. Why didn't PEF perform such an analysis years ago when Units 4 and 5 first were put into service?

A. First, the risks associated with PRB coal and fires and flammable PRB coal dust were not fully known or appreciated by the industry in the late 1970s, when Units 4 and 5 were sited. So even if the analysis had been performed then, such an analysis would have been incomplete. In addition, Units 4 and 5 never actually burned PRB coal and in fact the Company entered into two long-term contracts for bituminous coal. The NRC evaluation process is so extensive and rigorous, no utility would undertake it unless it was sure that it would ultimately use the PRB coal. In other words, it is not reasonable to do the evaluation, and seek the license modification if necessary, as a "placeholder" on the chance that the coal may be used at the units.

VI. CONCLUSION

Q. Does this conclude your testimony?

A. Yes, it does.

BY MS. TRIPLETT:

Q And do you have a summary of your prefiled testimony?

A Yes, I do.

Q Will you please summarize your prefiled testimony for the Commission?

A Absolutely. My name is John Franke. I'm employed by Progress Energy Florida, Incorporated in the nuclear generation group as the plant general manager at Crystal River Nuclear Plant, Crystal River 3.

As plant manager, my main responsibility is the safe operation of the nuclear generating station. As such, it would give me great concern if significant quantities of Powder River Basin subbituminous coal were considered for long-term use at nearby CR4 and 5.

PRB coal has characteristics that are vastly different from bituminous coal currently burned at CR4 and 5. The risk of spontaneous combustion, as well as the increased production of flammable PRB dust present additional hazards and risks that I believe were not previously analyzed in Progress Energy Florida's original nuclear operating license. I believe that the use of significant quantities of PRB coal is not prudent in the vicinity of a nuclear plant. Frankly, I would not want this volatile PRB coal in the vicinity of CR3 on a long-term basis. In fact, if we were to start handling and burning PRB coal at the Crystal River site -- too loud?

THE COURT REPORTER: Too fast.

THE WITNESS: Am I speaking too fast? I'm sorry. I'm trying to catch up for my slow recovery here on getting this.

CHAIRMAN EDGAR: Okay. A little slower.

THE WITNESS: All right. In fact, if we were to start handling and burning PRB coal at the Crystal River site, the CR3 unit would be the only plant, nuclear plant in the country, and as far as I know in the world, on the same site as a PRB burning unit.

What gives me great concern is the path PRB coal would take if Progress Energy Florida was to bring it on-site as alleged in the OPC petition. Looking at this aerial map of the Crystal River site, you can see CR3, the reactor building being outlined by blue is the circular structure in the middle of the blue square. The 100 percent Powder River Basin coal would be offloaded, as proposed by OPC, at the barge unloader, which is about 1,100 feet from Crystal River 3.

The PRB coal would then be transported along a conveyor belt below CR3, then reaching a transfer point where it would change directions to travel north to the coal yard, the north coal yard. At the closest point the conveyor belts are as close as 620 feet from the Crystal River 3 nuclear reactor building. The PRB coal would then be stored in the north coal yard, which is just 3,000 feet to the northeast of

CR3.

Finally, CR4 and 5, where the PRB coal would then be burned, are 3,450 feet from Crystal River 3. As you can see, this volatile PRB coal would almost completely surround Crystal River 3 reactor building. And if it were to catch on fire or have explosions, that result would surround, could surround Crystal River 3.

Progress Energy Florida, as the operator of a nuclear unit, must comply with strict safety regulations set forth by the Nuclear Regulatory Commission. Part of those regulations include ongoing analysis of additional and changing risks, including those imposed on us by nearby activities.

If Powder River Basin coal was to be used at the Crystal River site on a long-term basis, the NRC would oblige the company to evaluate whether this change in coal would result in a more than minimal increase in risk. This evaluation process is rigorous and would likely take several months of engineering analysis and study. The unique nature of this situation, specifically because no other nuclear unit has done this analysis, means that it would be more time-consuming and difficult.

After that evaluation, if the company finds that even with mitigation strategies that the use of Powder River Basin coal would cause a minimal increase in plant risk and safety, depending on the rules of that evaluation, we would have to

submit a license request to the NRC. That is a possibility. Because Progress Energy Florida has not completed this extensive evaluation, I cannot say whether license amendment application or formal NRC approval would be required. But nonetheless, whether a formal review would be required, I would expect and am confident that the NRC would review this change along with other -- as part of their ongoing program at the site.

What is clear is that this sort of risk has not been analyzed by the NRC before and not analyzed by the industry, as far as I know, and that there is no certainty in how the NRC would react. Before Progress Energy Florida could bring significant quantities of Powder River Basin coal onto the site, it would have to make any required modifications and upgrades identified by engineering reviews to ensure the changes can be implemented safely.

Irrespective of what the NRC may do with Progress Energy's application in this matter, I believe the long-term use of Powder River Basin coal at the Crystal River site would unduly compromise the safe operation of Crystal River 3, and I, as plant manager, strongly oppose the use of this coal at my nuclear facility until we can fully evaluate and put in place what might be required based on those engineering reviews.

MS. TRIPLETT: We tender Mr. Franke for cross-examination.

CHAIRMAN EDGAR: Thank you.

Mr. Burgess.

MR. BURGESS: Thank you, Madam Chair.

CROSS EXAMINATION

BY MR. BURGESS:

Q Mr. Franke, as I understand it, then, you're the plant manager for the nuclear plant?

A That is correct.

Q And you are expected to bring forward to the company for its overall strategies the point of view of the operations necessary for the nuclear plant, is that right?

A Yes. My mission is, as I described -- my primary responsibility is health and safety of the public. As part of that obligation I oversee the operation of the Crystal River nuclear site. And my obligations to the public, to the ratepayers, quite frankly, is to generate that plant at 100 percent as much as possible as the lowest cost producer in the state, and I understand both of those responsibilities.

Q But I was interested, it sounds like you are something -- within the company itself you are something of an advocate for one part of the company's operations?

A I am an advocate for the nuclear generating site.

Q And what you're advocating is -- it sounds like from your testimony this morning, your summary, that you are advocating that PEF not use, not go to permanent burning of

Powder River Basin coal. Is that right?

A From what I know with the way the Crystal River both the coal yard and my own nuclear unit is currently, I do not think it is wise to go to Powder River Basin coal. Now, it may be -- after extensive engineering reviews, we might be able to find ways to be able to burn that coal safely. But as of today, those reviews have not been conducted, and I see significant problems that have to be overcome from the nuclear aspect of this decision.

Q If PEF, if Progress Energy or Power Corp at the time had made the decision in 1996 or thereabouts to attempt to move forward --

A Yes.

Q -- with permanent burning of Powder River Basin coal, would the same, essentially the same concerns have presented themselves to you?

A Well, yes. However, since then, since 1996 additional concerns have been brought up. This is an ongoing process. The evaluation of the safety of the nuclear plant does change, and one significant change that I might note is after 9/11, the threat to terrorism and the threat to infrastructure in the country, including nuclear plants, stepped up considerably and obviously. The regulation that we live under today and the rules we live under today have changed since 9/11, as well as they change due to other events, you

know, both in the industry and outside. This nuclear regulation is an ongoing process.

I believe that this coal does represent an issue that would have to be addressed in nuclear safety -- security space, as well. So yes and no, many of the issues would have been present in 1996. Those issues have gotten larger and changed dramatically since 9/11.

Q So, then, if Power Corp had made the decision sometime around 1996 to move forward with permanent burning of Powder River Basin coal, you would have actually had somewhat less concerns, less concern to deal with in 1996 than you have now?

A There would be less rigorous issues associated with the nuclear security aspects in 1996 than there would be today.

Q And I found on the last page of your testimony and the last answer a question that I had throughout as I was reading it. So it was like a good mystery novel. The answer to the question of when this was being designed, when the CR4 and 5 plants were being originally designed, why were these issues not dealt with? And I believe, if I understand the answer that you gave in your prefiled, basically, you are saying we didn't know as much about Powder River Basin coal then as we do now?

A That is only a small part of the answer. You have to realize -- and this is from my own review of the design and

plans for Crystal River 4 and 5, that when we started putting that plant in operation, we had on hand very long-term contracts for bituminous coal. So there was never an intent to actually run those plants with subbituminous coal once we got them towards operation. So I think it's several issues.

I think it is obvious that the industry has learned about subbituminous coal since the early '80s. We are continuing to learn about it. And, in addition, the regulations have changed dramatically. The plants for Unit 4 and 5 were, you know, originally conceived and constructed in the '70s. The regulations associated with nuclear plants have changed over the years. I can describe several notable changes. The events of Three Mile Island caused a number of regulatory changes, some of which directly impact the decisions associated with subbituminous coal. And then, once again, you know, in 2001 obviously 9/11. So I guess not only did we learn more about coal, but the regulations have changed over the years.

So any review that would have been performed, let's say, in 1982 would not have been complete to today's standards or the standards of 1996. You would have to go back and review that same decision in light of what the regulation was at the time, as well as what we understood of the safety impacts of subbituminous coal at the time that you were making that change.

Q And with regard to the qualities of subbituminous coal, didn't in the original site certification application for CR4 and 5 it expound somewhat upon the nature and the qualities of subbituminous coal?

A I haven't read those documents.

Q Would you agree that subbituminous coal was being used commercially at that time, at the time of the planning of CR4 and 5?

A I'm not an expert at the use of coal. From my discussions with those people involved with this case, I do understand there was some subbituminous coal being used in the early '80s, but I also understand that the nature of that coal has changed dramatically as they remove different layers of subbituminous coal. It has changed through the years. It is not even the same coal today that they were burning in 1980, the characteristics have changed. Now, that is secondhand. I'm not an expert at subbituminous coal.

Q Do you have any idea how many tons of subbituminous coal had been mined and transported and burned at the time of the addition of --

A No, I have no idea.

MR. BURGESS: Thank you, Mr. Franke.

Thank you, Madam Chair.

CHAIRMAN EDGAR: Mr. McWhirter.

CROSS EXAMINATION

BY MR. McWHIRTER:

Q Mr. Franke.

A Yes, sir.

Q The nuclear plant was built in 1977, or became commercially operable in 1972?

A Yes. Actually, construction began many years before, but it came into operation in 1977. We just had our 30th year anniversary.

Q And then CR4 was built in 1982, five years later?

A That's my understanding.

Q And CR5 was built in 1985, two years after that?

A Yes.

Q And am I correct that both of those plants were designed to burn PRB coal, even though you had contracts in place for ten years for bituminous coal?

A I'm not an expert at the design for CR4 and 5. I have heard, as you have, that the boilers were designed for burning subbituminous coal. But I don't know what other equipment at that plant was designed to, no.

Q I think I have heard, and you may have not been in the room, but I think I have heard over and over again people say that those plants were designed to burn PRB coal, 50/50 blend. Am I totally -- did I mishear that?

A The documents that I've reviewed show that the boiler was designed for PRB coal 50/50, but I have also heard and

understood from reviewing testimony that there are some components at the coal plant that would have to be upgraded in order to burn that coal.

Q Well, let's deal only with the boiler.

A Sure.

Q In your expert opinion, would it be imprudent to build a boiler to burn something that couldn't be burned?

MS. TRIPLETT: Objection, lack of foundation.

MR. McWHIRTER: Lack of foundation? I understood that everybody that testified in this case is an expert about what they are testifying to unless we complain about it. And he is an expert and in a position to render an opinion on --

CHAIRMAN EDGAR: Mr. McWhirter, include me in this, if you would, please. I'm not sure I see the connection between expert and foundation.

MR. McWHIRTER: Well, the foundation is I would have to qualify him as an expert to render an opinion, and I asked him for an opinion as to whether it was prudent to build a plant that you couldn't -- and charge your customers for that plant if you couldn't use it. And I think that must be an expert opinion, because it's dealing with the operation of a plant he is in charge of.

CHAIRMAN EDGAR: But I believe the objection was a lack of foundation.

Ms. Helton.

MS. HELTON: Let me speak to the expert opinion part. Maybe I should have clarified that an expert -- the Commission can hear the opinions of expert witnesses about the subject matter that they have testified. And I believe as I understand the witness that is on the stand now, he is testifying as to the nuclear plant at the Crystal River site and not the coal plants.

MR. McWHIRTER: I see.

BY MR. McWHIRTER:

Q So you don't have an opinion that the coal plant operations would cause a problem the way it is designed presently. You are not talking about the coal plant in your -- you don't know anything about the coal plant?

A Well, I know quite a bit about the coal plant with regard to how it is operated currently. And how it is operated currently is certainly within the realm of safety with regard to the nuclear plant, and I can testify to that. If you were to make changes to the way that plant is operated that could impact the safety of the nuclear plant, then in my expert opinion we would have to thoroughly review those. And I think there is, in my testimony there are several characteristics of a change involving subbituminous coal that would have to be thoroughly evaluated. Because, quite honestly, they concern me with regard to the nuclear safety. Did I answer your question?

Q Well, my question had to do with the prudence of

building something you couldn't use, and that was what I had asked you. And she said I didn't lay a foundation for that, but I understood your testimony to be --

MS. TRIPLETT: Madam Chairman.

CHAIRMAN EDGAR: Ms. Triplett.

MS. TRIPLETT: I just want to object to the continued arguments of Mr. McWhirter in his questions.

CHAIRMAN EDGAR: Mr. McWhirter.

MR. McWHIRTER: Yes, ma'am.

CHAIRMAN EDGAR: Why don't we begin here, why don't you pose your question to the witness, and we will go from there.

MR. McWHIRTER: All right.

CHAIRMAN EDGAR: I have kind of lost the question myself in some of the back and forth. So let's start with the question.

BY MR. McWHIRTER:

Q You have testified, I believe, that this plant has a boiler that is designed to build a -- burn a fuel that is inappropriate for burning at that plant site, is that correct?

CHAIRMAN EDGAR: Ms. Triplett, I know you want to jump in. I can sense it.

MS. TRIPLETT: I'm not trying to be a pain, but I believe that Mr. Franke is a nuclear expert and not testifying about what the boiler is designed to do.

BY MR. McWHIRTER:

Q What did you say about that boiler, sir?

A I believe you're trying to get to prudency, and the only thing I can really tell you is that from my expertise, I don't have an expertise with regard to how much money might have been spent unwisely. I don't know enough details about that boiler design to be an expert with regard to that. I think other witnesses have been provided that could have answered that question.

Q I see. And you don't know anything about coal plant operations? You are relying on the testimony of others?

A No, I do know some things about coal plant operations, but you are asking me a question that I don't know anything about.

MR. McWHIRTER: I tender the witness, Madam Chairman.

CHAIRMAN EDGAR: Mr. Twomey.

MR. TWOMEY: Yes, Madam Chairman. I've got a couple of questions.

CROSS EXAMINATION

BY MR. TWOMEY:

Q Good evening or whatever it is, Mr. Franke.

A How are you, sir?

Q I'm okay, I think.

MR. TWOMEY: If I could ask your attorney, could we have the opening slide back just for a second? Ah, here we go.

BY MR. TWOMEY:

Q Now, Mr. Franke, during your opening statement, this visual we see here is an aerial photograph of the existing Crystal River station and not an artist rendition, is that correct?

A No, that is an actual photo, yes.

Q And, in fact, isn't it true that the plant site facilities that you have either surrounded in red or illustrated with red are existing coal yard, coal transfer, coal handling facilities?

A Yes, they are.

Q That is they are existing facilities now?

A Yes, they currently are used to transport and store bituminous coal.

Q Bituminous coal, right. Now, were you here during my cross examination of Mr. Hatt?

A Yes.

Q Okay. And did you hear Mr. Hatt concede that in his Exhibit RH-3 that it is written that spontaneous combustion of coal is a well-known phenomenon?

A Yes, there was a statement in his testimony concerning spontaneous combustion of coal, in particular subbituminous coal.

Q Okay. Especially subbituminous coal. But you recognize, do you not, Mr. Franke, that the Crystal River

3 Nuclear Plant is now surrounded by coal, to the extent that those red illustrations show, by coal, be it bituminous, that is subject to self-igniting?

A Here is what I understand. I am familiar with the current bituminous coal that we burn at Crystal River, particularly the CAPP coal which goes along that path to Unit 4 and 5. And it has a very low susceptibility to self-igniting, and that occurs at high temperatures typically not experienced on even a hot day in Florida. If we were to follow the suggestions of the OPC submission, the location of that circle would be just below the word CR3. The red circle would be a large 100 percent PRB coal pile. And that coal, 100 percent PRB coal would transfer along that conveyor belt to the transfer point and across up to the north yard.

As such, we now would have a significant difference in susceptibility of large coal pile fires, conveyor belt fires, and their potential impact on both my switch yard, which that path goes directly under the transmission lines, my site evacuation route, which that conveyor path goes directly over my only site evacuation path, as well as potential safety systems inside the nuclear plant. What I understand is that change in coal decision represents a significant increase in the susceptibility of spontaneous combustion and large fires.

Q When you say significant increase --

A Yes.

Q -- on what do you base that, do you have a percentage?

A No, I don't. It is qualitative based on my own discussions with Mr. Hatt, my reviewings of numerous documents that were prepared for in this proceeding.

Q Prepared by whom?

A Well, some of them were prepared by, for example, the Sargent & Lundy Report, and other reports talk about the susceptibility of spontaneous combustion for subbituminous coal.

Q Yes, sir, and I just want to spend a few more minutes on this.

A Sure.

Q You concede, do you not, that bituminous coal is subject to self-igniting?

A I understand that in certain conditions it can, yes.

Q And as I understand your testimony, your concern at least with the self-combustion element of this, that the subbituminous is more volatile and more subject to self-ignition than bituminous coal, is that correct?

A There are several features of the subbituminous coal that distinctly make it different than bituminous in my understanding. One is the higher degree of self-ignition; two, when that subbituminous coal does ignite, it quickly expands into a larger fire, hence the pictures that we have seen

throughout the testimony. It is not just a small smoldering, which is what is typically experienced with bituminous coal. It rapidly turns into a much larger fire much faster. And also this nature that Rod Hatt discussed which is that it is very difficult to put out. You put water on subbituminous coal, and because of the small fines it tends to actually kind of explode at you while you are doing it. So there is a lot of nature and a lot of issues associated different with subbituminous coal than there is with bituminous coal with regard to fire and ignition.

Q Yes, sir, but isn't it true that the self-ignition is a matter of degree. That is the -- as I understand your testimony, you have a greater concern that there is a self-ignition problem with subbituminous than bituminous. It is possible with both. I hear you saying that your concern with subbituminous is that the possibility is greater, is that correct?

A It is a matter of degree. The larger the -- if there is a significant change in the degree of a hazard, the 10 CFR code requires that I fully understand that increase in risk. Just because the risk existed prior to, does not mean that I am not required to be very rigorous in my evaluation of that increase in risk. So I do believe that bituminous coal has a small risk of ignition, and it has a -- that has a potential small impact in my coal yard. I now recognize subbituminous

coal has a much larger risk, and the consequences of that risk are much greater. And that is what I would have to focus my evaluations on.

Q Yes, sir, and I appreciate the fact that you need to analyze this and take all the safety factors in concern. But I want to ask you again, do you have either independently or of your own knowledge any means of quantifying the level of increased risk associated with subbituminous coal as opposed to the current situation in which your plant is surrounded by bituminous coal?

A That would be the nature of my review, would be to better quantify that increase in risk.

Q Okay. And isn't it possible that that review could turn out to show that the risk would be acceptable with NCR or that it would not be? But you don't know that yet, do you?

A I don't know that yet.

Q Okay. And is there any other problems you have with the subbituminous coal from your independent knowledge or from Mr. Hatt?

A Well, it is probably worth pointing out that in having reviewed and talked to Mr. Hatt and the testimony of him and Mr. Sansom, I do think that there are issues that would have to be addressed at the nuclear plant that would require changes to my systems, modifications, in order to mitigate some known issues that I believe can be mitigated. And that would

cost time and money to be able to put those analyses and evaluations in place. There clearly would be a -- from the time at which the company recognized a good economic benefit and the other characteristics that drive us to make a change in fuel choice, I think it would be several months before I could put those evaluations and modifications in place. So, one is the issues of dealing with the evaluation, and, two, I think the second point would be there would be a significant amount of time required in order to accommodate the changes to the plant that might come up.

Q Now, one last line of questions. I assume you were here for Mr. McGlothlin's cross of Mr. Kennedy?

A Yes.

Q And I forget the exhibit number now, it's probably in front of me, where Mr. McGlothlin had Mr. Kennedy acknowledge that in the application with the environmental regulatory agency, that your company was suggesting at least initially that they were seeking permission to burn a 50/50 blend. Do you recall that?

A Yes. It did look like they were trying to gain some flexibility from that one review that would be required in order to accommodate the use of subbituminous coal. It looked like they were looking for some greater flexibility in the emission controls.

Q And in seeking that flexibility, did they consult

with you prior to going ahead with that?

A They did not consult with me personally. I do believe from other discussions that people at the nuclear plant were contacted. Some of our concerns were raised. I believe Mr. Pitcher testified to that earlier. But you have got to remember, there is -- you know, there is a lot of hurdles you have to jump over in order to get to this fuel change choice. One of which is the Department of Environmental Protection clearly. Another would be the nuclear hurdle. There are two separate hurdles.

MR. TWOMEY: I see. Thank you.

CHAIRMAN EDGAR: Questions?

MR. BREW: Yes. Thank you.

CROSS EXAMINATION

BY MR. BREW:

Q Good evening, Mr. Franke.

A Good evening.

Q Your Exhibit JF-9, do you have it?

A JF-9? Yes.

Q That is labeled the Potential Effects of Electrical Equipment at CR3 From Use of Powder River Basin Coal. Do you see that?

A Yes, I do.

Q When did you prepare that preliminary list?

A This preliminary list was prepared sometime earlier

this year. I don't know exactly when.

Q As a part of preparation for this proceeding?

A That's correct.

Q Okay. Now, CR3 went into operation in 1977 and was licensed before that, correct?

A Well, it was licensed for construction before that, so yes. The actual license for operation began in 1977, a 40-year license.

Q The operating license?

A That is correct.

Q And at the time Crystal River 1 and 2 were at the site?

A That's correct.

Q And so the nuclear plant was licensed at a site where there were already coal burning plants?

A That's correct.

Q And subsequent to going into service as you've discussed with Mr. McWhirter, Crystal River 4 and 5 were sited and approved and built, is that right?

A That is correct.

Q When the fourth and fifth Crystal units were built, did you update your FSAR?

A It should have been updated at that time. I do know that the current UFSAR has reference to four coal units. I don't know when that update was done. It should have been done

at the time of construction of 4 and 5. I did not pull the date of that update. But there are annual updates required, so it should have been updated with each year to accommodate the changes to the site.

Q So when the FSAR, the final safety analysis report?

A Yes. The proper term is updated FSAR to reflect the current version.

Q And in NRC parlance that is your basic licensing document?

A That is one of many. I would call that the foundation basis for our initial operating license. License basis of a plant is actually a large group of documents, and that is a fundamental piece of it.

Q Okay. Well, let's just stick to that.

A Sure.

Q When you updated your FSAR to reflect the presence of Crystal River 4 and 5, did you tell the NRC that it was designed to burn a 50/50 blend of bituminous and subbituminous coal?

A No, I don't believe they did. What they reflected was the expected operation of the unit prior to going into service, which was at that time the expectation to use bituminous coal, so the review would have looked for changes. It's probably important to stress what is important is a change from an existing condition, and at that time what was occurring

was we were going from two units using bituminous coal to four units using bituminous coal. That would have been the change that would have been reviewed and added to the final safety analysis report.

Q So that updated final safety analysis report would have reflected all of the information that is shown up on the photo in terms of coal pile and coal handling and conveyors and its proximity to the reactor building?

A Yes. A site layout is a typical component of a final safety -- updated final safety analysis, correct.

Q And to burn the subbituminous coal, the analysis you would need to do is there any incremental risk from what you have already told the NRC in terms of coal handling, coal dust, the danger of coal-related fires and so forth?

A Exactly.

Q Okay. Do you have systems in place to address the possibility of coal fires on the conveyor belts or in the coal pile?

A Currently the coal yard has some fire protection equipment, but not a lot.

Q Is that addressed in your FSAR?

A What's that?

Q Is that addressed in your FSAR?

A Not that I'm aware of, no.

Q Okay.

A And the reason for that is primarily because the current coal really isn't subject to that type of a fire like subbituminous coal. As Mr. Hatt testified, it acts more like dirt.

Q I didn't ask a question. If you could just wait for the question.

A Thank you.

Q Does your FSAR have rules in place with respect to dust-related issues, coal dust-related issues?

A It does in a matter. If you are asking about the specific FSAR, we are required by our license to have maintenance programs in place that ensure the reliability of the plant. Now, hidden inside those maintenance programs are clearly preventative maintenance tasks associated with maintaining the cleanliness of our electrical gear and electrical components. I think if you were to walk around the Crystal River 3 nuclear site, you would see a different level of housekeeping and cleanliness than you would at a coal unit.

Q Okay. You mentioned in response to Mr. Twomey a question that I had asked of Mr. Pitcher, which is whether the Crystal River 3 staff were consulted on the test burn of 2004. And I take it from your comment to him that at least someone on the CR3 plant staff was informed and consulted?

A Yes. From speaking with Mr. Pitcher, I understand that the nuclear people were discussed (sic) preliminarily

about the 2004 burn. But realize that from my review of the documents associated with that burn, it was clear that the intention was to maintain a product on site that matched bituminous coal with regard to its characteristics, notably a very low enrichment PRB coal. They stipulated very specifically that it be preblended prior to arrival on site. So it never reached that level of review requirements that I have stipulated today.

Q Did you also hear Mr. Pitcher say that based on the test -- he had asked for the test burn because it appeared to him that PRB was becoming economic for the plants? Were you here this afternoon when he was crossed?

A I was here. I don't remember that question.

Q Okay. Were you here for the cross-examination of Mr. Kennedy and the discussion of the applications to allow a 20 percent burn of the PRB coal?

A Yes, I was.

Q Or blend.

A Yes.

Q And so is it fair to say that the CR3 plant staff has been aware since at least 2004 that Progress Energy has been pursuing the possibility of burning up to a 50/50 blend of subbituminous coal, and yet you have not begun any of the engineering analysis that you claim would be necessary from a CR3 perspective?

A I don't think that's a fair statement.

Q Have you done any work on analyzing those issues, other than the preliminary list that appears as JF-9?

A We have done some preliminary research, but, no, we have not done extensive reviews of the use of Powder River Basin coal greater than, you know, a test burn of a very low -- a very low percentage blend.

Q On your testimony at Page 24, Line 22, where you have listed Step 3, does it change past the 50.59 analysis, which is the reference to the NRC rules for an amendment --

A I'm sorry, what page again?

Q Page 24, I'm sorry.

A Page 24.

Q Line 22.

A Okay.

Q Do you see Step 3?

A Yes.

Q Is the answer to does the change pass the 50.59 analysis is you don't know because you haven't done that analysis yet?

A That's correct.

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

THE WITNESS: Nor would I have expected it to.

CHAIRMAN EDGAR: Mr. Brew, that is the end of your questions on cross? Thank you.

Ms. Bradley. No questions.

Questions from staff?

MS. BENNETT: No questions.

CHAIRMAN EDGAR: No questions.

Commissioners. No questions.

Ms. Triplett.

MS. TRIPLETT: Very brief redirect.

REDIRECT EXAMINATION

BY MS. TRIPLETT:

Q Mr. Burgess asked you whether -- what kind of review you would have to do if you did this review in 1996. And I believe you said that because of 9/11 security regulations the review would be less. But could you just explain to the Commissioners what other issues besides safety would have to go into that kind of review even in 1996?

A Yes. There are a number of reviews. The fundamental 50.59 review is asking the question has the NRC reviewed this condition as it effects to nuclear safety? And if they have, is the information changed with regard to their decision to allow you to continue to have an operating license? So, specific questions like does this increase the likelihood of an event as described in the FSAR? And in this case I would say it does increase a risk that would have to be fully evaluated, specifically the risk of a loss of off-site power due to fire.

Additional questions are questions like does this

change as proposed represent a change to the way the plant might respond to an event? And, once again, due to the now possibility of a large coal fire, which I do not believe exists with bituminous coal, but does with subbituminous coal, that I would have to evaluate that fire on the safety systems of the nuclear plant.

So an example might be the cloud of soot passing over the diesel building, whether or not that cloud of soot would now pose a challenge to the diesel's ability to provide the power it's required to in my final safety analysis report. This is a common kind of review we do all the time. We have done it in the past for fossil plant activities, and so that's the kind of nature of the questions.

MS. TRIPLETT: Thank you.

CHAIRMAN EDGAR: We have exhibits.

MS. TRIPLETT: Yes.

CHAIRMAN EDGAR: I have 135 through 143.

MS. TRIPLETT: Yes, ma'am.

CHAIRMAN EDGAR: Okay. Show those exhibits to be admitted into evidence.

(Exhibits 135 through 143 admitted into the record.)

CHAIRMAN EDGAR: The witness is excused. Thank you.

MS. TRIPLETT: May he be dismissed?

CHAIRMAN EDGAR: And dismissed.

MS. TRIPLETT: Thank you.

CHAIRMAN EDGAR: Okay. I think it is about time to call it a day. I appreciate everybody working with us. We've covered a lot of ground today. Before we break for the evening, any housekeeping matters, questions, procedural, anything that we need to address or should address before I beat the gavel? No? Okay.

Mr. Twomey.

MR. TWOMEY: What time will we start tomorrow?

CHAIRMAN EDGAR: We will start at 9:30, and I'm optimistic that we can finish. All right. We will call it a night. See you all in the morning at 9:30. Thank you.

(Hearing adjourned at 5:55 p.m.)

(Transcript continues in sequence with Volume 6.)

STATE OF FLORIDA)

: CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, Office of Hearing Reporter Services, FPSC Division of Commission Clerk and Administrative Services, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

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

DATED THIS 12th DAY OF APRIL, 2007.

JANE FAUROT, RPR
Official FPSC Hearings Reporter
FPSC Division of Commission Clerk and
Administrative Services
(850) 413-6732