BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Cost Recovery Clause

DOCKET NO. 090009
Submitted for filing:
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REBUTTAL TESTIMONY OF HUGH L. THOMPSON, JR.

ON BEHALF OF
PROGRESS ENERGY FLORIDA

IN RE: NUCLEAR COST RECOVERY CLAUSE

FPSC DOCKET NO. 090009

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I. INTRODUCTION AND EXPERIENCE.

Q. Please state your name, occupation, and address.

A. My name is Hugh L. Thompson, Jr. I am Vice President of Talisman International, LLC. My business address is 1000 Potomac Street, NW, Suite 300 Washington, DC 20007.

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

A. I have been asked to evaluate certain assertions and conclusions in the direct testimony filed in this proceeding by William R. Jacobs, Jr., Ph.D. (Jacobs) on behalf of the Florida Office of Public Counsel. My testimony presents the results of my evaluation, in rebuttal to the testimony of Jacobs, as it relates to the Nuclear Regulatory Commission (NRC) licensing process for the Levy Nuclear Project (LNP) and certain aspects of the Crystal River Unit 3 Extended Power Uprate project.

Q. Please state your professional experience and education.

A. I have more than 35 years of nuclear safety experience, including senior level management positions at the U.S. Nuclear Regulatory

Commission (NRC). From 1996 to 1998 I was the Deputy Executive Director for Regulatory Programs at the NRC. In that position, I directed the licensing, inspection, and rule making activities for all NRC licensed nuclear reactors, the oversight of the U. S. Department of Energy's (DOE's) high-level radioactive waste program, the decontamination and decommissioning of contaminated sites, and the material licensees regulated by both the 29 Agreement States and the NRC. I also held the positions of Director of the Office of Nuclear Material Safety and Safeguards, Director of the Division of Licensing and Director of the Division of Human Factors Safety for the Office of Nuclear Reactor Regulation. I was an NRC Environmental Project Manager for draft and final NEPA statements for both construction permits and operating licenses. I have provided expert testimony in NRC licensing hearings and testified in state and local governmental hearings. I have testified before Congressional committees and the NRC Commission on topics such as safety issues at licensed nuclear facilities, NRC's high-level waste program, potential NRC oversight of DOE facilities and Y2K safety concerns.

During the period that I was the Deputy Executive Director for Regulatory Programs, I was directly involved in NRC Chairman Jackson's initiative to establish the Commission's Direction Setting Issues, which included one issue that focused on reactor licensing for

future applications. That strategy was the foundation for the current NRC licensing approach which includes early site approvals, standardized plant approvals, limited work authorizations (LWAs), and combined construction and operating licenses.

At Talisman, I have provided expert regulatory assistance in cases involving NRC regulatory actions, including lost spent fuel, independent reviews of safety allegations at reactors and fuel cycle facilities and operational issues at fuel cycle facilities. I have also supported DOE and DOE contractors. I chaired an Independent Technical Review Panel evaluating safety concerns related to planned DOE remediation at a low-level radioactive waste burial site and have supported both the National Nuclear Safety Administration and the Idaho National Laboratory in safety programs. I was the Team Leader for the Talisman review of the regulatory breakdown between the Canadian Nuclear Safety Commission and Atomic Energy of Canada Limited that resulted in the temporary shutdown of the AECL NRU medical production reactor in Canada. I am currently advising the Babcock & Wilcox Company in its plans and interactions with the NRC for the licensing of their new Medical Isotope Production System reactor. I have been advising and supporting Caldon (now Cameron) in its interactions with the NRC concerning their measurement uncertainty recapture power flow meter. I currently am serving as a

member of the Environmental, Safety, Security and Health Committee of the Board of Governors for the Argonne National Laboratory Oversight Board.

Earlier in my career, I served for five years as an officer in the U.S. Navy nuclear submarine program and for two years as a nuclear licensing engineer at Alabama Power Company.

I received a B.S. degree in Naval Science from the U. S. Naval Academy, an M.S. Degree in Nuclear Engineering from the Georgia Institute of Technology, and a J.D. degree from George Washington University.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes, I have prepared several exhibits to my testimony. Exhibit No. _____ (HT-1) is my current curriculum vitae. Exhibit No. ___ (HT-2) is the December 3, 2008 Meeting Slides, "Levy Nuclear Plant Limited Work Authorization Scope" also found at www.nrc.gov, NRC ADAMS #ML090760470. Exhibit No. ___ (HT-3) is an excerpt of the NRC December 4, 2008 public scoping meeting transcript that I quote later in my testimony. Exhibit No. ___ (HT-4) is a table that lists 127 power uprates that have been approved by the NRC. This table was

compiled by me from publically available information. All of these exhibits are true and correct to the best of my knowledge and belief.

Q. What methodology have you used to conduct your review?

A. I reviewed the direct testimony and the exhibits submitted by Jacobs in this docket and the direct testimony of Garry Miller. I also reviewed documents available from the NRC including NRC regulations governing Combined License applications (COLA); documents related to the Limited Work Authorization Rulemaking in 2007; correspondence between the NRC and PEF regarding the COLA submitted by Progress Energy Florida (PEF) for the Levy plants; NRC press releases, transcripts of public meetings; the status of Design Certification Reviews being conducted by the NRC; and documents related to power uprate applications submitted to the NRC. I also contacted the two most recent NRC staff members who had and currently have direct oversight of the NRC power uprate program to verify my understanding of the NRC's past actions approving power uprates.

Q. What standard did you use to determine whether decisions made by PEF during the period being reviewed in this Docket were prudent?

A. I have used the standard articulated by the Florida Public Service Commission in the Final Order under Docket No. 080009-EI, (November 12, 2008) which states (at page 28), ". . .the standard for determining prudence is consideration of what a reasonable utility manager would have done, in light of conditions and circumstances which were known, or reasonably should have been known, at the time the decision was made."

Q. How did you apply this standard?

A. In reviewing Jacobs' testimony, I evaluated his criticisms of decisions made by PEF managers in light of information that was available to the Company at the time the decisions were made.

Q. Is this the standard that Jacobs applied in his review and evaluation of PEF's cost recovery application?

A. No, I do not believe so. In explaining how he determined whether the costs submitted for recovery in this Docket are prudent and reasonable, Jacobs states (at page 4) that, "The Company must employ prudent contracting and project management and risk management procedures and practices to ensure that the costs are prudently incurred. The scope of work must be reasonable and the Company must ensure that the costs are reasonable by means of competitive bidding or other methods . . ." To state that "the

procedures and practices must be prudent to ensure that the costs are prudent and that the scope of work must be reasonable to ensure that the costs are reasonable" is a circular standard that begs the question of how he determined whether the decisions made by PEF were prudent and whether PEF's management of the Levy project had been reasonable. Most importantly, it's not clear from that standard whether Jacobs evaluated the prudence of PEF decision making based on information that was available to the Company at the time decisions were made or whether he relied mainly upon hindsight. This flaw in his standard is evident in several of his conclusions which appear to be based on his knowledge of events that occurred subsequent to the decisions, rather than information that was available to the Company at the time the decisions he is evaluating were made. In some cases he is even conjecturing on what decisions the NRC staff will be making in the future.

II Levy Nuclear Project.

Q. Please describe the NRC licensing process for new nuclear power plants.

A. Prior to 1989, nuclear power plants were licensed by the NRC pursuant to regulations at 10 CFR Part 50. These regulations provided for a two-step licensing process that required applicants to first apply for and obtain a Construction Permit to authorize construction of the

plant, then, approximately two years before construction was complete, they had to apply for and obtain an Operating License from the NRC to authorize commercial operation. All nuclear power plants currently operating in the United States were initially licensed using this two-step process.

In 1989, the NRC established an alternative licensing process for new nuclear power plants with the issuance of 10 CFR Part 52. The NRC's intention in establishing this alternative process was to "achieve the early resolution of licensing issues and enhance the safety and reliability of nuclear power plants." (54 FR 15372) Under these regulations, an applicant may submit a combined license application (COLA) authorizing both construction and operation of the plant. The application must contain essentially the same information as would have been provided in an Operating License application and specify the inspections and tests that the applicant would perform and the acceptance criteria that would demonstrate that the completed plant had been constructed in compliance with NRC requirements.

In addition to establishing a one-step application process, the 10 CFR Part 52 regulations contained other provisions intended to streamline the licensing process, including the ability to reference a certified

standard power plant design, to obtain an early site permit, and to obtain a limited work authorization.

Q. Please explain the design certification process.

A. Under the 10 CFR Part 52 regulations, reactor designers may apply for a standard design certification from the NRC. An application for design certification must include sufficient information to allow the NRC to determine whether the design complies with all applicable NRC requirements and can be built and operated safely. A design certification application is independent of any specific site where the design may be built. If the NRC determines that the design satisfies all applicable requirements, it will certify the design through a rulemaking, which then may be referenced by COLA applicants. Issues that have been resolved in the design certification rulemaking do not need to be reconsidered during the COLA review. Design certification applications currently under review by the NRC have been submitted by GE-Hitachi, Areva Nuclear Power, and Mitsubishi Heavy Industries. The NRC also has under review an amendment to the previously approved Westinghouse AP 1000 design certification.

Q. What topics are evaluated by the NRC during its review of a design certification application?

A. The NRC safety review of a design certification application evaluates the design basis, limits on operation and the applicant's safety analysis of structures, systems, and components of the plant. These safety evaluations are made independent of any site-specific issues.

Q. What are the benefits of design certification in expediting the new reactor licensing process?

A. These provisions of 10 CFR Part 52 were included in the regulations for the purpose of expediting the NRC's review of COLAs. An applicant for a COLA may reference a certified design in its application. If the design already has been certified by the NRC, any issues that were resolved in the design certification proceeding do not need to be reconsidered in the COLA review. The COLA submitted by PEF references the AP 1000 design that has been submitted by Westinghouse for NRC certification. The Westinghouse design certification application is currently being reviewed by the NRC.

Q. Is the status of the design certification of the AP 1000 nuclear plant a risk to the successful completion of the Levy project, as stated by Jacobs in his testimony (at page 7)?

A. No. While there are schedule uncertainties as to when the NRC's licensing review will be completed, the status of the design certification reviews is not a risk to the successful completion of the Levy project.

In fact, of the 17 COLAs that have been submitted to the NRC, 16 of them reference designs that are currently still under review by the NRC and have not received design certification approval. Seven of the pending COLAs, including PEF's application for the Levy plants, reference the AP 1000 design currently being reviewed by the NRC. The only pending COLA that references a certified design that is not under review at this time is the application for South Texas Project Units 3 and 4, which references the GE Advanced Boiling Water Reactor (ABWR).

It is not a risk to the approval of any of the pending COLAs that the designs they reference have not been certified because it is very unlikely that any of these advanced reactor designs will ultimately not be approved by the NRC. The process being used by the NRC to review the design certification applications is set forth in a detailed Standard Review Plan. The technical acceptance criteria that must be met are well known by both the NRC reviewers and the reactor designers and have been met for these submittals. The design certification reviews currently being conducted by the NRC ultimately will obtain sufficient information from the applicants to demonstrate that the requirements have been met either by the original submittals, augmented by RAI responses, or by amendments to the applications.

An additional reason for not regarding the NRC review of the AP 1000 design as a risk to the Levy project is that the NRC has previously approved an earlier Design Certification Application (DCA) for the AP 1000 by rulemaking on January 27, 2006 (71 FR 4464). The current NRC AP 1000 design certification proceeding is reviewing modifications and improvements to the earlier approved design to address issues that would otherwise need to be resolved on a case-by-case basis by the COLA applicants and address additional issues that the NRC staff had left as open items in its prior approval. As noted in Mr. Miller's testimony, Progress Energy has joined a consortium of utilities in the NuStart Energy Development program as a cost effective approach to ensure technical issues regarding new reactor designs are adequately addressed in a timely manner.

Q. What topics does the NRC evaluate in its review of a COLA?

A. Initially, the NRC determines whether the application contains sufficient technical detail to demonstrate that the proposed plant will satisfy the NRC requirements for a detailed review. If the application is sufficiently complete and provides adequate bases to determine whether the NRC licensing requirements will be met, the NRC dockets the application for review. The NRC technical staff then reviews the application pursuant to a Standard Review Plan (SRP) that specifies the acceptance criteria for satisfying each licensing requirement. The

areas reviewed generally include site characteristics, design of the plant, analyses about how the plant would respond to hypothetical accidents, plans for plant operations, technical qualifications of the applicant to operate the plant, environmental impacts of the plant, and emergency plans, among other topics. If the COLA references a certified design, any issues that were resolved during the design certification review do not need to be reconsidered in the COLA review. In conducting its review, it is typical for the NRC staff to send requests for additional information (RAIs) to the applicant to make sure that it has sufficient information to determine whether the licensing requirements have been met.

Q. What is a limited work authorization?

A. A limited work authorization (LWA) allows a COLA applicant to perform safety-related site preparation work in advance of a COLA being issued by the NRC. In 2007, the NRC made revisions to its limited work authorization regulations to clarify the activities that require an LWA and the approval process for obtaining an LWA. The NRC stated that it was making these revisions "to enhance the efficiency of its licensing and approval process for production and utilization facilities, including new nuclear power reactors" (72 FR 57416). The NRC's review of PEF's application for an LWA to conduct site preparation activities at the Levy site is discussed later in my testimony.

Q. When did the NRC update its LWA rule and why?

A. The NRC began its initial efforts to update its LWA rule in 1998, while I was still the Executive Director for Regulatory Programs. This was part of NRC's efforts to update its regulatory program in anticipation of future reactor license applications. That effort was placed on hold when the NRC staff decided, based on public comments it had received, that the proposed rulemaking was not sufficient to improve the effectiveness of its processes for licensing future nuclear power plants (71 FR 12782). In March 2006, the Commission issued a new proposed LWA rule for public comment. After considerable public comment and input, much of it led by the Nuclear Energy Institute (NEI) and including comments from Progress Energy (Progress Energy letter from B. McCabe to A, Vietti-Cook, dated May 30, 2006), the proposed LWA rule was revised to the one that we have today. I should note that Progress Energy is identified in the NRC rulemaking SECY paper as one of seven nuclear power plant licensees that commented on the proposed rule. I reviewed the Progress Energy comment letter and I saw that Progress Energy highlighted, very early in its pre-licensing communications to the NRC, the importance of an LWA. In its comment letter, Progress Energy stated that an LWA could accelerate a plant's construction completion date by more that a year. This new rule became effective in 2007, just in time for the anticipated

new reactor license applications. This rule established the site activities that could be conducted without prior NRC staff approval and focused the NRC LWA review on those activities that had a reasonable nexus to radiological, health and safety, or the common defense and security. There are three key provisions. First, redefining "construction" of a nuclear site so that work that involves only non-safety related activities can be conducted without prior NRC staff approval. This included site excavation. Second, requiring NRC approval to conduct excavation, the setting of piles, and foundation construction, for any structure which is required to be included in the various Safety Analysis Reports. And, third, requiring the preparation of an Environmental Impact Statement for an LWA request.

Q. Would the NRC have amended its LWA Rule in 2007 if it did not intend for licensees to use the process?

A. No, it is clear that the NRC and the nuclear industry wanted to have an LWA process available for new license applicants that was compatible with and part of the new 10 CFR Part 52 licensing process.

Q What is the basis for your opinion?

A. First, I was directly involved in the Direction Setting initiative that focused on the licensing of future reactors while I was the Deputy Executive Director for Regulatory Programs at the NRC. That effort led

to the initial NRC rulemaking efforts to clarify and to make the LWA regulatory process compatible with the new 10 CFR Part 52 regulation. (See SECY-98-282, www.nrc.gov, NRC ADAMS #ML032801416). As I described earlier, this proposed rulemaking effort covered a number of areas; however, the changes proposed for the LWA regulations were not sufficient to address industry needs and expectations. Based on comments from the Nuclear Energy Institute (NEI), the organization that represents the nuclear industry in generic interactions with the NRC, the proposed regulation that resulted from that initial effort did not go far enough and NEI proposed more extensive changes. The NRC evaluated the NEI comments and essentially agreed with them. However, NRC concluded that the changes were sufficiently different from the proposed rule that it elected to treat the NEI comments in a new rulemaking. NRC then started the rulemaking for the LWA all over again in 2006. Thus the NRC clearly indicated to the public and the nuclear industry that it was worth spending NRC resources on the LWA process and that the NRC expected the nuclear industry to be in a position to use LWAs if needed to meet projected construction schedule needs.

In addition, in July 2006, the NRC announced the planned creation of a new NRC office to prepare for the industry's interest in licensing and building new nuclear plants in the near term. (NRC Press Release 06-

096). The new Office of New Reactors was formed in January 2007 and, to ensure timely licensing reviews, it is focused only on the licensing and environmental reviews of new reactors. In this new Office, NRC established the Division of Site and Environmental Reviews. That Division's sole responsibility is to conduct the environmental portion of early site permit reviews and all environmental reviews needed for COLA applicants, including LWAs. Thus by the time that PEF had decided to request an LWA, the NRC had not only established a new regulation for reviewing and issuing LWAs, but it had also established an Office that was responsible for conducting those reviews in a timely schedule, provided that an acceptable application had been submitted.

Q. Was the process you have described the process that was used by PEF in its LWA request for the Levy sites?

A. Yes it was. First, consistent with the NRC process, PEF notified the NRC staff in March 2008 that the Company intended to request a LWA in parallel with the COLA application. (PEF letter from Garry Miller to NRC March 5, 2008). This is consistent with the guidance that the NRC staff gave at a public meeting with NEI on February 20, 2008. At that meeting the NRC staff specifically stated:

"... applicants who notify the NRC that they will be requesting an LWA at the same time that they notify the NRC that they will be submitting a

combined license application will get their LWA request scheduled in concert with their combined license request and resources will be allocated to both reviews." (NRC March 11, 2008 Memorandum from Nanette Giles to William Reckley, www.nrc.gov, NRC ADAMS #ML080630030).

The NRC staff then noted that applicants who request an LWA after submitting their COLA do so at the risk of impacting their COLA schedule. (Id.).

Clearly PEF was fully in conformance with the NRC staff guidance for early notification of plans to request a LWA and for including it as part of the COLA.

Q. Was it appropriate for PEF to request an LWA for initial site work?

A. Yes. PEF had decided that the LWA was needed to meet the planned construction schedule. As I stated earlier, not only had the NRC promulgated a new LWA rule to permit new reactor licensees to request an LWA so that critical safety related work could begin early, but it also established a new office whose responsibility was to conduct the requested licensing reviews in a timely fashion, so that the licensing schedule would not adversely impact the planned completion of construction date.

Q. When was the Levy site COLA submitted?

A. PEF submitted the COLA application on July 28, 2008 and the NRC staff started its 60 day acceptance review on August 4, 2008. In that application, PEF included its request for an LWA to be issued in advance of the COL to allow the early performance of certain safety-related construction activities. PEF provided requested specific milestone dates for the Final Environmental Statement, the LWA and the COL. PEF then noted that they looked forward to meeting with the NRC staff to further discuss the review schedule.

Q. When did the NRC staff complete its acceptance review?

A. The NRC staff informed PEF on October 6, 2008 that the COLA was sufficiently complete and the staff could docket the application and commence its review.

Q. Did the acceptance letter set forth a schedule for the Levy COLA review?

A. No. The letter stated that the PEF COLA review schedule would be dependent on the design certification review of the AP 1000 application and the NRC review of the reference COLA, which at the time was the application that had been submitted by the Tennessee Valley Authority for the Bellefonte plant. The letter also stated that the NRC would

require additional information from PEF about the "complex geotechnical characteristics of the Levy site" before it could develop an integrated review schedule. Thirteen RAIs were appended to the NRC letter. PEF provided the additional information requested by these RAIs to the NRC by November 20, 2008.

Q. Do the NRC standards that apply to COLA submittals require more complete applications and more robust analysis in support of those applications than it previously required for operating license applications submitted under 10 CFR Part 50?

A. Yes, they do. Because of the large number of COLA submittals that the NRC anticipated and the work load required to review a large number of applications, the NRC advised applicants and stated publicly that it would require COLA submittals to be more complete and technically adequate than it had historically required for docketing. Additionally, the NRC Commissioners directed the staff to allocate resources for COLA reviews based on several factors, including "the quality and completeness of the application itself." (NRC Staff Requirements Memorandum for SECY-06-187).

Q. Have there been any changes in the scope and depth of the NRC acceptance reviews since the Levy site was announced?

A. Yes, the NRC has raised the acceptance review standard in 2007, at the Commission's direction. Acceptance reviews had been a standard part of the regulatory processing that ensured that new license and license amendments were complete and that all the sections were addressed. The regulations in 10 CFR Part 2 prescribe the requirements for determining the acceptability of an application. In accordance with 10 CFR 2.101(a) for a COLA or Section 2.815 for a design certification, an application will be assigned a docket number after the tendered application had been evaluated for completeness. These sections provide that the NRC may determine, at its discretion, the acceptability for docketing of an application based on the technical sufficiency of the application as well as the completeness of the application.

The NRC staff's previous practice had been to conduct these acceptance reviews within 30 days. However, in June 2007, the Commission directed the staff to determine acceptability of COL applications on the basis of the technical sufficiency as well as its completeness, within a period of 60 days. This additional review time was provided to raise the acceptance bar on the technical quality of the license applications, reduce the need for NRC requests for additional information, and to enable the staff to establish a reasonable baseline review schedule. As noted in the guidance to the staff for conducting

these reviews, set out in NRO Office Instruction NRO-REG-100, "Acceptance Review Process for Design Certification and Combined License Applications," the baseline schedule was 30 months for a COL review. The performance measure for the staff's acceptance review was set at 75 calendar days.

Q. What was the intent behind the NRC's change in the acceptance review standard?

A. The intent was to make the process of the NRC reviewing the COLA and docketing much more than simply verifying that an applicant has submitted all of the sections required to be addressed in the license. Rather, it was changed to ensure that the application would not be docketed unless its technical content had been reviewed in sufficient depth to determine that it was of high quality and that the NRC staff could establish a realistic schedule. Acceptance for docketing meant that the NRC was ready to devote resources to the particular application, because the technical quality of the design could be applied to the site. The NRC would never docket a COLA if it did not have reasonable assurance that the site and the certified design would be likely to meet the NRC regulatory requirements. This is consistent with what occurred here.

Q. Were there other indications from the NRC that it intended to conduct its COLA reviews in a timely manner?

A. Yes, there were. In a speech at the Regulatory Information Conference in March 2008, NRC Chairman Klein said, "Our agency has in place the staff, the expertise, and the policies to oversee a safe expansion in domestic nuclear power – assuming that our high standards for safety and security are fully met." … and later "I mentioned earlier that the NRC has become a much more efficient agency, and this includes our new streamlining approach to licensing potential new plants." (NRC Chairman Klein, May 1, 2008 Remarks at the North American Energy Summit, www.nrc.gov, NRC ADAMS #ML081260274; also at http://www.nrc.gov/reading-rm/doc-collections/commission/speeches/2008/s-08-018.html).

As I will discuss in more detail later, once the NRC has completed its acceptance review and concluded that the license application is technically sufficient that the NRC staff can conduct its review, the staff establishes a review schedule that is consistent with its performance measures.

Q. Was it unreasonable for PEF management to expect that the NRC would complete the licensing review of the LWA in a timely manner?

A. No, it was not unreasonable to expect that the NRC would complete the entire LWA process in a timely manner. As I noted earlier, in order to grant an LWA, the NRC staff will need to conduct both the environmental review required by the National Environmental Policy Act (NEPA) and the related review of the safety related items requested by the licensee as part of the LWA. The NRC's baseline planning assumption for producing a Final Environmental Impact Statement (FEIS) is 24 months. As the NRC states on its public web page:

"Currently, the NRC staff estimates that the environmental review process will take approximately 24 months. This includes scoping, issuance of the Draft EIS, a comment period, and issuance of the Final EIS. The NRC staff currently conducts its environmental reviews using NUREG-1555, "Environmental Standard Review Plan (ESRP)." (see http://www.nrc.gov/reactors/new-reactors/regs-guides-comm.html#erp).

As I stated earlier, the NRC had long been aware of PEF's plans and need for obtaining a LWA. This dialogue had begun in 2007. In 2008, PEF provided a 90-day early LWA notification before COLA submittal and then included the request for an LWA in its COLA, consistent with the NRC's guidance for a timely review. PEF's request for an LWA

came as no surprise to the NRC. In fact the NRC had received pre-application briefings from PEF on the LWA in order to ensure there would be no surprises and that NRC staff would be able to plan its review of the PEF LWA request.

Based on my review of the publically available documents, the clearest statement of what the NRC baseline for conducting the entire LWA review and approval process was provided at the NRC's public scoping meeting. These scoping meetings, typically held in the local vicinity of the proposed reactor site, are one of the key steps in the environmental review process for a new license application. For the Levy plant, that meeting was held on Thursday December 4, 2008. The NRC staff at that meeting included both the NRC Licensing Project Manager, Brian Anderson, and the NRC Environmental Project Manager, Doug Brunner. The senior NRC manager present at the meeting was Drew Persinko, who was the Deputy Division Director of the Site and Environmental Review Division, Office of New Reactors. He had management oversight responsibility for all environmental reviews underway at that time. At that meeting, a member of the public asked a question directly addressing the issue of timing of the review for the Levy LWA. Mr. Anderson responded with the following:

Just to give you a ballpark time frame, we expect that somewhere on the order of two years will be required to complete our **entire** (emphasis added) review process for the limited work authorization. And that's a ballpark time frame. The detailed review schedule activities will be made publically available once we've completed the development of our schedule." (see Exhibit No. ___ (HT-3), page 28 of 29, also at www.nrc.gov, NRC ADAMS #ML083520102).

If the NRC project managers or even the Deputy Division Director, who was present, had any expectation that the review time would not be in the two year time frame, they would have said so. My experience with the NRC is that it strives to be open and to provide applicants and the public with honest answers to questions. If they had known of any serious LWA review delays, it is my opinion that they would have simply said that there are some issues with this site that will take longer than our usual schedule and we cannot provide any ball park estimate at this time. Just to state again, both NRC Project Managers were present and their Deputy Division Director were present at this meeting.

Q. When it signed the Engineering, Procurement and Construction (EPC) contract on December 31, 2008, did PEF have reason to

believe that the NRC would not review its LWA application in a timely manner?

A. No, not based on my review of the information that was available to PEF management at that time. As I have just stated in response to earlier questions, the information available to PEF when it signed the EPC contract was that the NRC had revised its licensing process to expedite the licensing of new nuclear power plants, it had established an Office of New Reactors to provide timely licensing reviews and it had promulgated a new rule to clarify the process for applicants to obtain limited work authorizations. The Chairman of the NRC was stating to the public that the NRC intended to review license applications in a timely manner. PEF management had clearly informed the NRC that they were requesting a LWA to meet the planned construction schedule. They knew that the COLA was technically sufficient for the NRC licensing review because it had been docketed by the NRC. Most importantly, at the NRC public meeting that had just been held on December 4, 2008, the NRC stated that the baseline schedule for the entire LWA process would be on the order of two years. Both NRC Project Managers for the Levy project and their Deputy Division Director were aware that PEF had requested an LWA, having been briefed on the details of the requested LWA on December 3, 2008 (see Exhibit No. ___ (HT-2), "Response to Information Need No. TL-2-003 - 12/03/2008 Meeting Slides, "Levy Nuclear Plant Limited

Work Authorization Scope.", www.nrc.gov, NRC ADAMS # ML090760470). The NRC Licensing Project Manager stated publicly the next day, during the same month that the EPC contract was signed, that the NRC intended to complete its review process for the LWA "somewhere on the order of two years." Based on the information available to PEF in December 2008, it would have been reasonable for PEF management to believe that its application for an LWA would be reviewed by the NRC in a timely manner, even if not on the specific schedule initially requested.

Q. When did PEF learn that the NRC intended to review its LWA request on the same schedule as its COLA review?

A. The NRC staff held a scheduling telephone conference with PEF on January 23, 2009. In that call, the NRC representatives told PEF that the LWA as requested and the COLA geotechnical review "require the same critical path duration" and that the NRC staff does not "have the resources to process an LWA." Based on my review, this appears to be the first time that availability of NRC resources was raised as an issue that would affect the timing of the PEF LWA request.

Q. Since the NRC had identified complex geotechnical issues at the Levy site in its docketing letter of October 6, 2008, should PEF management have anticipated that the review of geotechnical

issues would delay the NRC's consideration of PEF's LWA request because the NRC does "not have the resources to process an LWA?"

A. No, I don't believe so. The October 6 letter was accompanied by RAIs requesting information the NRC would need to address geotechnical issues at Levy. PEF had responded to those RAIs in a timely manner, completing its response to the NRC by November 20, 2008. After submitting this information, PEF had reason to believe that it was working with the NRC staff to resolve the geotechnical issues at the Levy site. The following month, on December 4, the NRC Licensing Project Manager, who was the author of the October 6 NRC acceptance letter, stated publicly that he expected the entire LWA review to be completed in "somewhere on the order of two years." (See Exhibit No. ___ (HT-3) to my rebuttal testimony).

In addition, PEF held periodic telephone conferences with the NRC staff to discuss COLA and LWA status and progress. The summary of the NRC and PEF January 6, 2009 teleconference included a discussion of LWA vs. COL impacts, with no indication that the NRC did not have resources to conduct an LWA review. The summary notes indicate that, as late as January 6, 2009, both the LWA and COLA reviews were in progress. (see email from Douglas Bruner to

Paul Snead, January 12, 2009, www.nrc.gov, NRC ADAMS # ML091510037).

Based on the ongoing dialogue it had with the NRC about the status and process for reviewing the Levy COLA and LWA requests, as described above, it would have been reasonable for PEF management to have been surprised to learn in the January 23 phone call that the NRC did not have adequate resources to process the PEF LWA request.

III. Crystal River 3 Power Uprate Project.

Q. Did you review Jacobs' Testimony regarding the Crystal River 3 Extended Power Uprate Project?

A. Yes I did.

Q. Do you agree with his testimony?

A. I agree with the part of his testimony that describes the planned uprates but I disagree with his statements concerning risk management.

Q. Please explain your disagreement.

A. I disagree with Jacobs' testimony because it attempts to portray Extended Power Uprates as risky business when in fact it is not a risky business for a number of reasons.

First, the NRC has been granting power uprates since the 1970's as a way to generate more electricity from licensed nuclear plants. This program is well established and there have been 127 power uprates approved by the NRC staff as of July 22, 2009. This currently totals approximately 15,600 MWt or approximately 5,700 MWe. Exhibit No. ____ (HT-4) provides a list of the power uprates that have been approved by the NRC.

Second, since 2001, power uprates applications have been given high priority and the NRC staff has been conducting these reviews on accelerated schedules. (See SECY 01-0124). This means that the Commission and the NRC staff highly support this program and want to see power uprates approved smartly. The Commission has been holding out the success of this program as one of its key accomplishments, stating that "[c]ollectively, these uprates have added generating capacity at existing plants that is equivalent to more than five new reactors." . (see NRC Backgounder "Power Uprates for Nuclear Plants," www.nrc.gov, NRC ADAMS #ML081260274, also at http://www.nrc.gov/reading-rm/doc-collections/fact-

sheets/poweruprates.pdf). As part of the planning for new uprates, NRC is currently projecting uprates that are being planned out to 2012. (See Table 3, NRC webpage for Power Uprates).

Third, to help ensure regulatory predictability for Extended Power Uprates, NRC adopted Review Standard RS-001, "Review Standard for Extended Power Uprates (www.nrc.gov, NRC ADAMS # ML023610659), in December 2003. This standard went through extensive public review and comment and has been endorsed by the NRC's Advisory Committee on Reactor Safeguards (ACRS). Endorsement by the ACRS provides additional assurance that the licensee will know what is needed to get NRC's approval for Extended Power Uprates. This guidance is over 300 pages long and is very comprehensive. It ensures that a sound safety basis is demonstrated for the requested Extended Power Uprate.

Q. Does meeting this guidance mean that the PEF License Amendment Request addressed all the substantial engineering issues in order to support the detailed technical analysis that the NRC expects?

A. Yes, it does. Similar to the acceptance review done for the COLA, the LAR will undergo an NRC staff acceptance review. If it is technically complete the NRC staff will then docket the LAR request and establish

the licensing review schedule. Extended Power Uprate amendment requests require the most significant amount of engineering and analysis and typically involve substantive physical changes in the plant.

Q. Are you aware of any instances where the NRC staff has not approved the full amount of the Extended Power Uprate requested?

A. No. Based on my review of the NRC staff annual status update reports to the NRC Commissioners since 2001 and my discussions with the NRC Power Uprate project managers for the Power Uprate Program, for the power uprates that the NRC has completed the licensing review, there have been no cases where the requested power uprate was not granted. Also, there have been no cases where a power level approved by the NRC was smaller than that requested by the licensee.

Q. Does the fact that the CR3 uprate will increase the approved power level by the largest percentage of any B&W plant create an unreasonable risk?

A. No it does not. As I have stated earlier, NRC has given the power uprate program a very high priority and it has never reduced the power level that a licensee has requested. While the NRC will clearly require the LAR to meet the acceptance requirements and be sufficient to

address the technical requirements and licensing issues set forth in RS-001, that process is well established and includes a straight forward path to completion.

Q. How long does it normally take to get NRC approval of an Extended Power Uprate?

A. Review and approval of an LAR for an Extended Power Uprate typically takes about a year. The NRC process also includes interactions with the NRC staff before submittal to clarify any issues regarding the scope of the LAR, thus resulting in a more complete application when submitted.

Q. Does this complete your testimony?

A. Yes, it does.

TALISMAN
INTERNATIONAL, LLC.

Hugh L. Thompson, Jr.
Vice President

Summary

Mr. Thompson is a Vice President at Talisman. Before joining Talisman, he was a Senior Nuclear Regulatory Advisor in Scientech's litigation assistance practice. He has more than 35 years of nuclear safety experience, including senior-level management positions at the U.S. Nuclear Regulatory Commission (NRC). Prior to retiring in 1998, Mr. Thompson was the Deputy Executive Director for Regulatory Programs at the NRC. In that position, he directed the licensing, inspection, and rulemaking activities for all NRC-licensed nuclear reactors, the oversight of Department of Energy's (DOE) high-level radioactive waste program, the decontamination and decommissioning of contaminated sites, and the material licensees regulated by both the NRC Agreement States and the NRC. Mr. Thompson has also held the positions of Director of the Office of Nuclear Material Safety and Safeguards, Director of the Division of Licensing, and Director of the Division of Human Factors Safety for the Office of Nuclear Reactor Regulation.

Mr. Thompson has testified before congressional committees and the NRC Commission on issues such as safety issues at nuclear facilities, NRC's HLW program, potential NRC oversight of DOE facilities, and Y2K safety concerns. Mr. Thompson has been an expert witness in several litigations involving NRC licensees and has led independent assessment teams that reviewed regulatory and safety issues at NRC licensees and at DOE facilities. He also led the Talisman Team assessment review of the regulatory issues that resulted in the unplanned shutdown of the AECL's NRU reactor by the Canadian Nuclear Safety Commission for safety concerns.

Mr. Thompson is currently a member of the University of Chicago's Board of Governors for Argonne National Laboratory, Environmental, Safety, Security and Health Committee.

Education

J.D., George Washington University
M.S., Nuclear Engineering, Georgia Institute of Technology
B.S., Naval Science, U.S. Naval Academy

Qualifications

Executive Services and Litigation Support - Assisted in investigations and an arbitration concerning the prudence of actions taken during the operation of a three-unit nuclear power station in response to a proceeding initiated by minority owners. Analyzed testimonies and reports presented by opposing witnesses and assisted client attorneys in preparing interrogatories and discovery requests about these testimonies. Assisted client attorneys during depositions and

cross-examination of opposing technical experts and provided expert testimony concerning the regulatory requirements and other factors that would have been involved in the licensing of a very low-level waste disposal site in a NRC Agreement State. Provided expert consultation on the licensing requirements for a project being considered to process depleted uranium, the management and disposal of radioactive waste, and the license termination requirements for the West Valley Demonstration Project. Provided oversight of the Northeast Utilities search for lost fuel rods, participated in two due diligence reviews related to nuclear utility mergers, and has provided extensive expert support for the DOE Licensing Support Network for DOE's Yucca Mountain project. Also supported several independent reviews of allegations at NRC licensed facilities, including operating nuclear power plants, fuel cycle facilities, NRC licensed sites undergoing decommissioning, and at DOE facilities. Also led the Talisman Team assessment review of the regulatory issues that resulted in the unplanned shutdown of the AECL's NRU reactor by the Canadian Nuclear Safety Commission for safety concerns. Currently supporting the University of Chicago's Board of Governors for Argonne National Laboratory as a member of the Environmental, Safety, Security and Health Committee, supporting the licensing applications for the APWR Design Control Document and a Combined Operating License Application, and supporting a potential applicant with the preparations needed for making a license submittal for a medical isotope production system.

Management - Twenty years of program management experience with U.S. government organizations ranging from 10 to 1,500 persons. Ten years experience as NRC's Deputy Executive Director for Operations. During the last two years in that position, directed all NRC regulatory programs, including the four NRC Regional Offices. Provides oversight of Talisman's regulatory and litigation support activities.

Nuclear Waste and Nuclear Material Regulatory Management - As Director of NRC's Office of Nuclear Material Safety and Safeguards, directed the licensing, inspection, and environmental reviews of the following activities regulated by the NRC:

- Uranium recovery and nuclear fuel fabrication and development
- Medical, industrial, academic, and commercial uses of radioisotopes
- Safeguards activities
- Transportation and storage of spent nuclear fuel and other radioactive materials
- High- and low-level radioactive waste management and disposal
- Uranium Mill tailings cleanup and stabilization.

Low-Level Waste - Managed the development of Site Acceptance Methodology for low-level waste disposal. Directed and contributed to the regulatory framework for packaging, shipping, and disposing of low-level waste. Developed the guidance and managed the NRC review of state and compact implementation plans for low-level waste disposal. After leaving the NRC, chaired the Independent Technical Review Panel chartered by DOE to evaluate safety concerns raised about the planned characterization of Pit 9 at the Idaho National Engineering and Environmental Laboratory.

High-Level Waste - Managed and directed the NRC's program for decommissioning and was responsible for developing the supporting data and analysis for promulgation of NRC regulations for decommissioning. Led the NRC oversight of DOE efforts to characterize the Yucca Mountain site. Directed and directly participated in numerous interactions with DOE, EPA OSTP, and OMB over cleanup standards. In 2001-2002, provided oversight to Northeast Nuclear Utilities in their efforts to locate two spent fuel rods at the Millstone Unit 1 station.

Nuclear Reactor Safety Management - Directed and implemented nuclear reactor regulation programs including licensing, inspection, enforcement, and rulemaking. Also directed and implemented the NRC regulatory program for training and licensing reactor operators. Positions held included the following:

- Deputy Executive Director for Regulatory Programs
- Division Director in Reactor Regulation for Licensing all reactor designs
- Division Director in Reactor Regulation for Westinghouse reactor licensing, reactor system safety and radiological safety
- Division Director in Reactor Regulation for Human Factors Safety
- Environmental project manager for a number of light water reactors for the construction and for operations.

Operational Readiness Review - Led NRC operational readiness team reviews as part of licensing reviews following TMI-2 accident. Focus included not only plant physical condition, but also licensed operators' training and readiness. Conducted an Independent Safety Review of an operating nuclear fuel facility. Was a team member of a DOE contractor's self-assessment of Integrated Safety Management effectiveness.

Security - Developed and implemented security standards for U.S. commercial nuclear industry, including both powers reactor and major fuel cycle facilities.

Emergency Preparedness - Directed NRC's reactor safety and protective measures teams in headquarters emergency response organization. Led and participated in NRC emergency response exercises for commercial nuclear facilities, both reactor and non-reactor facilities. Developed NRC emergency preparedness regulations and directed their implementation.

Human Factors Safety - Directed the development and implementation of the human factors requirements that followed the accident at TMI-2. This included the redesign of reactor control rooms, the revisions to the emergency operating procedures, the training and qualification of the licensed reactor operators, the qualification and experience of the senior reactor operators, and the requirements for plant-specific simulators for both training and testing. Directed and implemented the initial NRC re-qualification of licensed reactor operators. Lead the NRC staff review that endorsed the INPO National Academy for Nuclear Training program.

IT and Y2K - Directed NRC's internal IT program from 1990-1995. Developed and implemented the regulatory response for NRC's oversight of the nuclear industry Y2K response. Represented NRC on the President's Y2K Conversion Council 1997 and 1998.

Employment

Talisman International, LLC, Vice President, 2001-Present

Scientech, Inc. Senior Nuclear Regulatory Advisor, 1999-2001

U.S. Nuclear Regulatory Commission, 1975-1998
Deputy Executive Director for Regulatory Programs, 1997-1998
Deputy Executive Director for Nuclear Materials Safety Safeguards Administration and Operations Support, 1989-1997
Director of the Office of Nuclear Material Safety and Safeguards, 1987-1989
Director, Divisions of Licensing and PWR Licensing, NRR, 1985-1987
Director, Division of Human Factors Safety, NRR, 1981-1985
Director, Planning and Program Analysis Staff, NRR, 1980-1981
Senior Technical Advisor, various assignments, 1975-1980

U.S. Atomic Energy Commission, 1972-1975
Environmental Project Manager

Alabama Power Company, 1970-1972
Nuclear Licensing Engineer

U.S. Nuclear Navy, 1965-1970
Nuclear Submarine Program

Honors

DOE Certificate of Appreciation – Pit 9 Project, 1999
President's Council on Y2K Conversion – Outstanding Service, 1998
Meritorious Senior Executive Award, 1987 and 1996
Distinguished Senior Executive Award, 1991
NRC Distinguished Service Award, 1991

Security Clearance

Department of Justice Public Trust Clearance (active)
National Agency Security Clearance (active)
NRC Q Clearance (inactive)
Millstone Nuclear Power Station Security Access (inactive)

Publications and Litigation Support

Authored numerous NRC documents including Environmental Impact Statements, expert testimony in licensing hearings, NRC Testimony before Congressional Committees or Subcommittees including DOE's High-Level Waste Program, NRC Oversight of DOE, and Y2K Readiness of Operating Nuclear Power Reactors (1973-1998).

Thompson, Hugh L., Deposition in Support of Plaintiff, Nuclear Fuel Services v. Envirocare of Utah, Inc. and Khorow B. Semnani, Utah State Court, Salt Lake City, Utah, July 1999, Record Sealed.

Thompson, Hugh L., et al., Independent Technical Review of Proposed Drilling Activities for Operable Unit 7-10 Staged Interim Action (Alternate Pit 9 Project), for the U.S. Department of Energy, October 1999.

Thompson, Hugh L., et al., Independent Review Team Memorandum to Frank Rothen, IRT Oversight of the Millstone Unit One Fuel Rod Accountability Project (FRAP) and Approval of Final FRAP Report, October 9, 2001.

Thompson, Hugh L., Letter Termination Report to J. A. Van Vliet, Termination of the Implementation of an Increased Facility Radioactive Source Inventory Limit and Shippingport Fuel Removal, Fluor Hanford Operational Readiness Review, March 8, 2002.

Thompson, Hugh L., et al., Dominion Nuclear Connecticut, Inc. Docket No. 50-423-LA-3, Affidavit of Dominion Nuclear Connecticut Outside Expert Panel, March 18, 2002.

Thompson, Hugh L., et al., Report of the Independent Review Team, docket No. 40-3392, R-II-2004-A-0120, January 14, 2005.

Thompson, Hugh L., Expert Report, AAA Case No. 51-1984 00592 05, July 24, 2006. Record Sealed.

Thompson, Hugh L., et al., Review Team Report of Potential Chilling Effect in Designated Organizations at Indian Point Energy Center, January 17, 2007.

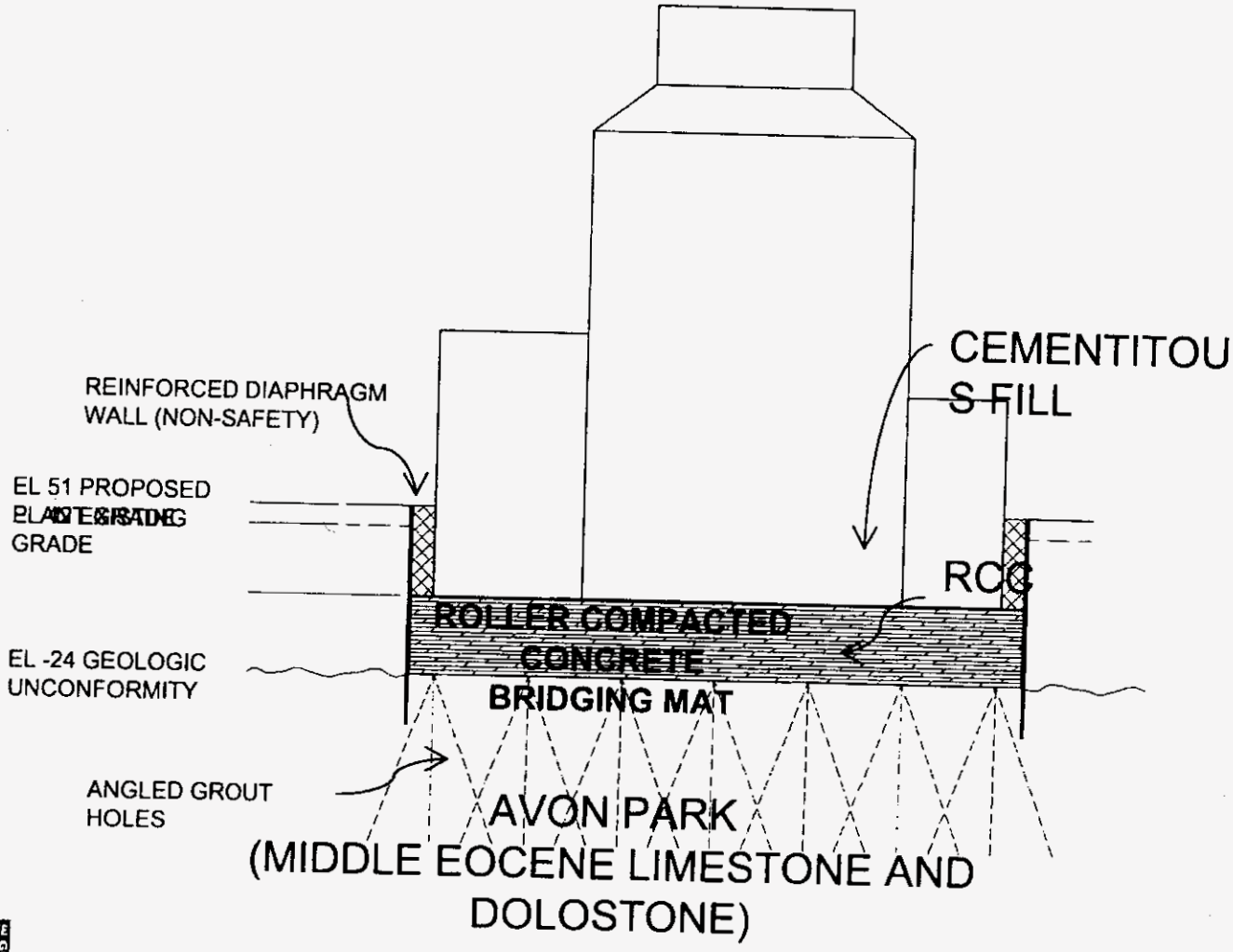
Thompson, Hugh L., Expert Report, AAA Case No. 51 198 Y 00712 06, March 26, 2007. Records sealed.

Thompson, Hugh L., Jon R. Johnson and Robert V. Fairbank, Jr., A Lessons Learned Report-Atomic Energy of Canada Limited, National Research Universal Reactor Safety Systems Upgrades and the Canadian Nuclear Safety Commission's Licensing and Oversight Process, June 2008.

Levy Nuclear Plant

LIMITED WORK AUTHORIZATION SCOPE

LNP Foundation Concept



LNP Foundation Concept

RCC Bridging Mat

35-ft thick RCC Mat

Basic Function

Bridge over postulated solution-induced irregularities in the Avon Park that may develop in the future

Provide a "bedrock" foundation for the AP1000 Basemat

A Safety Related feature

LNP Foundation Concept

- Approximately 75-foot thick Grouted Zone (upper Avon Park)
  - Primary Functions
    - Provide a "bottom for the bathtub" as part of excavation
    - Not a Safety Related feature
  - Secondary Benefits
    - Prevents future solution activity by inhibiting the flow of water through porous zones and fractures
    - Fills potential voids located within the zone
    - While credit was not taken for improving the foundation, the grouted zone adds conservatism to the design in terms of strength, stiffness, and potential settlement.

LNP Foundation Excavation Sequence

Construct groundwater cutoff for the "walls of the bathtub"

Conduct Grouting Program to form the "bottom of the bathtub"

Install the shallow wells to "drain the bathtub"

Excavate the soil in the "bathtub" down to the Avon Park

LNP Foundation Construction Sequence

Prepare the top of the Avon Park

- Use dental concrete (and possibly grout) to prepare surface to receive RCC

Construct the RCC Bridging Mat

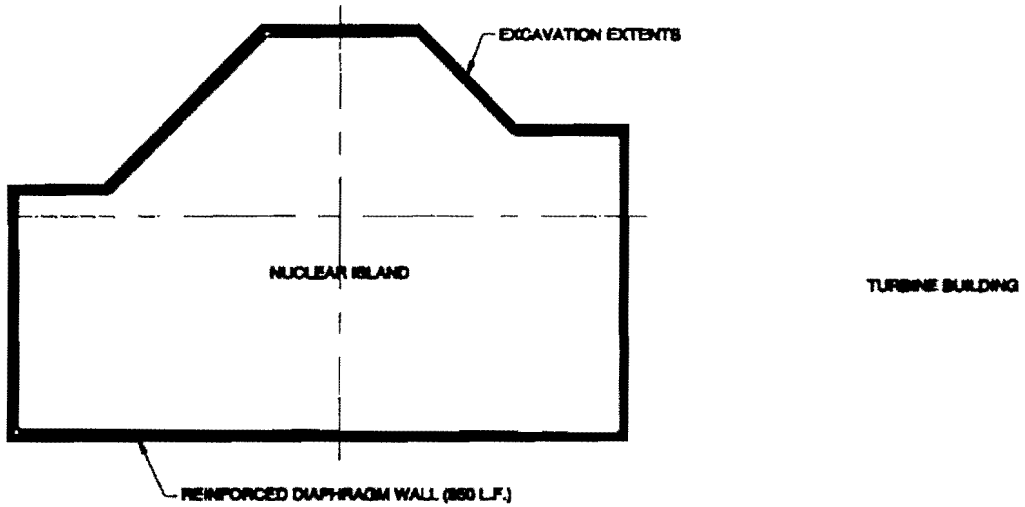
Install the waterproofing on the RCC Bridging Mat

Place the mud mat to protect the membrane

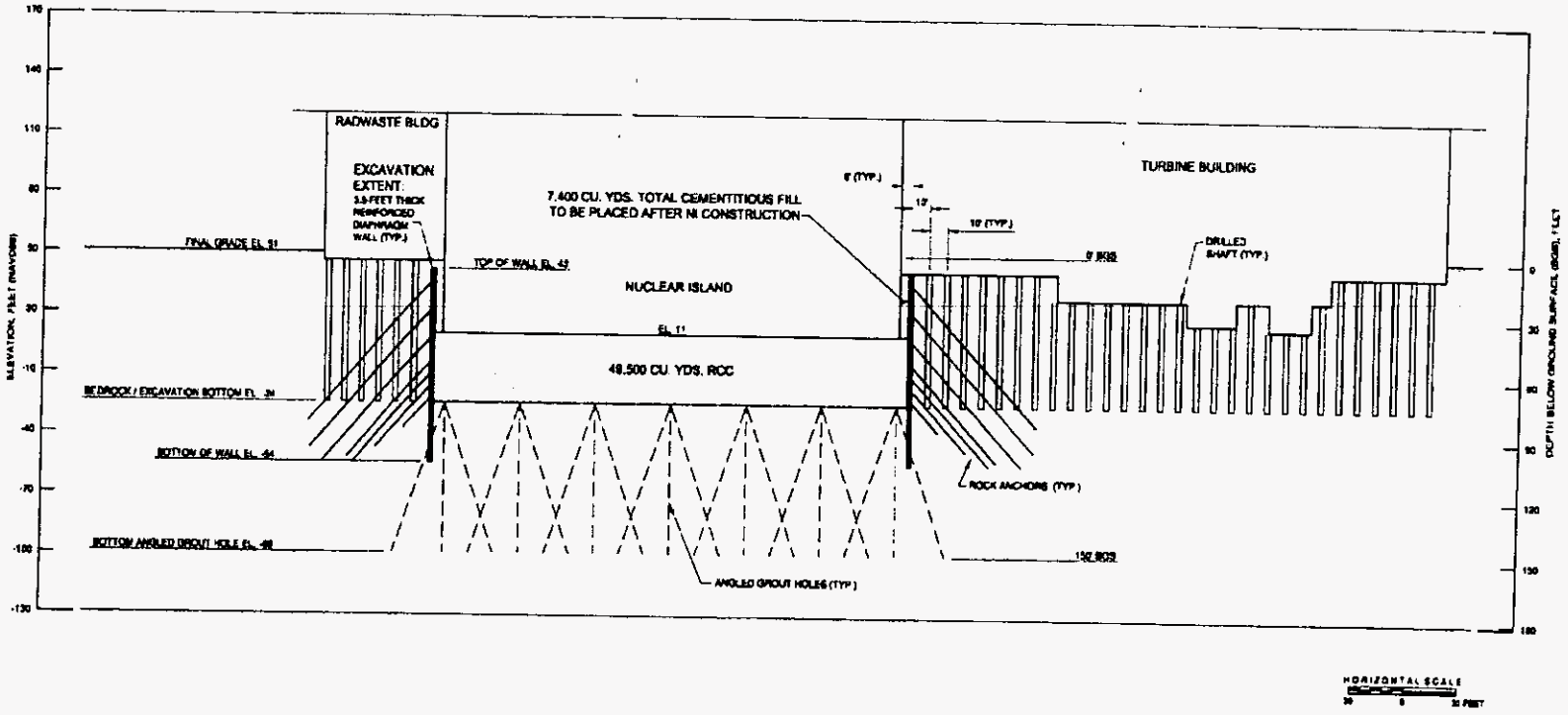
Construct the AP1000 Basemat

Place Cementitious Fill

Foundation Concept – Plan View



Foundation Concept – Section



LWA Scope

Install diaphragm wall

Install grouting in the Avon Park Formation

Prepare nuclear island foundation surface

Place roller compacted concrete

Install waterproofing membrane

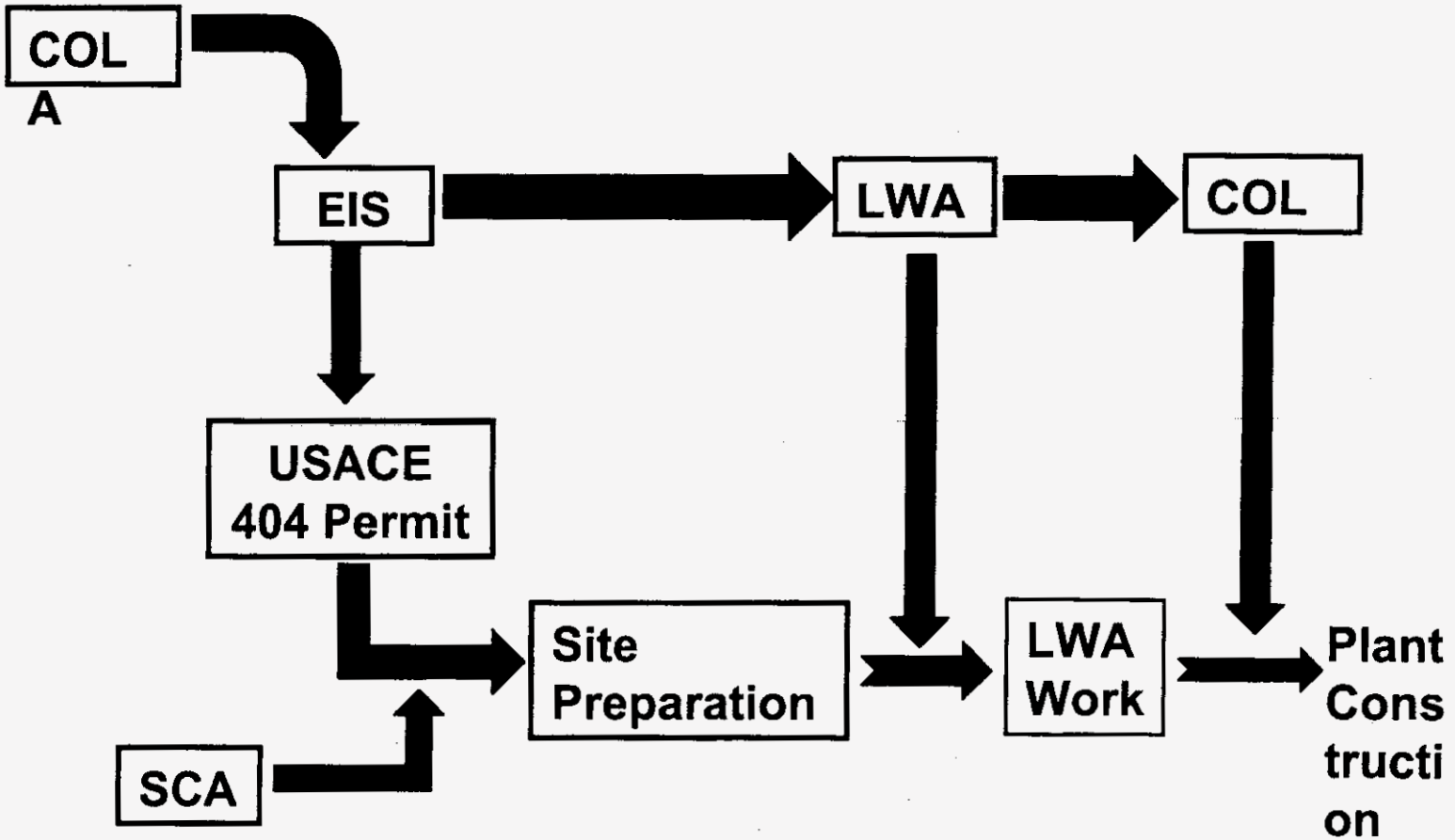
Install mud mat

Install forms & rebar in the nuclear island foundation

Install drilled shafts

Turbine, Annex and Radwaste Building foundation

Levy Nuclear Project
Regulatory Interface



Summary of Impacts Associated with LWA

- Impacts due to Construction (including LWA) described throughout Chapter 4 of ER
- Section 4.8: Activities Undertaken Under a Limited Work Authorization
- Table 4.8-1 provides a summary of the impacts associated with the proposed LWA activities
- This table conservatively estimates the percent of total SSC construction activities that each LWA activity represents

Excerpt of Table 4.8-1 for example

Table 4.8-1
Summary of Impacts Associated with Limited Work Authorization (LWA) Activities

LWA Activity [a]	COLA Reference/Description	Percent of Construction [b]	Potential Environmental Impact [c]	Basis of Estimates
Install Perimeter Diaphragm Wall	Part 2, Chapter 2, Subsection 2.5.4.5.1;	4	S	Estimates are based on the percent of SSC-related construction labor hours that will be dedicated to the identified LWA activity (3.6%, restated to be 4%). Since the maximum impact for any SSC-related Construction activity (Table 4.6-2) is (S)mall, the potential environmental impact of this LWA activity is therefore less than 4 of (S)mall.

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Levy Nuclear Plant Combined License Application Public Meeting: Afternoon Session

Docket Number: 52-029 and 52-030

Location: Crystal River, Florida

Date: Thursday, December 4, 2008

Work Order No.: NRC-2550 Pages 1-115

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

+ + + + +

PUBLIC SCOPING MEETING

RELATED TO THE LEVY NUCLEAR PLANT

COMBINED LICENSE APPLICATION

+ + + + +

THURSDAY, DECEMBER 4, 2008

1:00 P.M.

Florida National Guard Armory

8551 West Venable Street

Crystal River, Florida 33426

I N D E X

P-R-O-C-E-E-D-I-N-G-S

MR. CAMERON: Good afternoon, everybody. If you could all take a seat we'll get started with today's meeting.

Good afternoon everyone. My name is Chip Cameron and I work for the Executive Director for Operations at the Nuclear Regulatory Commission.

And we are going to try not to use any acronyms today that we don't explain, but we will be using NRC for Nuclear Regulatory Commission.

And it is my pleasure to serve as your facilitator for today's meeting. And in that role I'll try to help all of you to have a productive meeting this afternoon.

Now, our subject for today is the environmental review process that the NRC is going to conduct as one part of its evaluation of the license application we received from Progress Energy Florida to build and construct two new nuclear power plants in the site in Levy County.

And what I would like to do is just spend a few minutes on some meeting process issues so you know what to expect this afternoon. And I would like to tell you about the format for today's meeting,

some simple ground rules that will allow us to have a good meeting, a fair and productive meeting, and also to introduce the NRC speakers who are going to be talking to you this afternoon.

In terms of the format for the meeting, it is a two-part format. The first part is to allow us to give all of you some information about what the NRC looks at when it evaluates a license application such as the one we received from Progress Energy Florida to decide whether to grant that license application or not. So we want to tell you about that process and how you can participate in that process.

And to do that, we are going to have some brief NRC presentations that will tell you about the overall process. But I want to emphasize that our focus today is on the environmental review part of that process, but we will go over the complete process so that you know what it is all about.

The second part of the meeting gives us an opportunity to listen to all of you, your advice, your recommendations, your concerns about the environmental review of this license application, and the Environmental Impact Statement that the NRC is

going to prepare as it's environmental review covers a broad range of issues, so you may hear a lot of different topics raised by people in the audience when we go to the time for comments.

The NRC staff is also going to tell you that we're taking written comments on these issues and they will tell you the date that those comments have to be submitted. But we wanted to be here with you in person today and to listen to your comments. And any comments that are submitted or that are made during this meeting will carry the same weight as a written comment.

And you may hear some comments today, you may hear some information today that will prompt you to submit a written comment. And there is certainly nothing wrong with speaking today and also submitting a written comment to us.

We will have time for a few questions between the NRC presentations and when we go to comment for you. But it will be limited because we do want to get to listening to you.

And the NRC staff will be here after the formal close of today's meeting to talk to you about any issues that you might have.

In terms of ground rules, first of all, please let the NRC staff finish their complete presentations before we have any questions for them and that way we will be able to get all of the information out to you at one time.

When we go to questions, if you have a question just signal me and I will bring you this microphone at least to the limit of the cord that it is attached to. Usually we have a cordless mike but I'll try to get out to you so you don't have to come up here. And we'll try to answer your questions. And I would just ask you to introduce yourself to all of us.

And that relates to another ground rule which is I would ask that only one person speak at a time for two reasons. One, so that we can give our full attention to whomever has the microphone at the moment. And secondly, so that we can get a clean transcript.

We are taking a transcript of this meeting. We have Peggy Huffman here who is our Court Reporter. That transcript will be publically available and you will be able to see what was said at this meeting and that will be our record of the

meeting.

And when we go to the comment period, we've asked everybody to fill out one of those yellow cards if you want to talk today. And I will just call your name and ask you to come up here, if you could, so that you can address everybody. And I am going to ask that you limit your -- this is a guideline. I am going to ask that you limit your comments to five minutes. And I appreciate the fact that many of you have spent time preparing your comments. And I apologize in advance if five minutes is not enough time to complete your comments, but usually five minutes is enough time for someone to summarize what their concerns are.

If you have a prepared statement we will attach that to the transcript and it will also be counted as a formal comment to us. So I would just ask you to follow the five-minute rule.

What you say is going to be important not only for the NRC staff, but also for people in the audience who may hear a concern, or a point, an issue that they haven't thought of before. So we will try to keep that to five minutes.

You are not going to hear the NRC staff

commenting on anything that you say today. We are going to listen carefully. We are going to take that back to Washington, D.C., Rockville, Maryland, where our headquarters are, to carefully consider those comments.

And finally, just please extend courtesy to everyone here today. You may hear opinions today that you don't share, that you disagree with. And I would just ask you to please extend courtesy and respect the speaker who is giving that comment even though you might disagree with it.

Let me introduce the NRC staff, first of all, the speakers today. This is Gregory Hatchett right here. And Greg is the Branch Chief of the Environmental Projects Branch, and the people who work for him are responsible for doing the environmental review of these new reactor license applications. And he is going to give you a welcome and an overview of the NRC and the NRC responsibilities.

Then we're going to get to the heart of the NRC review process and we have Mr. Douglas Bruner with us. He is the Project Manager for the environmental review of the Progress Energy Florida

application. And he will tell you about the environmental review but he is also going to cover aspects of the entire NRC review process.

And then we will go out to you for a few questions after both Greg and Doug have talked. I also want to introduce a few other people and we have Brian Anderson. Brian is the Project Manager for the safety aspect of the review, safety aspect; Doug Bruner, environmental review. And Brian is with us in case we have questions on the safety aspects or in case anybody wants to talk to Brian about the safety aspects after the meeting closes.

Our Senior Manager today is Drew Persinko, Andrew Persinko right here. And he is the Deputy Division Director of the Site and Environmental Review Division.

All of the people I introduced to you are in our Office of New Reactors. Doug, Greg, Drew, environmental side; and Brian is on the safety side.

And with that I think I'm going to turn it over to Greg to say a few words to you and we will get on with the substance of the meeting. And thank you very much for being here to help the NRC with this important decision. Gregory?

Mr. HATCHETT: Like Chip said, I want to welcome everybody here to the scoping meeting for the Levy Project for NRC'S portion of the review of the combined license. And I appreciate everyone coming out and taking time out of their busy schedule to be a part of this process. Let me have the next slide.

But as he said, real quickly, my name is Greg Hatchett. I'm the Branch Chief of the Environmental Review Branch and I want to touch quickly on the purpose of the meeting.

And as it indicates here up on the slide, in general the purpose of the meeting is to focus on the scoping portion of NRC's NEPA review for the license application.

Having said that, I want to step back for a moment and remind folks of the outreach meeting that was held back in June where we talked about NRC's review process in general, and the likelihood of an application being provided to the NRC by Progress Energy Florida.

The company having provided that application in the late June time frame, NRC began its review process of that application to do an acceptance review and then to subsequently docket

that application, and following the docketing process to then begin a detailed review of the application to determine its adequacy, its efficiency for licensing.

That process has begun in earnest and now we're here today to talk to you about or to discuss with you environmental concerns so the Commission can develop its Environmental Impact Statement. And this is what we call the scoping process. Let me have the next slide.

Again, in June we talked generically about the licensing process. Today Doug Bruner, when he gets up here, is going to provide a little bit more detail or overview again of that licensing process where he is going to discuss both safety and environmental.

But we're primarily here for the environmental review which we have, we've kicked it off. We're into the detail process which includes gathering environmental information that we would not otherwise have specifically about the site and its environment from you all, which is a very important process. And then he's going to talk a little bit about hearings and he is going to talk in more detail about public involvement. Let me have the next

slide, please.

This is the part about the NRC process that gets me a bit excited. And it gets me excited because I believe our process works best when we have a very diverse and broad group of stakeholders providing input into our process. It helps us make a better decision.

And so what we're hoping for, what I'm hoping for out of this meeting is that we get very constructive and meaningful feedback from everyone here so that we can go forward and complete our Environmental Impact Statement. Because without it we can't really do a good job.

So again, I appreciate everyone being here. I'm very excited about folks being a part of this process. And at this point in time I'm going to turn it over to Doug.

MR. BRUNER: Thank you, Greg. Again, my name is Doug Bruner. I am the NRC Project Manager for the environmental portion of this evaluation.

And what I am going to do initially is describe why the U. S. Nuclear Regulatory Commission exists; then I'm going to briefly describe the NEPA process or introduce you to NEPA. And then I'm going

to discuss how NEPA is incorporated into the NRC review process.

In any event, the U.S. Nuclear Regulatory Commission is a federal regulatory agency. We exist to regulate the civilian, commercial, industrial, academic and medical uses of nuclear materials in order to protect the public health, public's health and safety, as well as the environment.

Now, NEPA, the National Environmental Policy Act, it was signed into law on January 1, 1970. The Act establishes national environmental policy for the protection, maintenance, and enhancement of the environment and provides a means for carrying out that goal, which is the Environmental Impact Statement. And I'll be getting into more detail later on in this presentation. Next slide, please.

As you heard from Greg, Progress Energy is seeking a combined license for two new reactors. This combined license is a combined construction permit and operating license with conditions and it is issued by the NRC. It is an NRC decision that authorizes an applicant to construct and operate a nuclear plant at a specific site in accordance with

federal law and regulations.

Progress Energy Florida submitted the combined license application on July 30, 2008 for two AP1000 reactors, Units 1 and 2, to be built at the Levy County site. Next slide, please.

This is also an introductory slide and I will go into more detail further into the presentation. But this slide shows the major portions of the staff's review. NRC's regulations allow COL applications to reference what are called certified designs, or designs that were docketed but not yet approved.

The AP1000 reactor design, is revision fifteen. It was certified by the NRC through a rulemaking. The rulemaking process includes a specific opportunity for public comment. The AP1000 reactor design is being modified by Westinghouse and it is being reviewed by the NRC staff. This design, if acceptable, would again be certified by rulemaking.

Progress Energy is interested in using this revised AP1000 design and their COL application references this design. Additionally, the staff conducts site-specific safety review of the design as

would be located at the Levy County site.

And we also perform an analysis of the environmental impact of using that design at the site, which is what I am going to go into today. But what I do need to mention is that the environmental review is completely independent of the safety review.

Now, it is also important to mention at this point that as part of the COL application, the applicant has requested a limited work authorization. It is also known as an LWA. If approved, the LWA would allow the applicant to perform certain activities associated with the construction of foundations. The LWA is components of both the safety and the environmental reviews. It is important to state that the activities assumed by the applicant under the LWA do not guarantee approval of the COL. Next slide, please.

This slide provides an overview of the application review process. And an applicant will submit an application to the NRC and it undergoes both a safety review and an environmental review. These two reviews run in parallel. The objective of the safety review is, or the product of the safety

review is, the final safety evaluation report. And the product of the environmental review is the Environmental Impact Statement, which is what I'm here to discuss today.

The safety review complies with regulations in order to protect the public health and safety, and the environmental review focuses on the plant's impact on the environment. Both the safety review and the environmental review are subject to hearing, and the Environmental Impact Statement as well as the final Safety Evaluation Report are used in the hearing process for, by the Commission. It is actually used as the main body of evidence in the hearing for the Commission to make a decision on whether or not to approve the license.

Again, the primary purpose of today's meeting is to discuss the environmental review of the Levy -- of the review, or the environmental portion of the review. However, before I do that I think it is important to introduce some areas covered by the safety review. Can I get the next slide please.

The design of the facility. Progress Energy plans to use the amended AP1000 reactor design, as I previously mentioned. In terms of site

suitability, the safety report describes how environmental factors affect the plant design. We look at geologic, and seismic, and hydrologic concerns. We also look at flooding, hurricanes and tornadoes. We incorporate quality assuredness into the safety review. We look at adequate physical security, and we conduct this review in consultation with the Department of Homeland Security. We look at emergency preparedness, and we conduct this review in consultation with the Federal Emergency Management Agency. We also look at operator training. This ensures that the operators for the potential new plant or new units are properly trained to operate the units in a safe manner.

And, as mentioned earlier, Brian Anderson is with us here today. He is the Lead Safety Project Manager for this project. Next slide, please.

The environmental review, which is the subject of today's meeting, is guided by the National Environmental Policy Act. It is also known as NEPA. NEPA requires federal agencies to use a systematic approach and to consider the environmental impacts associated with the major federal actions that have the potential to significantly affect the human

environment. It is a disclosure tool which involves input from the public and by law requires the development of an Environmental Impact Statement.

The NRC has determined that issuing a combined license for a nuclear facility is a major federal action. As such, the staff develops an Environmental Impact Statement before the Commission takes action, or takes final action on the license application. Next slide, please.

As part of the NRC's environmental review, we plan to evaluate the potential environmental impacts of the construction and operation of two new AP1000 units at the Levy County site. NRC's regulations for implementing NEPA are at, in 10 CFR 51. And the NRC has established a systematic decision-making process to be applied during the environmental review which is our Environmental Standard Review Plan. It's also known as NUREG 1555. The regulations and guidance documents can be found on NRC's website at www.nrc.gov.

During the environmental review we provide opportunities for public involvement during the scoping period, which we're currently in right

now. And the results of our review will be docketed in the draft and final Environmental Impact Statement of the Levy County project, and the public will have an opportunity to comment on the draft Environmental Impact Statement. Throughout the entire review process the NRC maintains an open and transparent review process. Next slide, please.

This slide provides an overview of our environmental review process. And an applicant will submit an application to the NRC and it will undergo an acceptance review. We look at the application to see if it complies with our regulations and is sufficiently complete to warrant a further review. If it does, then we docket the application and we submit a Notice of Intent in the Federal Register to prepare an Environmental Impact Statement and to conduct scoping.

For the Levy County application, it was submitted on July 30th to the NRC. It was docketed on October 6th and the Notice of Intent was submitted in the Federal Register on October 24, 2008. Now, what this does is open up a sixty-day window for public comment, and which is why we are right here in this area.

Now, in terms of the information gathering stage, that's why we're in your community today. And we, throughout the week we've been meeting with the Applicant. We visited the site as well as the surrounding area, and we've been discussing the environmental report with the Applicant. We're asking questions and we're trying to obtain more information.

As part of the information gathering stage, we're also here to meet with you tonight for this scoping period. We're interested in your comments. You are familiar with the community and we would like to know about your community and what your concerns are.

In the later half of next year you should see the draft Environmental Impact Statement issued. Again, there will be a notice in the Federal Register notifying you. And what that's going to do is open up another seventy-five-day period for you to comment on the draft Environmental Impact Statement.

In this first process it gives sixty days and down here it will be seventy-five days. And we will incorporate your comments into the Environmental Impact Statement, and then we will issue the final

Environmental Impact Statement in 2010. And the final Environmental Impact Statement will be used as the primary body of evidence in the hearing, environmental evidence in the hearing, and as well the safety review. And it will be used to assist the Commission in making a decision on whether or not to approve the license. Next slide, please.

I would like to use this slide to refocus on why we are here today. We have come to your community with the hope that you will share with us those environmental issues and values that you believe are important for us to consider as we conduct our review. Since we do not live in the community, you may be aware of environmental issues that should be considered before the NRC completes its assessment.

In addition to providing comments and information here today, you have the opportunity to continue to share your comments or provide additional information to us through December 23rd. That's the end of the sixty-day scoping period.

In a later slide it will list how you can send comments to us after today's record is closed, and all comments received during the scoping process

will be included in the scoping summary report. And the scoping summary report should be issued sometime in April or May and it will be identified on our website to notify you.

As mentioned earlier, comments applicable to the NRC's environmental review will be considered in NRC's development of the draft Environmental Impact Statement. Next slide, please.

This slide shows the various sources that we use to obtain information. And the key point that I want to make is that the Staff's EIS is an independent evaluation of the effects of the plant, of the proposed plant, on the environment and local community. Although we're starting with the Applicant's environmental report, we are investigating information from many other sources. Next slide, please.

To conduct our review we've assembled a team, an interdisciplinary team, of NRC staff with backgrounds in the scientific and technical disciplines. The NRC has contracted with the Pacific Northwest National Laboratory. They are a Department of Energy laboratory, and the Information Systems Laboratory to assist us with preparation of the

Environmental Impact Statement.

The NRC team is comprised of experts with wide-ranging topics related to environmental issues as well as nuclear power plants. Next slide, please.

Again, you can submit your written comments for the scoping process through December 23. We do have copies of the Federal Register of Notice of Intent on the tables there in the back of the room. And this notice, the notice itself will describe how you, the public, can submit your scoping comments. And this slide also shares, or the next slide will show that information.

Once the staff completes the draft Environmental Impact Statement, the NRC will make it publically available to allow the public to provide comments on the draft Environmental Impact Statement. As I mentioned earlier, this opens up a seventy-five day window for your comments. Additionally, in 2009 we will have another public meeting here in your community, not necessarily at this facility, but in the community, to share the results of our review and to receive your comments.

Your comments will be evaluated and addressed in the final Environmental Impact

Statement, and the Agency expects to issue the Final Environmental Impact Statement in 2010.

An integrated schedule for the Levy County project has not been finalized and the milestone dates are estimated. And the NRC's website, and specifically the project website, project webpage, will provide that information when it becomes available. And the link to the Levy County web page is listed on this next slide. Next slide, please.

Comments on today's meeting can be provided by mail, e-mail, or in person at these following addresses, and I will be providing this slide at the end of the presentation for your information. Next slide, please.

I am now going to go into the hearing process. The hearing process offers another opportunity to have public involvement, and the public has sixty days from the publishing of the hearing to petition to -- from the publishing of the hearing notice to petition to intervene in the hearing. Anyone who wishes to file a petition to intervene should give the hearing notice close attention. It provides important information related

to intervention. And it is important to note that that should be published within the next few days in the Federal Register.

In order to file a Petition to Intervene, you must obtain digital certificate approval in advance or seek a waiver from the digital certificate requirement. And information regarding the process will be provided in the hearing notice and on the website on this slide.

It is also important not to wait until the last week of the notice period because it can take up to ten days to receive your digital certificate. Next slide, please.

Once more, the environmental review process is beginning and the public comment period for scoping ends on December 23. You can participate in the scoping process here today and the meeting on the draft Environmental Impact Statement. The NRC web page for the Levy County project can help you stay informed of related topics such as scheduling and access to the draft and Final Environmental Impact Statement.

To petition for leave to intervene in the hearing process, again you must receive digital

certificate approval before you can file a petition, and then the hearing covers both the safety and the environmental reviews. And to obtain more information you can go to the web page at the -- or connect on the link at the bottom of this slide. Next slide, please.

Again, my name is Doug Bruner. I am the Environmental Project Manager for this project. Brian Anderson is the Safety, the lead Safety Project Manager. And our contact information is listed here.

In addition, as I previously mentioned, our documents can be reviewed on NRC's website at the link provided here. We've also been fortunate that the local libraries have provided shelf space to us and we have the environmental report at the Citrus County Coastal Regional Library, as well as the Bronson Public Library, and the Dunnellon Branch Library. They are here for your convenience.

If you wish to be on our mailing list, make sure your name and address are provided to one of our NRC staff at the registration desk. This is one way of ensuring that you will be notified of upcoming meetings and ensuring that you will get copies of the draft and final Environmental Impact

idea. Will they be able to start work on the site like the middle of next year once the state issues the permit to do auxiliary buildings, roads and stuff like that to the site, or will it be a longer process than that?

MR. CAMERON: Okay. Let's answer that. And, of course, that's dependent on whether we grant the LWA. But can you provide us any information on that last part?

MR. ANDERSON: The activities that have been requested under the limited work authorization cannot be started until an LWA is issued. So until our LWA review is complete, and if the LWA request is approved, only then can those limited work activities begin. And, like I said, we're still developing the complete review schedule. And once that review schedule is completed that will be made publically available.

Just to give you a ballpark time frame, we expect that somewhere on the order of two years will be required to complete our entire review process for the limited work authorization. And that's a ballpark time frame. The detailed review schedule activities will be made publically available

once we've completed the development of our schedule.

MR. CAMERON: Thank you very much. We have Andy Kugler from the NRC staff that is going to add a little footnote.

MR. KUGLER: Okay. Thank you, Chip. One thing I wanted to make clear because there is some confusion about this, I think. There are some activities that the Applicant may want to take on site to prepare the site that don't require NRC authorization. So, for instance, you mentioned putting roads in. That activity does not require an NRC authorization. It has nothing to do, no relationship to reactor safety. So there are some things they can undertake before we have issued a limited work authorization or a combined license.

Now, there are still permits and licenses they may require from other agencies, either federal, or state, or local and they still have to get those authorizations. And we don't have control over that or over the timing of that. But what Brian was talking about is the authorization to start undertaking some limited activities that we have to authorize that are related to safety.

MR. CAMERON: Thank you. That's an

NRC Approved Applications for Power Uprates

The following power uprates have been reviewed and accepted by the NRC. The licenses for the following plants have been amended to reflect the increase in power level shown in the table.

(TYPE -- MU = Measurement Uncertainty Recapture; S = Stretch; E = Extended)

NO.	PLANT	% UPRATE	MWt	DATE APPROVED	TYPE
1	Calvert Cliffs 1	5.5	140	09/09/77	S
2	Calvert Cliffs 2	5.5	140	10/19/77	S
3	Millstone 2	5	140	06/25/79	S
4	H. B. Robinson	4.5	100	06/29/79	S
5	Fort Calhoun	5.6	80	08/15/80	S
6	Crystal River 3	3.8	92	07/21/81	S
7	St. Lucie 1	5.5	140	11/23/81	S
8	St. Lucie 2	5.5	140	03/01/85	S
9	Duane Arnold	4.1	65	03/27/85	S
10	Salem 1	2	73	02/06/86	S
11	North Anna 1	4.2	118	08/25/86	S
12	North Anna 2	4.2	118	08/25/86	S
13	Callaway	4.5	154	03/30/88	S
14	TMI-1	1.3	33	07/26/88	S
15	Fermi 2	4	137	09/09/92	S
16	Vogtle 1	4.5	154	03/22/93	S
17	Vogtle 2	4.5	154	03/22/93	S
18	Wolf Creek	4.5	154	11/10/93	S
19	Susquehanna 2	4.5	148	04/11/94	S
20	Peach Bottom 2	5	165	10/18/94	S
21	Limerick 2	5	165	02/16/95	S
22	Susquehanna 1	4.5	148	02/22/95	S
23	Nine Mile Point 2	4.3	144	04/28/95	S

24	WNP-2	4.9	163	05/02/95	S
25	Peach Bottom 3	5	165	07/18/95	S
26	Surry 1	4.3	105	08/03/95	S
27	Surry 2	4.3	105	08/03/95	S
28	Hatch 1	5	122	08/31/95	S
29	Hatch 2	5	122	08/31/95	S
30	Limerick 1	5	165	01/24/96	S
31	V. C. Summer	4.5	125	04/12/96	S
32	Palo Verde 1	2	76	05/23/96	S
33	Palo Verde 2	2	76	05/23/96	S
34	Palo Verde 3	2	76	05/23/96	S
35	Turkey Point 3	4.5	100	09/26/96	S
36	Turkey Point 4	4.5	100	09/26/96	S
37	Brunswick 1	5	122	11/01/96	S
38	Brunswick 2	5	122	11/01/96	S
39	Fitzpatrick	4	100	12/06/96	S
40	Farley 1	5	138	04/29/98	S
41	Farley 2	5	138	04/29/98	S
42	Browns Ferry 2	5	164	09/08/98	S
43	Browns Ferry 3	5	164	09/08/98	S
44	Monticello	6.3	105	09/16/98	E
45	Hatch 1	8	205	10/22/98	E
46	Hatch 2	8	205	10/22/98	E
47	Comanche Peak 2	1	34	09/30/99	MU
48	LaSalle 1	5	166	05/09/00	S
49	LaSalle 2	5	166	05/09/00	S
50	Perry	5	178	06/01/00	S
51	River Bend	5	145	10/06/00	S
52	Diablo Canyon 1	2	73	10/26/00	S
53	Watts Bar	1.4	48	01/19/01	MU
54	Byron 1	5	170	05/04/01	S

55	Byron 2	5	170	05/04/01	S
56	Braidwood 1	5	170	05/04/01	S
57	Braidwood 2	5	170	05/04/01	S
58	Salem 1	1.4	48	05/25/01	MU
59	Salem 2	1.4	48	05/25/01	MU
60	San Onofre 2	1.4	48	07/06/01	MU
61	San Onofre 3	1.4	48	07/06/01	MU
62	Susquehanna 1	1.4	48	07/06/01	MU
63	Susquehanna 2	1.4	48	07/06/01	MU
64	Hope Creek	1.4	46	07/30/01	MU
65	Beaver Valley 1	1.4	37	09/24/01	MU
66	Beaver Valley 2	1.4	37	09/24/01	MU
67	Shearon Harris	4.5	138	10/12/01	S
68	Comanche Peak 1	1.4	47	10/12/01	MU
69	Comanche Peak 2	0.4	13	10/12/01	MU
70	Duane Arnold	15.3	248	11/06/01	E
71	Dresden 2	17	430	12/21/01	E
72	Dresden 3	17	430	12/21/01	E
73	Quad Cities 1	17.8	446	12/21/01	E
74	Quad Cities 2	17.8	446	12/21/01	E
75	Waterford 3	1.5	51	03/29/02	MU
76	Clinton	20	579	04/05/02	E
77	South Texas 1	1.4	53	04/12/02	MU
78	South Texas 2	1.4	53	04/12/02	MU
79	ANO-2	7.5	211	04/24/02	E
80	Sequoyah 1	1.3	44	04/30/02	MU
81	Sequoyah 2	1.3	44	04/30/02	MU
82	Brunswick 1	15	365	05/31/02	E
83	Brunswick 2	15	365	05/31/02	E
84	Grand Gulf	1.7	65	10/10/02	MU
85	H. B. Robinson	1.7	39	11/05/02	MU

86	Peach Bottom 2	1.62	56	11/22/02	MU
87	Peach Bottom 3	1.62	56	11/22/02	MU
88	Indian Point 3	1.4	42.4	11/26/02	MU
89	Point Beach 1	1.4	21.5	11/29/02	MU
90	Point Beach 2	1.4	21.5	11/29/02	MU
91	Crystal River 3	0.9	24	12/04/02	S
92	D.C. Cook 1	1.66	54	12/20/02	MU
93	River Bend	1.7	52	01/31/03	MU
94	D.C. Cook 2	1.66	57	05/02/03	MU
95	Pilgrim	1.5	30	05/09/03	MU
96	Indian Point 2	1.4	43	05/22/03	MU
97	Kewaunee	1.4	23	07/08/03	MU
98	Hatch 1	1.5	41	09/23/03	MU
99	Hatch 2	1.5	41	09/23/03	MU
100	Palo Verde 2	2.9	114	09/29/03	S
101	Kewaunee	6	99	02/27/04	S
102	Palisades	1.4	35.4	06/23/04	MU
103	Indian Point 2	3.26	101.6	10/27/04	S
104	Seabrook	5.2	176	02/28/05	S
105	Indian Point 3	4.85	148.6	03/24/05	S
106	Waterford	8.0	275	04/15/05	E
107	Palo Verde 1	2.9	114	11/16/05	S
108	Palo Verde 3	2.9	114	11/16/05	S
109	Vermont Yankee	20	319	03/02/06	E
110	Seabrook	1.7	61	05/22/06	MU
111	Ginna	16.8	255	07/11/06	E
112	Beaver Valley 1	8	211	07/19/06	E
113	Beaver Valley 2	8	211	07/19/06	E
114	Browns Ferry 1	5	165	03/06/07	S
115	Crystal River 3	1.6	41	12/26/07	MU
116	Susquehanna 1	13	463	01/30/08	E

117	Susquehanna 2	13	463	01/30/08	E
118	Vogtle 1	1.7	60.6	02/27/08	MU
119	Vogtle 2	1.7	60.6	02/27/08	MU
120	Hope Creek	15	501	05/14/08	E
121	Comanche Peak 1	4.5	154	06/27/08	S
122	Comanche Peak 2	4.5	154	06/27/08	S
123	Cooper	1.6	38	06/30/08	MU
124	Davis-Besse	1.6	45	06/30/08	MU
125	Millstone 3	7.0	239	08/12/08	S
126	Calvert Cliffs 1	1.4	37	07/22/09	MU
127	Calvert Cliffs 2	1.4	37	07/22/09	MU
	Total MWt		17085.2		
	Total MWe		5695		