



**Progress Energy**

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U.S. Nuclear Regulatory Commission  
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Subject: Progress Energy COL Projects - NRC Numbers 738 and 756

Reference: NRC Regulatory Issue Summary 2007-08, *Updated Licensing Submittal Information to Support the Design-Centered Licensing Review Approach*, dated April 16, 2007

In the reference Regulatory Issue Summary (RIS), the Nuclear Regulatory Commission (NRC), indicated that it seeks updated information regarding the scheduling of ESP, COL, and DC application submissions, to facilitate the establishment of a predictable and consistent method for reviewing applications. The NRC encourages standardization of COL applications, which supports the Design-Centered Review Approach (DCRA).

Progress Energy supports and endorses the DCRA proposed by the NRC. Responses to the specific questions from the RIS are provided in Enclosure 1, for the Progress Energy Harris plant located in Wake County, North Carolina and the Levy Nuclear plant in Levy County, Florida. This information has been coordinated with the AP1000 Reference Plant information.

If you have any questions, please contact Bob Kitchen at (919)546-6992, or at [robert.kitchen@pgnmail.com](mailto:robert.kitchen@pgnmail.com).

Sincerely,

A handwritten signature in black ink that reads "C. S. Hinnant".

C. S. Hinnant

Enclosure: Progress Energy response to RIS 2007-08

RHK/CMI

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Enclosure 1  
Progress Energy Response to NRC RIS 2007-08  
Updated Licensing Submittal Information to Support the Design-Centered Licensing  
Review Approach

Each RIS 2007-08 information request is addressed below. The information provided in this response has been coordinated with the AP1000 Reference Plant

*Licensing Submittal Information*

1. a) Will the applicants be organized into DCWGs?  
Response: Progress Energy is a member of the AP1000 Design-Centered Working Group (DCWG).
  
- b) If so, what is the membership and who is the single point of contact designated for each DCWG?  
Response: At present, all announced applicants who have indicated their intent to apply for a COL utilizing the AP1000 Design Certification Document (DCD), are members of the DCWG. Peter Hastings of Duke Energy has been identified as the AP1000 Reference Plant Licensing Lead for NuStart and the NRC single point of contact for the AP1000 DCWG.
  
- c) Have protocols been developed to provide coordinated responses for RAIs with generic applicability to a design center?  
Response: The AP1000 DCWG is currently developing such protocols for use in developing coordinated responses to R-COL RAIs.
  
2. Which applicant referencing the design will be designated as the R-COL applicant?  
Response: The Tennessee Valley Authority (TVA) will be the AP1000 DCWG R-COL applicant for the Bellefonte (BNL) site.
  
3. a) When (month and year) will each of the COL applications be submitted for review?  
Response: Progress Energy intends to submit the COL application (COLA) for the Harris site (HAR) in January 2008 (approximately 30-60 days after the submittal of the R-COLA), and the COLA for the Levy site (LNP), in July 2008.
  
- b) In addition, what is the design, site location, and the number of units at each site?  
Response: The HAR and LNP COLAs are for the Westinghouse AP1000 certified design, at the existing Harris site in North Carolina, and, respectively, at the greenfield site in Levy county, Florida, for two AP1000 units each, supplied by Westinghouse Electric Company (WEC).

4. What portions of the COL application (chapters, sections, subsections) will be relying on the DC?

Response: Most portions of the application for an AP1000 design will be relying on the design certification (DC) to varying extents. For example, every chapter of the COLA Part 2 (plant-specific DCD, including the plant-specific Technical Specifications), will rely on the AP1000 design certification document (DCD) and will be supplemented as necessary to address additional needed information such as COL information items. A substantial amount of information in Part 3 (the Environmental Report (ER)) will also rely on DCD information, e.g., design descriptions and the DCD Appendix 1B severe accident mitigation design alternatives (SAMDA) discussion. The COLA Part 10 will also rely on the Tier 1 ITAAC and associated ITAAC design descriptions. Each Part of the COLA is addressed in Attachment 1 of the NuStart reference plant (Bellefonte) RIS 2007-08 response, with section by section details provided for Part 2 of the COLA.

5. What portions of the R-COL application (chapters, sections, subsections) will be referenced (i.e., replicated verbatim) in S-COL applications, and what portions of the application are likely to be site-specific?

Response: Details in response to this request are provided in Attachment 1 of the NuStart reference plant (Bellefonte) RIS 2007-08 response, for each Part of the COLA, with section by section details provided for Part 2.

6. a) When (month and year) will applicants complete the detailed design information to be verified under those inspections, tests, analyses, and acceptance criteria that are directed at certification information (design acceptance criteria)?

Response: The detailed design information to be verified under inspections, tests, analyses, and acceptance criteria (ITAAC) that are directed at certification information (i.e., DAC), will be complete at varying times, depending on the availability of the information. Some DAC resolution information is currently being developed and is anticipated to be available at the time of COLA submittal, but other DAC resolution information will not be completed until after the COL is issued.

- b) Will this information be completed in a design certification amendment application, in the R-COL application, in S-COL applications, in post-COL Final Safety Analysis Report updates, or a combination thereof?

Response: The detailed design information to be verified under ITAAC will be completed in a combination of a DC amendment application, the R-COL and S-COL applications, post-COLA updates, and post-COL notifications. The design information that is intended to resolve the Piping DAC will be included in the amendment to the AP1000 Design Certification. In addition, design information to partially resolve the Instrumentation and Control System and Human-System Interface DAC will also be included in the amendment.

*Site and Environmental Information*

7. a) Do any applicants intend to apply for an ESP prior to submitting their COL applications?

Response: Progress Energy does not intend to submit an ESP application prior to submitting the COLA, for either HAR, or LNP.

- b) If so, when (month and year) would the proposed ESP be submitted to the NRC for review?

Response: Not applicable.

8. For ESP applicants, is the applicant going to be seeking approval of either "proposed major features of the emergency plans" per 10 CFR 52.17(b)(2)(i), or "proposed complete and integrated emergency plans" per 10 CFR 52.17(b)(2)(ii)?

Response: Not applicable.

9. Do the applicants plan to submit an environmental report or limited work authorization request prior to other portions of the COL application, and if so, when (month and year)?

Response: Progress Energy does not intend to submit an environmental report or limited work authorization (LWA) request prior to submitting the COLA, for either HAR, or LNP. However, we will continue to assess the advantages that an LWA may offer based on needs and schedule.

10. What scope and schedule do applicants project for site characterization activities, such as core borings and testing of core samples?

Response: The scope of site characterization activities for the HAR and LNP COLAs includes the following: installation of ground water monitoring wells; boreholes of various size and depths for geotechnical investigations including soil/rock samples, standard penetration test (SPT) blowcounts, pressure meter testing, and site soil/rock profile determination; Geophysical investigations including suspension logging, down hole survey, and seismic refraction survey; Laboratory testing and engineering analysis of the soil/rock samples, geotechnical, and geophysical data. Meteorological data collection is in progress at both sites.

Current Schedule for Field work:

HAR: start April 2006; end December 2006 (Actual)

LNP: start January 2007; end August 2007

Current schedule for Lab Testing and Engineering Analysis

HAR: start April 2006; end May 2007

LNP: start February 2007; end April 2008

11. What interactions have taken place with local and State authorities and other Federal agencies to support licensing new reactors?

Response for the HAR COLA: Progress Energy Carolinas (PEC) representatives have met with local and State authorities and other Federal agencies regarding the proposed project. Many of the environmental permit applications required by the

NEPA process will be applied for in North Carolina, after the COLA has been submitted to the NRC. PEC representatives have contacted, among others, the following Federal, State and local agencies to date:

- North Carolina (NC) Department of Environment and Natural Resources (DENR), Division of Water Quality
- NC DENR, Division of Water Resources
- NC DENR, Division of Air Quality
- NC DENR, Division of Land Resources
- NC DENR, Division of Environmental Health, Radiation Protection Section
- NC DENR, Administration, SEPA Coordinator
- NC Department of Cultural resources, State Historic Preservation Office
- NC National Heritage Program
- NC Wildlife Resources Commission
- NC Department of Commerce
- NC Department of Transportation
- NC Crime Control and Public Safety, Division of Emergency Management
- U.S. Army Corps of Engineers
- U.S. Fish & Wildlife
- U.S. Department of Homeland Security
- Wake County Parks, Recreation & Open Space
- Wake County Emergency Management
- Lee County Emergency Management
- Chatham County Emergency Management
- Harnett County Emergency Management

Response for the LNP COLA: Progress Energy Florida (PEF) representatives have met with local and State authorities and other Federal agencies regarding the proposed project. Many of the environmental permit applications required by the NEPA process will be applied for in Florida, after the COLA has been submitted to the NRC. PEF representatives have contacted, among others, the following Federal, State and local agencies to date:

- Florida Department of Environmental Protection
- Florida Department of Environmental Protection, Energy Office
- Florida Department of Environmental Protection, Siting Office
- Florida Department of Environmental Protection, Office of Greenways and Trails
- Florida Department of Environmental Protection, Office of Wastewater Programs
- Florida Division of Emergency Management
- Florida Division of Health, Bureau of Radiation Control
- Levy County Emergency Management
- Citrus County Emergency Management
- Marion County Emergency Management
- Alachua County Emergency Management
- Dixie County Emergency Management

- Gilchrist County Emergency Management
- Hernando County Emergency Management
- Lake County Emergency Management
- Pasco County Emergency Management
- Sumter County Emergency Management
- FEMA Region II (Atlanta)
- NRC Regional State Liaison Office (Atlanta)

*Plant Construction Requirements Information*

12. a) Who are the vendors and consultants that are assisting in the preparation of the application?

Response: Progress Energy has procured the services of three vendors Sargent and Lundy L.L.C., WorleyParsons Resources and Energy, and CH2M Hill for the development and preparation of the HAR and LNP COLAs. Under contract with Progress Energy, these three vendors have formed the Joint Venture Team for the conduct of this work.

b) The NRC requests that the potential applicants submit a list of entities that are providing input to and are preparing the COL application under a QA program.

Response: The development and preparation of the Progress Energy COLAs is being conducted in accordance with the existing requirements of the Progress Energy QA Program that meets 10 CFR 50 Appendix B.

In accordance with the requirements of the Progress Energy QA Program, we have procured the services of three vendors Sargent and Lundy L.L.C., WorleyParsons Resources and Energy, and CH2M Hill for the development and preparation of these two COLAs. Under contract with Progress Energy, these three vendors have formed the Joint Venture Team for the conduct of this work. The contract was issued as quality contract for safety related services requiring the activities to be performed in accordance with each of these three vendor's Quality Assurance Programs that meet 10 CFR 50 Appendix B. All three of these vendors had been previously audited in accordance with the Progress Energy QA Program requirements and are on Progress Energy's approved suppliers list. Progress Energy's Vendor and Equipment Quality Branch is responsible for performing the procurement audits of these three vendors QA programs and approving their retention on the approved suppliers list for safety related services.

Each of the three vendors noted above are conducting the contracted work in accordance with the requirements of their respective Progress Energy approved QA Programs that satisfy 10 CFR 50 Appendix B. All three of these vendors are implementing their QA programs based on the requirements of ASME NQA-1 (1994). The procurement of additional sub-tier vendors is being performed in accordance with each of these vendor's(S&L, WP, or CH2MHILL) QA Program requirements for procured services and equipment. Based on the contractual requirements with each of these sub-tier vendors the work can be performed to either the vendor's (S&L, WP, or CH2MHILL) QA Program or the sub-tier vendor's own QA Program satisfying 10 CFR 50 Appendix B, that has been approved by the vendor (S&L, WP, or CH2MHILL) in accordance with its QA program requirements. The three Joint Venture Team Members are responsible for

implementing their respective QA Program requirements for auditing the performance of their contracted sub-tier vendors supporting this project.

Progress Energy retains overall responsibility for auditing the performance of these three Joint Venture Team vendors and the implementation of their respective QA program applied to the contracted work and deliverables. The final COLA submittals will be performed in accordance with Progress Energy's QA Program requirements and implementing procedures.

13. a) What information do the applicants have regarding the timing of construction, the ordering of long lead time components, and other commitments to construction?

Response: Current Progress Energy baseload generation needs require the first Florida unit to be placed in service in 2016. The first Harris unit will not be required to be in service prior to 2018.

Progress Energy is currently negotiating contracts for the new AP1000 units, and expects that orders for long-lead components will be placed in the first quarter of 2008.

b) Furthermore, what vendors will be designing, manufacturing, fabricating, and testing safety-related components for eventual plant construction?

Response: The prime vendors for the AP1000 plant design and construction are Westinghouse and Shaw, Stone & Webster. A partial list of potential vendors that may be selected to perform design, manufacturing, fabricating, and testing of safety-related components is provided in Attachment 2 of the NuStart reference plant (Bellefonte) RIS 2007-08 response. Most vendors will not be determined until a full commitment to construction is made.