



**James Scarola**  
Senior Vice President and Chief Nuclear Officer  
Progress Energy Carolinas, Inc.

Serial: NPD-NRC-2008-022  
July 28, 2008

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

ATTN: Mr. Michael Johnson, Director, Office of New Reactors

**Subject: Application for Combined License for Levy Nuclear Power Plant  
Units 1 and 2  
NRC Project Number 756**

In accordance with 10 C.F.R. Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Florida Power Corporation doing business as Progress Energy Florida, Inc. (PEF) hereby submits a combined construction permit and operating license application (COLA) for two AP1000 advanced pressurized water reactor units to be located at a greenfield site in Levy County, Florida. These new advanced reactor units are to be designated as Levy Nuclear Power Plant Units 1 and 2 (LNP1 and LNP2, respectively). In addition, PEF is requesting special nuclear material licenses, byproduct licenses, and source material licenses as required under 10 C.F.R. Parts 30, 40, and 70.

In accordance with 10 C.F.R. § 52.91(a), PEF is requesting a Limited Work Authorization (LWA) under 10 C.F.R. § 50.10(d) be issued in advance of the COL to allow the early performance of certain safety-related construction activities (COLA Part 6). The LWA application includes a site redress plan in accordance with 10 C.F.R. § 50.10(d)(3)(iii), which describes the scope of LWA activities requested to be authorized.

This COLA incorporates by reference Appendix D to 10 C.F.R. Part 52, as amended by Westinghouse Electric Company's AP1000 Design Control Document (DCD), Revision 16 which was submitted to the NRC on May 26, 2007, and Westinghouse Technical Report APP-GW-GLR134, "AP1000 DCD Impacts to Support COLA Standardization," Revision 5, which was submitted on June 27, 2008. Information required by 10 C.F.R. Part 52, Appendix D, Section IV.A.2 and 3 is included in this COLA and it utilizes, to the maximum practical extent, the standard content contained and designated as such in the Tennessee Valley Authority's Bellefonte Unit 3 and 4 COL application, the AP1000 reference plant application developed by NuStart Energy Development, LLC.\* Standard content is identified as such, primarily in the Final Safety Analysis Report of this application.

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\* NuStart Energy Development, LLC, is the industry consortium organized as part of the U.S. Department of Energy's Nuclear Power 2010 initiative to demonstrate the viability of the licensing process defined in 10 CFR Part 52, associated regulations, and NRC guidance.

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This COLA is comprised of the following parts:

- Part 1- Administrative and Financial Information
- Part 2 - Final Safety Analysis Report (FSAR)
- Part 3 - Environmental Report
- Part 4 - Technical Specifications
- Part 5 - Emergency Planning
- Part 6 – Limited Work Authorization
- Part 7 - Departures and Exemption Requests
- Part 8 - Safeguards/Security Plans (provided under separate cover letter)
- Part 9 - Withheld Information
- Part 10 - Proposed License Conditions, including Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)
- Part 11 - Quality Assurance Program Description

In accordance with 10 C.F.R. § 51.45(c), PEF has included a description of the environmental impacts of preconstruction activities to be performed at the LNP site that are necessary to support construction (as defined in 10 C.F.R. § 50.10(a)(1)) and operation of the facility in Section 4.6 of the environmental report (COLA Part 3). This description is based on the guidance available at the time of COLA preparation contained in the draft LWA Interim Staff Guidance (ISG). Although the draft LWA ISG identifies, in the section titled Short Term Implementation Issues, that the NRC staff does not intend to reject COL applications submitted in the near term solely because they do not address the separation of preconstruction and construction impacts, PEF has nevertheless included this information in a good faith effort to identify this separation and form a basis for the NRC's review in this area. PEF recognizes that the Structures, Systems, and Components (SSCs) that constitute construction used in the separation of impacts description may be too narrowly defined, but given the ongoing discussions between the industry and the NRC in applying the seven criteria in 10 C.F.R. § 50.10(a)(1) to define the scope of SSCs to be considered as construction, PEF believes that this issue must be resolved before adjusting the enclosed description, and will update this description when the LWA ISG is finalized.

No Restricted Data or other defense information requiring separation in accordance with 10 C.F.R. § 50.33(j) is contained in this application. Part 8 of this COLA contains Safeguards Information, which is provided under separate cover, and is controlled pursuant to 10 C.F.R. § 73.21 (c). Part 9 of this COLA contains certain financial information that PEF is requesting the NRC to withhold from public disclosure in accordance with the requirements of 10 C.F.R. § 2.390. An appropriate affidavit is included with this letter supporting proprietary treatment of PEF financial information pursuant to 10 C.F.R. § 2.390(a)(4).

Consistent with common licensing practice, most of the application text is written in the present tense, including discussion of facilities and programs not yet built or implemented. Exceptions to this approach are the discussions of operating experience and completed studies and evaluations, which are written in the past tense. It should be understood, however, that statements regarding facilities (e.g., structures, systems and components), and pre-construction, pre-operational, and operational activities (e.g., procedures and programs) typically address activities that have not yet been performed, and will not be performed until it is reasonable and appropriate to do so.

A complete set of application documents (identified above) is provided in electronic file format on the two enclosed disks (Enclosures 1 and 2). Enclosure 1 contains a publicly available version of the COLA; Enclosure 2 contains the COLA with information requested to be withheld from public disclosure included in Part 9.

Appropriate pre-submission checks have been successfully performed on the files for both disks to ensure compliance with the guidelines provided on the NRC web site and they have been found acceptable for electronic submittal. Each disk includes a "packing slip" describing its contents, pursuant to NRC instructions for electronic filing.

PEF decided to seek this COL only after conducting a rigorous internal review of supply-side and demand-side options, including renewable fuel generation options. The need for additional generating capacity in the time period 2016 to 2019 and beyond cannot be cost-effectively deferred or avoided by additional demand-side options or renewable generation resources. The additions of LNP1 and LNP2 are necessary for PEF to meet its commitment to provide an adequate and reliable power supply.

LNP1 and LNP2 are the preferred source of baseload electricity taking into account the need to improve the balance of fuel diversity, reduce Florida's dependence on fuel oil and natural gas, reduce current and future greenhouse gas emissions and air emission compliance costs, and contribute to the long-term stability and reliability of the electric grid. The need for LNP1 and LNP2 was acknowledged on July 15, 2008 when the Florida Public Service Commission unanimously affirmed the need for new generation and approved PEF's plans to build two AP1000 reactors in Levy County. (Florida Public Service Commission, Progress Energy Florida, Inc., Docket 080148-EI, [www.floridapsc.com](http://www.floridapsc.com) )

The contents of the LWA application require further explanation. The scope of activities described in the LWA application includes both construction and preconstruction activities. PEF believes that not all the activities described require prior approval by the NRC before such activities may be commenced. For completeness, PEF is providing a full list of activities planned prior to receipt of a COL that could be impacted by the ongoing discussions between the industry and the NRC Staff regarding the appropriate interpretation of the definition of those Systems, Structures, and Components, which would require authorization under an LWA or COL prior to construction activities. PEF does not anticipate adjusting the scope of LWA activities in the future, but reserves the right to revisit the scope depending on the outcome of the comment process on the draft Interim Staff Guidance for Limited Work Authorizations (LWA ISG, COL-ISG-004, ML080780414).

Further, PEF has determined that there are certain site preparation activities related to circulating water piping and intakes that should be allowed as preconstruction activities, as defined in 10 C.F.R. § 50.10, because: (1) they are not encompassed by the definition of construction in 10 C.F.R. § 50.10(a)(1), (2) they do not have a reasonable nexus to radiological health and safety and/or common defense and security, and (3) their indirect effect on such health and safety or common defense and security is so low as to be considered negligible. Specifically, these activities related to circulating water piping and intakes for LNP1 and LNP2, are:

- Install circulating water piping between the cooling tower basins and the entrance point to the turbine building condensers; and
- Install the raw water system intake structure and make-up line to the cooling tower basin.

PEF is including these activities related to circulating water piping and intakes within the scope of the LWA authorization request, due to the ongoing discussions between the industry and the NRC relating to the interpretation of the definition of SSCs that require authorization under an LWA. For the reasons stated in the Nuclear Energy Institute (NEI) letter dated July 11, 2008, PEF does not believe these activities related to circulating water piping and intakes are safety significant or require prior NRC approval.

Furthermore, to meet schedules to begin generating the electricity needed in the 2016 timeframe, PEF must commence certain activities related to circulating water piping and intakes prior to receipt of the COL. In the event the NRC determines that prior approval of the NRC is required, PEF requests these activities be included in the LWA. Because the activities related to circulating water piping and intakes are not specifically listed as within the scope of an LWA, and in the event the NRC were to determine otherwise that a COL is required to conduct such activities, pursuant to 10 C.F.R. § 50.12 (b), PEF will specifically request an exemption from the requirements of the LWA Rule for these activities to allow them to be included in the LWA. As described in COLA Part 6, this exemption would not give rise to a significant adverse impact on the environment,

redress of any adverse environment impact can reasonably be effected as described in the site redress plan, and the proposed activities would not foreclose subsequent adoption of alternatives. The basis for such an exemption would be similar to that described in the NEI letter dated July 11, 2008. If prior approval from the NRC is not needed, PEF proposes to modify the scope of the LWA to remove these activities from the LWA request and perform them as pre-construction activities.

Lastly, PEF has determined that certain activities are necessary to support excavation and to facilitate dewatering and that these excavation-related activities are not encompassed by the definition of construction, in 10 C.F.R. § 50.10(a)(2)(v). Accordingly, these excavation-related activities are not listed in the scope of the activities described that require prior approval by the NRC by an LWA or COL. These excavation-related activities for LNP1 and LNP2 are:

- Installation of permanent reinforced concrete diaphragm walls to facilitate dewatering and excavation of the nuclear islands; and
- Pressure grouting of rock below the nuclear island foundations roller compacted concrete bridging mats to facilitate dewatering of the excavation for the nuclear islands.

We understand that the NRC will review the PEF COLA to determine sufficiency for docketing. At the end of this acceptance review period, which for the first COLAs lasted approximately 60 days, the NRC will issue a detailed schedule to review this application in accordance with the combined licensing process. We are hopeful that the experience gained by the NRC in conducting reviews of other standard AP1000 COL applications, including Progress Energy Carolina's Harris Plant Units 2 and 3 COLA, will enable reduction in the time required for the NRC acceptance review and at other stages of the review process.

Due to the demonstrated need for additional generating capacity, PEF is planning to conduct construction activities in a manner that results in placing LNP1 in service by June 2016. As such, PEF is fully committed to supporting timely NRC review efforts by promptly providing any additional information needed by the staff. As the NRC prepares its detailed schedule to review this application, we respectfully request that the staff consider the following milestones:

- June 2010 - Final Environmental Impact Statement (FEIS) Issued
- September 2010 - LWA Issued
- January 2012 - COL Issued

We appreciate the staff's consideration of these milestones and look forward to meeting with the NRC to further discuss the review schedule.

United States Nuclear Regulatory Commission

NPD-NRC-2008-022

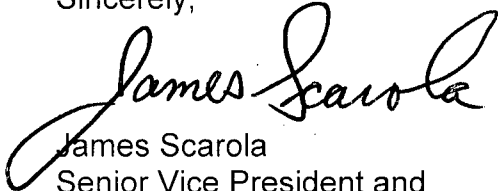
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If you have any questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or Garry Miller at (919) 546-6107. Counsel for the applicant is John H. O'Neill, Jr., (202) 663-8148, [john.o'neill@pillsburylaw.com](mailto:john.o'neill@pillsburylaw.com).

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 7-28, 2008

Sincerely,



James Scarola  
Senior Vice President and  
Chief Nuclear Officer

Enclosures:

1. Levy Nuclear Power Plant Units 1 and 2 COL Application, Public Version  
(electronic submittal)
2. Levy Nuclear Power Plant Units 1 and 2 COL Application, Non-Public Version  
(electronic submittal)

c (w/o enclosures): U.S. NRC Director, Office of New Reactors/NRLPO  
U.S. NRC Office of Nuclear Reactor Regulation/NRLPO  
U.S. NRC Region II, Regional Administrator

**AFFIDAVIT OF JAMES SCAROLA**

STATE OF NORTH CAROLINA )

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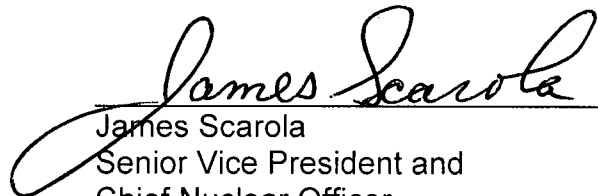
COUNTY OF WAKE )

I, James Scarola, Senior Vice President & Chief Nuclear Officer, Progress Energy, Inc., do hereby affirm and state:


1. I am authorized to execute this affidavit on behalf of Progress Energy Florida, Inc., (hereinafter referred to as "PEF"). I am further authorized to review information submitted to the Nuclear Regulatory Commission ("NRC") and apply for the withholding of information from disclosure. I am making this affidavit in conformance with the provisions of the NRC's regulations at 10 CFR 2.390 and in support of PEF's request for proprietary treatment of certain financial information.
2. I have knowledge of the criteria used by PEF in designating information as sensitive, proprietary, or confidential.
3. Pursuant to the provision of paragraph (a)(4) of 10 CFR 2.390, the following is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
  - a. The information sought to be withheld from public disclosure is owned by PEF and has been held in confidence by PEF.
  - b. The information sought to be protected is not available to the public to the best of our knowledge and belief.
  - c. The information is of the type that would customarily be held in confidence by PEF. This financial information consists of PEF's projection for construction, fuel supply, and operating costs. Public disclosure of this information is likely to cause harm to PEF because it would allow contractors, vendors, and competitors to understand PEF's competitive position and schedule prior to securing the related contracts and services or pricing competitive services.

- d. The proprietary information sought to be withheld from public disclosure is identified in Part 9 of the COL application and is marked as proprietary as it appears in the application.
- e. The information is transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC.

James Scarola, being dully sworn, states that he is Senior Vice President and Chief Nuclear Officer, Progress Energy, Inc., that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this combined license application for the Levy Nuclear Power Plant Units 1 and 2, and that all the matter and facts set forth herein are true and correct to the best of his knowledge.

  
James Scarola  
Senior Vice President and  
Chief Nuclear Officer

Subscribed and sworn to before me, a Notary Public, in and for the county and state above named, this 28 day of July 2008.

  
Notary Public in and for the State of North Carolina

My Commission Expires: 9-18-2010

