



Serial: NPD-NRC-2010-080  
November 2, 2010

10CFR52.79

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

**LEVY NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 52-029 AND 52-030  
SUPPLEMENT 1 TO RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER  
NO. 086 RELATED TO FOUNDATIONS**

- References:
1. Letter from Terri Spicher (NRC) to Garry Miller (PEF), dated March 16, 2010, "Request for Additional Information Letter No. 086 Related to SRP Section 3.8.5 for the Levy County Nuclear Plant, Units 1 and 2 Combined License Application"
  2. Letter from John Elnitsky (PEF) to U. S. Nuclear Regulatory Commission (NRC), dated August 18, 2010, Response to Request for Additional Information Letter No. 086 Related to Foundations," Serial: NPD-NRC-2010-068

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits a supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information (RAI) provided in Reference 1. A supplemental response to one of the NRC questions (RAI 03.08.05-4) is addressed in the enclosure.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

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

Executed on November 2, 2010.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Elnitsky', written over a printed name and title.

John Elnitsky  
Vice President  
New Generation Programs & Projects

Enclosure/Attachment

cc : U.S. NRC Region II, Regional Administrator  
Mr. Brian C. Anderson, U.S. NRC Project Manager

D094  
NRC

**Levy Nuclear Plant Units 1 and 2  
Supplement 1 to Response to NRC Request for Additional Information Letter No. 086  
Related to SRP Section 3.8.5 for the Combined License Application,  
Dated March 16, 2010**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
03.08.05-4	L-0728 & L-0860	NPD-NRC-2010-068; August 18, 2010 & Supplemental response enclosed – see following pages
03.08.05-5	L-0729	NPD-NRC-2010-068; August 18, 2010
03.08.05-6	L-0730	NPD-NRC-2010-068; August 18, 2010
03.08.05-7	L-0731	NPD-NRC-2010-068; August 18, 2010

**NRC Letter No.:** LNP-RAI-LTR-086

**NRC Letter Date:** March 16, 2010

**NRC Review of Final Safety Analysis Report**

**NRC RAI NUMBER:** 03.08.05-4

**Text of NRC RAI:**

In the applicant response to Question 3.8.5-02, Part 2, of RAI 2925 (NRC Letter No. 055) the applicant provided a description of two testing programs associated with the RCC bridging mat. One program is associated with production testing and a second testing program associated with an RCC Test Program conducted prior to construction. The applicant provided a description of the tests that will be performed to assess shear strength both for the base material and for the lift joints including identification of the testing methods to be used. However, the response does not clearly address the number of tests to be performed and how the variability of RCC properties will be assessed. Thus, the staff is requesting that the applicant provide the following:

1. A detailed description as to how the proposed RCC construction for the Levy plant is similar to the construction for which the shear strength to compressive strength correlations provided by the USACE is appropriate.
2. Furthermore, direct shear tests are described which are to be used for the test program. It is not clear whether sampling of the production mat will be sampled to provide direct shear tests on "as-placed" material. Additionally, once the three direct shear tests are performed, how will the results of those tests be used to predict "design" strength?
3. If the mat is to be designed following typical concrete codes used for structures, then the concrete codes are targeting about a 1% probability of failure of the material, given the design load. It is not clear from the discussion how nominal capacities will be established from just three samples. Furthermore, it is not clear from the discussion provided whether factored loads, consistent with ACI structural codes are to be used for the design assessment.
4. The applicant has indicated in discussions with the NRC staff that an expanded test program is under development. A written description of this expanded program is required in order for the NRC staff to complete an evaluation of the acceptability of the final test program. This expanded program should include discussion that identifies the expected variability of material properties, methods used to quantify the variability, how this variability is incorporated into developing an appropriate factor of safety for design, as well as how the tests that will be performed during production will assure that the design strengths will be achieved.

**PGN RAI ID #:** L-0860

**PGN Response to NRC RAI:**

Attached is the report "Previous Commercial RCC Testing Results", Levy Nuclear Plant, Revision 0. This submittal supplements our previous response to NRC Letter 086 RAI 03.08.05-4 submitted via letter NPD-NRC-2010-068, dated August 18, 2010.

This report documents that the planned RCC construction at Levy Nuclear plant is sufficiently similar to previous successful RCC construction in terms of material selection, mix design, testing, and construction methods. Thus there is a high level of confidence that similar results can be produced at the Levy Nuclear Plant.

**Associated LNP COL Application Revisions:**

No COLA changes have been identified associated with this response.

**Attachments/Enclosures:**

Attachment 1: Paul C. Rizzo Associates, "Previous Commercial RCC Testing Results,"  
Revision 0, October 2010.