



Serial: NPD-NRC-2009-236
December 3, 2009

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
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 072 RELATED TO
STABILITY OF SUBSURFACE MATERIALS AND FOUNDATIONS**

Reference: Letter from Brian C. Anderson (NRC) to Garry Miller (PEF), dated November 2, 2009, "Request for Additional Information Letter No. 072 Related to SRP Section 2.5.4 for the Levy County Nuclear Plant, Units 1 and 2 Combined License Application"

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in the referenced letter. A response to the NRC request 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 December 3, 2009.

Sincerely,



John Elnitsky
Vice President
Nuclear Plant Development

Enclosure

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

**Levy Nuclear Plant Units 1 and 2
Response to NRC Request for Additional Information Letter No. 072 Related to
SRP Section 2.5.4 for the Combined License Application, dated November 2, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
02.05.04-25	L-0592	Response enclosed – see following pages

NRC Letter No.: LNP-RAI-LTR-072

NRC Letter Date: November 2, 2009

NRC Review of Final Safety Analysis Report

NRC RAI #: 02.05.04-25

Text of NRC RAI:

In your response to RAI 2.5.4-19 you cited two analyses to show that sliding stability of the nuclear island did not depend on the backfill. The non-linear analysis referenced in the response is still under review, and RAI response RAI-TR85-SEB1-10R2 has not been accepted. In response to RAI 2.5.4-22, you did not address dissolution or leaching of constituent components of the CLSM because you stated that there was no backfill strength requirement.

Please provide a sample calculation of the linear static analysis you performed, with a detailed explanation of the derivation of the horizontal loads employed.

PGN RAI ID #: L-0592

PGN Response to NRC RAI:

In the revised response to RAI 02.05.04-19 (PGN RAI # L-0528 submitted via letter NPD-NRC-2009-202 dated September 3, 2009), the Westinghouse non-linear sliding analysis for RAI-TR85-SEB1-10R2 is our sole basis to conclude that isolated pockets of liquefiable zones will not affect the sliding stability of the Levy Nuclear Plant (LNP). As part of the revised response included in PGN RAI # L-0528, the site specific calculation for sliding referenced in the original response to RAI 02.05.04-19 (PGN RAI # L-0202 submitted via letter NPD-NRC-2009-123 dated June 23, 2009) was voided as it was no longer necessary to support the conclusions made.

Note that RAI-TR85-SEB1-10R2 was revised subsequent to submittal of our responses PGN RAI #s L-0528 and L-0530. Revised response RAI-TR85-SEB1-10R3 was submitted via Westinghouse letter DCP_NRC_002633 dated September 22, 2009. The revised RAI-TR85-SEB1-10R3 equally supports our conclusions in responses PGN-RAI # L-0528 and PGN-RAI # L-0530.

The Westinghouse non-linear sliding analysis is for the CSDRS and the AP1000 soil profiles. RAI 03.07.01-01 Figure 1 (submitted via letter NPD-NRC-2009-222 dated November 2, 2009) shows a comparison of the LNP performance based surface response spectra (PBSRS) at the plant finished grade and the CSDRS. The CSDRS envelops the LNP PBSRS by a wide margin. The variation of shear wave velocity with depth at the LNP site is similar to the "Soft to Med UB" soil case in APP-GW-GLR-044 Revision 1 submitted by Westinghouse Electric Corporation on February 02, 2009. Based on the above, it can be concluded that the Westinghouse non-linear sliding analysis bounds the LNP site specific conditions. LNP site specific sliding analysis is not planned pending the outcome of the NRC review of RAI-TR85-SEB1-10R3.

The basis of our conclusion that liquefiable zones are isolated, not continuous is provided in our response to RAI 03.08.05-3 (PGN RAI L-0429 submitted via letter NPD-NRC-2009-231 dated November 17, 2009).

Dissolution or leaching of constituent components of the CLSM was addressed in our revised response to RAI 02.05.04-22 (PGN RAI # L-530 submitted via letter NPD-NRC-2009-202). The revised RAI response concluded, "the low-strength concrete type backfill, installed adjacent to but not under the nuclear island, requires no shear capacity and is therefore not subject to the same long-term stability concerns of other backfill applications".

Associated LNP COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures to Response to NRC:

None.