Progress Energy

Serial: NPD-NRC-2010-086 10CFR52.79
November 10, 2010

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. 085 RELATED TO SEISMIC SYSTEM ANALYSIS

References:
1. Letter from Terri Spicher (NRC) to Garry Miller (PEF), dated March 16, 2010, "Request for Additional Information Letter No. 085 Related to SRP Section 3.7.2 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 July 23, 2010, "Response to Request for Additional Information Letter No. 085 Related to Seismic System Analysis," Serial: NPD-NRC-2010-063

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits a supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in Reference 1.

A supplemental response to one of the NRC questions (03.07.02-1) is addressed in the enclosure. The enclosure also identifies changes that will be made in a future revision of the Levy Nuclear Plant Units 1 and 2 application.

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 10, 2010.

Sincerely,

John Elnitsky
Vice President
New Generation Programs & Projects

Enclosure

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

Progress Energy Florida, Inc.
P.O. Box 14042
St. Petersburg, FL 33733

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NRO

Levy Nuclear Plant Units 1 and 2
Supplement 1 to Response to NRC Request for Additional Information Letter No. 085
Related to SRP Section 3.7.2 for the Combined License Application,
Dated March 16, 2010

NRC RAI #	Progress Energy RAI #	Progress Energy Response
03.07.02-1	L-0736 & L-0863	July 23, 2010; Serial: NPD-NRC-2010-063 & Supplemental response enclosed – see following pages
03.07.02-2	L-0737	Future submittal

NRC Letter No.: LNP-RAI-LTR-085

NRC Letter Date: March 16, 2010

NRC Review of Final Safety Analysis Report

NRC RAI #: 03.07.02-01

Text of NRC RAI:

LNP FSAR Figure 2.5.4.5-201B indicates that a cementitious fill will be placed adjacent to the NI structures and fill the region between the NI structures and the diaphragm wall. FSAR Section 3.7.2.8 indicates that structure to structure interaction will not occur since the gap between the NI and adjacent structures is larger than the expected movement based on the maximum displacement seen in the GMRS. The construction details provided in Figure 2.5.4.5-201B indicate that the adjacent buildings rest on the diaphragm wall. Since there is no gap between the diaphragm wall and NI, it appears that the construction detail does not provide a gap as required by the AP1000 DCD.

The GMRS is a ground motion which has been developed based on a UHRS motion modified by a scale factor to account for the fragility inherent in the structural system. However, the level of relative displacement that is expected to occur at the ground surface is the displacement that is associated with the UHRS at the performance goal level without the scale factor included.

1. Please provide the basis, including details of construction (diaphragm wall, cementitious fill, location of adjacent structures, etc.), for neglecting potential coupling between the NI and the adjacent structures. If a gap is to be provided, please provide the construction detail of this joint that demonstrates that a gap is in fact assured over the life span of the facility.
2. Please provide the basis for the use of the GMRS associated displacement in lieu of that associated with the performance goal level UHRS.

PGN RAI ID #: L-0863

PGN Response to NRC RAI:

This supplementary response revises the response to NRC Letter 085 RAI 03.07.02-01 submitted via Progress Energy Letter NPD-NRC-2010-063 dated July 23, 2010 as follows:

1. The RCC Bridging Mat RCC 1-year strength in Table 2.5.4.5-201 is revised from 2500 psi to ≥2500 psi to permit use of higher strength RCC mix.
2. Revisions to FSAR Sections 3.7.2.8.1, 3.7.2.8.2, and 3.7.2.8.3 noted in the response have been superseded by the FSAR revisions in NRC Letter 086 RAI 03.08.05-7 response submitted via Progress Energy Letter NPD-NRC-2010-068 dated August 18, 2010. This was noted in the "Associated LNP COL Application Revisions" section of the NRC Letter 086 RAI 03.08.05-7 response.

Associated LNP COL Application Revisions:

FSAR Table 2.5.4.5-201 will be changed in a future revision as follows:

Revise text in Table 2.5.4.5-201 (revised in response to NRC Letter 085 RAI 03.07.02-01) from:

Table 2.5.4.5-201

Engineering Properties of Structural Fill and Backfill

	AS-PLACED ENGINEERING PROPERTIES[a]	
Backfill Type	**Strength Parameters**	**V_S (fps)**
Roller Compacted Concrete Bridging Mat	1-Year Compressive Strength: 2500 psi	>3500 fps
Controlled Low Strength Material Backfill	Not Applicable	1000[b] fps
Engineered fill[c]	Drained friction angle of 34 degrees (or equivalent shear strength); SM-SC USCS Classification	850[d] fps

Notes:

a) These engineering properties are considered representative values of the backfill type.

b) Value is typical for controlled low strength material fill, conservatively based on engineering judgment.

c) Engineered fill will be compacted to 95 percent of its maximum dry density as determined by ASTM D 1557, Modified Proctor method, with a dry unit weight of 110 pcf. The moisture content of the fill will be controlled to within +/- 2 percent of its optimum moisture.

d) Expected range of the average shear wave velocity in the Engineered fill is 500 fps to 1000 fps.

V_s = Shear Wave Velocity

psi = pound per square inch

fps = foot per second

To read:

Table 2.5.4.5-201

Engineering Properties of Structural Fill and Backfill

	AS-PLACED ENGINEERING PROPERTIES[a]	
Backfill Type	**Strength Parameters**	**V_S (fps)**
Roller Compacted Concrete Bridging Mat	1-Year Compressive Strength: ≥2500 psi	>3500 fps
Controlled Low Strength Material Backfill	Not Applicable	1000[b] fps
Engineered fill[c]	Drained friction angle of 34 degrees (or equivalent shear strength); SM-SC USCS Classification	850[d] fps

Notes:

a) These engineering properties are considered representative values of the backfill type.

b) Value is typical for controlled low strength material fill, conservatively based on engineering judgment.

c) Engineered fill will be compacted to 95 percent of its maximum dry density as determined by ASTM D 1557, Modified Proctor method, with a dry unit weight of 110 pcf. The moisture content of the fill will be controlled to within +/- 2 percent of its optimum moisture.

d) Expected range of the average shear wave velocity in the Engineered fill is 500 fps to 1000 fps.

V_s = Shear Wave Velocity

psi = pound per square inch

fps = foot per second

Attachments/Enclosures:

None.