



Serial: NPD-NRC-2010-037
June 8, 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. 064 RELATED TO RADIATION PROTECTION DESIGN FEATURES**

- References:
1. Letter from Donald Habib (NRC) to Garry Miller (PEF), dated August 12, 2009, "Request for Additional Information Letter No. 064 Related to SRP Section 12.03-12.04 for the Levy County Nuclear Plant, Units 1 and 2 Combined License Application"
 2. Letter from Garry D. Miller (PEF) to U. S. Nuclear Regulatory Commission, dated September 3, 2009, "Response to Request for Additional Information Letter No. 064 Related to Radiation Protection Design Features", Serial: NPD-NRC-2009-201

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.

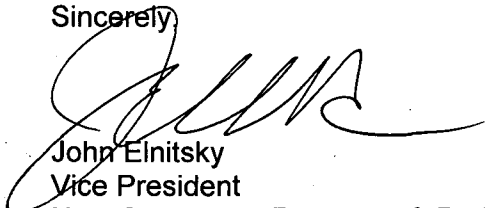
A supplemental response to the NRC request is addressed in the enclosure. The enclosure also identifies a change that will be made in a future revision of the Levy Nuclear Plant Units 1 and 2 application.

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 June 8, 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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LRO

**Levy Nuclear Plant Units 1 and 2
Supplement 1 to Response to NRC Request for Additional Information Letter No. 064
Related to SRP Section 12.03-12.04 for the Combined License Application,
Dated August 12, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
12.03-12.04-1	L-0529 & L-0820	September 3, 2009; NPD-NRC-2009-201 & Supplemental response enclosed – see following pages

NRC Letter No.: LNP-RAI-LTR-064

NRC Letter Date: August 12, 2009

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 12.03-12.04-1

Text of NRC RAI:

Levy County COL FSAR section 12.4.1.9 provides a description of the potential sources of exposure to construction workers. The dose limits to the workers are reviewed by the staff to ensure compliance with 10 CFR 20.1301.

10 CFR 20.1301 (a)(1) states "The total effective dose equivalent to individual members to the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year".

Review of related Levy County SCOL documents to support an independent assessment of compliance with the regulations, requires the staff to request additional information to make a determination of reasonable assurance.

The NRC staff reviewed supplemental information item LNP SUP 12.4-1, regarding dose to construction workers, in the new Subsection 12.4.1.9 (subsections 12.4.1.9.1 through 12.4.1.9.5). The information provided in FSAR section 12.4.1.9.1-4 was not sufficient for the staff to validate and verify the estimated doses for Unit 2 construction workers. Without this information the staff can not verify that the application meets the acceptance criteria in SRP 12.3-4 and complies with the dose limits in 10 CFR 20.1301 and 1302.

1) The applicant states that per DCD Section 12.4.2, the direct radiation contribution from the containment and other plant buildings is negligible. However, neither the DCD nor the applicant provides data as to the source of direct dose or the dose rates expected at locations for construction workers. Furthermore, the same statement is made regarding construction worker dose received from performing the tie-in of Unit 2 liquid effluent piping. The staff requests the applicant to provide additional data, including evaluated potential dose rates, with bases, at reasonably occupied construction worker locations to substantiate these conclusions.

2) The applicant uses the worst case X/Q value at 402 meters from Unit 1 to determine the dose to Unit 2 construction workers and assumes a worker residence time of 2080 hours. Dose determined at 402 meters is used with no discussion on the relationship of this distance to actual distances that construction workers will be from the radiation source release points. As indicated by Figure 2.1.1-203, construction workers could be substantially closer to Unit 1 sources than the 402 meters assumed. Furthermore, a construction worker residence time of 2080 hours is used; this value may not necessarily be reflective of anticipated worker exposure times (i.e., non-conservative) considering potential overtime during construction activities for Unit 2, which have been typical for such construction projects. The applicant is requested to provide a justification as to the appropriateness of calculating construction worker doses using the X/Q value for 402 meters, WSW. Additionally, the potential for increased work hours, above the nominal 2080 hours per year, should be considered in estimating construction worker dose.

Provide the information necessary to reproduce the calculations or reference where the information was obtained such that it is available to the staff to make an independent determination of construction worker dose estimates. Include the necessary information in the Levy County FSAR Section 12.4.

PGN RAI ID #: L-0820

PGN Response to NRC RAI:

The response to NRC RAI 12.03-12.04-1 was provided by Progress Energy Florida, Inc. (PEF) letter dated September 3, 2009, Serial: NPD-NRC-2009-201, PGN-RAI-ID # L-0529. PEF is providing this supplemental response to revise FSAR text in Section 12.4.1.9.3, Construction Worker Dose Estimates, to be consistent with the updated Chi/Q data provided in FSAR Table 2.3.5 -201, Sheet 2 of 4. The proposed change to the LNP 1 and 2 COLA Part 2, FSAR Section 12.4.1.9.3 provided below will be incorporated into the LNP COLA in a future revision.

Associated LNP COL Application Revisions:

The following change will be made to the LNP FSAR in a future revision:

Revise FSAR Section 12.4.1.9.3 third paragraph from:

For the purposes of these calculations, the Chi/Q value ($1.52\text{E-}04$ seconds per cubic meter [sec/m³] calculated at 402 meters (m) (1320 feet [ft.]) in the worst meteorological sector (WSW), obtained from Table 2.3.5-201, was used in GASPARI to calculate construction worker doses from the gaseous pathway, and conservatively bounds the construction worker location at LNP 2. LNP 2 will be situated directly due north of LNP 1 (not in the WSW sector), where the Chi/Q value at 402 m (1320 ft.) is $1.52\text{E-}04$ sec/m³. Use of the WSW sector Chi/Q provides more than a factor of 10 margin in the calculated construction worker doses.

To Read:

For the purposes of these calculations, the Chi/Q value ($1.52\text{E-}04$ seconds per cubic meter [sec/m³] calculated at 402 meters (m) (1320 feet [ft.]) in the worst meteorological sector (WSW), obtained from Table 2.3.5-201, was used in GASPARI to calculate construction worker doses from the gaseous pathway, and conservatively bounds the construction worker location at LNP 2. LNP 2 will be situated directly due north of LNP 1 (in the N sector) where the Chi/Q value at 402 m (1320 ft.) is $2.20\text{E-}05$ sec/m³. Use of the WSW sector Chi/Q provides more than a factor of 6 margin in the calculated construction worker doses.

Attachments/Enclosures:

None.