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Serial: NPD-NRC-2015-056  
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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  
SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER  
NO. 130 RELATED TO STANDARD REVIEW PLAN SECTION 12.03-12.04, RADIATION  
PROTECTION DESIGN FEATURES, FOR THE LEVY NUCLEAR PLANT, UNITS 1 AND 2,  
COMBINED LICENSE APPLICATION**

- References:
- 1) Letter from Donald Habib (NRC) to Christopher M. Fallon (DEF), dated August 7, 2015, "Request For Additional Information Letter No. 130 Related to Standard Review Plan Section 12.03-12.04, Radiation Protection Design Features, for the Levy Nuclear Plant Units 1 and 2 Combined License Application" (ML15219A536).
  - 2) Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated July 1, 2015, "Revised Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant, Units 1 and 2 Combined License Application" Serial: NPD-NRC-2015-027 (ML15189A247).
  - 3) Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated June 5, 2015, "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant, Units 1 and 2 Combined License Application", Serial: NPD-NRC-2015-014 (ML15161A041).
  - 4) Letter from Christopher Fallon (DEF) to Nuclear Regulatory Commission (NRC), dated November 2, 2015, "Response to Request for Additional Information Letter No. 130 Related to Standard Review Plan Section 12.03-12.04, Radiation Protection Design Features, for the Levy Nuclear Plant, Units 1 and 2, Combined License Application", Serial: NPD-NRC-2015-042 (ML15308A383).

Ladies and Gentlemen:

Duke Energy Florida, LLC (DEF) hereby submits our supplemental response to the Nuclear Regulatory Commission's (NRC) request for additional information for questions 12.03-3 and 12.03-4 provided in Reference 1. The DEF supplemental response is provided in Enclosure 1 to this letter and supersedes the previous responses submitted for questions 12.03-3 and

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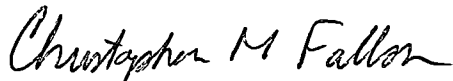
12.03-4 provided in Reference 4. No changes to the LNP COLA are required. The NRC questions pertain to information from two DEF RAI submittals, NPD-NRC-2015-027 and NPD-NRC-2015-014 (References 2 and 3). The information submitted in NPD-NRC-2015-014 was superseded by the information provided in NPD-NRC-2015-027.

If you have any further questions, or need additional information, please contact Bob Kitchen at (704) 382-4046, or me at (704) 382-9248.

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

Executed on December 22, 2015.

Sincerely,



Christopher M. Fallon  
Vice President  
Nuclear Development

Enclosure:

1. LNP Response to NRC RAI Letter No. 130

cc (w/o enclosure): U.S. NRC Region II, Regional Administrator  
cc (w/ enclosure): Mr. Donald Habib, U.S. NRC Project Manager

**Levy Nuclear Plant Units 1 and 2 (LNP)  
Supplemental Response to NRC Request For Additional Information Letter No. 130  
Related To Standard Review Plan Section 12.03-12.04, Radiation Protection Design  
Features, dated August 7, 2015**

<u>NRC RAI #</u>	<u>Duke Energy RAI #</u>	<u>Duke Energy Response</u>
12.03-3	L-1171	Revised response enclosed – see following pages
12.03-4	L-1172	Revised response enclosed – see following pages

**NRC Letter No.: LNP-RAI-LTR-130**

**NRC Letter Date: August 7, 2015**

**NRC Review of Final Safety Analysis Report**

**NRC RAI NUMBER:** 12.03-3 and 12.03-4

**Text of NRC RAI:**

As the RAI questions contain proprietary information, see Reference 1 for text of NRC questions.

**DEF RAI ID#: L-1171 and L-1172**

**DEF Revised Response to NRC RAI:**

The responses transmitted herein supersede those transmitted in NPD-NRC-2015-042 for the responses to Question 12.03-3 and Question 12.03-4. Note that Appendix A.1 has not changed, and was not resubmitted with this response.

**Question 12.03-3:**

The question references portions of the **AP1000** Certified Design that were not changed during the submittals made on June 5, 2015 and July 1, 2015. Design finality has been achieved through the provisions in 10 CFR 52.63. No proposed changes to the certified design are made in the response.

The design basis accident analysis in APP-SSAR-GSC-722, Revision 2 incorrectly credits some amount of penetration sealant around the startup feedwater lines. Note that no penetration sealant is credited around the much larger main steam or main feedwater lines. The design basis calculations have been updated to correct these inconsistencies. Currently, the archived analysis in APP-SSAR-GSC- 722, Revision 2 shows that:

1. No sealant is credited around the main steam line or main feedwater line when calculating the direct integrated dose to MCR operators of 0.3 rem over 30 days. Westinghouse sensitivity studies indicate that this remains true when considering the penetrations listed in Appendix A.1 and when the penetration sealant material is removed from the modeled startup feedwater line penetrations.
2. The design basis post-accident dose rate in Rooms 12404 and 12406 (the lower MSIV compartments) are reported in Revision 19 of the **AP1000** plant Design Control Document as Zone IX (> 500 rad/hr). The design basis post-accident dose rate in Rooms 12504, and 12506 (the upper MSIV compartments) are reported in Revision 19 of the **AP1000** plant Design Control Document as Zone VII ( $\leq 500$  rad/hr).

Westinghouse confirms that penetration sealants are not used to ensure the presence of sufficient shielding material to establish the radiation zones described for post-accident conditions. The **AP1000** post accident shielding calculation was revised to remove penetration sealant from the model. The DEF COL application does not contain any changes to penetration sealants applied to the main steam and main feed water piping penetrations. The DEF COL application continues to incorporate, by reference, the design descriptions and requirements in the **AP1000** Certified Design for penetration sealants.

Supplemental FSAR information is not needed based on this response.

**Question 12.03-4:**

The question references portions of the **AP1000** Certified Design that were not changed during the submittals made on June 5, 2015 and July 1, 2015. Design finality has been achieved through the provisions in 10 CFR 52.63. No proposed changes to the certified design are made in the response.

With regards to post-accident main control room operator dose, and post-accident radiation zones, additional information regarding the performance and credit of sealant materials is not necessary as this does not reflect the method employed in **AP1000** design activities.

The main control room dose provided in Enclosure 1 to NPD-NRC-2015-014 and currently-licensed post-accident radiation zone results do not require penetration sealant materials to be credited. Therefore, the penetration sealant material does not provide a safety related function in the **AP1000** design and additional information regarding penetration sealant material environmental qualification and performance characteristics is not required to support the safety analysis. In addition, there have been no changes to normal operation shielding design features described in Revision 19 of the **AP1000** plant Design Control Document that would otherwise require additional information regarding penetration sealant material environmental qualification and performance characteristics.

Supplemental FSAR information is not needed based on this response.

**Associated LNP COL Application Revision:**

**None**