



CHRISTOPHER M. FALLON  
Vice President  
Nuclear Development

Duke Energy  
EC12L/526 South Church Street  
Charlotte, NC 28202

Mailing Address:  
EC12L / P.O. Box 1006  
Charlotte, NC 28201-1006

o: 704.382.9248  
c: 704.519.6173  
f: 980.373.2551

christopher.fallon@duke-energy.com

Serial: NPD-NRC-2014-026  
July 30, 2014

10 CFR 52, Appendix D, X.B

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  
REVISED AP1000 COMBINED LICENSE APPLICATION DEPARTURE REPORT UPDATE**

Ladies and Gentlemen:

Duke Energy Florida, Inc. (DEF) submitted an application, dated July 28, 2008, for a combined license for two AP1000 passive pressurized water reactors to be located at a site in Levy County, Florida. Part 7 of the application is the "Departures and Exemption Requests."

The purpose of this letter is to provide a report describing plant-specific departures from the AP1000 Design Control Document (i.e., Departures Report), as required by 10 CFR 52, Appendix D, paragraph X.B.1 and X.B.3.b.

There have been two changes to the departures contained in the Levy Nuclear Plant, Units 1 and 2 "Departures and Exemption Requests" identified in the most recent six-month reporting period. One new departure and a revision to a previous reported departure. See Enclosure 1 for the Report.

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

Sincerely,

Christopher M. Fallon  
Vice President  
Nuclear Development

Enclosure: 1) LNP Six Months Departure Report

DO94  
LRO

cc: U.S. NRC Region II, Regional Administrator  
Mr. Donald Habib, U.S. NRC Project Manager

**LNP Six Months Departure Report**

**Semi-Annual Departure Report  
for the Period of  
January 2014 to July 2014**

**(Three pages including this cover page)**

Departure Number: LNP DEP 3.2-1 - Revised

Title: Addition of downspouts to the condensate return portion of the Polar Crane Girders and flow holes between the boxes

Activity Description:

Addition of downspouts to the condensate return portion of the Passive Core Cooling System - Modifications to the Polar Crane Girder (PCG), Internal Stiffener, and Passive Core Cooling System (PXS) gutter design were made. The fabrication holes at the top surface of the PCG and in the stiffener are blocked, and flow communication holes between PCG boxes are added. A downspout piping network was added to collect and transport condensation from the PCG and stiffener to PXS Collection Boxes. Eight new PXS downspout screens were added at the entrance of each of the downspouts at the top of the PCG and stiffener to prevent any larger debris from blocking the downspout piping.

Summary of Evaluation:

The proposed change does not involve a significant reduction in the margin of safety. The proposed change does not reduce the redundancy or diversity of any safety-related SSCs. The proposed changes increase the amount of condensate available in the In-containment Refueling Water Storage Tank (IRWST) after the initiation of a design basis event.

The proposed change does not result in an adverse effect as a modification, addition to, or removal of a structure, system, or component (SSC), and has no adverse impact on plant operating procedures or a method of control, and does not result in an adverse effect on a change or a method of evaluation, or use of an alternate method of evaluation. This activity does not represent a test or experiment outside the reference bounds of the design basis, and does not alter the assumptions or results of the ex-vessel severe accident assessment. Therefore, this departure has no safety significance.

In conclusion, based on the considerations discussed above; 1) there is reasonable assurance the health and safety of the public will not be endangered by operation in the proposed manner, 2) such activities will be conducted in compliance with the Commission's regulations, and 3) the implementation of the change will not be inimical to the common defense and security or to the health and safety of the public.

This departure requires an exemption from the requirements of 10 CFR Part 52, Appendix D, Section III.B, which requires compliance with Tier 1 requirements of the AP1000 DCD.

Departure Number: LNP DEP 6.3-1

Title: Changing "indefinite" to reflect calculated time results for PRHR-HX closed loop cooling

Activity Description:

The Passive Residual Heat Removal Heat Exchanger (PRHR-HX) has a functional requirement to be able to bring the AP1000 plant to a stable condition for events not involving a loss of coolant (i.e., non-LOCA event), DCD 6.3.1.1.4. The DCD in subsection 6.3.1.1.1 further states "The passive residual heat removal heat exchanger, in conjunction with the passive containment cooling system, is designed to remove decay heat for an indefinite time in a closed-loop mode of operation." Additional evaluations have been subsequently performed that identified the use of "indefinite" does not describe the predicted PRHR-HX long term operation properly. The word "indefinite" can be defined as an "unknown" or "unidentified" length of time; "indefinite" does not mean "infinite" which means having no boundaries or limits in time. The word "indefinite" in regards to PRHR-HX long term operation needs to be changed with a definitive time period.

Recent PRHR-HX evaluations performed under a variety of operating scenarios identified 14 days would be a conservative replacement time period for "indefinite". The Westinghouse evaluation of the PRHR-HX operation using non-bounding conservative conditions demonstrates the ability to keep the average RCS temperature in safe shutdown conditions for greater than 14 days under passive conditions (no operator action).

Summary of Evaluation:

The proposed changes have not revised or replaced DCD approved evaluation methodology. The changes being proposed are based on information developed from a calculation (APP-PXS-M3C-020) pertaining to long term PRHR-HX operation but this calculation was not used in establishing plant design bases or safety analyses methodology or impacts this methodology. This calculation evaluated PRHR-HX operation using non bounding conservative assumptions and provides how the PRHR-HX will respond long term for non-LOCA events in order to provide a relevant time period for cooling decay heat rather than using the open-ended term "indefinite".

This departure did not involve a change to Tier 1 information, Tier 2\* information or the Technical Specifications. A 10 CFR 50.59/10 CFR 52 Appendix D Section VIII review determined prior NRC approval is not required.