

**NRC Staff Regulatory Audit Plan
Review of Levy Nuclear Plant, Units 1 and 2
Design Change Related to the Containment
Condensate Return Pathway**

A. Background

By letter dated April 18, 2013, Progress Energy Florida, Inc. (PEF) submitted a request for exemption from the AP1000 rule and a description of associated design change departure from the AP1000 Design Control Document (DCD) Revision 19. PEF determined that this design change required them to notify the Nuclear Regulatory Commission (NRC) for review of the proposed change in accordance with Interim Staff Guidance DC/COL-ISG-011, "Finalizing Licensing-basis Information." The Levy Nuclear Plant Combined License Application incorporates the AP1000 DCD by reference.

The design change modifies the interior of the containment vessel in support of the condensate return portion of the passive core cooling system. The changes involve the addition of components to tables contained in Tier 1 of the DCD and associated changes to Tier 2 tables and figures. PEF justified this exemption from the certified design as necessary because application of the current generic certified design information would not achieve the underlying purpose of the rule.

PEF submittal includes a report developed in conjunction with Westinghouse Electric Company, LLC (Westinghouse) for the AP1000 that provides a description of the change and the basis for the change. APP-GW-GLR-161, "Changes to Passive Core Cooling System Condensate Return," includes a regulatory evaluation of the updated condensate return design that addresses compliance with the applicable regulatory requirements and criteria.

The purpose of the audit is for the staff to review the supporting PEF and Westinghouse documentation to ensure that the proposed design changes meet the applicable NRC regulations. The expected outcome of the audit is for the staff (1) to gain a better understanding of how design change meets NRC regulations, (2) to help develop requests for additional information in the areas that are not adequately covered in the available documentation, and (3) to identify supplemental information that should be added to the Levy FSAR, which the staff will rely on to make its safety finding.

B. Regulatory Audit Bases

This regulatory audit is based on the following:

- Title 10 *Code of Federal Regulations* (10 CFR), Part 52, Appendix D, Section VIII
- Appendix A to 10 CFR Part 50, General Design Criterion (GDC) 2, "Design bases for protection against natural phenomena"
- GDC 4, "Environmental and dynamic effects design bases"
- GDC 34, "Residual heat removal"
- GDC 35, "Emergency core cooling"
- GDC 36, "Inspection of emergency core cooling system"
- 10 CFR 50.46 and Appendix K to 10 CFR Part 50, as they relate to analysis of passive residual heat removal heat exchanger performance
- Standard Review Plan Section 6.2.2 "Containment Heat Removal Systems"
- DC/COL-ISG-011, "Finalizing Licensing-basis Information."

SRP Section 6.3, "Emergency Core Cooling System"

ENCLOSURE

C. Regulatory Audit Scope or Methodology

The area of focus for the audit is APP-GW-GLR-161. The Audit Team will be reviewing the following APP-GW-GLR-161 supporting documents and any related documents, as needed:

- TR-SEE-III-12-01, "AP1000 Condensate Return Test Report"
- APP-PXS-M3C-071, "Containment Response Analysis for the Long Term PRHR Operation"
- APP-PXS-M3C-072, "Condensate Return to IRWST for Long Term PRHR Operation"
- APP-PXS-M3C-020, "PRHR HX Sizing/Performance"
- APP-SSAR-GSC-536, "AP1000 Safe Shutdown Temperature Evaluation"

D. Information and Other Material Necessary for the Regulatory Audit

The staff will need the availability of the supporting documents and may need other supporting information during the conduct of the audit. As of May 7, 2013, the staff understands that of the five supporting documents that the staff intends to audit as stated in Section C, only TR-SEE-III-12-01 is currently available. The remaining four documents are to be available on or after May 17, 2013.

The staff may need access to the following:

1. Preliminary drawings and routing of the downspout drain lines and attachments to containment.
2. The revised WGOthic AP1000 containment model input deck that supports APP-PXS-M3C-071

E. Team Assignments

The following are the audit team members:

James O'Driscoll, NRC Audit Team Lead (Containment)
Harry Wagage, NRC Staff (Containment)
Chris Van Wert, NRC Staff (Reactor Systems)
Jim Gilmer, NRC Staff (Reactor Systems)
Yiu Law, NRC Staff (Mechanical Engineering)
Sardar Ahmed, NRC Staff (Mechanical Engineering)
Malcolm Patterson, NRC Staff (Probabilistic Risk Assessment)
Donald Habib, NRC Project Manager

Areas of responsibility are as follows:

No.	Area	Members
1	Containment systems	O'Driscoll Wagage
2	Reactor Systems	Van Wert Gilmer
4	Mechanical Engineering	Law Ahmed
5	Probabilistic Risk Assessment	Patterson

E. Logistics

Dates: May 9 through July 9, 2013

NRC Project Manager will inform PEF in advance of the audit dates, times, and agenda

Location: Westinghouse Electric Company, LLC
Washington Operations
12300 Twinbrook Parkway, Suite 330
Rockville, MD 20852
Telephone: 301-881-7040/7042

F. Special Requests

NRC staff requests that PEF/Westinghouse provide:

- (1) A conference room for the NRC staff use
- (2) Internet access
- (3) Telephone
- (4) Subject to NRC notification in advance, the availability of Westinghouse staff to participate by teleconference in order to answer technical questions related to the material subject to the audit.

G. Deliverables

The audit team will issue a regulatory audit summary within 90 days after completing the audit.

H. References

1. NRO-REG-108, "Regulatory Audits", April 2, 2009 (ML081910260)
2. Levy Nuclear Plant, Units 1 and 2, Submittal of Exemption Request and Design Change Description for Departure from AP1000 DCD Revision 19 To Address Containment Condensate Return Cooling Design, April 18, 2013 (ML13109A533)