

**Regulatory Audit Summary for
License Amendment Request:
Removal of the Preoperational Passive Residual
Heat Removal Heat Exchanger Natural Circulation Test (LAR 19-017)
Southern Nuclear Operating Company
Vogtle Electric Generating Plant, Units 3 and 4
Docket Nos. 52-025 and 52-026**

A. Background

By letter dated September 6, 2019, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19249C739), and supplemented by letter dated January 31, 2020, (ADAMS Accession No. ML20031E665), Southern Nuclear Operating Company (SNC) requested that the Nuclear Regulatory Commission (NRC) amend Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Combined License (COL) Numbers NPF 91 and NPF 92, respectively. The License Amendment Request (LAR) 19-017 requested changes to remove the preoperational passive residual heat removal (PRHR) heat exchanger natural circulation test from the scope of the VEGP Units 3 and 4 Initial Test Program (ITP). The proposed changes would revise licensing basis documents, including the Updated Final Safety Analyses Report (UFSAR) Subsections 1.9.4.2.1, 3.9.1.1.1.17, 6.3.6.1.2, and 14.2.9.1.3. In addition, COL Appendix C (and plant-specific Tier 1) Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) 2.2.03.08b.01 (No. 175) would be revised to replace the PRHR heat exchanger natural circulation test with the PRHR heat exchanger forced flow test, which is described in UFSAR Subsection 14.2.9.1.3.

An audit plan was issued by the NRC staff by letter dated December 12, 2019 (ADAMS Accession No. ML19346F122). The scope of the audit was primarily focused on the review of the licensee's calculations related to PRHR testing [] to determine if the licensee needs to submit any additional information contained in the analyses performed in support of the requested change to support or develop conclusions for the staff's safety evaluation.

B. Regulatory Audit Basis

This regulatory audit is based on the following:

- VEGP Unit 3, Current Facility Combined License NPF-91, Revised June 12, 2019, License Condition 2.D.(4)(b) and 2.D.(5)(b) (ADAMS Accession No. ML14100A106).
- VEGP Unit 4, Current Facility Combined License NPF-92, Revised June 12, 2019, License Condition 2.D.(4)(b) and 2.D.(5)(b) (ADAMS Accession No. ML14100A135).
- VEGP Units 3 and 4 UFSAR Tier 1, Revision 7, June 14, 2019 (ADAMS Accession No. ML19171A045).
- VEGP Units 3 and 4 UFSAR Tier 2, Section 14.2.9, Revision 8, June 14, 2019 (ADAMS Accession No. ML19171A073).

C. Audit Location and Dates

The regulatory audit was conducted both on-site at the Westinghouse Electric Company (Westinghouse) office in Rockville, Maryland as well as via internet portal from November 21, 2019 to January 31, 2020.

D. Audit Team Members

The following staff members participated in the audit:

- Hanry Wagage, Sr. Safety and Plant Systems Engineer
- Ryan Nolan, Nuclear Engineer
- Robert Beaton, Nuclear Engineer
- Rebecca Patton, Branch Chief, Nuclear Methods, Systems, and New Reactors Branch
- Donald Habib, Project Manager

E. Licensee Participants

The following personnel from SNC and Westinghouse participated in the audit:

- Nick Kellenberger, SNC
- Kelli Roberts, SNC
- Zach Harper, Westinghouse
- Oscar Vinals, Westinghouse
- Michael Patterson, Westinghouse
- Jennifer Meneely, Westinghouse
- Adana Stanish, Westinghouse

F. Documents Audited

Westinghouse and SNC made the documents listed in Table 1 available on the portal for NRC staff review. The documents were mostly calculations related to the [] and performance of the PRHR system during testing.

Table 1: Documents Available for the Audit

Westinghouse Document No.	Title	Revision No.	Document Date
APP-FSAR-GEF-066 – APP-PXS-T1-501 Markups	Non-FPOT Preoperational PRHR HX Test Removal; Engineering & Design Coordination Report, E&DCR No: APP-FSAR-GEF-066	17	July 1, 2019
APP-FSAR-GLN-1118_Revision 1	SNC Licensing Document Change Request (LDCR) Input; Non-FPOT Preoperational PRHR HX Test Removal	2, 1	June 13, 2018
APP-FSAR-GLN-1118 LAR 19-017 Supplement	SNC Licensing Document Change Request (LDCR) Input; Non-FPOT Preoperational PRHR HX Test Removal	2, 1	June 13, 2018
APP-PV20-Z0R-001	Ball Valves, American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Class 1	3	June 7, 2019
APP-PXS-M3-001	Passive Core Cooling System, System Specification Document	10	April 4, 2019
APP-PXS-M3C-010	PRHR HX Line Resistances	3	December 20, 2013
APP-PXS-M3C-020	PRHR HX Sizing / Performance	2	May 4, 2018

Westinghouse Document No.	Title	Revision No.	Document Date
N/A	Backup Slides: PRHR HX Natural Circ Preoperational Test Removal	0	1 August 22, 2019

G. Description of Audit Activities and Summary of Observations

A kick-off meeting was held at the Westinghouse office in Rockville, Maryland on December 5, 2019. At this meeting Westinghouse and SNC staff gave a presentation to specify and clarify the work that Westinghouse intends to perform to support the NRC requests communicated during a public meeting on November 21, 2019 and clarified on November 26, 2019 related to SNC LAR 19-017. Technical discussions were held to determine what information NRC staff specifically wanted to see in the planned supplement to the LAR as well as a general understanding of the Westinghouse/SNC approach.

The audit continued with NRC staff review of the calculations listed in Section F via internet-based portal. NRC staff prepared two lists of questions related to the LAR and documents reviewed on the portal. The questions are available in the following: ADAMS Accession Nos. ML20042C616 and ML20042C631 (publicly available) and ML20009D083 and ML20042C588 (proprietary; non-publicly available). A clarification call was held on January 14, 2020 to assure Westinghouse and SNC understood what was being asked. On January 24, 2020, a teleconference with Westinghouse and SNC was held to go over the NRC staff questions. At this teleconference, Westinghouse and SNC provided acceptable responses to all NRC questions. Additionally, Westinghouse and SNC made their responses available in a document on the portal for staff review.

Based on the review of the calculations made available in support of the proposed change and provided for the NRC staff review via the internet portal and SNC's supplemental submittal, dated January 31, 2020, (ADAMS Accession No. ML20031E665), the NRC staff did not identify any outstanding issues or the need for the licensee to submit any additional information on the docket.

H. Exit Briefing

No outstanding issues remained at the end of the audit and no exit briefing was held.

I. Requests for Additional Information Resulting from Audit

No requests for additional information were issued as a result of this audit.

J. Open Items and Proposed Closure Paths

No open items were identified as a result of this audit.

K. Deviations from The Audit Plan

The duration of the audit was extended in order to allow the staff to ask additional questions.

L. References

1. NRR-LIC-111, "Regulatory Audits," December 16, 2008 (ADAMS Accession No. ML082900195).