



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 12, 2019

MEMORANDUM TO: Victor E. Hall, Chief
Vogtle Project Office
Office of Nuclear Reactor Regulation

FROM: Donald Habib, Project Manager */RA/*
Vogtle Project Office
Office of Nuclear Reactor Regulation

SUBJECT: AUDIT PLAN FOR VOGTLE ELECTRIC GENERATING PLANT
UNITS 3 AND 4, REQUEST FOR LICENSE AMENDMENT
AND EXEMPTION: REMOVAL OF THE PREOPERATIONAL
PASSIVE RESIDUAL HEAT REMOVAL HEAT EXCHANGER
NATURAL CIRCULATION TEST (LAR 19-017)

By letter dated September 6, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML19249C738), Southern Nuclear Operating Company (the licensee) requested an amendment to Combined License (COL) Numbers NPF-91 and NPF-92, for Vogtle Electric Generating Plant (VEGP) Units 3 and 4.

The requested amendment would change the Updated Final Safety Analysis Report in the form of departures from the incorporated plant-specific Design Control Document (DCD) Tier 2 information and related changes to the VEGP Units 3 and 4 COL Appendix C (and corresponding plant-specific DCD Tier 1) information.

The requested amendment includes changes to remove the natural circulation test of the passive residual heat removal (PRHR) heat exchanger, which is conducted during preoperational testing, from the scope of the initial test program. In lieu of performing this test according to Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 2.2.03.08b.01, the ITAAC would be updated to reflect the heat removal performance test of the PRHR heat exchanger under forced flow conditions.

CONTACT: Donald Habib, NRR/VPO
301-415-1035

The Nuclear Methods, Systems, and New Reactors Branch (NRR/DSS/SNRB) and Containment and Plant Systems Branch (NRR/DSS/SCPB) plan to conduct an audit to gain a better understanding of the proposed changes and to review related documentation and non-docketed information in order to evaluate the acceptability of the proposed changes to the license.

Docket Nos.: 52-025 and 52-026

Enclosure:
Regulatory Audit Plan

cc: See next page

AUDIT PLAN FOR VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4, REQUEST FOR LICENSE AMENDMENT AND EXEMPTION: REMOVAL OF THE PREOPERATIONAL PASSIBE RESIDUAL HEAT REMOVAL HEAT EXCHANGER NATURAL CIRCULATION TEST (LAR 19-017) DATED: December 12, 2019

DISTRIBUTION:

Public
 VPO R/F
 RidsAcrsAcnwMailCenter
 RidsOgcMailCenter
 CPatel
 VHall
 BWittick
 HWagage
 RKaras
 RNolan
 RButler

ADAMS Accession No.: ML19346F122

NRO-008

OFFICE	NRR/VPO/PM	NRR/VPO/LA	NRR/DSS/SNRB/BC	NRR/VPO/BC
NAME	DHabib	RButler	RKaras	VHall
DATE	12/2/19	12/2/19	12/2/19	12/6/19

OFFICIAL RECORD COPY

Vogtle Units 3 & 4 Mailing List
cc:

(Revised 05/08/2019)

Office of the Attorney General
40 Capitol Square, SW
Atlanta, GA 30334

Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Nuclear Plant
7821 River Road
Waynesboro, GA 30830

Southern Nuclear Operating Company, Inc.
Document Control Coordinator Bin N-226-EC
3535 Colonnade Parkway
Birmingham, AL 35243

Anne F. Appleby
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084

County Commissioner
Office of the County Commissioner
Burke County Commission
Waynesboro, GA 30830

Mr. Wayne Guilfoyle
Commissioner District 8
Augusta-Richmond County Commission
4940 Windsor Spring Rd
Hephzibah, GA 30815

Gwendolyn Jackson
Burke County Library
130 Highway 24 South
Waynesboro, GA 30830

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
Atlanta, GA 30334

Resident Inspector
Vogtle Plant Units 3 & 4
8805 River Road
Waynesboro, GA 30830

Mr. Barty Simonton
Team Leader
Environmental Radiation Program
Air Protection Branch
Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, GA 30354-3906

George B. Taylor, Jr.
2100 East Exchange Pl
Atlanta, GA 30084-5336

Brian H. Whitley
3535 Colonnade Parkway, Bin N-226-EC
42 Inverness Center Parkway, BIN B237
Birmingham, AL 35243

Mr. Michael Yox
Site Regulatory Affairs Director
Vogtle Units 3 & 4
7825 River Road, Bin 63031
Waynesboro, GA 30830

Vogle Units 3 & 4 Mailing List

Email

acchambe@southernco.com (Amy Chamberlian)
agaughtm@southernco.com (Amy Aughtman)
ALPUGH@southernco.com (Amanda Pugh)
awc@nei.org (Anne W. Cottingham)
becky@georgiawand.org (Becky Rafter)
bhwhitley@southernco.com (Brian Whitley)
Bill.Jacobs@gdsassociates.com (Bill Jacobs)
bjadams@southernco.com (Brad Adams)
bwwaites@southernco.com (Brandon Waites)
castelca@westinghouse.com (Curtis Castell)
comerj@westinghouse.com (James Comer)
crpierce@southernco.com (C.R. Pierce)
dahjones@southernco.com (David Jones)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
dgbost@southernco.com (Danny Bost)
difulton@southernco.com (Dale Fulton)
drculver@southernco.com (Randy Culver)
durhamdc@westinghouse.com (David Durham)
ed.burns@earthlink.net (Ed Burns)
edavis@pegasusgroup.us (Ed David)
erg-xl@cox.net (Eddie R. Grant)
fdhundle@southernco.com (Forrest Hundley)
fhwillis@southernco.com (Fred Willis)
G2NDRMDC@southernco.com (SNC Document Control)
graysw@westinghouse.com (Scott W. Gray)
jadwilli@southernco.com (J.D. Williams)
james1.beard@ge.com (James Beard)
jannina.blanco@pillsburylaw.com (Jannina Blanco)
jantol1dj@westinghouse.com (David Jantosik)
jenmorri@southernco.com (Jennifer Buettner)
JHaswell@southernco.com (Jeremiah Haswell)
jim@ncwarn.org (Jim Warren)
John.Bozga@nrc.gov (John Bozga)
Joseph_Hegner@dom.com (Joseph Hegner)
jpredd@southernco.com (Jason R. Redd)
jranalli@meagpower.org (Jerry Ranalli)
karen.patterson@ttnus.com (Karen Patterson)
karlg@att.net (Karl Gross)
kmstacy@southernco.com (Kara Stacy)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
markus.popa@hq.doe.gov (Markus Popa)

Vogle Units 3 & 4 Mailing List

Matthew.Williams@hq.doe.gov (Matthew Williams)
mdmeier@southernco.com (Mike Meier)
media@nei.org (Scott Peterson)
Melissa.Smith@Hq.Doe.Gov (Melissa Smith)
mike.price@opc.com (M.W. Price)
MKWASHIN@southernco.com (MKWashington)
mlgraves@southernco.com (Michelle Graves)
MSF@nei.org (Marvin Fertel)
myox@southernco.com (Mike Yox)
nirsnet@nirs.org (Michael Mariotte)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)
Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
r.joshi15@comcast.net (Ravi Joshi)
RJB@NEI.org (Russell Bell)
Ronald.Jones@scana.com (Ronald Jones)
rwink@ameren.com (Roger Wink)
sabinski@suddenlink.net (Steve A. Bennett)
sara@cleanenergy.org (Sara Barczak)
sblanton@balch.com (Stanford Blanton)
Shiva.Granmayeh@hq.doe.gov (Shiva Granmayeh)
sjackson@meagpower.org (Steven Jackson)
skauffman@mpr.com (Storm Kauffman)
sroetger@psc.state.ga.us (Steve Roetger)
stephan.moen@ge.com (Stephan Moen)
stephen.burdick@morganlewis.com (Stephen Burdick)
tom.miller@hq.doe.gov (Tom Miller)
TomClements329@cs.com (Tom Clements)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
vcsummer2n3@gmail.com (Brian McIntyre)
wasparkm@southernco.com (Wesley A. Sparkman)
wayne.marquino@gmail.com (Wayne Marquino)
weave1dw@westinghouse.com (Doug Weaver)
x2gabeck@southernco.com (Gary Becker)
x2kmseib@southernco.com (Kristin Seibert)

**AUDIT OF REPORTS AND CALCULATIONS IN SUPPORT OF REQUEST
FOR LICENSE AMENDMENT AND EXEMPTION RELATED TO 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**

The purpose of the audit is to review the documentation and calculations needed by the U.S. Nuclear Regulatory Commission (NRC) staff to verify the information and conclusions in the “Request for License Amendment: Removal of the Preoperational Passive Residual Heat Removal Heat Exchanger Natural Circulation Test (LAR-19-017)” submitted by Southern Nuclear Operating Company (SNC) for the Vogtle Electric Generating Plant (VEGP), Units 3 and 4 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19249C738).

A. Background:

In LAR 19-017, SNC requests changes to the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the incorporated plant-specific Design Control Document (DCD) Tier 2 information and related changes to the VEGP Units 3 and 4 COL Appendix C (and corresponding plant-specific DCD Tier 1) information.

The LAR includes proposed changes to remove the natural circulation test of the passive residual heat removal (PRHR) heat exchanger, which is conducted during preoperational testing, from the scope of the initial test program. In lieu of performing this test according to Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 2.2.03.08b.01, the ITAAC would be updated to reflect the heat removal performance test of the PRHR heat exchanger under forced flow conditions.

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. Regulatory Audit Scope and Methodology

The audit team will view the documentation and calculations that provide the technical support for LAR 19-017. Information to be discussed involves the following topics:

- Calculations supporting integral PRHR flow path line resistances and frictional losses for all flow conditions.
- Test information for parameters related to the initiation of natural circulation.
- Validation or confirmation of LOFTRAN performance and capability to predict the initiation of natural circulation based on the as-built tests performed including a comparison of as-built resistance and frictional losses to the design values.
- Sensitivity studies relative to frictional margin.

In addition, the audit team will request to discuss these topics with subject matter expert(s).

D. Information and Other Material Necessary for the Regulatory Audit

The staff requests that the documents, data, and calculations regarding the aforementioned topics be made available to the staff in the electronic reading room:

The staff acknowledges and will observe appropriate handling and protection of proprietary information made available for the audit.

E. Audit Team

The following are the NRC audit team members:

- Ryan Nolan, Nuclear Engineer, Lead
- Harry Wagage, Senior Reactor Engineer
- Robert Beaton, Nuclear Engineer
- Donald Habib, Project Manager

The licensee contact is Nicholas Kellenburg.

F. Logistics

Date: November 21, 2019 – January 31, 2020

Location: The audit will be conducted remotely using the licensee's electronic reading room and teleconferences. As needed, face-to-face discussions and some document review may occur at:

Westinghouse Electric Company, LLC
Washington Operations
11333 Woodglen Drive, Suite 203
Rockville, Maryland 20852 Telephone: 301-881-7040/7042

G. Special Requests

None

Donald Habib, NRC Project Manager, can be reached at 301-415-1035 or Donald.Habib@nrc.gov.

H. Deliverables

On completion of the audit, the staff will prepare an audit summary report within 45 days that will be declared and entered as an official agency record in ADAMS. The audit outcome may be used to identify any additional information to be submitted for making regulatory decisions and will assist the staff in the issuance of requests for additional information (if necessary) in completing its review of LAR 19-017.