



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

August 23, 2018

MEMORANDUM TO: Jennifer Dixon-Herrity, Chief  
Licensing Branch 4  
Division of Licensing, Siting,  
and Environmental Analysis,  
Office of New Reactors

FROM: Peter Hearn, Senior Project Manager /RA/  
Licensing Branch 4  
Division of Licensing, Siting,  
and Environmental Analysis,  
Office of New Reactors

SUBJECT: AUDIT PLAN FOR VOGTLE ELECTRIC GENERATING PLANT  
UNITS 3 AND 4, REQUEST FOR LICENSE AMENDMENT:  
ENGINEERED SAFETY FEATURE SAFEGUARDS ACTUATION  
TECHNICAL SPECIFICATIONS APPLICABILITY CHANGES  
(LAR 18-011)

By letter dated May 18, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18138A396), Southern Nuclear Operating Company (the licensee) requested an amendment to Combined License Numbers NPF-91 and NPF-92, for Vogtle Electric Generating Plant (VEGP) Units 3 and 4.

The requested amendment requested changes to the Technical Specification (TS) Limiting Condition for Operation (LCO) 3.3.8, Engineered Safety Feature Actuation System (ESFAS) Instrumentation, related to Safeguard Actuation Functions. Various ESFAS Functions require Applicability and corresponding Actions changes to more accurately reflect their operation and related safety analysis assumptions.

The requested amendment revises the licensing basis information regarding the following:

- TS 3.3.8 Required Action E.2 is revised to state: "Reduce Reactor Coolant System (RCS) pressure below P-11 (Pressurizer Pressure) interlock."
- New TS 3.3.8 Required Action E.3 is added stating: "Establish RCS boron concentration greater than or equal to that necessary to meet the SDM requirements at an RCS temperature of 200°F," with a Completion Time of 12 hours.

CONTACT: Peter Hearn, NRO/DLSE/LB4  
301-415-1189

- TS 3.3.8 Required Action G.2 is revised to state: “Establish RCS boron concentration greater than or equal to that necessary to meet the SDM requirements at an RCS temperature of 200°F,” with a Completion Time of 12 hours.
- TS 3.3.8 Required Action G.3 is revised to state: “Block Steamline/Feedwater isolation and Safeguards actuations.” The Completion Time for this Required Action is “1 hour from discovery of RCS boron concentration greater than or equal to that necessary to meet SDM at an RCS temperature of 200°F while in MODE 3.”
- TS Table 3.3.8-1 Footnote (c) is revised to state: “Above the P-11 (Pressurizer Pressure) interlock.”
- New Table 3.3.8-1 Footnote (l) is added, stating: “Below the P-11 (Pressurizer Pressure) interlock and RCS boron concentration is less than that necessary to meet the SDM requirements at an RCS temperature of 200°F.”
- TS Table 3.3.8-1 Function 24 Applicability is revised to remove MODE 4.
- TS Table 3.3.8-1 updated Footnotes (c) and new Footnote (l) are applied to Table 3.3.8-1 Functions 5, 11, and 24, MODE 3 Applicability.
- TS Table 3.3.8-1 new Footnote (m) is added, stating: “Below the P-11 (Pressurizer Pressure) interlock when Steam Line Pressure - Low 2 is not blocked” and applied to Table 3.3.8-1 Function 24, Applicability MODE 3.
- TS Table 3.3.8-1 Footnote (k) is revised to state: “Below the P-11 (Pressurizer Pressure) interlock when Steam Line Pressure – Low 2 is blocked.”

The Reactor Systems, Nuclear Performance & Code Review Branch and the Risk Assessment Branch staff plan to conduct an audit to gain better understanding of proposed changes to reach reasonable assurance findings and review related documentation and non-docketed information to evaluate conformance with the Standard Review Plan or technical guidance.

Docket Nos.: 52-025 and 52-026

Enclosure:  
Regulatory Audit Plan

cc: See next page

U.S. NUCLEAR REGULATORY COMMISSION AUDIT PLAN FOR VOGTLE ELECTRIC  
GENERATING PLANT UNITS 3 AND 4 REQUEST FOR LICENSE AMENDMENT: ENGINEERED  
SAFETY FEATURE SAFEGUARDS ACTUATION TECHNICAL SPECIFICATIONS  
APPLICABILITY CHANGES (LAR 18-011)  
Dated AUGUST 23, 2018

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RButler  
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**ADAMS Accession No.: ML18221A326****NRO-002**

OFFICE	DLSE/LB4/PM	DLSE/LB4/LA	DLSE/LB4/BC
NAME	PHearn	RButler (SGreen)	JDixon-Herrity
DATE	8/08/18	8/20/18	8/23/18

**OFFICIAL RECORD COPY**

Vogtle Units 3 & 4 Mailing List

(Revised 07/17/2018)

cc:

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

## Vogtle 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)  
dlfulton@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)  
lchandler@morganlewis.com (Lawrence J. Chandler)  
markus.popa@hq.doe.gov (Markus Popa)

## Vogtle 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)  
Michael.Kuca@hq.doe.gov (Michael Kuca)  
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)

**UNITED STATES NUCLEAR REGULATORY COMMISSION  
AUDIT SUMMARY FOR THE REGULATORY AUDIT OF  
SOUTHERN NUCLEAR OPERATING COMPANY  
VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4  
REQUEST FOR LICENSE AMENDMENT: ENGINEERED SAFETY FEATURE SAFEGUARDS  
ACTUATION TECHNICAL SPECIFICATIONS APPLICABILITY CHANGES (LAR-18-011)**

**DOCKET NO. 52-025  
52-026**

LICENSEE: SOUTHERN NUCLEAR OPERATING COMPANY

LICENSEE CONTACT: Wes Sparkman

DURATION: August 27, 2018 to August 31, 2018

LOCATIONS: VEGP-Designated Electronic Reading Room

**A. BACKGROUND**

Southern Nuclear Operating Company (SNC) submitted by a letter dated May 18, 2018, to the U.S. Nuclear Regulatory Commission (NRC) a request for license amendment "Engineered Safety Feature Safeguards Actuation Technical Specifications Applicability Changes (LAR 18-011)."

The purpose of the audit is to review the reports and calculation methodology needed by staff to verify the information and conclusions in the "Request for License Amendment and Exemption: Engineered Safety Feature Safeguards Actuation Technical Specifications Applicability Changes (LAR 18-011)" submitted by SNC for the Vogtle Electric Generating Plant Units 3 and 4, in License Amendment Request (LAR) 18-011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18138A396).

**B. REGULATORY AUDIT BASIS**

This regulatory audit is based on the following regulations:

Title 10 to the *Code of Federal Regulations* Part 50, Appendix A, GDC 20, "Protection System Functions," requires that the protection system shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences, and (2) to sense accident conditions and to initiate the operation of systems and components important to safety.

The NRC staff will follow NRO Office Instruction NRO-REG-108 (Revision 0), "Regulatory Audits," (ADAMS Accession No. ML081910260) in performing the audit of the reports and calculations cited below.

Enclosure

### **C. Regulatory Audit Scope**

The primary scope of this audit is the review of analyses referenced in LAR 18-011 to support the proposed changes to TS LCO 3.3.8, Table 3.3.8-1, Function 24 in regards to the following text in Enclosure 1 of LAR 18-011 on page 10 of 15:

"The analysis evaluated three cases, with variations in PORV position and operator action times (i.e., in cooldown mid-position with operator response at 30 minutes and 1 hour, and failed wide open with operator response at 30 minutes). The results of these cases were compared against the full power Steam Generator Tube Rupture (SGTR) evaluation from UFSAR Chapter 15, and the full power SGTR evaluation bounded all three cases with respect to Total Flashed Break Flow, Total Break Flow, and Total Ruptured Steam Generator Steam Releases. The analysis concludes that the times selected for the operator response to isolate the PORV flow path are not critical to the conclusion that the full power analysis is limiting."

However, reference to the discussed analysis is not provided in the LAR. Therefore, the staff will review licensee-provided evaluation for SGTRs to verify the licensee statement that "the analysis supports the conclusion that automatic PORV and Block Valve isolation is not required in MODE 3 (below P-11) and MODE 4 (with RCS temperature greater than or equal to 350°F)." as stated in LAR 18-011.

### **D. Information and Other Material Necessary for the Regulatory Audit**

The following documents are to be made available to the NRC staff either at a local office or in the Electronic Reading Room (eRR):

1. The Westinghouse Nuclear Safety Advisory Letter 02-14, "Steam Line Break During Mode 3 for Westinghouse NSSS Plants," discussed in Enclosure 1, Section 2.A., Safeguards Actuation.
2. The evaluation discussed in Enclosure 1, Section 2.C., "Power Operated Relief Valve and Block Valve Isolation," performed to demonstrate that the full power SGTR is limiting.

Other documents may be requested based on the staff's review of the above documents. Appropriate handling and protection of proprietary information shall be acknowledged and observed throughout the audit.

### **E. Audit Team**

The following are the NRC audit team members:

Peter Hearn, Senior Project Manager, Lead  
Donald E. Palmrose, Senior Reactor Engineer, Technical Reviewer  
Marie Pohida, Senior Reliability and Risk Analyst, Technical Reviewer

The following are the licensee contacts:

Wes Sparkman (SNC)



## **F. Logistics**

The NRC staff will address in the audit report the technical areas identified in the Regulatory Audit Scope of this audit plan along with presenting the audit outcomes.

The audit will be conducted in support of the schedule for completion of the LAR 18-011 review with entrance and exit dates to be determined. The level of effort is estimated to be a total of 40 hours to perform the audit and issue the audit report.

Depending on the availability of the licensee's documentation, the audit is planned to be conducted between August 27, 2018 and August 31, 2018. The audit is intended to be conducted from the NRC Headquarters via the licensee's eRR; however, the audit may be performed at a local office of the licensee, if the technical information is only retained in hard copy.

The NRC staff acknowledges the proprietary nature of the information requested. It will be handled appropriately throughout the audit. While the NRC staff will take notes that will be marked as proprietary and will not remove hard copies or copy electronic files.

## **G. Requests Special**

If necessary, any circumstances related to the performance of the audit will be communicated to Peter Hearn at 301-415-1189 or via e-mail address at [Peter.Hearn@nrc.gov](mailto:Peter.Hearn@nrc.gov).

## **H. Deliverables**

At the completion of the audit, the NRC staff will prepare an audit 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 NRC staff in the issuance of requests for additional information (if necessary) in completing its review of LAR 18-011. With the anticipated exit telecom on September 5, 2018, the audit report will be completed by September 24, 2018.