



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

April 3, 2018

MEMORANDUM TO: Jennifer Dixon-Herrity, Chief  
Licensing Branch 4  
Division of New Reactor Licensing  
Office of New Reactors

FROM: Jordan Hoellman, Project Manager /RA/  
Licensing Branch 4  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: AUDIT PLAN FOR VOGTLE ELECTRIC GENERATING PLANT  
UNITS 3 AND 4, REQUEST FOR LICENSE AMENDMENT AND  
EXEMPTION REGARDING CHANGES TO THE BUILDING GAP  
BETWEEN THE NUCLEAR ISLAND AND ADJACENT  
BUILDINGS (LAR-18-002)

By letter dated February 1, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18032A359), Southern Nuclear Operating Company (SNC) 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 proposes changes to revise the Updated Final Safety Analysis Report in the form of departures from the incorporated plant-specific Design Control Document Tier 2\* and Tier 2 information and involves related changes to plant-specific Tier 1 information, with corresponding changes to the associated COL Appendix C information. Specifically, the requested amendment proposes changes to relax the minimum gap requirement above grade between the nuclear island and the annex building/turbine building and to remove the minimum gap requirement for the radwaste building from the Inspections, Tests, Analyses and Acceptance Criteria.

NRC staff from the Geoscience and Geotechnical Engineering branch plan to conduct an audit to confirm SNC's conclusion that the differential settlement does not have adverse impact on the gaps between the nuclear island and adjacent buildings and to reach reasonable findings by reviewing VEGP Units 3 and 4 settlement survey data and related documentation.

Docket Nos.: 52-025 and 52-026

Enclosure:  
Regulatory Audit Plan

cc: See next page

CONTACT: Jordan Hoellman, NRO/DNRL/LB4  
301-415-5481

AUDIT PLAN FOR VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4, REQUEST  
FOR LICENSE AMENDMENT AND EXEMPTION REGARDING CHANGES TO THE BUILDING  
GAP BETWEEN THE NUCLEAR ISLAND AND ADJACENT BUILDINGS (LAR-18-002)  
DATED APRIL 3, 2018

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CPatel, NRO

JHoellman, NRO

RButler, NRO

**ADAMS Accession No.: ML18089A282****NRO-008**

OFFICE	DNRL/LB4/PM	DNRL/LB4/LA	DNRL/LB4/BC
NAME	JHoellman	RButler	JDixon-Herrity
DATE	4/3/18	4/2/18	4/3/18

**OFFICIAL RECORD COPY**

Vogtle Units 3 & 4 Mailing List  
cc:

(Revised 03/13/2018)

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  
Document Control Coordinator  
42 Inverness Center Parkway, Bin 237  
Birmingham, AL 35242

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  
Regulatory Affairs Director  
Southern Nuclear Operating Company  
42 Inverness Center Parkway, BIN B237  
Birmingham, AL 35242

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)

## Vogtle Units 3 & 4 Mailing List

kwaugh@impact-net.org (Kenneth O. Waugh)  
lchandler@morganlewis.com (Lawrence J. Chandler)  
Marc.Pickering@hq.doe.gov (Marc Pickering)  
markus.popa@hq.doe.gov (Markus Popa)  
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)

**U.S. Nuclear Regulatory Commission  
Audit Plan for  
Vogtle Electric Generating Plant Units 3 and 4  
Request for License Amendment and Exemption Regarding  
Changes to the Building Gap Between the Nuclear Island and  
Adjacent Buildings (LAR-18-002)**

**Licensee:** Southern Nuclear Operating Company (SNC)

**Licensee Contact:** Paige Ridgway, SNC

**Date:** April 5, 2018

**Audit Location:** Westinghouse Electric Company, LLC  
11333 Woodglen Drive, Suite 202  
Rockville, Maryland 20852

**Purpose**

The staff will perform a regulatory audit to examine and evaluate technical information in order to confirm that the differential settlement at the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 does not have adverse impact on the gaps between the nuclear island and adjacent buildings that support the conclusions stated in License Amendment Request (LAR) 18-002, "Changes to the Building Gap between the Nuclear Island and Adjacent Buildings," VEGP Units 3 and 4 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18032A359).

**Background**

On February 1, 2018, SNC submitted VEGP Units 3 and 4 LAR-18-002 to the U.S. Nuclear Regulatory Commission (NRC). The requested amendment includes changes to revise the Updated Final Safety Analysis Report in the form of departures from the incorporated plant-specific Design Control Document Tier 2\* and Tier 2 information and involves related changes to plant-specific Tier 1 information, with corresponding changes to the associated combined license Appendix C information. Specifically, the requested amendment proposes changes to relax the minimum gap requirement above grade between the nuclear island and the annex building/turbine building and to remove the minimum gap requirement for the radwaste building from the Inspections, Tests, Analyses and Acceptance Criteria.

VEGP Units 3 and 4 LAR-18-002 on pages 9 and 10 of Enclosure 1 states that differential settlement of foundations may impact the gaps between the nuclear island and adjacent buildings and that differential settlement of foundations is evaluated based on the VEGP Units 3 and 4 settlement survey data collected from the site specific settlement monitoring program for potential impact on the gap between the nuclear island and adjacent buildings. SNC's conclusion that the differential settlement does not have adverse impact on the gaps between the nuclear island and adjacent buildings is based on the settlement survey data.

The staff will perform an audit to confirm that the differential settlement does not have adverse impact on the gaps between the nuclear island and adjacent buildings by reviewing settlement

Enclosure

survey data demonstrating that the nuclear island and the turbine building foundations have deflected more in the center, and the annex building foundation has deflected uniformly after all construction stages.

### **Regulatory Bases**

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criterion 1, "Quality standards and records," as it relates to the requirement that structures, systems, and components (SSCs) important to safety be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. It also requires that appropriate records of the design, fabrication, erection, and testing of SSCs important to safety be maintained by or under the control of the nuclear power unit licensee throughout the life of the unit.

10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants," as it relates to quality assurance requirements for the design, fabrication, construction, and testing of those SSCs of nuclear power plants that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

The NRC staff will follow the Office of New Reactor's (NRO) Office Instruction NRO-REG-108 (Revision 0), "Regulatory Audits," (ADAMS Accession No. ML081910260) in performing the audit of the report cited below.

### **Regulatory Audit Scope**

1. NRC staff seeks to confirm SNC's conclusion that the differential settlement does not have adverse impact on the gaps between the nuclear island and adjacent buildings at VEGP Units 3 and 4.
2. Staff will review the following document:  
SV0-0500-XCR-800030 R0, VEGP Units 3&4 Settlement Survey Data

The staff will identify additional documents, if necessary.

3. Audit teleconferences will be scheduled, as necessary, to clarify any information in the documents reviewed.

### **Audit Team Assignments**

The audit team comprises of the following NRC staff. These individuals will review the relevant documents that are related to the audit and are available at the time of the audit:

- Zuhan Xi, Technical Reviewer, Geotechnical Engineering
- Pravin Patel, Technical Reviewer, Structural Engineering
- Jordan Hoellman, Project Manager, Licensing Branch 4

### **Deliverables**

Once the regulatory audit is completed, the audit team will issue an audit summary within 90 days.