



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

May 19, 2020

**LICENSEE:** Southern Nuclear Operating Company, Inc.

**FACILITY:** Vogtle Electric Generating Plant, Units 1 and 2

**SUBJECT:** SUMMARY OF MAY 14, 2020, PUBLIC MEETING WITH SOUTHERN NUCLEAR OPERATING COMPANY, INC., REGARDING GENERIC LETTER 2004-02 FOR VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

On May 14, 2020, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Southern Nuclear Operating Company, Inc. (SNC, the licensee) via Skype. The purpose of the meeting was to understand SNC's plan using a risk-informed approach for resolving Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML042360586) for Vogtle Electric Generating Plant (Vogtle), Units 1 and 2.

A list of attendees is provided as an Enclosure.

On April 23, 2020 (ADAMS Accession No. ML20114E144), the meeting was noticed on the NRC public webpage.

The SNC presented slides contained in ADAMS Accession No. ML20114E303.

### Background

By letter dated September 30, 2019 (ADAMS Accession No. ML19120A469), the NRC issued the "Final Staff Evaluation for Vogtle Electric Generating Plant, Units 1 and 2, Systematic Risk-Informed Assessment of Debris Technical Report (EPID L-2017-TOP-0038)." By letter dated April 21, 2017, as supplemented by letters dated July 11; and November 9, 2017, and January 2, January 9, February 6, February 12, February 21, May 23, July 10, and December 4, 2018, SNC submitted a technical report for NRC staff review regarding the use of a risk-informed approach to resolve Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation on PWR [Pressurized-Water Reactor] Sump Performance," at Vogtle, Units 1 and 2, and to supplement its response to NRC GL 2004-02. The NRC staff found that the technical report enclosed with the letter dated July 10, 2018 (ADAMS Accession No. ML18193B163 and ML18193B165), is acceptable for use in plant-specific licensing applications for Vogtle, Units 1 and 2, in accordance with the limitations and conditions section and applicability provided in the NRC staff evaluation, dated September 30, 2019. The NRC staff evaluation in the letter provided the basis for the NRC to consider use of the technical report for Vogtle in future licensing applications. Except for downstream effects - fuel and vessel and licensing basis, the NRC staff has concluded that the technical report contains sufficient information to address the information requested in NRC GL 2004-02. The NRC staff evaluation,

dated September 30, 2019, applies only to material provided in the technical report. License amendment requests that deviate from this technical report will be subject to additional review in accordance with applicable review standards.

On November 4, 2019 (ADAMS Accession No. ML19296A885), the NRC held a public meeting with SNC to clarify the letter dated September 30, 2019. On November 19, 2019 (ADAMS Accession No. ML19310D797), the NRC issued the meeting summary of the meeting held on November 4, 2019.

### Introduction

The SNC staff discussed the following topics: (1) updates from November 2019, public meeting, (2) proposed exemption request to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," subsection (a)(1)(i), (3) proposed license amendment request (LAR) for implementation of a risk-informed approach for addressing GSI-191, (4) conditions and limitations from the NRC staff evaluation dated September 30, 2019, (5) proposed LAR to update final safety analysis report (FSAR) changes, (6) debris limits and how to address operability issues, and (7) proposed LAR for proposed changes to Technical Specifications (TSs).

### Updates from November 2019, Public Meeting

SNC will no longer request a proposed LAR to reduce refueling water storage tank (RWST) level for 7 days after Mode 4 entry. SNC plans to request an exemption to requirements in 10 CFR 50.46(a)(1), and not to the General Design Criteria (GDCs). SNC is not intending to provide a final response to GL 2004-02 with the proposed submittal.

SNC stated that the containment residual heat removal (RHR) sump strainer modification is planned for the fall of 2021 for Vogtle, Unit 1, and the spring of 2022 for Vogtle, Unit 2.

### Proposed Exemption Request for 10 CFR 50.46(a)(1)

SNC proposes to submit an exemption request from certain requirements of 10 CFR 50.46(a)(1), "other properties," as it relates to using deterministic methodology to evaluate the effects of debris on long-term core cooling.

Section 50.46(a)(1)(i) of 10 CFR requires, in part, each PWR to be provided with an emergency core cooling system (ECCS), and the ECCS performance must be calculated with an acceptable evaluation model. The performance must be calculated for a number of postulated loss-of-coolant accidents (LOCAs) of different sizes, locations, and other properties sufficient to provide assurance that the most severe postulated LOCAs are calculated.

### LAR Implementation of a Risk-Informed Approach for Addressing GSI-191

SNC is proposing to submit a LAR for implementation of a risk-informed approach addressing GL 2004-02.

Conditions and Limitations from the NRC Staff Evaluation dated September 30, 2019

The NRC stated in its letter dated September 30, 2019:

1. The applicability of the NRC's acceptance is limited to the structures, systems, and components; plant configurations; and operations described in Enclosures 2, 3, and 4 of SNC's letter dated July 10, 2018 (ADAMS Accession No. ML18193B163), and the strainer design described in the Section entitled, "16-Disk ECCS Suction Strainer Summary," of Enclosure 2.
2. The applicability of the NRC's acceptance is limited to the Vogtle assessment of risk attributable to debris described in Enclosures 1 and 3 of SNC's letter dated July 10, 2018.
3. Describe in-vessel analysis, establish in-vessel acceptance criteria, and demonstrate the criteria are met.
4. Address Key Principle 1 (i.e., the proposed licensing basis change meets the current regulations unless it is explicitly related to a requested exemption) and Key Principle 5 (i.e., the impact of the proposed licensing basis change should be monitored using performance measurement strategies) in RG 1.17 4, Revision 3.
5. Identify key elements of the risk-informed analysis (e.g., methods, approaches, and data) that will be described in the Vogtle UFSAR (Updated Final Safety Analysis Report).
6. Identify key elements of the risk-informed analysis and corresponding methods, approaches, and data that, if changed, would constitute a departure from the method used in the safety analysis as defined by 10 CFR 50.59.
7. Identify the relevant elements of the risk-informed assessment that may need to be periodically updated. The licensee must describe the program or controls that will be used to ensure relevant elements of the risk-informed assessment are periodically updated.
8. Describe a reporting and corrective action strategy for addressing situations in which an update to the risk-informed assessment reveals that the acceptance guidelines described in Section 2.4 of [Regulatory Guide] RG 1.174, Revision 3, have been exceeded.
9. Correct the error concerning the evaluation of transported coatings debris loads described in SNC's letter dated December 4, 2018 (ADAMS Accession No. ML18338A497). Specifically, provide corrected coating debris volumes and describe how coating debris loads on the strainers are determined. In addition:
  - a. Verify that the use of the corrected coating debris volumes has a limited impact on strainer head loss and the head loss is acceptable. Also, the licensee must describe the method of verification.
  - b. Verify that the use of the corrected coating debris volumes has a limited impact on CDF (core damage frequency) and does not result in

exceeding the acceptance guidelines for very small change in risk, as described in Section 2.4 of RG 1.174, Revision 3. Also, the licensee must describe the method of verification.

SNC stated that they had previously investigated the error and determined that washdown transport fractions were applied incorrectly for unqualified coatings debris in the NARWHAL computer code runs for risk quantification and sensitivity and uncertainty analyses (letter dated December 4, 2018, ADAMS Accession No. ML18338A497). The error resulted in non-conservative transported particulate debris loads. SNC says that they corrected the error and revisions and they will be provided in the proposed LAR submittal for affected tables from the July 2018 submittal.

#### Proposed LAR to FSAR Changes

SNC explained that there will be a new Appendix 6A added to the FSAR to summarize the risk-informed approach used to demonstrate that the ECCS and containment spray system (CSS) will operate with a high probability following a LOCA when considering the impacts of accident-generated debris.

#### Debris Limits and How to Address Operability Issues

SNC states that debris limits are defined that will ensure that the Vogtle, Units 1 and 2, stays within its design basis; SNC claims these debris limits can be used for operability determinations.

#### Proposed LAR for Proposed Changes to TSs

SNC states that the TS changes follow the model application in Technical Specification Task Force (TSTF)-567, Revision 1. SNC explains that Vogtle, Units 1 and 2, will have variations to TSTF-567, Revision 1. SNC says the proposed Condition B for the new Vogtle containment sump specification requires declaring the affected ECCS and CSS trains inoperable immediately, and TSTF-567 Revision 1 requires restoring the containment sump to operable status within a specific completion time and entry into the ECCS and CSS TS actions. SNC states the Condition C for the new containment sump specification is unnecessary because the required actions of Condition B to "declare" affected trains inoperable are immediate. SNC explains that the containment sump debris limits are provided in Vogtle, Units 1 and 2, TS Bases instead of the FSAR. SNC also said that there are administrative differences in numbering between the Vogtle TSs and Standard TSs on which TSTF-567 was based.

#### Closing

SNC plans to submit the proposed LARs and exemption requests in the June or July 2020 and would request approval in approximately one year.

The NRC staff made no regulatory decisions during the meeting.

Two members of the public were in attendance via the phone line. No members of the public made any comments or asked questions of the NRC staff. Public Meeting Feedback forms were available, but no comments were received.

The meeting adjourned at 10:34 am.

Please direct any inquiries to me at 301-415-3100 or [John.Lamb@nrc.gov](mailto:John.Lamb@nrc.gov).

Sincerely,

**/RA/**

John G. Lamb, Senior Project Manager  
Plant Licensing Branch, II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosure: List of Attendees

cc w/encls: Distribution via Listserv

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NUCLEAR OPERATING COMPANY, INC., REGARDING GENERIC LETTER  
2004-02 FOR VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2  
DATED MAY 19, 2020

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SAnderson, NRR

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MEndress, Region 2

CSafouri, Region 2

SJones, NRR

DNold, NRR

RMathew, NRR

ELysiak, NRR

RGrover, NRR

VCusomano, NRR

**ADAMS Accession No. PKG ML20139A135**

**Meeting Notice ML20114E144**

**Meeting Summary ML20136A248**

**Slides ML20114E303**

**\*email concurrence**

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	DORL/LPL2-1/BC	DORL/LPL2-1/PM
NAME	JLamb*	KGoldstein*	MMarkley*	JLamb*
DATE	5/14/2020	05/18/2020	5/19/2020	5/19/2020

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LIST OF ATTENDEES  
MAY 14, 2020, PUBLIC MEETING WITH SOUTHERN NUCLEAR COMPANY  
REGARDING GL 2004-02 FOR  
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

<u>ATTENDEE</u>	<u>REPRESENTING</u>
John G. Lamb	NRC
Mike Markley	NRC
Vic Cusumano	NRC
Alan Fetter	NRC
Stephen Smith	NRC
Andrea Russell	NRC
Paul Klein	NRC
Matt Yoder	NRC
Steve Bloom	NRC
Ryan Joyce	SNC
Franchelli Febo	SNC
James Flowers	SNC
Owen Scott	SNC
Tim Sande	Enercon
Bill Henne	Enercon
Haifeng Li	Enercon
Lori Christensen	Enercon
Nathan Jackson	Enercon
Cory Lane	Enercon
Amy Hazelhoff	Enercon
Roger Andreasen	Ameren - Public
Ron Holloway	Public