



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

February 5, 2026

LICENSEE: Southern Nuclear Operating Company, Inc.
FACILITY: Vogtle Electric Generating Plant, Units 1 and 2
SUBJECT: SUMMARY OF JANUARY 27, 2026, OBSERVATION PRE-SUBMITTAL MEETING HELD WITH SOUTHERN NUCLEAR OPERATING COMPANY, INC., REGARDING PROPOSED EXTENDED POWER UPRATE FOR VOGTLE, UNITS 1 AND 2 (EPID L-2025-LRM-0117)

On January 27, 2026, an Observation meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Southern Nuclear Operating Company, Inc. (SNC, the licensee). The purpose of the meeting was for SNC to discuss its proposed extend power uprate (EPU) license amendment request (LAR) and EPU-related LARs for Vogtle Electric Generating Plant (Vogtle), Units 1 and 2.

A list of attendees is provided as an Enclosure.

On November 21, 2025 (ML25325A052), the meeting was noticed on the NRC public web page, and the SNC slides are located at ML26023A001.

The NRC staff opened the meeting with introductory remarks and a rollcall of the attendees.

SNC representatives discussed the following topics: (1) Vogtle, Units 1 and 2, (2) key regulatory considerations, and (3) next steps/questions.

Background

The following table lists the past approved power uprates for Vogtle, Units 1 and 2:

Plant	% Uprate	MW _t	Date Approved	Type	Accession Number
Vogtle 1 & 2	4.5	154	03/22/1993	SPU	ML012330056
Vogtle 1 & 2	1.7	60.6	02/27/2008	MUR	ML080350345

SPU = stretch power uprate typically up to 7 percent

MUR = measurement uncertainty recapture < 2 percent

By letter dated May 8, 2025 (ML25128A365), SNC responded to NRC Regulatory Issue Summary (RIS) 2025-02, "Planned Power Uprate-Related Submittals."

Vogtle, Units 1 and 2

Vogtle, Units 1 and 2, are Westinghouse 4-Loop pressurized-water reactors (PWRs) licensed for 40 years with 20-year renewed licenses. The Vogtle, Unit 1, Renewed License expires on January 16, 2047, and the Vogtle, Unit 2, Renewed License expires on February 9, 2049.

SNC said it plans to submit a proposed Subsequent License Renewal (SLR) application in 2031. In addition, SNC stated that it is planning for 24-month fuel cycle extensions including a fuel transition.

Uprate	OLTP MWt	CLTP MWt	Planned CLTP Increase	Power Increase from CLTP	Power Increase from OLTP
Original	3411				
SPU	3411	3565	154 MWt	4.5%	104.5%
MUR	3411	3625.6	60.6 MWt	1.7%	106.3%
Proposed EPU	3411	3750	124.4 MWt	3.4%	109.9%

EPU = Extended Power Uprate greater than SPU
OLTP = Original Licensed Thermal Power
CLTP = Current Licensed Thermal Power

SNC stated that it plans to update analyses to allow for higher burnup fuel (68 gigawatt days per metric ton of uranium (GWD/MTU)). A proposed LAR regarding Regulatory Guide (RG) 1.183, Revision 1, is currently under NRC review; it was submitted May 12, 2025 (ML25132A313).

SNC said it plans to submit a Spent Fuel Pool (SFP) Criticality LAR, which bounds the proposed EPU and 24-month fuel cycles. SNC stated that it is planning a fuel transition to Robust Fuel Assembly (RFA) and the fuel transition includes (1) ADOPT fuel pellets, (2) AXIOM cladding, (3) incremental burnup, (4) full-spectrum loss-of-coolant accident (LOCA), (5) 3D rod ejection, and (6) applicable analyses bounded to EPU conditions.

SNC plans to submit proposed EPU to increase the licensed thermal power to 3750 MWt, which is 109.9% increase from OLTP. SNC said it plans to implement 2/3 core RFA fuel in fall 2030 for Vogtle, Unit 1, and spring 2031 for Vogtle, Unit 2.

SNC plans to submit a 24-month fuel cycle (24 MFC) LAR and have a full core RFA fuel in Vogtle, Unit 2, by fall 2032 and Vogtle, Unit 1, by fall 2033. SNC expects to extend surveillances and increase enrichment >5 weight-percent (wt%) of Uranium-235 (U-235) and use the Electric Power Research Institute Alternate Licensing Strategy for High Burnup. SNC is considering options for Rod Control Cluster Assemblies (RCCAs) to address shutdown margin (SDM). SNC plans to adopt an alternate source term (AST) RG 1.183, Revision 2 LAR.

SNC plans to submit a SFP criticality LAR in the second quarter of 2027 and request NRC approval in the second quarter of 2028. SNC said that the updated criticality analysis is bound by the proposed EPU LAR and the proposed 24 MFC LAR including:

- Bounding subsequent power uprate to 3750 MWth,
- RFA fuel product with ADOPT pellets and AXIOM cladding,
- Up to 200 Integral Fuel Burnable Absorber or Gadolinia Burnable Absorbers,
- Enrichment > 5 wt% U-235 with potential Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.68 exemption if the increased enrichment (IE) rulemaking is delayed,
- Approved Topical Reports for Paragon2 2D Transport Code – (WCAP-18443-P-A), and
- NUREG/CR-6801, “Recommendations for Addressing Axial Burnup in PWR Burnup Credit Analyses” burnup profiles.

SNC plans to submit an RFA transition LAR in the third quarter of 2027, and SNC plans to request approval by the NRC by the third quarter of 2028 due to fuel fabrication. SNC said that implementation would start in spring 2029 for Vogtle, Unit 1, and in fall 2029 for Vogtle, Unit 2. The current fuel assemblies are Westinghouse 17X17 OFA and will be transitioned to 17X17 RFA.

SNC plans to implement ADOPT fuel pellets (WCAP-18482-P-A) and AXIOM cladding (WCAP-18546-P-A). SNC said that a 10 CFR 50.46 exemption would be needed if the IE and 10 CFR 50.46 rule is delayed. SNC plans to implement incremental burnup extension method (WCAP-18446-P-A). In addition, SNC said that it plans to implement method updates for (1) Full-Spectrum LOCA (FSLOCA) (WCAP-16996-P-A), (2) PAD5 Fuel Performance Analysis (WCAP-17642-P-A), and (3) 3D Rod Ejection Accident Analysis (WCAP-15806-P-A).

SNC plans to submit an EPU LAR in the fourth quarter of 2028 and request NRC completion by the fourth quarter of 2029. The proposed EPU LAR will be from 3625.6 MWt CLTP to 3750 MWt, which is 109.9% from OLTP. SNC said it plans power ascension for Vogtle, Unit 1, by fall 2030, and Vogtle, Unit 2, by spring 2031.

SNC plans to retain the Measurement Uncertainty Recapture with Leading Edge Flow Meter at the proposed power level of 3750 MWt. SNC plans to implement WCAP-16259-P-A, “Westinghouse Methodology for Application of 3-D Transient Neutronics to Non-LOCA Accident Analysis.”

SNC is scoping the following balance-of-plant (BOP) modifications:

- High-Pressure Turbine replacement,
- Moisture Separator Reheater (MSR) replacements,
- Feedwater pump and Heater Drain pump motor upgrades,
- Circulating Water pump upgrades or adding a forced draft cooling tower, and
- Generator Step up Transformer cooler upgrades.

SNC expects that the EPU LAR land use will remain within the current licensing basis. SNC stated that there is a low likelihood of needing an air permit modification. SNC said that an air permit modification will only be needed if an additional cooling tower is needed. SNC stated that there is a potential to increase withdrawal rates, evaporative losses and discharge temperatures.

SNC plans to submit the AST RG 1.183, Revision 2, LAR in the third quarter of 2029, and will request approval by the NRC by third quarter of 2030. In this LAR, SNC intends to modify their alternative radiological source term calculations to align with the Draft Guide 1425 (predecessor to the current draft of RG 1.183 Revision 2) for higher rod average burnup limit. SNC said that these revised calculations would be used as bounding calculations for future core design changes including changes to extended fuel cycles.

SNC stated that Environmental Qualification doses will continue to be based on RG 1.89, Revision 1, source term and scaled as appropriate based on core inventory changes.

SNC plans to submit the 24 MFC LAR in the third quarter of 2030 and request approval from the NRC in the third quarter of 2031. SNC plans to implement the 24 MPC LAR in Vogtle, Unit 2, in fall 2032, and Vogtle, Unit 1, in fall 2033. SNC is considering RCCA modifications and licensing options to address SDM requirements. In addition, SNC plans to update Surveillance Frequency Control Program for 24-month cycles.

SNC plans to transition to 24-month fuel cycles. SNC plans to submit a fuel transition LAR to use RFA fuel and AXIOM cladding. SNC plans to submit an LAR to extend surveillances and a LAR for enrichment >5 wt% U-235. SNC is considering submitting a standalone AST RG 1.183, Revision 2 LAR for higher burnup to support 24-month fuel cycles.

Next Steps

SNC stated that at least one more targeted pre-submittal meeting will be held prior to the formal submittal.

Discussion

The NRC staff asked the following questions:

- Is SNC planning to separate each LAR or bundle?
- Will SFP for EPU and 24-month fuel cycle bounding analysis be completed? Have you confirmed it is bounding?
- Please expand RCCA option. Additional 4 RCCAs or different types of RCCAs.
- How many GWD/MTU does SNC plan to request for higher burnup?
- What is 2/3 core? SNC said it transitions 1/3 core at a time.
- What are the details of the lead test assembly (LTA) LAR?
- How far along is SNC for SFP criticality? Are there details?
- The slide for Dominion and Duke references are pre-submittal references. Is SNC aware that these have not been submitted yet?
- Is SNC planning to have detailed pre-submittal meetings for each LAR with enough time for feedback?

- Do you envision impact of inservice inspection and inservice testing components?
- Have you looked at EPU processes such as resonances?
- Are there challenges with the capacity of the ultimate heat sink for the power uprate? It appears that a mechanical draft cooling tower is planned to supplement the natural draft cooling towers. SNC said a decision should be made by the end of February 2026.
- Does SNC consider a new cooling tower to be a material alteration of the facility requiring a construction permit in accordance with 10 CFR 50.92?
- Will SNC use a new leading edge flow meter for the EPU?
- Is SNC addressing aging management of license renewal for EPU?
- Is SNC going to have more in-depth pre-submittal meetings for EPU?
- Will SNC use any features of accident tolerant fuel in the AXIOM and ADOPT fuel?
- Does the safety and accident analysis support a higher proposed power level for EPU?
- Does the safety analysis such as containment peak pressure versus its design pressure limit the power uprate level or is it the pressurizer becoming water solid during certain transient events? SNC reiterated many of the planned upgrades to it balance of plant equipment.

SNC stated that it would plan to have more detailed pre-submittal meetings for each future LAR submittal in order to support the NRC staff ability to provide more detailed technical feedback and ensure a quality LAR submittal(s).

Closing Remarks

There were 24 members of the public present at the meeting.

The NRC staff did not make any regulatory decisions during the meeting. The NRC staff will thoroughly review the LARs when they are submitted by SNC. The NRC staff will make any regulatory decisions in writing in a timely manner. Public Meeting Feedback forms were available, but no comments were received.

The meeting adjourned at 1:46 pm eastern time.

Please direct any inquiries to me at John.Lamb@nrc.gov or 301-415-3100.

/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: Listserv

LIST OF ATTENDEES FOR THE JANUARY 27, 2026, PRE-SUBMITTAL MEETING WITH
SOUTHERN NUCLEAR COMPANY REGARDING A PROPOSED EXTENDED POWER
UPRATE LARs
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

<u>ATTENDEE</u>	<u>REPRESENTING</u>
John G. Lamb	U.S. Nuclear Regulatory Commission (NRC)
Mike Markley	NRC
Zach Turner	NRC
Ahsan Sallman	NRC
Sean Meighan	NRC
Robert Beaton	NRC
Angelo Stubbs	NRC
Ed Miller	NRC
Steve Smith	NRC
John Lehning	NRC
Joe Messina	NRC
Michael Mahoney	NRC
Kent Wood	NRC
Antonio Barrett	NRC
John Bozga	NRC
Ed Stutzcage	NRC
Nichloas Difrancesco	NRC
Scott Krepel	NRC
ASL Interpreter	
Thomas Scarbrough	NRC
Maureen Conley	NRC
William Orders	NRC
Jo Ambrosini	NRC
Juan Perez	NRC
Vic Cusumano	NRC
Rebecca Patton	NRC
Kamal Manoly	NRC
Jeanne Johnston	Southern Nuclear Operating Company (SNC)
Chris Thornell	SNC
Michael Brill	SNC
David Reed	SNC
Amy Aughtman	SNC
Justin Wheat	SNC
Randall Dunavant	SNC
Ashley Thompson	SNC
Thomas Kindred	SNC

<u>ATTENDEE</u>	<u>REPRESENTING</u>
Wes Sparkman	SNC
Jerrod Ewing	SNC
Susan Hoxie-Key	Public
Mike Doherty	Public
Leighton Burkett	Public
Scott Burnett Jr	Public
Robert Becse	Public
Jeffrey Quinn	Public
Deann Raleigh	Public
David Dijak	Public
Andrew Bielen	Public
Natalie Rodgers	Public
Tara Matheny	Public
James Johnson	Public
Dennis Earp	Public
Richard Skowron	Public
Richard Rogalski	Public
Mary Noble	Public
Mark Wilk	Public
John Summers	Public
Stephan Franzone	Public
Ethan Arnold	Public
Erin McGrew	Public
April Rosario	Public
Stanley Hayes	Public
Wagner, Jennifer	Public

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ADAMS Accession Nos.:

PKG, ML26030A146

Meeting Notice, ML26022A370

Meeting Slides, ML26023A001

Meeting Summary, ML26030A150

NRC-001

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	DSS/SNSB/BC	DORL/LPL2-1/BC	DORL/LPL2-1/PM
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DATE	01/27/2026	02/05/2026	02/05/2026	02/05/2026	02/05/2026

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