



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

May 20, 2022

Ms. Cheryl A. Gayheart  
Regulatory Affairs Director  
Southern Nuclear Operating Co., Inc.  
3535 Colonnade Parkway  
Birmingham, AL 35243

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS NOS. 315 AND 260, REGARDING REQUEST TO ELIMINATE AUTOMATIC MAIN STEAM LINE ISOLATION ON HIGH TURBINE BUILDING AREA TEMPERATURE (EPID L-2021-LLA-0188)

Dear Ms. Gayheart:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 315 to Renewed Facility Operating License No. DPR-57 and Amendment No. 260 to Renewed Facility Operating License No. NPF-5 for the Edwin I. Hatch Nuclear Plant (Hatch), Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 13, 2021.

The proposed change would revise Hatch Technical Specification (TS) 3.3.6.1, "Primary Containment Isolation Instrumentation," Table 3.3.6.1-1, to eliminate the requirement for automatic main steam line isolation on high turbine building area temperature (Function 1.f). In lieu of automatic isolation, a new technical specification, TS 3.7.10, "Turbine Building (TB) Maximum Area Temperature," is proposed that requires monitoring the turbine building maximum area temperature and a plant shut down if excessive main steam line leakage is detected.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

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. 50-321 and 50-366

Enclosures:

1. Amendment No. 315 to DPR-57
2. Amendment No. 260 to NPF-5
3. Safety Evaluation

cc: Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 315  
Renewed License No. DPR-57

1. The Nuclear Regulatory Commission (NRC, the Commission) has found that:
  - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit No. 1 (the facility) Renewed Facility Operating License No. DPR-57 filed by Southern Nuclear Operating Company, Inc. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated October 13, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

- E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-57 is hereby amended to read as follows:
- (2) Technical Specifications
- The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 315, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License No. DPR-57  
and Technical Specifications

Date of Issuance: May 20, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 315

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace the following pages of the License and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

License

4

TSs

3.3-55

3.3-58

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Insert Pages

License

4

TSs

3.3-55

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3.7-22

for sample analysis or instrument calibration, or associated with radioactive apparatus or components

- (6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

- (C) This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady-state reactor core power levels not in excess of 2,804 megawatts thermal.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B), as revised through Amendment No. 315, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirement (SR) contained in the Technical Specifications and listed below, is not required to be performed immediately upon implementation of Amendment No. 195. The SR listed below shall be successfully demonstrated before the time and condition specified:

SR 3.8.1.18 shall be successfully demonstrated at its next regularly scheduled performance.

(3) Fire Protection

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, August 9, October 7, and December 13, 2019, and February 5, and March 13, 2020, and as approved in the NRC safety evaluation (SE) dated June 11, 2020. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

Primary Containment Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 1 of 5)  
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -113 inches
b. Main Steam Line Pressure - Low	1	2	E	SR 3.3.6.1.3 SR 3.3.6.1.6	≥ 825 psig
c. Main Steam Line Flow - High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 138% rated steam flow
d. Condenser Vacuum - Low	1, 2(a), 3(a)	2	D	SR 3.3.6.1.3 SR 3.3.6.1.6	≥ 7 inches Hg vacuum
e. Main Steam Tunnel Temperature - High	1,2,3	6	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 194°F
2. Primary Containment Isolation					
a. Reactor Vessel Water Level - Low, Level 3	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 0 inches
b. Drywell Pressure - High	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 1.92 psig
(continued)					

(a) With any turbine stop valve not closed.

Primary Containment Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 4 of 5)  
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RCIC System Isolation (continued)					
g. RCIC Suppression Pool Area Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 42°F
h. Emergency Area Cooler Temperature - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 169°F
5. RWCU System Isolation					
a. Area Temperature - High	1,2,3	1 per area	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 150°F
b. Area Ventilation Differential Temperature - High	1,2,3	1 per area	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 67°F
c. SLC System Initiation	1,2	1(b)	I	SR 3.3.6.1.6	NA
d. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -47 inches
6. RHR Shutdown Cooling System Isolation					
a. Reactor Steam Dome Pressure - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 145 psig
b. Reactor Vessel Water Level - Low, Level 3	3	2	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 0 inches

(continued)

(b) SLC System Initiation only inputs into one of the two trip systems.



### 3.7 PLANT SYSTEMS

#### 3.7.10 Turbine Building (TB) Maximum Area Temperature

LCO 3.7.10 TB maximum area temperature shall be  $\leq 200$  °F.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. TB maximum area temperature > 200°F.	A.1 Initiate action to verify no main steam line leak.	Immediately
	<u>AND</u> A.2 Verify no main steam line leak.	Once per 12 hours thereafter
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify TB maximum area temperature is $\leq 200$ °F.	In accordance with the Surveillance Frequency Control Program



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NUCLEAR REGULATORY COMMISSION  
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SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-366

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 260  
Renewed License No. NPF-5

1. The Nuclear Regulatory Commission (NRC, the Commission) has found that:
  - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit No. 2 (the facility) Renewed Facility Operating License No. NPF-5 filed by Southern Nuclear Operating Company, Inc. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated October 13, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

- E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-5 is hereby amended to read as follows:
- (2) Technical Specifications
- The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B); as revised through Amendment No. 260 are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License No. NPF-5  
and Technical Specifications

Date of Issuance: May 20, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 260

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

RENEWED FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following pages of the License and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

License

4

TSs

3.3-55

3.3-58

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Insert Pages

License

4

TSs

3.3-55

3.3-58

3.7-23

- (6) Southern Nuclear, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- (C) This renewed license shall be deemed to contain, and is subject to, the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and the additional conditions<sup>2</sup> specified or incorporated below:

(1) Maximum Power Level

Southern Nuclear is authorized to operate the facility at steady state reactor core power levels not in excess of 2,804 megawatts thermal, in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications (Appendix A) and the Environmental Protection Plan (Appendix B); as revised through Amendment No. 260, are hereby incorporated in the renewed license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following the issuance of the renewed license or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the license supported by a favorable evaluation by the Commission.

(a) Fire Protection

Southern Nuclear Operating Company shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated April 4, 2018, supplemented by letters dated May 28, August 9, October 7, and December 13, 2019, and February 5, and March 13, 2020, and as approved in the NRC safety evaluation (SE) dated June 11, 2020. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would

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<sup>2</sup> The original licensee authorized to possess, use, and operate the facility with Georgia Power Company (GPC). Consequently, certain historical references to GPC remain in certain license conditions.

Primary Containment Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 1 of 5)  
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≥ -113 inches
b. Main Steam Line Pressure - Low	1	2	E	SR 3.3.6.1.3 SR 3.3.6.1.6	≥ 825 psig
c. Main Steam Line Flow - High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 138% rated steam flow
d. Condenser Vacuum - Low	1, 2(a), 3(a)	2	D	SR 3.3.6.1.3 SR 3.3.6.1.6	≥ 7 inches Hg vacuum
e. Main Steam Tunnel Temperature - High	1,2,3	6	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 194°F
2. Primary Containment Isolation					
a. Reactor Vessel Water Level - Low, Level 3	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 0 inches
b. Drywell Pressure - High	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 1.92 psig
(continued)					

(a) With any turbine stop valve not closed.

Primary Containment Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 4 of 5)  
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RCIC System Isolation (continued)					
g. RCIC Suppression Pool Area Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 42°F
h. Emergency Area Cooler Temperature - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 169°F
5. RWCU System Isolation					
a. Area Temperature - High	1,2,3	1 per area	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 150°F
b. Area Ventilation Differential Temperature - High	1,2,3	1 per area	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 67°F
c. SLC System Initiation	1,2	1(b)	I	SR 3.3.6.1.6	NA
d. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ - 47 inches
6. RHR Shutdown Cooling System Isolation					
a. Reactor Steam Dome Pressure - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 145 psig
b. Reactor Vessel Water Level - Low, Level 3	3	2	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 0 inches

(continued)

(b) SLC System Initiation only inputs into one of the two trip systems.

### 3.7 PLANT SYSTEMS

#### 3.7.10 Turbine Building (TB) Maximum Area Temperature

LCO 3.7.10 TB maximum area temperature shall be  $\leq 200$  °F.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. TB maximum area temperature > 200°F.	A.1 Initiate action to verify no main steam line leak.	Immediately
	<u>AND</u> A.2 Verify no main steam line leak.	Once per 12 hours thereafter
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify TB maximum area temperature is $\leq 200$ °F.	In accordance with the Surveillance Frequency Control Program





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO  
AMENDMENT NO. 315 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-57  
AND  
AMENDMENT NO. 260 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-5  
SOUTHERN NUCLEAR OPERATING COMPANY, INC.  
EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

Southern Nuclear Operating Company (SNC, the licensee) requested changes to the technical specifications (TSs) for Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2, by license amendment request (LAR) dated October 13, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21286A595).

The proposed amendments revise TS 3.3.6.1, "Primary Containment Isolation Instrumentation," Table 3.3.6.1-1, to eliminate the requirement for automatic main steam line (MSL) isolation on high turbine building (TB) area temperature (Function 1.f). In lieu of automatic isolation, the proposed amendments would add a new technical specification, TS 3.7.10, "Turbine Building (TB) Maximum Area Temperature," that requires monitoring the TB maximum area temperature and a plant shut down if excessive MSL leakage is detected.

2.0 REGULATORY EVALUATION

The regulation in 10 CFR 50.36(c)(2) requires that TSs include Limiting Condition for Operation (LCOs). Per 10 CFR 50.36(c)(2)(i), LCOs "are the lowest functional capability or performance levels of equipment required for safe operation of the facility." The regulation also requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

The regulation in 10 CFR 50.36(c)(3) requires that TSs include items in the category of Surveillance Requirements (SRs), which are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

The regulation at 10 CFR 20.1301, "Dose limits for individual members of the public," requires, in part, that licensees shall conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year, exclusive of the dose contributions from background radiation.

On July 11, 1967, the Atomic Energy Commission (AEC) published for public comment in the Federal Register (32 FR 10213), a revised and expanded set of 70 draft General Design Criteria (GDC). On February 20, 1971, the AEC published in the Federal Register (36 FR 3255) a final rule that added Appendix A (final GDC) to 10 CFR Part 50, which was amended on July 7, 1971 (36 FR 12733). The differences between the 1967 draft GDC and the final GDC included a consolidation from 70 to 64 criteria.

The construction permits of Hatch, Unit 1, and Hatch, Unit 2, were issued on September 30, 1969, and on December 27, 1972, respectively. Consequently, Hatch, Unit 2, is licensed in conformance with 10 CFR Part 50, Appendix A, "General Design Criteria." Hatch, Unit 1, is licensed in conformance with the 1967 version of 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plant Construction Permits" (ADAMS Accession No. ML043310029). Hatch, Unit 1, Final Safety Analysis Report (FSAR), Appendix F, "Conformance to Atomic Energy Commission Criteria" (ADAMS Accession No. ML19282B723), describes the relevant licensing bases for Hatch, Unit 1. The operating license for Hatch, Unit 1, was issued in 1974, and the operating license for Hatch, Unit 2 was issued in 1978.

The Hatch, Unit 1, FSAR Appendix F states:

*Criterion 54 - Piping Systems Penetrating Containment.* Piping systems penetrating primary reactor containment shall be provided with leak detection, isolation, and containment capabilities having redundancy, reliability, and performance capabilities which reflect the importance to safety of isolating these piping systems. Such piping systems shall be designed with a capability to periodically test the operability of isolation valves and associated apparatus and to determine if valve leakage is within acceptable limits.

The following 10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants," applies to Hatch, Unit 2:

*Criterion 54—Piping systems penetrating containment.* Piping systems penetrating primary reactor containment shall be provided with leak detection, isolation, and containment capabilities having redundancy, reliability, and performance capabilities which reflect the importance to safety of isolating these piping systems. Such piping systems shall be designed with a capability to test periodically the operability of the isolation valves and associated apparatus and to determine if valve leakage is within acceptable limits.

The NRC staff also considered the "Standard Technical Specifications General Electric [Boiling-Water Reactor] BWR/4 Plants, Volume 1, Specifications," Revision 5.0 (ADAMS Accession No. ML21272A357) during its review.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Proposed TS Changes

The proposed amendment deletes Function 1.f, "Turbine Building Area Temperature – High," and the associated footnote (b) from TS Table 3.3.6.1-1 of the Hatch, Units 1 and 2, TSs. The current footnote (c) in TS Table 3.3.6.1-1 and its reference are proposed to be relabeled as footnote (b). In its submittal, the licensee stated that "LCO 3.3.6.1, Action D which requires isolation of the MSL in 12 hours, or to be in Mode 3 in 12 hours and Mode 4 in 36 hours, is retained as it is referenced by other Functions."

The proposed amendment adds a new TS 3.7.10, "Turbine Building (TB) Maximum Area Temperature." The new LCO 3.7.10 requires TB maximum area temperature to be  $\leq 200^{\circ}\text{F}$ . The TS is applicable in Modes, 1, 2, and 3, which is the same as the existing Function 1.f.

In its LAR, the licensee further stated that:

The SR [Surveillance Requirement] 3.7.10.1 requires verification that the [TB] maximum temperature is  $\leq 200^{\circ}\text{F}$  on a frequency controlled by the Surveillance Frequency Control Program (SFCP). ... If the [TB] maximum temperature exceeds  $200^{\circ}\text{F}$ , the Actions require immediate action to verify that no MSL leak exists, and periodic verification every 12 hours thereafter. If it cannot be verified that there is not an MSL leak or if the periodic verification is not performed, a plant shutdown is required. The plant must enter Mode 3 within 12 hours and Mode 4 must be entered within 36 hours.

#### 3.2 Purposes for MSL TB High Temperature Main Steam Isolation Valve (MSIV) Isolation Function

The proposed change replaces an automatic MSL isolation on high TB temperature with a monitoring and evaluation requirement, and a manual reactor shutdown if MSL leakage exists. In its submittal, SNC states in the LAR that the purposes for the MSL TB high temperature MSIV isolation function were (1) to identify a leak-before-break (LBB), and (2) to ensure that small MSL leaks in the TB will not result in post-accident doses exceeding analyzed values. The U.S. Nuclear Regulatory Commission (NRC) staff evaluation of the effect of the proposed change on those purposes is provided below.

##### 3.2.1 Leak-Before-Break (LBB)

The LBB concept is based on analysis which demonstrates, by deterministic fracture mechanics, that a crack would grow through the wall, resulting in a leak, and that this postulated small "through wall" flaw in plant-specific piping would be detected by the plant's leakage monitoring systems long before the flaw could grow to unstable size. Leakage exceeding the limit specified requires operator action or plant shutdown.

SNC stated in its letter dated, October 13, 2021:

Leak Before Break - The basis of this criterion is to isolate in order to prevent the leak from becoming a break. There was historical evidence that leaks would grow and become a break if not isolated. Early intergranular stress corrosion crack (IGSCC) propagation studies on stainless steel reactor coolant pressure

boundary (RCPB) pipes in the containment showed that isolating a small leak provided assurance that the leak would not grow to a break. This same basis was applied to main steam carbon steel piping in the turbine building. However, later studies determined that cracks in main-steam piping are not subject to IGSCC due to the lack of a corrosive environment. The proposed TS 3.7.10 would require a plant shutdown if a leak is detected.

As listed in TS Table 3.3.6.1-1 of the Hatch, Units 1 and 2, the following functions will continue to provide main steam line isolation:

- 1.a. Reactor Vessel Water Level -Low Low Low, Level 1
- 1.b. Main Steam Line Pressure - Low
- 1.c. Main Steam Line Flow - High
- 1.d. Condenser Vacuum - Low
- 1.e. Main Steam Tunnel Temperature - High

The NRC staff finds that deleting Function 1.f from TS Table 3.3.6.1-1 of the Hatch, Units 1 and 2, TSs is acceptable, because the original purpose of isolating the MSL based on LBB would continue to be maintained by other TS provisions and because cracks in main-steam piping are not subject to IGSCC. The proposed TS 3.7.10 would require a plant shutdown if a leak is detected, and other Functions 1.a through 1.e, which are not being revised by this LAR, would continue to provide main steam line isolation. Therefore, the NRC staff finds that the SNC proposed change to delete Function 1.f from TS Table 3.3.6.1-1 of Hatch, Units 1 and 2, is acceptable. The NRC concludes that Hatch, Units 1 and 2, would continue to meet plant design Criterion 54 from FSAR Appendix F, and 10 CFR 50, Appendix A, GDC 54, respectively.

### 3.2.2 Dose Limits

In its submittal, the licensee stated in its LAR that the Hatch, Units 1 and 2, loss-of-coolant-accident (LOCA) "analysis does not assume any release of post-accident radioactive material into the TB from small MSL leaks," and that:

Indications of a small MSL leak in the TB include, but are not limited to:

- An unexpected, sudden rise in area temperature,
- An unexpected increase in radiation monitor readings,
- An unexpected rise in turbine building sump levels,
- An unexpected decrease in plant electrical output, and
- Visual and sound indications.

In accordance with 10 CFR 20.1301, SNC is required, in part, to conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem in a year. As described in the proposed amendments, SNC would monitor the Hatch, Units 1 and 2, TB for MSL leakage in the proposed TS 3.7.10, and take Required Actions to correct the Condition if a small MSL leak is detected. The proposed new TS 3.7.10 would preserve the initial conditions assumed in the design-basis accident (DBA) and transient analyses. Therefore, the NRC staff finds that the SNC proposed change to delete Function 1.f from TS Table 3.3.6.1-1 of Hatch, Units 1 and 2, is acceptable.

### 3.3 TS Evaluation

Hatch Unit 1 was designed and constructed in accordance with the GDC issued for comment in July of 1967. The NRC safety evaluation report related to the operation of Hatch, Unit 1, which describes, in part, the NRC staff's evaluation of the facility's conformance with the GDC for the original facility operating license, concluded that there was reasonable assurance that the plant met the intent of the GDC published in the FR on May 21, 1971.

Current TS LCO 3.3.6.1 requires the primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 to be operable. Table 3.3.6.1-1, Function 1.f, "Turbine Building Area Temperature - High," requires 16 channels per trip system to be operable in Modes 1, 2, and 3. Function 1.f is modified by Footnote (b) which states that there must be 8 channels per operable trip string, and that each operable trip string must have 2 channels per MSL, with no more than 40 feet (ft) separating any two OPERABLE channels.

The LCO 3.3.6.1, Action D requires isolation of the MSL in 12 hours, or to be in Mode 3 in 12 hours and Mode 4 in 36 hours, if one or more required channel is inoperable, or one or more automatic functions with isolation capability is not maintained.

The proposed change deletes Function 1.f, "Turbine Building Area Temperature – High," and the associated Footnote (b) from TS Table 3.3.6.1-1 of the Hatch, Units 1 and 2, TSs and adds a new TS 3.7.10, "Turbine Building (TB) Maximum Area Temperature."

As evaluated in Section 3.2 of this safety evaluation, the proposed change replaces an automatic MSL isolation on high TB temperature with a monitoring and evaluation requirement, and a manual reactor shutdown if MSL leakage exists. The NRC staff found this change acceptable, because Function 1.f, as identified by the licensee, would continue to be maintained by other TS provisions for isolating the main steam line based on LBB and because cracks in main-steam piping are not subject to IGSCC. The proposed TS 3.7.10 would require a plant shutdown if a leak is detected, and other Functions 1.a through 1.e would continue to provide MSL isolation.

The current TB maximum temperature is  $\leq 200$  degrees Fahrenheit ( $^{\circ}\text{F}$ ) and is not being changed. The newly proposed LCO 3.7.10 and SR 3.7.10.1 requires verification that the current TB maximum temperature is  $\leq 200$   $^{\circ}\text{F}$  on a frequency controlled by the Surveillance Frequency Control Program (SFCP) and continues to be applicable in Modes 1, 2, and 3, which is the same as the existing Function 1.f. If the TB maximum temperature exceeds  $200^{\circ}\text{F}$ , Required Action A.1 would require immediate action to verify that no MSL leak exists, and Required Action A.2 would require the licensee to verify no main steam line leak every 12 hours thereafter. The NRC staff review found that the area temperature monitoring would detect MSL leakage between 1-percent and 10-percent of rated steam flow in the condenser bay area of the TB. If a large MSL break occurred, the MSIVs would automatically close, based on a Main Steam Line Flow - High signal. The NRC finds the 12-hour completion time reasonable based on operating experience and the likelihood of a MSL leak. If it cannot be verified that there is not an MSL leak or if the periodic verification is not performed, TS 3.7.10 Condition B, Required Action B.1, with the same time requirements of Function 1.f Action D, would require the plant to be in Mode 3 within 12 hours and Mode 4 within 36 hours.

Information from the existing Footnote (b), which is based on maintaining automatic trip capability on a potential leak from any MSL and at any location, is proposed to be moved to the TS 3.7.10 Bases. The NRC staff does not approve TS Bases but finds the criteria acceptable

as provided in the submittal, because the Footnote (b) is a monitoring requirement and not a requirement related an automatic trip function.

The NRC staff reviewed the proposed TS changes and finds that TS 3.7.10 meets the requirements of 10 CFR 50.36(c)(2) and 10 CFR 50.36(c)(3), because the proposed TS would require a plant shutdown if a leak is detected, and other Functions 1.a through 1.e would continue to provide MSL isolation. Also, the proposed TS 3.7.10 general format and language is similar to that of Standard Technical Specifications, NUREG-1433. Based on the above, the NRC staff finds the proposed change acceptable.

### 3.4 Summary

The NRC staff finds that the SNC proposed change to delete Function 1.f from TS Table 3.3.6.1-1 of Hatch, Units 1 and 2, is acceptable because of the following:

- Function 1.f from TS Table 3.3.6.1-1 of the Hatch, Units 1 and 2, TSs would be unlikely to serve its original purpose of isolating main steam line based on LBB, as cracks in main-steam piping are not subject to IGSCC. The proposed TS 3.7.10 would require a plant shutdown if a leak is detected, and other Functions 1.a through 1.e would continue to provide main steam line isolation.
- The dose limits are bounded by the existing DBA and transient analyses.
- The proposed TS 3.7.10 meets the requirements of 10 CFR 50.36(c)(2) and 10 CFR 50.36(c)(3), as discussed in Section 3.0 of this safety evaluation.

Therefore, the NRC staff finds the proposed revision to TS 3.3.6.1, "Primary Containment Isolation Instrumentation," Table 3.3.6.1-1, to eliminate the requirement for automatic main steam line (MSL) isolation on high turbine building (TB) area temperature (Function 1.f) acceptable, based on the discussion in Section 3.0 of this safety evaluation. The NRC staff also finds the proposed new specification, TS 3.7.10, "Turbine Building (TB) Maximum Area Temperature," that requires monitoring the TB maximum area temperature and a plant shut down if excessive MSL leakage is detected acceptable, based on the discussion in Section 3.0 of this safety evaluation.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Georgia official was notified of the proposed issuance of the amendment on March 11, 2022. On April 23, 2022, the State official confirmed the State had no comments.

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration published in the *Federal Register* on November 30, 2021 (86 FR 67989), and there has been no public comment on such

finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: May 20, 2022

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS NOS. 315 AND 260, REGARDING REQUEST TO ELIMINATE AUTOMATIC MAIN STEAM LINE ISOLATION ON HIGH TURBINE BUILDING AREA TEMPERATURE (EPID L-2021-LLA-0188) DATED MAY 20, 2022

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