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

September 1, 2021

LICENSEE: Southern Nuclear Operating Company, Inc.

FACILITY: Edwin I. Hatch Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF AUGUST 19, 2021, PUBLIC PRE-SUBMITTAL MEETING WITH SOUTHERN NUCLEAR OPERATING COMPANY, INC., REGARDING A PROPOSED LICENSE AMENDMENT REQUEST TO REMOVE FUNCTION 1.f (MAIN STEAM LINE ISOLATION – TURBINE BUILDING AREA TEMPERATURE – HIGH) FROM TECHNICAL SPECIFICATION TABLE 3.3.6.1A-7 FOR EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2 (EPID L-2021-LRM-0081)

On August 19, 2021, an Observation public 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 pre-submittal meeting was for SNC to describe its plan to submit a license amendment request (LAR) to eliminate the requirement for automatic main steam isolation on High Turbine Building Area Temperature, and to add new Technical Specification (TS) 3.7.10 to monitor turbine building area temperature for Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2. This was a follow-up pre-submittal meeting to the one held on October 14, 2020. The meeting summary for the pre-submittal meeting held on October 14, 2020, can be found in Agencywide Document and Access Management System (ADAMS) Accession No. ML20289A424.

A list of attendees is provided as an Enclosure.

On July 30, 2021 (ADAMS Accession No. ML21211A079), the meeting was noticed on the NRC public webpage.

The SNC presented slides contained in ADAMS Accession No. ML21225A031.

Introduction

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

At the pre-submittal meeting held on October 14, 2020, SNC proposed to remove Function 1.f (Main Steam Line Isolation - Turbine Building Area Temperature – High) from TS and relocate to Technical Requirements Manual (TRM). SNC has revised its proposed LAR to retain the turbine building area temperature monitoring requirement in the TSs, but to remove the automatic main steam isolation.

The SNC staff discussed the following topics: (1) LAR summary description, (2) system design and operation, (3) current licensing basis requirements, (4) reason for proposed change, (5) description of proposed change, and (6) technical evaluation of proposed change.

LAR Summary Description

SNC stated that it plans to revise TS 3.3.6.1, “Primary Containment Isolation Instrumentation,” Table 3.3.6.1-1, to eliminate the requirement for automatic main steam isolation on high turbine building area temperature (Function 1.f). The licensee said that the TS requirements for turbine building area temperature monitoring will be relocated to a new TS 3.7.10.

System Design and Operation

SNC stated that the main steam line (MSL) leakage in the turbine building is monitored to protect the assumptions of the accident dose analyses. The licensee said that monitoring of area temperature around the MSL is one of several indications of MSL leakage. SNC said that the Allowable Value (AV) was chosen to detect a leak equivalent to between 1 percent and 10 percent of rated steam flow. SNC stated that credit for temperature instruments is not taken in any transient or accident analysis in the updated final safety analysis report (UFSAR), since bounding analyses are performed for large breaks such as main steam line breaks (MSLBs).

SNC said that the “Turbine Building Area Temperature – High Function” monitors area temperature around the MSLs in the turbine building, and isolates the Main Steam Isolation Valves (MSIVs) on high temperature, which are normally energized; it is de-energized to trip.

Current Licensing Basis Requirements

SNC said that TS requirements are 32 (of 64) channels Operable to ensure no single instrument failure can preclude isolation function. The licensee stated that each trip stream must have 2 channels per main steam line (8 total channels), no more than 40 feet may separate any two Operable channels, and AV ≤ 200 degrees Fahrenheit (°F).

Reason for Proposed Change

SNC stated that due to area configuration, indicated temperature can trend close to isolation setpoints for reasons other than small steam leak (e.g., issues with turbine building area chillers, temperature monitoring instrument drift). The licensee said that this has resulted in numerous half-Group 1 isolations, none of which were caused by a steam leak. SNC stated that removing automatic MSIV isolation will reduce the probability of an unnecessary plant transient (either an unplanned maintenance outage or a complicated scram). The licensee said that the new TS will allow for a controlled shutdown if a small steam leak exists, which SNC said is more commensurate with the safety significance. The licensee stated that if temperature exceeds setpoint for reasons other than a small steam leak, the new TS will provide appropriate remedial actions to ensure plant is operating safely and within assumed plant conditions.

Description of Proposed Change

SNC said that it is proposing the following new TS 3.7.10.

LCO 3.7.10 TB maximum area temperature shall be ≤ 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
	AND		
	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
	AND		
	B.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify TB maximum area temperature is within limit.	In accordance with the Surveillance Frequency Control Program

SNC Technical Evaluation of the Proposed Change

SNC stated that its evaluation of the design basis showed basically two criteria for MSL turbine building isolation function: (1) leak before break (LBB), and (2) dose limits.

The licensee said that for LBB that early intergranular stress corrosion cracking (IGSCC) showed isolating on a small leak provided assurance that the leak would not grow to a break, and small cracks in main-steam piping are not subject to IGSCC due to high quality steam and corresponding lack of corrosive environment. SNC said that the new TS 3.7.10 will require a shutdown if a leak is confirmed.

SNC stated that dose limits may be exceeded if a loss-of-coolant accident (LOCA) were to occur concurrent with an on-going (undetected) leak in the main steam piping in the turbine building. SNC said that the proposed new TS 3.7.10 provides assurance that a leak would be identified properly. The licensee said that if TS 3.7.10, Condition B were entered based on confirmed steam leak, impact to radiological consequences would be insignificant.

SNC stated that methods to detect a small leak in the turbine building include: (1) verifying no unexpected, sudden rise in maximum area temperature, (2) verifying no unexpected change in radiation monitors, (3) verifying no unexpected rise in turbine building sump levels, (4) verifying no unexpected change in megawatts electric (MWe), and (5) visual (e.g., cameras, drones) and sound indications.

SNC stated that risk analysis demonstrates, with reasonable assurance, that eliminating the requirement for automatic main steam isolation on high turbine building area temperature is within the acceptance criteria contained in Regulatory Guide (RG) 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," dated January 2018 (ADAMS Accession No. ML17317A256).

SNC said that the risk analysis calculates delta core damage frequency (ΔCDF) and delta large early release frequency (ΔLERF) that results from assuming the turbine building steam line break high temperature function fails (i.e., change in CDF and LERF). The licensee stated that the following conservatisms are assumed in the risk evaluation: (1) no credit of reduced chance of spurious actuation from a fire, (2) no assumption of operator action to detect a steam leak, and (3) un-isolated breaks of any size result in core damage and large early release.

NRC Questions to SNC

The NRC staff asked why SNC is changing the action from Turbine Building Area Temperature – High to Turbine Building Maximum Area Temperature. SNC said it was for clarification.

The NRC staff asked if SNC was proposing to change the number of instruments. SNC stated that the number of instruments would remain the same. The NRC staff asked why SNC choose 12 hours for the COMPLETION TIME. SNC said that it would provide time to verify that there is no main steam leak after taking the REQUIRED ACTION A.1.

The NRC staff asked what the expected calculated values of ΔCDF and ΔLERF would be. The NRC staff asked about the risk insights that may be submitted in support of the request. SNC said that it would not expect to provide additional risk insights beyond ΔCDF and ΔLERF. The NRC staff suggested SNC should consider realistic scenarios and a range of approaches including a non-conservative approach and a conservative approach.

The NRC asked when SNC plans to submit the proposed LAR. SNC stated that it plans to submit the proposed LAR in September 2021, and SNC plans to request the NRC staff complete its review in 12 months from the acceptance of the LAR. The NRC asked about precedents. SNC said that River Bend (ADAMS Accession No. ML021410049) and Brunswick (ADAMS Accession No. ML12047A393) are similar precedents to what SNC is proposing.

Public Questions to NRC

There were no members of the public in attendance.

Closing

Once received, the NRC staff will perform a thorough review of the proposed LAR and make any regulatory decisions in writing in a timely manner.

The NRC staff made no regulatory decisions during the meeting.

Public Meeting Feedback forms were available, but no comments were received. The meeting adjourned at 2:19 pm (Eastern time).

Please direct any inquiries to me at 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. 50-321 and 50-366

Enclosure: List of Attendees

cc: Listserv

LIST OF ATTENDEES

AUGUST 19, 2021, PUBLIC MEETING WITH SOUTHERN NUCLEAR COMPANY

REGARDING FUNCTION 1.f REMOVAL FROM

TECHNICAL SPECIFICATION TABLE 3.3.6.1A-7

EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2

ATTENDEE	**REPRESENTING**
John G. Lamb	NRC
Dawnmathews Kalathiveettil	NRC
Brian Wittick	NRC
Nate Jordan	NRC
Tarico Sweat	NRC
Bob Pascarelli	NRC
Shilp Vasavada	NRC
Mihaela Biro	NRC
Jay Robinson	NRC
Hanry Wagage	NRC
Charles Moulton	NRC
John Parillo	NRC
Clinton Ashley	NRC
Scott Krepel	NRC
Robert Beaton	NRC
Ryan Joyce	SNC
Tim Enfinger	SNC
Cheryl Gayheart	SNC
Jamie Coleman	SNC
David Edenfield	SNC
William Evans	SNC
James Collins	SNC
Wesley Lyon	SNC

Enclosure

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RidsRgn2MailCenter Resource
VCusumano, NRR
MMarkley, NRR
ABlamey, Region 2
JHickman, Region 2
BWittick, NRR
SJones, NRR

ADAMS Accession Nos.:
PKG: ML21232A339 **Meeting Notice: ML21211A079**
Meeting Summary: ML21232A262 **Meeting Slides: ML21225A031**

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	DSS/STSB/BC (A)	DORL/LPL2-1/BC	DORL/LPL2-1/PM
NAME	JLamb	KGoldstein	NJordan	MMarkley	JLamb
DATE	08/19/2021	08/26/2021	08/26/2021	09/01/2021	09/01/2021

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