



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

June 16, 2020

LICENSEE: Southern Nuclear Operating Company, Inc.

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

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2 - MEETING SUMMARY OF JUNE 10, 2020, PUBLIC MEETING WITH SOUTHERN NUCLEAR OPERATING COMPANY, INC., REGARDING A PROPOSED LICENSE AMENDMENT REQUEST FOR A ONE-TIME COMPLETION TIME FOR THE EMERGENCY DIESEL GENERATOR USING A RISK-INFORMED APPROACH (EPID NO. L-2020-LLM-0046)

On June 10, 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 for SNC to describe its plan to submit a license amendment request (LAR) using a risk-informed approach to request a one-time completion time (CT) extension to the emergency diesel generator (EDG) for Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2.

A list of attendees is provided as an Enclosure.

On May 26, 2020 (ADAMS Accession No. ML20147A170), the meeting was noticed on the NRC public web page.

The SNC presented slides contained in ADAMS Accession No. ML20156A001.

Introduction

The SNC staff discussed the following topics: (1) the purpose of the Hatch EDG risk-informed one-time CT extension, (2) overview of the Hatch electrical system, (3) deterministic and defense-in-depth (DID) aspects, (4) the Hatch Probabilistic Risk Assessment (PRA), and (5) the proposed LAR content.

Purpose of the Hatch EDG Risk-Informed One-Time CT Extension

SNC stated that the Hatch Technical Specifications (TSs) provide up to a 14-day allowable outage time (AOT) for a single EDG being out of service. SNC plans to perform maintenance on the Hatch EDGs during the fall 2020 outage and the spring 2021 outage. SNC plans replace cylinder liners and perform a full teardown of each Hatch, Unit 1, EDG and the swing EDG. SNC's maintenance schedule to perform this work is estimated to take greater than 75-percent

(10.5 days) of the 14-day AOT. SNC believes that there is a chance for exceeding the AOT due to the social distancing requirements of COVID-19.

SNC proposes to submit an expedited LAR to support a risk-informed one-time EDG CT extension for both Hatch, Unit 1, EDGs and the swing EDG. SNC said that the proposed LAR would allow for margin to account for unforeseen EDG material degradations or repairs. SNC explained that SNC will evaluate risk impact of the proposed LAR and SNC will show that the proposed LAR will meet the risk metrics of Regulatory Guide (RG) 1.174, Revision 2, May 2011, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific Changes to the Licensing Basis" (ADAMS Accession No. ML100910006), and RG 1.177, Revision 1, May 2011, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (ADAMS Accession No. ML1000910008). SNC said that SNC will require existing maintenance restrictions to be met and will require swing EDG inhibited from aligning to Unit 2 (for 1A & 1C outages) during the proposed extended AOT.

Overview of the Hatch Electrical System

SNC stated that SNC recently installed an additional startup auxiliary transformer (SAT) on Hatch, Units 1 and 2. SNC explained that the offsite power is supplied to the station from the 230 kilovolt (kV) ring bus by five electrically and physically separate feeds through SATs 1C and 2C (via a common switchyard feed), 1D, 1E, 2D, and 2E, to the respective unit 4.16 kV Engineered Safety Feature (ESF) buses E, F, and G. SNC said that each SAT provides the normal source of power to its respective ESF bus. SNC said that if any 4.16 kV ESF bus loses power, an automatic transfer occurs from the normal offsite power source to its alternate offsite power source.

SNC explained that by design, no single SAT can supply more than two ESF buses simultaneously. SNC said that the SATs are sized to accommodate the simultaneous starting of all required ESF loads on receipt of an accident signal without the need for load sequencing. SNC stated that only one SAT per unit is required to supply two ESF buses, which are sufficient to provide the required safety functions and support shutdown and cooldown to cold conditions.

SNC said that each Hatch unit is designed with three ESF buses (E, F, and G), and the E and G buses contain most of the divisional equipment and the F (or swing) bus contains some divisional equipment from both electrical divisions (e.g., an Residual Heat Removal (RHR) pump from each RHR loop). SNC explained that emergency power is supplied by independent EDGs with the E and G buses supplied by a unit EDG and the swing EDG can be selected to either F bus on either unit. SNC stated that the swing EDG cannot supply both F buses simultaneously. SNC said that any two of three ESF buses per unit can fully provide the required safety functions and support shutdown and cooldown to cold conditions and remain in cold shutdown conditions for 30 days.

Deterministic and DID Aspects

SNC explained that a single feeder line failure will result in loss of no more than one ESF bus per unit thereby relying on the start of one EDG per unit. SNC said that any two ESF buses per unit are adequate to support shutdown and cooldown of each unit. SNC stated that during the EDG extended outage, loss of power to a single offsite feeder line concurrent with an additional EDG failure will not result in loss of more than one ESF bus per unit; two ESF buses per unit will remain available to support unit shutdown and cooldown.

SNC explained that the Hatch electrical power design is such that a single ESF bus provides a portion of at least one electrical power division. SNC said that any combination of two ESF buses is adequate to provide the plant safety functions. SNC stated that two buses provide power to either one electrical power division or a portion of both divisions that is at least equivalent to one division.

SNC stated that SNC is not planning to acquire and temporarily install an alternate alternating current (AC) source. SNC said that to minimize the likelihood of a full loss of offsite power to a unit, SNC plans to: (1) protect all six SATs and maintain in service and aligned to their respective ESF buses for the duration of the extended EDG outage, (2) ESF bus automatic transfer capability from the normal to the alternate circuit will be maintained for each ESF bus on both units, (3) no maintenance or testing will be scheduled in the Hatch 500 kV or 230kV switchyard that could affect the stability of the of the feeder lines to the Hatch SATs, (4) no maintenance or testing will be scheduled that could affect the availability of the FLEX diesel generators, and (5) all remaining Hatch EDGs will be protected, available, and maintained OPERABLE for the duration of the extended EDG outage; testing of the remaining EDGs will be limited to that only required by TSs.

SNC stated that no maintenance will be scheduled on any equipment needed to support shutdown and cooldown of both Hatch units in the event of a full loss of offsite power. SNC said that both High Pressure Coolant Injection system and Reactor Core Isolation Cooling system will be protected, available, and maintained OPERABLE for the duration of the extended EDG outage.

Hatch PRA

SNC stated that Hatch has PRA models for internal events, internal flooding, internal fires, and seismic. SNC said that all Hatch PRA models used for this proposed LAR will reflect the current as-built as-operated plant and have been peer reviewed and all Facts and Observations are closed. SNC stated that the screening evaluation for other hazards will be reviewed to confirm that no assumptions about diesels impact the screening.

SNC stated that the PRA analysis will demonstrate compliance with RG 1.177. SNC said that metrics to be used will be total Core Damage Frequency (CDF) and Large Early Release Frequency (LERF), and ICCDP/ILERP as discussed for one-time changes in RG 1.177 Section 2.4. SNC stated that it is expected that the results will fall in the range requiring compensatory actions, such as prohibited maintenance and additional controls in fire areas. SNC stated that existing restrictions associated with the 14-day Limiting Condition of Operation (LCO) will be the starting point for any additional risk management actions. SNC said that each EDG assessed separately, impacts to both Unit 1 and Unit 2 to be assessed, due to LPCI MCC crossties.

SNC stated that the existing set of risk management actions exist, and additional actions would depend on PRA results analysis. SNC said that additional actions would most likely be needed to address fire risk. SNC said that the existing on-line configuration risk management program would be updated to use same base model as LAR risk submittal prior to first EDG outage. SNC stated that on-line configuration risk process uses all hazards except seismic and uses integrated risk for risk management actions. SNC said that the seismic model is present in the on-line model, but is turned off for quantification time improvements and low contribution to risk. SNC stated that if contribution to EDG risk is high, the seismic model will be turned on.

SNC stated that EDG unavailability is tracked for maintenance rule (MR) target and Mitigating Systems Performance Indicator (MSPI) impact. SNC said that additional EDG unavailability time resulting from extended time will be evaluated against the existing targets for MR and planned unavailability for MSPI.

SNC stated that risk impact evaluations will follow RG 1.177 guidance. SNC stated that (1) risk increases will be within acceptable limits, (2) risk management actions will be taken, and (3) EDG unavailability will remain below maintenance rule and MSPI targets.

Proposed LAR Content

SNC stated that the proposed LAR will contain: (1) summary description, (2) detailed description, (3) technical evaluation, (4) regulatory evaluation, (5) environmental considerations, (6) references, (7) marked-up TS pages, and (8) clean TS pages.

NRC Questions to SNC

The NRC staff asked when does SNC plan to submit the proposed LAR, and SNC said that the proposed LAR will be submitted once the PRA risk assessment is completed and SNC will request the proposed LAR prior to September 21, 2020.

The NRC staff asked about the cumulative risk since the 1B EDG will be out of service on September 21, 2020, and SNC plans to take the 1C EDG out of service on October 12, 2020. SNC stated it will perform a risk assessment of each EDG separately. The NRC staff asked about the cumulative risk since two of the EDGs outages are so close together.

Since SNC is not planning to acquire and temporarily install an alternate AC source, the NRC asked SNC how it plans to meet the NRC Branch Technical Position (BTP) 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" (ADAMS Accession No. ML113640138). SNC said it will justify the proposed LAR with respect to the BTP.

Public Questions to NRC

There were no members of the public in attendance via the phone line.

Closing

SNC plans to submit the proposed LAR when the risk assessment is completed and will request approval prior to September 21, 2020. 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 11:05 am (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 w/encls: Distribution via Listserv

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OFFICE	DORL/LPL2-1/PM*	DORL/LPL2-1/LA*	DORL/LPL2-1/BC*	DORL/LPL2-1/PM*
NAME	JLamb	KGGoldstein	MMarkley (EMiller for)	JLamb
DATE	6/10/2020	06/16/2020	6/16/2020	6/16/2020

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LIST OF ATTENDEES

JUNE 10, 2020, PUBLIC MEETING WITH SOUTHERN NUCLEAR COMPANY

FOR EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2

REGARDING ONE-TIME EMERGENCY DIESEL GENERATOR

COMPLETION TIME EXTENSION

<u>ATTENDEE</u>	<u>REPRESENTING</u>
John G. Lamb	NRC
Mike Markley	NRC
Bret Titus	NRC
Roy Mathew	NRC
Bob Pascarelli	NRC
Mihaela Biro	NRC
Ryan Joyce	SNC
Tim Enfinger	SNC
Cheryl Gayheart	SNC
Jamie Coleman	SNC
Tim Drouin	SNC
Bryan Griner	SNC
Michael Macfarlane	SNC
Rick Edge	SNC
Bonnie Goodwin	SNC
Faramarz Pournia	SNC
Owen Scott	SNC
David Edenfield	SNC
Jimmy Collins	SNC
Wesley Lyon	SNC
Jitu Rathod	SNC
Mark Hunt	SNC
Gregg Ellis	Excel Services

Enclosure