UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

January 17, 2024

Mr. Matthew Busch
Site Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000321/2023301 AND 05000366/2023301

Mr. Busch:

During the period November 27 - 30, 2023, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Edwin I. Hatch Nuclear Plant. At the conclusion of the tests, the examiners discussed preliminary findings related to the operating tests and the written examination submittal with those members of your staff identified in the enclosed report. The written examination was administered by your staff on December 6, 2023.

All applicants passed both the operating test and written examination. There were two post-examination comments. A Simulator Fidelity Report is included in this report as Enclosure 3.

The initial examination submittal was within the range of acceptability expected for a proposed examination. All examination changes agreed upon between the NRC and your staff were made according to NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 12.

In accordance with 10 CFR 2.390 of the NRC’s “Rules of Practice,” a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC’s document system (ADAMS). ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm.adams.html (the Public Electronic Reading Room). If you have any questions concerning this letter, please contact me at (404) 997-4718.

Sincerely,

/RA/

Matthew Endress, Chief
Operations Branch 2
Division of Reactor Safety

Docket Nos: 50-321, 50-366
License Nos: DPR-57, NPF-5

Enclosures:
1. Report Details
2. Facility Comments and NRC Resolution
3. Simulator Fidelity Report

cc: Distribution via Listserv

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000321/2023301 AND 05000366/2023301 DATED January 17, 2024

DISTRIBUTION:
D. Lanyi, Senior Operations Engineer, RII
T. Stephen, Branch Chief, OBI
M. Endress, Branch Chief, OBII

* See previous page for concurrence

☒ PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE ☒ NON-SENSITIVE

ADAMS: ☒ Yes ACCESSION NUMBER: ML24017A106 ☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII/DRS/OB	RII/DRS/OB	RII/DRS/OB		
NAME	K. Wallace	D. Lanyi	M. Endress		
DATE	1/17/24	1/17/2024	1/17/2024		

OFFICIAL RECORD COPY DOCUMENT NAME:
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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Examination Report

Docket No.:	05000321, 05000366
License No.:	DPR-57, NPF-5
Report No.:	05000321/2023301, 05000366/2023301
Enterprise Identifier:	L-2023-OLL-0025
Licensee:	Southern Nuclear Operating Company (SNC)
Facility:	Edwin I. Hatch Nuclear Plant, Units 1 & 2
Location:	Baxley, GA
Dates:	Operating Test – November 27-10, 2023 Written Examination – December 6, 2023
Examiners:	David Lanyi, Chief Examiner, Senior Operations Engineer Mark Bates, Senior Operations Engineer Jason Bundy, Senior Operations Engineer Bruno Caballero, Senior Operations Engineer Michael Donithan, Senior Operations Engineer
Approved by:	Matthew Endress, Branch Chief, Operations Branch 2, RII

SUMMARY

ER 05000321/2023301, 05000366/2023301; operating test November 27-30, 2023 & written exam December 6, 2023; Edwin I. Hatch Nuclear Plant; Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 12, of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements identified in 10 CFR §55.41, §55.43, and §55.45, as applicable.

The NRC developed the written examination outline. Members of the Edwin I. Hatch Nuclear Plant staff developed both the operating tests and the written examination. The initial operating test, written RO examination, and written SRO examination submittals met the quality guidelines contained in NUREG-1021.

The NRC administered the operating tests during the period November 27-30, 2023. Members of the Edwin I. Hatch Nuclear Plant training staff administered the written examination on December 6, 2023. All applicants passed both the operating test and written examination. All applicants were issued licenses commensurate with the level of examination administered.

There were two post-examination comments.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

The NRC evaluated the submitted operating test by combining the scenario events and JPMs in order to determine the percentage of submitted test items that required replacement or significant modification. The NRC also evaluated the submitted written examination questions (RO and SRO questions considered separately) in order to determine the percentage of submitted questions that required replacement or significant modification, or that clearly did not conform with the intent of the approved knowledge and ability (K/A) statement. Any questions that were deleted during the grading process, or for which the answer key had to be changed, were also included in the count of unacceptable questions. The percentage of submitted test items that were unacceptable was compared to the acceptance criteria of NUREG-1021, "Operator Licensing Standards for Power Reactors."

The NRC reviewed the licensee's examination security measures while preparing and administering the examinations in order to ensure compliance with 10 CFR §55.49, "Integrity of examinations and tests."

The NRC performed an audit of license applications during the preparatory site visit to confirm that they accurately reflected the subject applicants' qualifications in accordance with NUREG-1021.

The NRC administered the operating tests during the period November 27-30, 2023. The NRC examiners evaluated four Reactor Operator (RO) and six Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. Members of the Edwin I. Hatch Nuclear Plant training staff administered the written examination on December 6, 2023. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Edwin I. Hatch Nuclear Plant, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

The NRC evaluated the performance or fidelity of the simulation facility during the preparation and conduct of the operating tests.

b. Findings

No findings were identified.

The NRC developed the written examination sample plan outline. Members of the Edwin I. Hatch Nuclear Plant training staff developed both the operating tests and the written examination. All examination material was developed in accordance with the guidelines contained in Revision 12, of NUREG-1021. The NRC examination team reviewed the proposed examination. Examination changes agreed upon between the NRC and the licensee were made per NUREG-1021 and incorporated into the final version of the examination materials.

The NRC determined, using NUREG-1021, that the licensee's initial examination submittal was within the range of acceptability expected for a proposed examination.

All applicants passed both the operating test and written examination and were issued licenses. Four RO applicants and six SRO applicants passed both the operating test and written examination.

Copies of all individual examination reports were sent to the facility Training Manager for evaluation of weaknesses and determination of appropriate remedial training.

The licensee submitted two post-examination comments concerning the operating exam. A copy of the final written examination and answer key, with all changes incorporated, and the licensee's post examination comments may be accessed not earlier than December 8, 2025, in the ADAMS system (ADAMS Accession Numbers ML24005A114, ML245005A106, ML24005A114, and ML24005A116).

4OA6 Meetings, Including Exit

Exit Meeting Summary

On November 30, 2023, the NRC examination team discussed generic issues associated with the operating test with Andy Belcher, Training Director, and members of the Edwin I. Hatch Nuclear Plant staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee personnel

Andy Belcher, Training Director
Mark Walter, Operations Training Manager
Derek Williams, Nuclear Plant Operations Instructor
Charlie Edmunds, Exam Writer

NRC personnel
Richard Easter, Resident Inspector

Enclosure 2

Item 1

JPM c (Hatch JPM 2023-301 CR/SIM 3) Emergency Depress the Reactor Using Main Steam Line Drains K/A 295025EA1.01

Comment from Applicant:

Step 3 of the JPM corresponds to step 3.7.2 of 31EO-EOP-108-2, ALTERNATE RPV DEPRESSURIZATION.

> 3.7.2 IF vacuum of at least 10 in. Hg vacuum CANNOT be drawn on Main Condenser, (**Monitor → LP Hoods** , 2N32-K4001A OR 2N32-K4001B) OR SPDS THEN ensure open Main Condenser Vacuum Breaker Valves, AND
> Start all available Turbine Building HVAC per 34SO-U41-001-2, Turbine Building Ventilation System

This step provides equipment protection to the Main Condenser by breaking condenser vacuum and does not impact the operator's ability to lower reactor pressure with the Main Steam Line Drains. In addition, this step is redundant to the two rupture diaphragms on the turbine exhaust. See excerpt from the Hatch FSAR (HNP-2-FSAR-10 10.4.1.2 Main Condenser System Description):

> Should the control, bypass, or turbine stop valves fail to close on loss of condenser vacuum, two rupture diaphragms on each turbine exhaust to the condenser to protect the condenser and turbine exhaust hoods against overpressure.

The operator can still perform an Alternate RPV Depressurization using the Main Steam Line Drains without breaking condenser vacuum; therefore, this step should be categorized as NONCRITICAL.

Facility Licensee Recommendation:

Change step 3 of JPM c (Hatch JPM 2023-301 CR/SIM 3) from a CRITICAL step and update remainder of JPM to reflect this change.

NRC Response:

The NRC agrees with the licensee's comment. The changes have been incorporated into the answer key.

The Task Standard for this JPM states:

> The task shall be completed when the Main Steam Line Drains have been manually lined up to emergency depress the Reactor per 31EO-EOP-108-2 with an increase in the rate of RPV pressure reduction.

NUREG-1021, ES-3.2 Section D.1.c defines a critical step as " … the task steps that the applicant must perform correctly (i.e., accurately, in the proper sequence, and at the proper

time) to accomplish the task standard". If an applicant failed to perform or performed the step that was questioned incorrectly, the task standard would still be able to be completed. Therefore, it should not have been identified as a critical step.

Item 2

JPM g (Hatch JPM 2023-301 CR/SIM 7) Respond to the Trip of a Reactor Recirc Pump While the Recirc Pumps are Running Less than 35% Speed, and Plot Plant Operation on the Power/Flow Map. Alt Path K/A 216000A2.14

Comment from Applicant:

JPM g (Hatch JPM 2023-301 CR/SIM 7) is modified from a bank JPM that was used on the 2011-301 NRC exam as JPM SIM 7. The 2011 version was a NORMAL JPM and modified to be an ALTERNATE path for the 2023-301 exam. On the 2011-301 exam, the step for plotting on the Power/Flow map was NOT critical.

When updating the JPM to its current version, Step 2 of the JPM was inadvertently changed to a critical step. While this step does allow for evaluating the applicant's ability to plot on the Power/Flow map, it is NOT CRITICAL to the response of a tripped Recirc pump in limiting Recirc Loop temperatures and, due to plant conditions, there are no resultant required operator actions from the plot. A Power/Flow plot is also NOT CRITICAL to responding to the trip of the second Recirc Pump (ALT path), which requires the applicant to TRIP the reactor.

There is a prompt in the JPM for the examiner to direct the applicant to continue to respond to the tripped Recirc pump even if the plot places the reactor in the Safety Limit area of the Power/Flow map. (see below) If this action was truly CRITICAL, the applicant would have been allowed to continue with the appropriate actions based on the plot.

Facility Licensee Recommendation:

Change step 2 of JPM g (Hatch 2023-301 JPM CR/SIM 7) from a CRITICAL step to a NON-CRITICAL step and update remainder of JPM to reflect this change.

NRC Response:

The NRC does not agree with the licensee's comment.

The Task Standard for this JPM states:

> Respond to the trip of a Reactor Recirc pump while the Recirc pumps are running at less than 35% speed, and plot plant operation on the Power/Flow map. (alt path)

NUREG-1021, ES-3.2 Section D.1.c defines a critical step as " … the task steps that the applicant must perform correctly (i.e., accurately, in the proper sequence, and at the proper

time) to accomplish the task standard". Correctly completing the Power/Flow map is directly stated as part of the Task Standard.

K/A 295001AA2.01 rates the ability to determine and/or interpret the power/flow map as it applies to Partial or Complete Loss of Forced Core Flow Circulation at a 4.4 for ROs and 4.3 for SROs. This task is therefore considered important to perform accurately.

Therefore, since the original JPM was approved with the task standard stating the applicant needed to perform the task, and the task was an appropriate critical task, and the task does have a high importance factor, the task standard should not be changed.

SIMULATOR FIDELITY REPORT

Facility Licensee: Edwin I. Hatch Nuclear Plant

Facility Docket No.: 05000321, 05000366

Operating Test Administered: November 27-30, 2023

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and, without further verification and review in accordance with Inspection Procedure 71111.11 are not indicative of noncompliance with 10 CFR 55.46. No licensee action is required in response to these observations.

No simulator fidelity or configuration issues were identified.