UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 10, 2008

Southern Nuclear Operating Company, Inc.
ATTN: Mr. Dennis R. Madison
Vice President - Hatch
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT- NRC EXAMINATION REPORT 05000321/2007301 AND 05000366/2007301

Dear Mr. Madison:

During the period December 3 - 6, 2007, 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 Units 1 and 2. At the conclusion of the tests, the examiners discussed the tests and preliminary findings with those members of your staff identified in the enclosed report. The written examination was administered by your staff on December 10, 2007.

Four Senior Reactor Operator (SRO) applicants passed both the written examination and operating test. One Reactor Operator (RO) and one SRO applicant failed the written examination. One RO applicant failed both the written examination and the operating test. There were five post examination comments. The NRC resolutions to these comments are summarized in Enclosure 2.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact me at (404) 562-4550.

Sincerely,

Malcolm T. Widmann, Chief
Operations Branch
Division of Reactor Safety

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

Enclosures: 1. Report Details
2. NRC Resolution to the Facility Comments

cc: See Page 3

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Should you have any questions concerning this letter, please contact me at (404) 562-4550.

Sincerely,

/RA/

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Division of Reactor Safety

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* See previous concurrence

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ADAMS: X Yes ACCESSION NUMBER:

OFFICE	RII:DRS	RII:DRS	RII:DRS	RIV:DRS
SIGNATUR	* / RA /	* /RA /	* /RA/	* /RA /
NAME	RAiello:pmd	RBaldwin	BCaballero	MWidmann
DATE	1/4/08	1/4/08	1/4/08	1/10/08
E-MAIL	YES NO	YES NO	YES NO	YES NO

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U . S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-321, 50-366
License Nos.:	DPR-57, NPF-5
Report No.:	05000321/2007301 and 05000366/2007301
Licensee:	Southern Nuclear Power Company (SNPCO)
Facility:	Edwin I. Hatch Nuclear Plant, Units 1 & 2
Location:	11030 Hatch Parkway N. Baxley, GA, 31513
Dates:	Operating Tests - December 3 - 6, 2007 Written Examination - December 10, 2007
Examiners:	R. Aiello, Chief, Senior Operations Engineer R. Baldwin, Senior Operations Engineer B. Caballero, Operations Engineer
Approved by:	Malcolm T. Widmann, Chief Operations Branch Division of Reactor Safety

Enclosure 1

SUMMARY OF FINDINGS

ER05000321/2007301 and ER05000366/2007301; 12/03 - 06, 2007 & 12/10, 2007; Edwin I. Hatch Nuclear Plant, Units 1& 2, Licensed Operator Examinations.

The NRC examiners conducted operator licensing initial examinations in accordance with the guidance in NUREG-1021, Revision 9, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements of 10 CFR §55.41, §55.43, and §55.45.

The NRC administered the operating tests during the period of December 3 - 6, 2007. Members of the Edwin I. Hatch training staff administered the written examination on December 10, 2007. The written examination was developed by the NRC and the operating test was developed by the Edwin I. Hatch Training Department.

Four Senior Reactor Operator (SRO) applicants passed both the written examination and operating test. One Reactor Operator (RO) and one SRO applicant failed the written examination. One RO applicant failed both the written examination and the operating test. There were five post examination comments. The NRC resolutions to these comments are summarized in Enclosure 2.

No findings of significance were identified.

Report Details

4. OTHER ACTIVITIES

4OA5 Operator Licensing Initial Examinations

a. Inspection Scope

The facility developed the operating test and the NRC developed the written examination in accordance with NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 9. The NRC reviewed the proposed operating test. Examination changes agreed upon between the NRC and the licensee were made according to NUREG-1021 and incorporated into the final version of the test materials.

The examiners reviewed the licensee’s examination and test security measures while preparing and administering the examinations and tests to ensure examination and test security and integrity complied with 10 CFR 55.49, “Integrity of examinations and tests.”

The examiners evaluated two RO and five SRO applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period of December 3 - 6, 2007. The written examination was administered by the Edwin I. Hatch training staff on December 10, 2007. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licenses to operate the Edwin I. Hatch Nuclear Plant, met requirements specified in 10 CFR 55, “Operators’ Licenses.”

b. Findings

No findings of significance were identified.

The licensee and the NRC reviewed the final version of the written examination and operating test, and indicated that these exams were within the range of acceptability expected for the proposed examination and test respectively. Four SRO applicants passed both the written examination and operating test. One RO and one SRO applicant failed the written examination. One RO applicant failed both the written examination and the operating test. Each applicant who passed the operating test and written examination with an overall score greater than 82% and SRO-only score greater than 74%, as applicable, was issued an operator license commensurate with the level of examination administered.

The combined RO and SRO written examinations with knowledge and abilities (K/As) question references/answers and examination references may be accessed in the ADAMS system (ADAMS Accession Numbers, ML 080040289 and ML080040296).

4OA6 Meetings

Exit Meeting Summary

On December 6, 2007, the examination team discussed generic issues with Mr. Dennis Madison, Site Vice President, and members of his staff. The examiners asked the licensee whether any materials examined during the examination should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee personnel

S. Bargeron, Plant Manager
C. Edmund, Nuclear Operations Instructor
S. Grantham, Operation Training Supervisor
J. Lewis, Training Manager
D. Madison, Plant Hatch Vice President
R. Musgrove, Operations Superintendent
K. Wainwright, Initial License Senior Instructor

NRC personnel

J. Hickey, Senior Resident inspector
P. Niebaum, Resident Inspector
S. Shaeffer, NRC Branch Chief

NRC Resolution to the Facility Comment

A complete Text of the licensee's post examination comments can be found in ADAMS under Accession Number ML080040300.

RO QUESTION # 18

LICENSEE COMMENT:

This question deals with a loss of condenser vacuum with the unit at 20% and asks the applicant for the status of the main steam isolation valves (MSIVs) and the appropriate procedure for depressurizing the reactor to cold shutdown.

The licensee contends that the stem lacks sufficient focus to ensure that only choice “D” is correct. The licensee contends that choice “C” is also correct based on the fact that at 20% rated thermal power (RTP), when the MSIVs close on low vacuum, reactor pressure will increase above the scram setpoint, requiring entry into the EOP RC flowchart. Once the EOP RC flow chart is entered, guidance in the RC/P path at location F2 states:

> *“If desired use one or more of the following: Low Low Set (LLS) or Alternate Reactor pressure control system(s) in Table 1 per 31EO-EOP-107-2.”*

The licensee also contends that the systems used to cooldown in both procedures are basically the same. The licensee recommended that both choices, “C” and “D” be accepted as correct answers.

NRC DISCUSSION:

The NRC disagrees with the licensee’s comments. When the EOP RC flow chart is entered because of reactor pressure rising above the scram setpoint, the guidance in the RC/P path at location F2 fully states:

> *“<u>Stabilize</u> reactor pressure below 1074 psig with main turbine bypass valves. If desired used one or more of the following: Low Low Set (LLS) or Alternate Reactor pressure control system(s) in Table 1 per 31EO-EOP-107-2.”*

Further down the RC/P path at location G2, the guidance in the RC/P path also states:

> *“Begin reactor <u>pressure reduction</u> per 34GO-OPS-013-1 AND maintain the cooldown rate below 100 °F/hr…”*

The question stem provided sufficient focus to ensure only “D” is correct because it specifically asked for the procedure to <u>depressurize the reactor to cold shutdown</u>.

Furthermore, a procedure note in section 7.5 (Reactor Depressurization) on page 25 of 34GO-OPS-013-1, version 26.13 states:

> *“31EO-EOP-107-2, Alternate RPV Pressure Control, will be used <u>IF</u> this section is being performed per the EOP’s <u>AND</u> the following systems are <u>NOT</u> available.*

1) Bypass Valves (~22% total steam flow)
2) HPCI per 34SO-E41-001-2, (~10% total steam flow)
3) RCIC per 34SO-E51-001-2 (~2% total steam flow)
4) Main steam line drains (<1% total steam flow)
5) RHR per 34SO-E11-010-2
6) Manually lifting safety relief valves per 34SO-B21-001-2"

Since the question did not specify that the relief valves, HPCI, and RCIC were unavailable, the applicant must assume that these systems were available. Therefore, the Alternate RPV Pressure Control procedure, 31EO-EOP-107-2, was not the correct procedure to cooldown and depressurize the plant in accordance with the note on page 25 of 34GO-OPS-013-1, version 26.13.

NRC RESOLUTION:

Based on the above discussion, the licensee's recommendation is not accepted and answer choice "D" will be considered as the only correct answer.

RO QUESTION # 31

LICENSEE COMMENT:

This question deals with unloading Diesel Generator “2A” when offsite power has been restored following a loss of offsite power on Unit 2. The question asks the applicant to identify the synchroscope direction as the control room operator transfers the Bus “2E” load (300 kw) from the Diesel Generator “2A” to the offsite power supply.

The licensee contends that the stem lacks sufficient focus to ensure that only choice "C" (counterclockwise) is correct because the stem failed to identify the choices as being "in accordance with procedure." The licensee also contends that unstated assumptions can be made that also support choice "A" (clockwise) because the procedure states that counterclockwise at less than 500 KW is "desirable"; i.e., not the required direction. Additionally, the licensee contends that paralleling at 300 KW with the rotation in the clockwise direction would not be enough to result in reverse power.

Based on the above discussion, the licensee requests that answer choices "A" and "C" both be accepted as correct.

NRC DISCUSSION:

The NRC disagrees with the licensee's comment because the question stem asked for the "required" synchroscope direction. The word "requirement" implies a procedural requirement. The procedure step in 34SO-R43-001-2, Diesel Generator Standby AC System, Section 7.3.1, Transferring Power From Diesel Generator 2A To Normal Or Alternate Power states:

7.3.1.8 Using Diesel Gen 2A (2C) Speed Adjust switch, adjust diesel speed to attain a slow synchroscope rotation in the desired direction (1 to 3 RPM)

The caution preceding this step states:

*"IF THE DIESEL GENERATOR LOAD IS **LESS THAN 500 KW**, IT IS DESIRABLE TO HAVE THE SYNCHROSCOPE ROTATING IN THE **COUNTERCLOCKWISE** DIRECTION TO AVOID OPERATING THE DIESEL AT LOW LOADS WHEN PARALLELED TO THE GRID."*

Because of the procedure step 7.3.1.8 requirement, then counterclockwise is the required synchroscope direction.

NRC RESOLUTION:

Based on the above discussion, the licensee's recommendation is not accepted and choice "C" will be considered as the only correct answer.

RO QUESTION # 59

LICENSEE COMMENT:

This question deals with a plant event which causes conditions that require an emergency depressurization when torus level is very low (55") and the 4160 V busses "2A" and "2B" are de-energized. The question asks the applicant to choose one system to emergency depressurize the reactor given these circumstances.

The licensee contends that the stem lacks sufficient focus because it contained neither an events timeline nor the current value of condenser vacuum. Consequently, an applicant may reasonably assume that torus water level was approaching the heat capacity temperature limit (HCTL) before the 4160 VAC busses became de-energized. In this case, the bypass valves may still be available until low vacuum conditions eventually prevented their use. This reasonable assumption makes choice "B" correct.

Additionally, the licensee also contends that the stem did not specify the initial power level. Consequently, if the initial power level was low, and the 4160 VAC busses became de-energized after a scram, then it could take some time for the condenser vacuum to diminish. In this case the bypass valves would continue to be used until low vacuum conditions prevented their use. Per 31EO-EOP-108-1, Alternate RPV Depressurization, the NOTE before step 3.1.1 states that if >10 inches of vacuum exists, then the bypass valves could be used as long as a steam line break did not exist outside secondary containment (which was not the case). This procedure (31EO-EOP-108-1), implies that the circulating water system should be in service IF possible. Therefore, the licensee contends that a low initial power level assumption also makes choice "B" correct.

Based on the above discussion, the licensee requests that both choices "B" and "C" be accepted as correct.

NRC DISCUSSION:

The NRC disagrees with the licensee's comment because the question stem required the applicant to choose ONE system to accomplish the emergency depressurization. Additionally, the applicants must not assume any unstated conditions in the stem, i.e., NUREG 1021, Rev 9, Appendix E, Policies and Guidelines for Taking NRC Examinations, Section B.7 states:

> *"When answering a question, do not make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question."*

The question did not state that the 4160 VAC busses de-energized subsequent to the low torus water level condition. The question is technically correct since the condenser is not available following the loss of 4160 VAC busses "2A" and "2B" and the SRVs and HPCI are unavailable due to the very low torus level (55"). Furthermore, none of the applicants asked the exam proctors to clarify the sequence of events or the initial power level when the exam was being administered.

NRC RESOLUTION:

Based on the above discussion, the licensee's recommendation is not accepted and choice "C" will be considered as the only correct answer.

SRO QUESTION # 85

LICENSEE COMMENT:

This question deals with a rod that was inadvertently withdrawn from position 16 to 22, versus an intended position 18 during a startup when reactor power was 14%. The question asked the SRO applicants to determine whether Tech Spec 3.1.6, "Rod Pattern Control," contained a required action statement applicable to these plant conditions.

The licensee contends that the stem lacked sufficient focus to ensure that only choice "D" is correct because it did not exclude the initiation of a "tracking" required action statement. As an example, the licensee referenced a previous question (#79) which did include a statement in the stem that instructed the applicants to <u>not</u> consider a "tracking" required action statement when choosing their answer. Because this question (#85) did not include a similar statement, the licensee contends that the applicants thought the question was asking if an actual or a "tracking" required action statement existed for this rod movement error.

The licensee contends that this rod movement error constituted a failure to meet banked position withdrawal sequence (BPWS) requirements and required the implementation of a "tracking" required action statement. The licensee contends that if power decreased below 10% (when the TS limiting condition of operation was exceeded) then an actual required action statement would be required.

Based on the above discussion, the licensee requests that both choices “C” and “D” be accepted as correct.

NRC DISCUSSION:

The NRC disagrees with the licensee’s comment because the stem asked specifically whether Tech Spec 3.1.6, “Rod Pattern Control”, contained a required action statement when reactor power was greater than 10%. There are no required action statements for Tech Spec 3.1.6, “Rod Pattern Control”, when reactor power is 14%. Additionally, at the time the exam was being administered, none of the applicants asked the exam proctors to clarify an “actual” or “tracking” required action statement.

NRC RESOLUTION:

Based on the above discussion, the licensee's recommendation is not accepted and choice "D" will be considered as the only correct answer.

SRO QUESTION # 86

LICENSEE COMMENT:

This question deals with an inadvertent HPCI low steam supply pressure isolation that occurs as the MSIVs are being opened during a Unit 2 plant heatup and pressurization (during the pressure equalization process across the MSIVs, reactor pressure drifts from 170 psig to 125 psig).

The licensee contends that the question is not valid because HPCI was no longer required to be operable when reactor pressure is lowered to 125 psig. The licensee contends that the applicants stated that there is no correct answer because at 125 psig, there is no required action statement for HPCI.

The licensee requests that this question be deleted because there is no correct answer.

NRC DISCUSSION:

The NRC agrees with the licensee. The stem for the original question (submitted by the NRC) included a sequence of events where reactor pressure lowered to 125 psig and then was allowed to return to 160 psig without having HPCI re-aligned. The original question was subsequently modified during the review processes by the exam team such that reactor pressure remained at 125 psig (versus returning to a point greater than 150 psig). HPCI is not required operable less than 150 psig, therefore the question, as presented to the applicants, had no correct answer.

NRC RESOLUTION:

Based on the above discussion, the licensee's recommendation is accepted and this question is deleted from the SRO exam.