

July 26, 2004

Mr. A. Christopher Bakken
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM GENERATING STATION, UNITS 1 AND 2, REACTOR OPERATOR
AND SENIOR REACTOR OPERATOR INITIAL EXAMINATION REPORT NO.
05000272/2004301 and 05000311/2004301

Dear Bakken:

This report transmits the results of the Reactor Operator (RO) and Senior Reactor Operator (SRO) licensing examination conducted by the NRC during the period of June 7-14, 2004. This examination addressed areas important to public health and safety and was developed and administered using the guidelines of the "Examination Standards for Power Reactors" (NUREG-1021, Draft Revision 9).

Based on the results of the examination, all eight applicants passed all portions of the examination. The applicants included three ROs and five instant SROs. Examination results indicated that the applicants were generally well prepared for the examination. On June 25, 2004, final examination results, including individual license numbers, were given during a telephone call between Mr. T. Fish and Mr. J. Reid.

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). These records include the final examination and are available in ADAMS; RO and SRO Written - Accession Number ML041730182; RO and SRO Operating Section A - Accession Number ML041730191; RO and SRO Operating Section B - Accession Number ML041730197; and RO and SRO Operating Section C - Accession Number ML0041730201. 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 regarding this examination, please contact me at

Mr. A. Christopher Bakken

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(610) 337-5183, or by E-mail at RJC@NRC.GOV.

Sincerely,

/RA/

Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

Docket Nos. 50-272&311

License Nos. DPR-70&75

Enclosure: Initial Examination Report No. 05000272&311/2004301 with Attachment

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 50-272&311

License Nos: DPR-70&75

Report No: 05000272&311/2004301

Licensee: PSEG, Nuclear LLC

Facility: Salem, Units 1 and 2

Dates: June 14, 2004 (Written Examination Administration)
June 7-11, 2004 (Operating Test Administration)
June 21, 2004 (Licensee submittal of written grades)
June 14-22, 2004 (Examination Grading)

Examiners: T. Fish, Sr. Operations Engineer (Chief Examiner)
J. D'Antonio, Operations Engineer
J. Laughlin, Operations Engineer
P. Presby, Operations Engineer (Training)

Approved by: Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000272&311-04-301; June 7-14, 2004; Salem Generating Station; Initial Operator Licensing Examination. Eight of eight applicants passed the examination (three reactor operators, five instant SROs).

The written examinations were administered by the facility and the operating tests were administered by three NRC region-based examiners.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Findings

No findings of significance were identified.

Report Details

1. REACTOR SAFETY

Mitigating Systems - Reactor Operator (RO) and Senior Reactor Operator (SRO) Initial License Examination

a. Scope of Review

The NRC examination team developed the written and operating initial examination and together with Salem training and operations personnel verified or ensured, as applicable, the following:

- The examination was prepared and developed in accordance with the guidelines of Draft Revision 9 of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." A review was conducted both in the Region I office and at the Salem training facility. Final resolution of comments and incorporation of test revisions were conducted during and following the onsite preparation week.
- Simulation facility operation was proper.
- Facility training staff completed a test item analysis on the written examination for feedback into their systems approach to training program.
- Examination security requirements were met.

The NRC examiners administered the operating portion of the examination to all applicants from June 7-11, 2004. Salem training staff administered the written examination on June 14, 2004 and submitted their grading results to the NRC on June 21, 2004. The facility submitted one post examination comment, related to a question on the written exam (Attachment 1).

b. Findings

Grading and Results

All eight applicants (three ROs; five instant SROs) passed all portions of the initial licensing examination.

Examination Administration and Performance

No significant administration or performance findings were identified.

40A6 Exit Meeting Summary

On June 25, 2004, the NRC provided conclusions and examination results to Salem management representatives via telephone. License numbers for the applicants were also provided during this time. The NRC expressed appreciation for the cooperation and assistance that the licensee's training staff provided during the preparation and administration of the examination.

Enclosure

KEY POINTS OF CONTACT**LICENSEE**

N. Conicella	Manager, Nuclear Training
J. Reid	Operations Training Leader
M. Kafantaris	Operations Training
E. Gallagher	Operations Training
D. LeGrand	Operations Training
G. Gauding	Operations Training

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>ITEM NUMBER</u>	<u>TYPE</u>	<u>DESCRIPTION</u>
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NONE

ATTACHMENT 1

FACILITY COMMENT ON WRITTEN EXAM AND NRC RESOLUTION

(ADAMS Accession No. ML042080160)

Question RO #74:

The question asks for the difference in crew response for a Loss of All AC Power (LOPA) if the crew enters LOPA-1 LOSS OF ALL AC POWER directly instead of entering EOP-TRIP-1 REACTOR TRIP RESPONSE first then transitioning to LOPA-1 at Step 4.

- The LOPA-1 Basis Document states ... “In addition to the explicit entry condition from EOP-TRIP-1, this EOP is also entered per the rules of usage anytime from anywhere on the symptom of a loss of all AC power (all 4KV group and vital busses de-energized)”.

Additionally ... “EOP-LOPA-1 may be entered directly (without implementing EOP-TRIP-1) as a result of the operator observing the symptoms of a loss of all 4KV vital buses.”

- LOPA-1 does NOT confirm the reactor trip. There is no power available. Step 3 of EOP-LOPA-1 directs the operator to trip the reactor, since LOPA-1 may have been entered directly. However, there is no step to confirm the reactor trip in LOPA-1.

“A transition is not provided to procedure EOP-FRSM if the reactor trip is not confirmed since FRSM-1 assumes a 4KV vital bus is available and that the operator can perform actions to trip the reactor or borate the RCS.” (Also from the LOPA Basis Document.)

- The correct answer to Question 74 was choice d. This answer is correct because confirmation of reactor trip is NOT performed in LOPA-1, while it is always performed in TRIP-1. LOPA does not include a step for reactor trip confirmation because ... “The EOP performs the RNO action directly, so listing these indications is unnecessary.” (LOPA Basis Document.)

The facility recommends acceptance of an additional answer, Distractor b, “In LOPA-1, Functional Restoration Procedures (FRPs) will NOT be implemented until after a transition out of LOPA-1 is performed. In TRIP-1, FRPs may be implemented prior to transition out of TRIP-1.” To be correct, both parts of this choice must be correct.

- The first part of choice b is correct because of the following:

A basic tenet of Functional Recovery Procedures (FRPs) is that at least ONE 4KV vital bus is energized. The Basis Document for LOPA-1 states the Basis for NOT implementing FRPs in LOPA as follows ... “This procedure has priority over all FRPs and is written to implicitly monitor and maintain critical safety functions. This priority is necessary since all FRPs are written on the premise that at least one 4KV vital bus is energized.” (2-EOP-LOPA-1 Basis Document, Rev. 24 page 6.)

If operators are successful in restoring power quickly to any 4KV vital bus, the procedure checks SI requirements (Step 17), Charging pump suction alignment (Step 18), Turbine Building SW alignment (Step 19), then re-asks if a 4KV vital bus is energized (Step 20). When this decision step is reached and answered YES, the operator is directed to implement FRPs and return to procedure in effect. The physical placement of the parts of Step 20 are NOT intended to have FRPs implemented while still in LOPA-1, (during the construction and technical review of this question, it was not identified that a different procedure flow path and transition point could be reached, and that the physical order of step 20 did NOT mean that the FRPs would be implemented in LOPA-1) rather it is a reminder that since a 4KV vital bus is now energized, that upon exiting LOPA-1 the Critical Function Status Trees may be used to direct entry into FRPs. **At no point would the FRPs be implemented and used IN PARALLEL with the LOPA-1 procedure.**

If operators are unable to restore a 4KV vital bus by step 20, then the procedure would continue until a 4KV vital bus is recovered and the appropriate transition to LOPA-2 LOSS OF ALL AC POWER RECOVERY/SI NOT REQUIRED, or LOPA-3 LOSS OF ALL AC POWER RECOVERY/SI REQUIRED. FRPs would not be implemented in LOPA-1. The first two steps of LOPA-2 and LOPA-3 are identical to LOPA-1 in that FRPs are not to be implemented until directed.

In ALL cases, FRPs will NOT be implemented in LOPA-1.

— The second part of the choice b is correct because of the following:

Even though both plants were said to be tripped in the question stem, it is fair to determine that the plant is not tripped until confirmed in EOP-TRIP-1 Step 2. Therefore, there are two possible procedure paths, the transition to LOPA-1 after the trip has been confirmed, or the implementation of FRSM-1 based on the reactor trip NOT being confirmed at Step 2. In this case, implementation of FRSM-1 would occur if the reactor trip was not confirmed, and as such would make the second part of choice b correct.

NRC Response:

Comment accepted. Choice b is an additional correct answer. LOPA 1 indeed does not permit FRPs to be performed until after the procedure is exited (which is when power is restored to at least one 4KV vital bus). Second, since the provided plant conditions (“... both units trip”) do not make clear whether the units are shutdown, i.e., are the trips *confirmed*, it is reasonable for an applicant to determine one or both units may have experienced an anticipated transient without trip (ATWT). If so, TRIP-1 requires that FRSM-1 (a FRP) be implemented prior to exiting TRIP-1. The facility provided excerpts from LOPA-1, TRIP-1, and the Salem EOP basis documents verifying the above.