

LICENSEE POST-EXAM COMMENTS

WATTS BAR EXAM
50-390, 391/2001-301

JANUARY 29 - FEBRUARY 6,
2001

LICENSEE POST-EXAM COMMENTS



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

10 CFR 55.40

FEB 07 2001

Mr. Ronald F. Aiello
Operator Licensing and
Human Performance Branch, NRC Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., Suite 23T85
Atlanta, Georgia 30303

In the Matter of the
Tennessee Valley Authority

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)

Docket No. 50-390

**WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REACTOR AND SENIOR REACTOR
OPERATOR INITIAL EXAMINATIONS - 50-390/2000-301**

Beginning on January 26, 2001, license examinations were administered to a group of reactor operator (RO) and senior reactor operator (SRO) applicants at WBN. Examination Standard (ES) 501, "Initial Post-Examination Activities," of NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," documents that certain information is to be provided to the NRC lead examiner. The required information is provided in the enclosures to this letter as indicated below:

Enclosure 1 - The graded written examinations and a clean copy of each applicant's answer sheet.

Enclosure 2 - The master examinations and answer keys, annotated to indicate any changes made while administering and grading the examinations.

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Enclosure 3 - Any questions asked by and answers given to the applicants during the written examination.

Enclosure 4 - Any comments made by the applicants after the written examination with an explanation why the comment was accepted or rejected.

Enclosure 5 - The written examination seating chart.

Enclosure 6 - A completed Form ES-403-1, "Written Examination Grading Quality Checklist."

Enclosure 7 - The results of any written examination performance analysis that was performed.

Enclosure 8 - Original Form(s) ES-201-3, "Examination Security Agreement," with a pre- and post-examination signature by every individual who had detailed knowledge of any part of the written examination or operating tests before they were administered.

There are no commitments associated with this letter. Should you require additional information regarding this matter, please contact James Baker at (423) 365-8980.

Sincerely,



P. L. Pace
Manager, Licensing and Industry Affairs

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Enclosures

cc (w/o Enclosure):

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U.S. Nuclear Regulatory Commission, Region II
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Enclosure 1

Graded Written Examinations and Clean Copy of Each Applicant's Answer Sheet

NRC SITE SPECIFIC WRITTEN EXAMINATION
WATTS BAR NUCLEAR
January 26, 2001

Quest No.	Question/Comment	Clarification/Response
7-520	Is question asking prior to boration or prior to the runback? (Watson)	restated portion of the stem that referred to "prior to boration."
38-RO 45-SRO	Is question referring to Auot High Tavg vs a Tavg channel? (Williams)(LAW)	yes
45-RO	Is the last part of alternatives "a" and "b" referring to the peak of AFD or the xenon oscillation? (Newby)	restated last portion of stem that referred to "damps the oscillation."
96-520	Do not understand what is meant by the phrase "effect on the monitor" (Watson)	restated stem
91-SRO	Should 1-PT-68-335 really be 1-PT-68-334. (Watson)	Yes.
34-RO	Does the term source bearing fuel assembly mean a fuel assembly that contains a source? (Borras)	Yes
51-RO	Does alternative 'a' only refer to relief valves or also include check valves. (Newby)	Should be considered literally as relief valves.
RO 1-SRO	Has control rod been misaligned for < 1 hour. (EGLI)	Yes. Added 4th bullet to exam stating "the control rod has been misaligned for 21 hours."
11-SRO	Does question refer to which channel will be selected on the control board and which control board indication is available? (EGLI)	yes.
89-SRO	Is the term "minor work" the same as "minor maintenance"? (Artis)	yes
6-RO	In alternative "c", does it mean the spray valves will stay open or close back. (Martin)	The valve will control pressure. Restated the alternative as written.

One item was identified during the administration of the written portion of NRC license examinations on January 26, 2001 that is provided as a facility comment in accordance with NUREG 1021 ES-403.

During administration of the written examination regarding question number 1, one applicant asked if the referenced misaligned control rod had been misaligned for less than one hour. Since this information is required in order to correctly answer the question the proctor answered "yes" and added a "bullet" to the stem of the question. This change was written on the white board and read to all the applicants.

The additional information was needed in order that the correct method may be selected for realigning the misaligned rod and associated bank. Abnormal Operating Instruction, AOI-2, "Malfunction of Reactor Control System", provides 2 different methods for realigning a misaligned rod. One is used when the rod has been misaligned for < 1 hour (the correct answer for this question) and the other for when the rod has been misaligned for > 1 hour.

The Chief NRC examiner concurred with this change.

3.4 **RCCA Misalignment** (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE Control rods in MAN position will be used to align affected bank to misaligned RCCA.

12. **DETERMINE** if affected bank can be aligned to misaligned RCCA(s) within one hour:
- Misaligned RCCA(s) in control bank.
 - Bank overlap can be maintained during alignment.

IF greater than one hour will be required to align RCCA **OR** misaligned RCCA(s) **NOT** in control bank,
THEN
**** GO TO NOTE** prior to Step 21.

3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

CAUTION Any rise in reactor power will adversely affect Xenon oscillations, flux tilts and local power peaking.

13. **RE-ALIGN** affected bank to misaligned RCCA(s):

a. **IF** RCCA(s) below associated bank,
THEN:

- 1) **DISCONNECT** lift coil to affected RCCA(s).
- 2) **INSERT** affected BANK to match misaligned RCCA(s), **WHILE CONTROLLING** turbine load to **MAINTAIN** T-avg and T-ref within 3°F.

b. **IF** RCCA(s) above associated bank,
THEN:

- 1) **DISCONNECT** lift coil to affected RCCA(s).
- 2) **WITHDRAW** affected BANK to match misaligned RCCA(s), **WHILE CONTROLLING** RCS C_B to **MAINTAIN** T-avg and T-ref within 3°F.

3.4 RCCA Misalignment (Continued)

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE The following step will cause a CONTROL ROD URGENT FAILURE alarm [86-A].

37. **ALIGN** RCCA to affected bank position:
- **USE** rod control to position misaligned RCCA to affected bank position determined in Step 33.
 - **ADJUST** turbine load to **MAINTAIN** T-ref and T-avg within 3°.

IF RCCA can **NOT** be aligned, **THEN:**

- a. **RECONNECT** lift coils of affected bank
- b. **RESET CONTROL ROD URGENT FAILURE** alarm [86-A] using 1-RCAR.
- c. **SET** affected group step counters to original value.
- d. **RESET** control bank P/A converter to its original value **USING** Attachment 1 if misaligned RCCA in control bank.
- e. **COMPLY** with Tech Specs:
 - 3.1.5, Rod Group Alignment Limits.
 - 3.1.6, Shutdown Bank Insertion Limits.
 - 3.1.7, Control Bank Insertion Limits.
- f. **ENSURE** control rods in MAN.
- g. **NOTIFY** Plant Management and Reactor Engineering.
- h. **RETURN TO** Instruction in effect.

Enclosure 5

Written Examination Seating Chart

SEATING CHART
NRC EXAM
JANUARY 26, 2001

