



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

February 25, 2013

Mr. Mark A. Carter, Jr.  
17530 Rosemont Drive  
Prairieville, LA 70769

Dear Mr. Carter:

In response to your letter received by this office on November 30, 2012, the staff of the U.S. Nuclear Regulatory Commission (NRC) has reviewed the grading of the written examination administered to you on October 10, 2012, and reconsidered the proposed denial issued to you on November 20, 2012. In spite of the additional information you supplied, the staff has determined that you did not pass the written examination. The results of our review of your contentions are enclosed.

Consequently, the proposed denial of your license application is now a final denial.

You may reapply for a license in accordance with Title 10, Section 55.35, of the *Code of Federal Regulations* (10 CFR 55.35), subject to the following conditions:

- a. You may reapply for a license two months from the date of this letter.
- b. Because you passed an operating test administered on October 1-5, 2012, you may request a waiver of that portion.
- c. Because you did not pass the written examination administered to you on October 10, 2012, you will be required to retake that portion.

You may, within 20 days of the date of this letter, request an adjudicatory hearing pursuant to 10 CFR 2.103(b)(2). Under 10CFR 2.307(a), you may request an extension of the time limits if you can show good cause.

Submit your request electronically through the NRC's E-Filing system in accordance with the requirements of 10 CFR 2.302(a) through (g).

10 C.F.R. §2.302(a) states:

- (a) Documents filed in Commission adjudicatory proceedings subject to this part shall be electronically transmitted through the E-Filing system, unless the Commission or presiding officer grants an exemption permitting an alternative filing method or unless the filing falls within the scope of paragraph (g)(1) of this section [i.e. information that may not be transmitted electronically for security or other reasons].

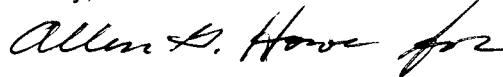
In addition, 10 days before the date your request for hearing is due, you must request a digital ID certificate from the NRC in order to access the Electronic Information Exchange (EIE) system. The instructions for obtaining a digital certificate are found in 10 CFR 2.302(f) and on the NRC Web site at: <http://www.nrc.gov/site-help/e-submittals.html>.

Adjudicatory hearings are conducted under 10 CFR, Part 2, Subpart C. Specifically, 10 CFR 2.309 sets forth the requirements for hearing requests and contentions. 10 CFR 2.309(f) sets forth the requirements for an admissible contention. Briefly, an admissible contention must: provide a specific statement of law or fact to be raised or controverted; provide a brief explanation of the basis for the contention; demonstrate that the issue raised in the contention is within the scope of the proceeding; demonstrate that the contention is material to the findings that the NRC must make to support the denial of the license; provide a concise statement of the alleged facts or expert opinions which support your position and on which you intend to rely, together with references to specific resources and documents you intend to rely on; and provide sufficient information to show that a genuine dispute exists with the NRC staff on a material issue of law or fact, including references to parts of the denial letter, review and analysis that you dispute and the reasons for each dispute.

For further details, you should refer to 10CFR 2.309(f)(1).

If you have any questions, please contact John McHale, Operator Licensing and Training Branch Chief, at (301) 415-3254.

Sincerely,

A handwritten signature in black ink, appearing to read "Allen L. Howe for".

Ho K. Nieh, Director  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

Docket No. 55-42504

Enclosure: As stated

cc w/o enclosure: Donna Jacobs, Vice President, Operations  
Waterford Steam Electric Station, Unit 3

cc w/enclosure: Nikki Lawless, Acting Training Manager

INFORMAL REVIEW RESULTS - MR. MARK A. CARTER, JR.  
 SENIOR REACTOR OPERATOR APPLICANT  
 WATERFORD STEAM ELECTRIC STATION UNIT 3

In response to the applicant's letter received by this office on November 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) reconsidered the proposed denial issued on November 20, 2012, and reviewed the grading of the written examination administered to the applicant on October 10, 2012. In spite of the information supplied by the applicant, the NRC has determined that the applicant did not pass the written examination. The results of this review are outlined below:

NUREG-1021, Revision 9, Supplement 1 Passing Scores:	SRO Only $\geq$ 70.00	Total $\geq$ 80.00%
Applicant's <b>original</b> score (after NRC Regional resolution of Waterford post-examination comments):	80.00% (20/25)	79.79% (79/99)

The applicant contested the grading of two questions as discussed below, and the review resulted in the following:

Q#	Applicant's Answer	Original Answer Key	Applicant's Contention	This Review's Result
32	A	D	Accept answer choices "A" & "D."	Disagree; the question will be retained with answer choice "D" accepted as the only correct answer.
S9	B	D	Delete question since it has no correct answer.	Disagree; the question will be retained with answer choice "D" accepted as the correct answer.

Applicant's <b>final revised</b> score, as a result of this review:	SRO Only	Total
	80.00% (20/25)	79.79%(79/99)

ENCLOSURE

**Question #32:**

Given:

- A LOCA has occurred and the crew has diagnosed into OP-902-002, Loss of Coolant Accident Recovery
- RCS pressure is 600 PSIA
- HPSI pumps A and B are running and all Safety Injection Flow Control valves are open
- Cold leg injection header flow rates are as follows:
  - 1A is 190 gpm
  - 1B is 160 gpm
  - 2A is 175 gpm
  - 2B is 0 gpm
- Fifteen minutes into the event, RVLMS indicated core uncover and CETs are showing indications of superheat

Based on this information, the crew should \_\_\_\_\_ (1) \_\_\_\_\_ because \_\_\_\_\_ (2) \_\_\_\_\_.

- |    | (1)                                     | (2)  |
|----|---|--|
| A. | Remain in OP-902-002, LOCA Recovery     | Core uncover and superheated conditions are expected     |
| B. | Remain in OP-902-002, LOCA Recovery     | the SI flow curves are being met                         |
| C. | Exit to OP-902-008, Functional Recovery | Core uncover and superheated conditions are NOT expected |
| D. | Exit to OP-902-008, Functional Recovery | the SI flow curves are NOT being met                     |

**Answer Key: D**

**Applicant's Answer: A**

**Applicant's Contentions (Quoted Verbatim):**

Regarding question RO-32, in addition to answer D per the answer key, answer A is also [a ] correct choice. This question concerns a Loss of Coolant (LOCA) with the core safety functions of RCS Inventory Control and RCS Pressure Control not being met due to insufficient HPSI flow in the 2B cold leg. The question states that the core is uncovered and superheat conditions have existed for 15 minutes. Per the note listed above, the safety function of RCS Inventory Control in the Loss of Coolant Accident Recovery Procedure (OP-902-002), "conditions of superheat and uncover may be expected for up to 30 minutes in some LOCA events," which explains part 2 of answer A.

For part 1 of answer A, the Emergency Operating Procedure Implementation Guide (OP-100-017) allows the operator to stay in the Optimal Recovery Procedure which in this case is OP-902-002.

Per section 5.6.2 of OP-100-017,

“The operator may stay in this procedure [OP-902-002] under any of the following conditions:

- The reason for not meeting the safety function is known and operator action produces immediate response toward satisfying the failed safety function.
- If a single event is in progress and transitioning to the FRP will provide no additional guidance to correct the failed safety function. (A shift brief should be performed, including the SM, prior to making this decision.)”

The core safety functions of RCS Inventory Control and RCS Pressure Control are not being met due to insufficient HPSI flow in the 2B cold leg; however, the Functional Recovery Procedure (OP-902-008) provides no additional guidance for this condition. The Functional Recovery Procedure has a contingency action to start the standby High Pressure Safety Injection (HPSI) pump. The Loss of Coolant Accident Recovery Procedure has the same step. The Functional Recovery Procedure does have a step to lower RCS pressure, if you have less than 40 gpm due to high RCS pressure. For this question, RCS pressure is 600 psia. This is well below the HPSI pump shut off head (1385 PSIA, per App. 2 of OP-902-009); therefore, this step does not apply. The actions in the step would not help in the question’s particular situation. A comparison of the two procedures shows that there are no additional steps in OP-902-008 that would provide any additional guidance.

In accordance with OP-100-017, the correct actions for this question are for the CRS to conduct a brief presenting the plant conditions and the fact that OP-902-008 provides no additional guidance. The crew would remain in OP-902-002 and align the remaining HPSI pump for injection. This means answer A is also correct.

### **NRC Conclusion:**

The NRC disagrees with the applicant’s contention that there are two correct choices. Answer choice A is incorrect because the SI flow curves are not met. This question will be retained on the examination with answer choice “D” accepted as the only correct answer.

### **Analysis:**

The applicant’s recommendation to accept answer A is based upon a partial quote from a note in OP-902-002, “Loss of Coolant Accident Recovery.” This note is repeated below in its entirety:

### **NOTE**

Core uncover and superheated conditions may be expected for up to 30 minutes for some LOCA events. If the SI flow is in accordance with the SI flow curves, exiting this procedure to the OP-902-008, Functional Recovery Procedure will not provide any additional guidance to restore inventory control.

The second sentence of this note states, *"If the SI flow is in accordance with the SI flow curves, exiting this procedure to the OP-902-008, Functional Restoration Recovery Procedure will not provide any additional guidance to restore inventory control."* However, SI flow is NOT in accordance with the SI flow curves as stated in the question stem. Therefore, it is not appropriate to remain in OP-902-002 "Loss of Coolant Accident Recovery." This conclusion is supported by the licensee's explanation for the question's correct answer which states "to stay in OP-902-002, the minimum SI flows must [emphasis added] be met."

Additionally, performing the functional recovery procedure (OP-902-008) as directed by step 1 of "Loss of Coolant Accident Recovery" (OP-902-002) properly prioritizes Safety Function acceptance criteria restoration. Finally, the exit conditions of OP-902-002 provide guidance in step 2 to exit the procedure when "**ANY** of the Loss of Coolant Accident Safety Function Status Check acceptance criteria are **NOT** satisfied."

**Question #S9:**

The following plant conditions exist:

- Plant is in MODE 3
- Fuel movement is occurring in the Spent Fuel Pool

<u>Containment Purge Monitor Reading</u>	<u>Monitor Alarm/Trip Setpoint</u>
ARM-IRE-5024S reads 150 mR/hr	320 mR/hr
ARM-IRE-5025S reads 67 mR/hr	120 mR/hr
ARM-IRE-5026S reads 15 mR/hr	50 mR/hr
ARM-IRE-5027S reads 19 mR/hr	40 mR/hr

ARM-IRE- \_\_\_\_\_ (1) \_\_\_\_\_ are inoperable. Enter Technical Specification \_\_\_\_\_ (2) \_\_\_\_\_.

	<u>(1)</u>	<u>(2)</u>
A.	5025S <u>and</u> 5027S	3.3.3.1 & 3.9.4
B.	5024S <u>and</u> 5026S	3.3.3.1 & 3.9.4
C.	5025S <u>and</u> 5027S	3.3.3.1 only
D.	5024S <u>and</u> 5026S	3.3.3.1 only

**Answer Key: D**

**Applicant's Answer: None**

**Applicant's Contentions (Quoted Verbatim):**

In regards to question SRO-9, there are no correct answers. The question concerns whether or not the containment purge monitors are operable based on their alarm setpoints. The question also requires the test taker to determine the appropriate technical specifications to enter based on operability. While Containment Purge Monitors 5024S and 5026S are inoperable based on improper alarm setpoints, neither Technical Specification (T.S.) 3.3.3.1 nor 3.9.4 are applicable. Technical Specification 3.3.3.1 requires 1 Containment Purge Monitor per train. Because both 5024S and 5026S are powered from different trains of power, and 5025S and 5027S are still operable, the Limiting Condition for Operation is still met for T.S. 3.3.3.1.

Concurrently, T.S. 3.9.4's applicability only applies "during core alterations or load movements with or over irradiated fuel within containment." Since the stem of question SRO-9 does not mention core alterations or load movements of fuel in containment and solely refers to fuel movement in the spent fuel pool, applicability of T.S. 3.9.4 is not met, and therefore, it should also not be entered. Since all answer choices make the test taker choose between a combination of Technical Specifications 3.3.3.1 and 3.9.4, no answer choice is correct.

## **NRC Conclusion:**

The NRC disagrees with the applicant's contention that there is no correct choice. This question will be retained on the examination with answer choice "D" accepted as the correct answer.

## **Analysis:**

The applicant states that two Containment Purge Monitors (ARM-IRE-5024S and 5026S), "powered from different trains of power," are inoperable based on improper alarm/trip setpoints and Monitors ARM-IRE-5025S and 5027S are still operable." The NRC reviewer agrees with the applicant's operability assessment for the four Containment Purge Monitors.

However, the reviewer disagrees with the applicant's conclusion regarding entry into, and compliance with, Technical Specification 3.3.3.1. TS 3.3.3.1 states the following:

### Limiting Condition For Operation

The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

Applicability: As shown in Table 3.3-6

### Action:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

Since item 1.b of Table 3.3-6 lists Containment – Purge & Exhaust Isolation Area Monitors as required radiation monitoring channels while in Modes 1,2,3,4 & \*\* (\*\* During CORE ALTERATIONS or load movements with or over irradiated fuel within containment) and two of these channels are not within limits with the unit in Mode 3, Limiting Condition For Operation (LCO) ACTION "a" is required to be entered for channels ARM-IRE-5024S and 5026S.

The operators must either adjust the Alarm/Trip setpoints for Monitors ARM-IRE-5024S and - 5026S within 4 hours or declare Containment Purge Monitor channels ARM-IRE-5024S and 5026S inoperable. If the operators do not adjust the Alarm/Trip setpoints, then they must declare both channels inoperable and take further action as required by T.S. 3.3.3.1 LCO ACTION "b."

TS 3.3.3.1 LCO ACTION "b" directs potential additional action per ACTION 25 from Table 3.3-6 i.e., "With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement (1/train), comply with the ACTION requirements of [TS] Specification 3.9.4. However, since the Minimum Channels OPERABLE requirement (1/train) is met by operable Monitors ARM- IRE-5025S and 5027S, no further action per Table 3.3-6 ACTION 25 is



required. The operators must remain in LCO 3.3.3.1 ACTION "b" until all monitors are returned to OPERABLE status or the unit exits the mode of applicability.

In summary, although T.S.3.9.4 is NOT entered because the Minimum Channels OPERABLE requirement is met, TS 3.3.3.1 is entered requiring either an Alarm/Trip setpoint adjustment or an inoperability declaration for the affected channels.