

Vincent, Janet

**From:** Bates, Mark  
**Sent:** Monday, February 04, 2013 3:45 PM  
**To:** Vincent, Janet; Widmann, Malcolm  
**Cc:** Meeks, Michael; Capehart, Phillip; Franke, Mark  
**Subject:** Fairness Question Submitted to Frank Ehrhardt in August 2012  
**Attachments:** Fairness Questions Submitted to Ehrhardt 10AUG2012.PDF

Attached

Mark A. Bates  
 Senior Operations Engineer  
 Division of Reactor Safety  
 United States Nuclear Regulatory Commission - Region II  
 245 Peachtree Center Ave., NE Suite 1200  
 Atlanta, GA 30303-1257  
 404-997-4612

United States Nuclear Regulatory Commission Official Hearing Exhibit	
<b>In the Matter of:</b>	Charlissa C. Smith (Denial of Senior Reactor Operator License)
	<b>ASLBP #:</b> 13-925-01-SP-BD01
	<b>Docket #:</b> 05523694
	<b>Exhibit #:</b> CCS-021-00-BD01
	<b>Admitted:</b> 7/17/2013
	<b>Rejected:</b>
	<b>Other:</b>
	<b>Identified:</b> 7/17/2013
	<b>Withdrawn:</b>
	<b>Stricken:</b>

1. Was a waiver or waivers of the operating test granted for other applicants who took the most recent examination? (Capehart, Bates, Meeks)
  - a. If so, what was the basis and threshold for granting the waiver(s)?

Operating test waivers were granted for other applicants who passed the operating test portion of the Vogtle 2011-301 exam. Those waivers were granted based on input from the previous exam team members. I was not involved with the Vogtle 2011-301 exam; therefore, it is part of my personal process to request a recommendation from the previous exam team concerning waiver requests. Typical practice is to employ the recommendation from the previous exam team. I had no knowledge of the previous exam; therefore, I had no grounds to make any waiver decisions without a recommendation from the Vogtle 2011-301 exam team. I simply followed their recommendation.

Furthermore, because I was the only Vogtle 2012-301 exam team member not on the previous Vogtle 2011-301 exam team, it was imperative that I remain as independent as possible to evaluate any applicants that could potentially be denied a waiver of the operating test. This is the second reason for me relying on, and employing, waiver recommendations from members of the previous Vogtle 2011-301 exam team.

2. How did the applicant's performance on the previous examination operating test differ from any applicants who were granted waivers? (Capehart, Bates, Meeks)

I cannot answer this question in detail because I do not have detailed knowledge of any performances on the Vogtle 2011-301 operating test. To this day, I have not read the details of any of the applicant's Form 303-1s from the Vogtle 2011-301 exam. My only exposure to any of the Form 303-1s from the Vogtle 2011-301 exam took place only after the denied applicant's appeal of the operating test was received. When compiling material to respond to the appeal, I did construct a table to compare Carla Smith's operating test performance with [REDACTED] operating test performance simply to help explain why the previous Vogtle 2011-301 exam team decided that approval of an operating test waiver would be unlikely for Carla Smith. Even when constructing that table, I did not read the detailed documentation of the individual errors that were made. I only consulted pages 2 and 3 of those two Form 303-1s.

Because I did construct the above referenced table, I have included it as **EXHIBIT 1** at the end of this document.

3. What did you discuss with the applicant and/or licensee regarding submitting a waiver for the operating test? (Capehart, Bates, Meeks)

I did not discuss waivers with the facility licensee or the applicant (Carla Smith) before exam administration. However, I received an email (cc'ed) on August 2, 2011 that was sent from Michael Meeks to [REDACTED] (Southern Co), which stated that most

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applicants would likely receive a routine waiver if requested, but Carla Smith would likely have a waiver denied if one was requested. This email is included as **EXHIBIT 2** at the end of this document.

4. *Did you review the applicant's docket file, including ES-303, prior to administering the operating test to her? (Bates, Meeks)*
  - a. *Why or why not?*

I did not review the applicant's docket file for reasons discussed in the earlier questions. To reiterate, it was imperative that I remain independent and able to administer the operating test to any applicants who were retaking the operating test. I was the only exam team member who was not a part of the Vogtle 2011-301 exam team due to an exam team change that was made due to schedule demands. I also had no reason to review the docket file for purposes of approving and denying waivers because I was simply going to follow the waiver recommendation of the previous exam team members. The people most able to make a quality waiver recommendation based on any performance on the Vogtle 2011-301 exam were those examiners that witnessed those performances. It appears valid to employ those recommendations unless there is an over-riding reason to make a different decision. In summary, not reviewing any of the docket files before exam administration was performed to maintain independence, and review of the docket files was not necessary for approving and/or denying waivers.

5. *Did you review the docket files, including ES-303s, of any other applicants that were granted waivers prior to administering the operating test? (Bates, Meeks)*
  - a. *Why or why not?*

I did not review docket files of any other applicant's docket files prior to administering the operating test. I based waiver decisions on recommendations from the previous examination team. Michael Meeks was the Chief Examiner-Under Instruction for the Vogtle 2012-301 exam and was also a member of the Vogtle 2011-301 exam team. Michael, in consultation with Phil Capehart and Jay Hopkins (via historical emails) agreed that operating test waiver should be approved for those that passed the 2011-301 exam, with the exception of Carla Smith. Therefore, I had no reason to review the docket files because I had decided to use the recommendation of the previous exam team.

6. *What criteria or process was used to determine examiner assignments? (Bates, Meeks)*

As always, I constructed a skeleton schedule for exam teams. This skeleton is shown in **EXHIBIT 3**, but did not initially have applicants and examiners assigned to the variables (I.E.: I1, I2, R1, R2, E1, E2, etc.). The skeleton was designed to minimize the number of scenarios that needed to be developed and administered, as well as minimizing the number of scenario sets that would require a surrogate operator. These goals are in keeping with requirements of NUREG-1021.

Once the skeleton was created, we assigned applicant names to the variable using a reverse alphabetical process using last names. This can be seen by looking at EXHIBIT 3. Examiner names were assigned to E1, E2, E3, with the exception of ensuring that I was assigned to Carla Smith because I had no detailed knowledge of her previous operating test performance.

7. *What criteria or process was used to determine the number of scenarios to administer to each applicant? (Bates, Meeks)*

See my response to question 6 above. The skeleton schedule was constructed and then names were assigned to the variables using a reverse alphabetical order using the applicant's last name. The number of scenarios for the skeleton schedule was driven by NUREG-1021 guidance to minimize the use of surrogates. Therefore, we minimized the number of scenarios with the overriding constraint of minimizing the use of surrogates, which complies with NUREG-1021. NUREG-1021 provides guidance to have applicants perform one scenario beyond the minimum required number of scenarios if doing so will reduce the use of surrogates.

8. *What steps, if any, did you take to mitigate any potential bias (predisposition based on knowledge of past performance) when administering the examination? (Bates, Meeks)*

Please reference my responses to the above questions. To summarize, I ensured that I did not discuss or consult written documentation to gain knowledge of the details of any of the applicant's performances on the previous exam. This was necessary because I was the only one that had no detailed knowledge of that exam. Potential bias was minimized when approving waivers, constructing the schedule, and making examiner assignments.

9. *What threshold was used to determine whether or not to document an error committed by the applicant during administration of the operating test (simulator scenarios and JPMs)? (Bates, Meeks)*

JPMs:

JPM comments were made using a similar threshold for all applicants. If the applicant made an error that prevented the successful completion of the task, or placed the plant in a less safe condition, then the applicant normally received an unsatisfactory score. If the applicant simply made an error then self-corrected, made an error that did not hinder the completion of the task and did not result in the plant being in a less safe condition, then the applicant typically received a comment on Form 303-1, but received a score of satisfactory for that JPM.

Dynamic Simulator Scenarios:

NUREG-1021 provides pertinent guidance that was used as a basis for the exam team's evaluation of the applicant's performance in the various Competencies. ES-303, section D.2.b, states:

- a. Using Form ES-303-3 or ES-303-4, depending on the applicant's license level, and the following generic guidance, evaluate any deficiencies coded for the simulator test to determine a grade for every applicable rating factor (RF) and competency. Keep in mind that the simulator test is generally graded based on competencies rather than consequences; every error that reflects on an operator's competence is considered equal unless it is related to the performance of a critical task (as determined in accordance with ES-301 and Appendix D).

Therefore, errors that reflected an operator's competence in any of the rating factors were documented as required by NUREG-1021.

10. *Please provide any evidence (written comments) that show that a similar threshold was used to document errors committed by other applicants. (Bates, Meeks)*

#### JPMs

**EXHIBIT 4** contains a table of cross-referenced comments for those JPMs on which Carla received comments. It should be noted that Carla Smith did not receive an unsatisfactory score on any JPM, but she did receive comments on four JPMs. The table will reflect that in all cases, similar comments were made for similar mistakes by other applicants. Attachment 1 contains the supporting pages from the various Form 303-1s.

#### Dynamic Simulator Scenarios:

There are numerous examples of applying a similar threshold for what was considered to be an error. **EXHIBIT 5** displays a cross-reference of Carla's errors to other applicant's errors where a similar threshold was used. In many cases the exact same error was documented in the exact same rating factor. Small differences may be seen for some examples due to the applicant standing in a different position when the error was made, or due to the other applicant displaying a different root cause for making the error. The intent of this table is not to show every example and all similarities. The purpose is to show a pattern of fairness by showing several examples where a similar threshold was applied. It is also worth noting that Carla made more errors than the other applicants, therefore there was not a one-for-one comparison to be made for all of the comments in documented for her performance in the simulator. Attachment 2 contains the supporting pages from the various Form 303-1s.

**EXHIBIT 1: Carla Smith [REDACTED] [REDACTED] 2011-301 Comparison**

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The following table was constructed in response to Carla Smith's appeal of the operating test.

Operating Test Portion	Carla Smith	[REDACTED]
Total Number of Simulator Scenario Comments	12	3
Number of Administrative JPM Failures	0	2
Number of System/In-Plant JPM Failures	0	1
Number of Administrative JPMs with Comments	1	1
Number of System/In-Plant JPMs with Comments	5	2

16  
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**EXHIBIT 2: EMAIL FROM MEEKS TO [REDACTED]**

**RE: Vogtle NRC Exam Waiver Questions**

Meeks, Michael

Sent: Tue 8/2/2011 10:18 AM

To: [REDACTED]

Cc: Widmann, Malcolm; [REDACTED] Bates, Mark; Franke, Mark

George,

Sorry to be so long getting back to you. I have checked with Mark Bates and Malcolm and have preliminary answers for you:

1. For [REDACTED] these would be routine waivers approved by Region II. These individuals would have the operating test portion of the exam waived, and would only need to take the written exam. When their applications are submitted, they would need to specify deficiencies (i.e. as noted in the last NRC exam) and the remedial training they did to correct these deficiencies.

2. For C. Smith, Region II would likely deny a waiver of the operating test portion of the exam. However, she could re-take the entire exam (both a complete operating exam and the written).

3. For the individual in the March 2013 class, we need some additional information. ES-204 D.1.i allows the region to approve a routine waiver of "up to 6 months of the 3 years of (responsible nuclear) power plant experience for an RO (or an SRO), but not to exceed 2 months of the year of onsite experience for an RO and 1 month of the 6 for an SRO." Therefore, if the applicant meets this criteria, Region II could approve a routine waiver. If the applicant does not meet this criteria, we would need to receive authorization from the IOLB program office (NRC Headquarters) to grant the waiver. In either case, after the

applicant passed the NRC exam, we would issue a "pass" letter stating that the applicant passed the exam, and that the license would be issued once the applicant completes the required experience.

Please let me know if you have any further questions—

Best regards,

*Michael Meeks*

*Operations Examiner/Operations Engineer*

*U.S. Nuclear Regulatory Commission (Region II)*

*245 Peachtree Center Ave. NE (Suite 1200)*

*Atlanta, GA 30303-1257*

*office: 404.997.4467*

*email: [Michael.Meeks@nrc.gov](mailto:Michael.Meeks@nrc.gov)*

**From:** [REDACTED]  
**Sent:** Tuesday, June 07, 2011 7:24 AM  
**To:** Meeks, Michael  
**Cc:** Widmann, Malcolm; [REDACTED]  
**Subject:** Vogtle NRC Exam Waiver Questions

Michael,

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We are in the process of identifying individuals in which we plan on requesting a waiver for the March 2012 Operating Exam in accordance with ES-204, Section D.1.a. The individuals in which we are confident that we will request an Operating Exam waiver are:

[REDACTED]  
[REDACTED]), and  
[REDACTED]

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Three other individuals from that class also passed the March 2011 Operating Exam; however, we are presently evaluating their status and are inquiring as to whether or not Region II would approve an Operating Exam waiver for the individuals below:

[REDACTED]  
[REDACTED] and  
[REDACTED]

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If I understand ES-204, these waiver requests should be documented on Form 398 when the license applications are submitted and would be considered routine waivers with review/approval through the Region II office. I also understand that the requirements of D.1.k must also be met to waive the 24 month GFE requirement. However, in order to allow us to develop an appropriate recovery plan, I am asking if Region II would evaluate the status of the individuals listed above and indicate whether or not a waiver would be approved. If I need to follow up with a formal request (i.e. letter), please let me know so I may submit it in a timely manner.

In addition, I understand that you may not be the Chief Examiner for our March 2013 exam, however, I am asking for some assistance as to how I should proceed with a similar issue. There is one individual that will be enrolled in the LOIT program this fall and is scheduled to take an Initial Operating Exam in March 2013 that is about 2 months shy of the prerequisite 36 month eligibility requirement. We currently plan on requesting a waiver for this individual as well but I do not believe this would be considered a routine waiver as described in ES-204; thus requiring NRR approval. As you might expect, we would like to know whether or not this waiver request would be accepted. My question, how should I proceed? Should I submit a formal letter (signed by our VP) requesting evaluation of this request prior to submitting the Form 398 application? If so, when would submittal of a request be considered timely?

Any assistance on these issues would be greatly appreciated.

[REDACTED]

*Nuclear Operations Training Supervisor*

*Vogtle Electric Generating Plant*

[REDACTED]  
[REDACTED]

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### EXHIBIT 3: DYNAMIC SIMULATOR SCHEDULE

Below is the exam schedule that was developed for the simulator portion of the Vogtle 2012-301 operating test.

WEEK 1

	MONDAY (3/28)	TUESDAY (3/27)	WEDNESDAY (3/28)	THURSDAY (3/29)	FRIDAY (3/30)
0700-1000	Scenario #8 CRS: I2 / E2 OATC: I1 / E1 BOP: R1 / E3	Scenario 7 CRS: I1 / E1 OATC: I2 / E2 BOP: R1 / E3	Scenario #2 CRS: U1 / E1 OATC: R7 / E2 BOP: R8 / E3	Scenario #3 CRS: I4 / E2 OATC: R2 / E3 BOP: Surrogate E1: A3 & A1-1 (U1, I8, R4, R3, R5, R8, R7)	Scenario #1 CRS: U1 / E1 OATC: R8 / E3 BOP: R7 / E2
1000-1300	Scenario #6 CRS: I4 / E2 OATC: I3 / E1 BOP: R2 / E3	Scenario 7 CRS: I3 / E1 OATC: I4 / E2 BOP: R2 / E3	Scenario #2 CRS: I5 / E1 OATC: R5 / E2 BOP: R8 / E3	Scenario #3 CRS: I2 / E2 OATC: R1 / E3 BOP: Surrogate E1: A3 & A1-1 (I1, I3, I5, I6, I7, R8)	Scenario #1 CRS: I1 / E1 OATC: R6 / E3 BOP: R5 / E2
1300-1600	Scenario #6 CRS: I6 / E2 OATC: I5 / E1 BOP: R3 / E3	Scenario 7 CRS: I5 / E1 OATC: I6 / E2 BOP: R3 / E3	Scenario #2 CRS: I8 / E2 OATC: I7 / E1 BOP: R4 / E3	Scenario #3 CRS: I8 / E2 OATC: R4 / E3 BOP: Surrogate E1: A3 & A1-1 (I2, R1, I4, R2)	Scenario #1 CRS: I6 / E2 OATC: R3 / E3 BOP: Surrogate
1600-1800		Scenario 7 CRS: I7 / E1 OATC: I8 / E2 BOP: R4 / E3			

- |                |                |
|----------------|----------------|
| I1: [REDACTED] | R1: [REDACTED] |
| I2: [REDACTED] | R2: [REDACTED] |
| I3: [REDACTED] | R3: [REDACTED] |
| I4: [REDACTED] | R4: [REDACTED] |
| I5: [REDACTED] | R5: [REDACTED] |
| I6: [REDACTED] | R6: [REDACTED] |
| I7: [REDACTED] | R7: [REDACTED] |
| I8: [REDACTED] | R8: [REDACTED] |
| U1: [REDACTED] |                |

- E1: Michael Meeks (Chief – Under Instruction)
- E2: Mark Bates (Chief)
- E3: Phil Capehart

EX

**EXHIBIT 4: JPM COMPARISON TABLE**

Applicant	Admin JPM c	Systems JPM a	Systems JPM d	Systems JPM g
Carla Smith	Pass w/ Comment	Pass w/ Comment	Pass w/ Comment	Pass w/ Comment
[REDACTED]	Pass w/ Comment		Pass w/ Comment	Pass w/ Comment
[REDACTED]		Pass w/ Comment		Pass w/ Comment
[REDACTED]	Pass w/ Comment		Pass w/ Comment	Pass w/ Comment
[REDACTED]			Pass w/ Comment	Pass w/ Comment
[REDACTED]			Pass w/ Comment	Pass w/ Comment
[REDACTED]			Pass w/ Comment	
[REDACTED]		Pass w/ Comment	Pass w/ Comment	
[REDACTED]		Pass w/ Comment	Pass w/ Comment	
[REDACTED]			Pass w/ Comment	
[REDACTED]		Pass w/ Comment	Pass w/ Comment	
[REDACTED]		Pass w/ Comment		

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**EXHIBIT 5: DYNAMIC SCENARIO COMPARISON TABLE**

Rating Factor	Form 303-1 Pg # for Carla's Comment	Applicant and Form 303-1 Pg # for Similar Comment using Similar Threshold / Examiner of Record for Similar Comment
1.b	8	[REDACTED] Pg 9 / Bates [REDACTED] Pg 11 / Capehart
1.b	10	[REDACTED] Pg 17 / Capehart
1.c	12	Similar threshold can be seen generally via other comments in this table.
1.c	14	[REDACTED] 13 / Bates [REDACTED] Pg 10 / Bates [REDACTED] Pg 10 / Meeks [REDACTED] Pg 8 / Meeks [REDACTED] Pg 9 / Capehart
1.d	16	[REDACTED] Pg 12 / Bates [REDACTED] Pg 11 / Meeks
3.a	18	[REDACTED] Pg 14 / Bates [REDACTED] Pg 14 / Meeks
3.a	19	Similar threshold can be seen generally via other comments in this table.
3.a	20	[REDACTED] Pg 11 / Bates [REDACTED] Pg 15 / Capehart [REDACTED] Pg 7 / Meeks [REDACTED] Pg 10 / Capehart [REDACTED] Smith Pg 7 / Meeks
3.c	21	[REDACTED] 10 / Bates
4.a	23	[REDACTED] Pg 13 / Capehart
4.a	24	[REDACTED] 12 / Meeks
4.a	25	Similar threshold can be seen generally via other comments in this table.
4.b	26	[REDACTED] Pg 15 / Bates [REDACTED] 12 / Bates
4.b	27	[REDACTED] Pg 15 / Bates [REDACTED] Pg 12 / Bates
4.c	28	[REDACTED] Pg 18 / Capehart [REDACTED] Pg 13 / Meeks
6.a	29	[REDACTED] Pg 14 / Meeks [REDACTED] Pg 15 / Meeks
6.a	30	[REDACTED] 13 / Bates
6.a	31	[REDACTED] Pg 16 / Bates [REDACTED] Pg 15 / Meeks [REDACTED] Pg 10 / Meeks

**ATTACHMENT 1: JPM COMPARISON SUPPORTING DOCUMENTS**

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Administrative Topic "c"

**JPM/TASK:**

Determine Tagging Requirements

**EXPECTED ACTION/RESPONSE:**

Given the appropriate references, the applicant was expected to correctly determine the appropriate boundary points and required positions of components to (1) isolate the fluid boundary and (2) drain the "A" Containment Spray Pump (CSP), 1-1206-P6-001, in preparation for maintenance work on the pump seals. The applicant was expected to identify 1-1206-U4-002, CSP A Suction Floor Drain Isolation, as a required drain path to be tagged in the OPEN position. Proper tagging of 1-1206-U4-002 was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

When the applicant developed the tagout, the applicant incorrectly stated that 1-1206-U4-002 should be tagged in the CLOSED position.

During post-JPM discussion with the examiner, the applicant incorrectly stated that valve -002 was an isolation boundary that was required to be tagged in a closed configuration. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of knowledge of tagging and clearance procedures.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Administrative Topic "c"

**JPM/TASK:**

Determine Tagging Requirements.

**EXPECTED ACTION/RESPONSE:**

Given the appropriate references, the applicant was expected to correctly determine the appropriate boundary points and required positions of components to (1) isolate the fluid boundary and (2) drain the "A" Containment Spray Pump (CSP), 1-1206-P6-001, in preparation for maintenance work on the pump seals. The applicant was expected to identify 1-1206-U4-002, CSP A Suction Floor Drain Isolation, as a required drain path to be tagged in the OPEN position. Proper tagging of 1-1206-U4-002 was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

When the applicant developed the tagout, the applicant incorrectly stated that 1-1206-U4-002 should be tagged in the CLOSED position.

During post-JPM discussion with the examiner, the applicant incorrectly stated that valve "-002" was an isolation boundary that was required to be tagged in a closed configuration. The applicant correctly performed all critical steps in the JPM; therefore, the applicant's performance was rated as satisfactory.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of knowledge of tagging and clearance procedures.

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**CROSS REFERENCE:**

Administrative Topic "c"

**JPM/TASK:**

Determine Tagging Requirements.

**EXPECTED ACTION/RESPONSE:**

Given the appropriate references, the applicant was expected to correctly determine the appropriate boundary points and required positions of components to (1) isolate the fluid boundary and (2) drain the "A" Containment Spray Pump (CSP), 1-1206-P6-001, in preparation for maintenance on the pump seals. The applicant was expected to identify 1-1206-U4-002, CSP A Suction Floor Drain Isolation, as a required drain path to be tagged in the OPEN position. Proper tagging of 1-1206-U4-002 was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

When the applicant developed the tagout, the applicant incorrectly stated that 1-1206-U4-002 should be tagged in the CLOSED position.

During post-JPM discussion with the examiner, the applicant incorrectly stated that valve -002 was an isolation boundary that was required to be tagged in a closed configuration. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of knowledge of tagging and clearance procedures.

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Rod Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1. At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "SHOW30" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test.

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Room Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1. At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "SHOW30" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Room Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1. At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "ALLRODS" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Rod Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to "Record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1." At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "SHOW30" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

During post-JPM questions, the examiner asked the applicant how to determine IPC bank demand. The applicant again incorrectly pointed to the IPC individual rod positions on the computer screen, and stated that these data points were IPC Bank Demand. Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

LAD

Elaminur Meeks

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test.

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Rod Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directed the operator to "Record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1." At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "SHOW30" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

During post-JPM questions, the examiner asked the applicant how to determine IPC bank demand. The applicant again incorrectly pointed to the IPC individual rod positions on the computer screen, and stated that these data points were IPC Bank Demand. Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Systems: Control Room "a"

**JPM/TASK:**

Perform Control Rod Operability Test.

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Rod Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to "Record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1." At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

**APPLICANT ACTION/RESPONSE:**

At step 5.1.7, the applicant called up IPC screen "ALLRODS" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

During post-JPM questions, the examiner asked the applicant how to determine IPC bank demand. The applicant again incorrectly pointed to the IPC individual rod positions on the computer screen, and stated that these data points were IPC Bank Demand. Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

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**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

The applicant was also expected to recognize the ALB08-B05, RCP 2 CONTROLLED LKG HI/LO FLOW, alarm in a timely manner.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant started RCP #2 and secured the associated lift pump. Approximately two minutes after the RCP 2 CONTROLLED LKG HI/LO FLOW alarm annunciated, she recognized the alarm and correctly completed the task. The delay in recognizing the alarm warranted a comment.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step. Also, the task did not contain time critical acceptance criteria; therefore, the applicant's correct completion of all critical steps was evaluated as satisfactory.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit. The applicant also displayed a weakness in recognizing an alarm, in a timely manner, that was directly associated with her task.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

Systems – Control Room “d”

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

**CROSS REFERENCE:**

Systems – Control Room “d”

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to complete step 4.1.2.10 of procedure 13003-1, "Reactor Coolant Pump Operation," Revision 45, which directed the operator to establish conditions for starting an RCP as described in Table 1, RCP Prestart Conditions.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform step 4.1.2.10 to verify establishment of RCP Prestart Conditions.

The applicant's performance was rated as satisfactory because RCP Prestart Conditions were already met; therefore, verification of these conditions was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of RCP Prestart Conditions.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Batu

**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

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APPLICANT DOCKET NUMBER

2-1-16

Examiner: Bates

**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Capshaw

**CROSS REFERENCE:**

Systems – Control Room "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

**CROSS REFERENCE:**

Systems: Control Room "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

The applicant was also expected to recognize the ALB08-B05, RCP 2 CONTROLLED LKG HI/LO FLOW, alarm in a timely manner.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant started RCP #2 and secured the associated lift pump. Approximately two minutes after the RCP 2 CONTROLLED LKG HI/LO FLOW alarm annunciated, he recognized the alarm and correctly completed the task.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step. Also, the task did not contain time critical acceptance criteria; therefore, the applicant's correct completion of all critical steps was evaluated as satisfactory.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit. The applicant also displayed a weakness in recognizing an alarm, in a timely manner, that was directly associated with his task.

**CROSS REFERENCE:**

Systems – Control Room JPM "d"

**JPM/TASK:**

Start an RCP with Subsequent Seal Failure

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform alarm panel checks as part of verifying no applicable alarms being lit prior to starting the RCP.

**APPLICANT ACTION/RESPONSE:**

The applicant did not perform alarm panel checks as part of verifying applicable alarms not lit.

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in thoroughly performing a procedure step that required a verification of applicable alarms not being lit.

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator (DG) to Normal Supply

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove DG 1B from bus 1BA03, in accordance with procedure 13427B-1, "4160V AC Bus 1BA03 1E Electrical Distribution System." At step 4.2.5.1 of this procedure, the applicant was expected to lower DG 1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. The next step (4.2.5.2) of the procedure directs the operator to concurrently unload the DG to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, when the applicant performed step 4.2.5.1 of the procedure to unload the diesel, she incorrectly lowered load from ~3200 kW to ~2100 kW and waited 5 minutes, then again incorrectly lowered load to ~1000 kW and waited an additional 5 minutes. These actions were incorrect because diesel load was not stabilized at 3000 kW for 5 minutes, and the DG was unloaded below 3000 kW more slowly than expected.

During post-JPM questions with the examiner, the examiner asked the applicant to go back through the procedural steps 4.2.5.1 and 4.2.5.2. At this time, the applicant [correctly] stated that a better way to perform the procedure would have been to stabilize load at 3000 kW for 5 minutes, and then to lower load all the way to minimum per step 4.2.5.2. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator to Normal Supply.

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove DG 1B from bus 1BA03 in accordance with procedure 13427B-1, "4160V AC Bus 1BA03 1E Electrical Distribution System." At step 4.2.5.1 of this procedure, the applicant was expected to lower DG 1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. The next step (4.2.5.2) of the procedure directed the operator to concurrently unload the D/G to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, when the applicant performed step 4.2.5.1 of the procedure to unload the diesel, he lowered load from ~3200 kW to ~2100 kW and then waited 5 minutes. This was incorrect because diesel load was lowered below ~3000 kW.

During post-JPM questions with the examiner, the examiner asked the applicant to go back through the procedural steps of 4.2.5.1 and 4.2.5.2. At this time, the applicant stated that he should have only lowered load to 3000 kW instead of 2100 kW, and that he realized the mistake when he turned the page and read step 4.2.5.2. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator (DG) to Normal Supply

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove DG1B from bus 1BA03 in accordance with procedure 13427B-1, "4160V AC Bus 1BA03 1E Electrical Distribution System." At step 4.2.5.1 of this procedure, the applicant was expected to lower DG1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. Step 4.2.5.2 of the procedure directed the operator to concurrently unload the DG to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, when the applicant performed step 4.2.5.1 of the procedure to unload the diesel, he lowered load from ~3200 kW to ~2100 kW and then waited 5 minutes. This was incorrect because diesel load was lowered below ~3000 kW.

During post-JPM questions with the examiner, the examiner asked the applicant to go back through the procedural steps of 4.2.5.1 and 4.2.5.2. At this time, the applicant stated that he should have only lowered load to 3000 kW instead of 2100 kW, and that he realized the mistake when he turned the page and read step 4.2.5.2. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meel

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator to Normal Supply.

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel RAT "B" to bus 1BA03, and then remove DG1B from bus 1BA03 in accordance with procedure 13427B-1, "4160V AC BUS 1BA03 1E ELECTRICAL DISTRIBUTION SYSTEM." At step 4.2.5.1 of this procedure, the applicant was expected to lower DG1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. Step 4.2.5.2 of the procedure directs the operator to concurrently unload the D/G to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, when the applicant performed step 4.2.5.1 of the procedure to unload the diesel, he lowered load from ~3200 kW to ~2100 kW and then waited 5 minutes. This was incorrect because diesel load was lowered below ~3000 kW.

During post-JPM questions with the examiner, the examiner asked the applicant to go back through the procedural steps of 4.2.5.1 and 4.2.5.2. At this time, the applicant stated that he should have only lowered load to 3000 kW instead of 2100 kW, and that he realized the mistake when he turned the page and read step 4.2.5.2. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps.

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator (DG) to Normal Supply

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove DG1B from bus 1BA03 in accordance with procedure 13427B-1, "4160V AC BUS 1BA03 1E ELECTRICAL DISTRIBUTION SYSTEM." At step 4.2.2.10 of this procedure, with the DG loaded to approximately 3250 kW, the applicant was expected to properly set the DSL GEN 1B LOADING SET PT CONTROL to the current DG load as follows:

$$\frac{\text{Diesel Load [kW]}}{700} = \text{LOAD POT SETTING}$$

$$\therefore \frac{\sim 3250 \text{ kW}}{700} = \sim 4.6$$

The purpose of this step was to ensure the D/G does not pick up excess load when RAT "B" was paralleled to bus 1BA03. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. At step 4.2.5.1, the applicant was expected to lower DG1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. Step 4.2.5.2 of the procedure directs the operator to concurrently unload the D/G to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, at step 4.2.2.10 of the procedure the applicant incorrectly read the load on the DG1B as ~4250 kW, instead of the correct reading of ~3250 kW, and accordingly set the potentiometer as follows:

$$\therefore \frac{\sim 4250 \text{ kW}}{700} = \sim 6.0.$$

Therefore, when the applicant paralleled RAT "B" with the D/G an excessively large transient was placed on the diesel, which went to ~4600 kW loading nearly instantaneously. When the applicant performed step 4.2.5.1 of the procedure to unload the diesel, he lowered load from 4600 kW-4000 kW-3000 kW-2000 kW in 5 minute increments, which was incorrect as he continued to lower load past 3000 kW.

During post-JPM questions with the examiner, the examiner asked the applicant to go back over the calculation for the pot setting. The applicant [incorrectly] stated that DG load had been ~4200 kW, and the pot setting of 6.0 was correct. When the examiner asked the applicant to go back through the procedural steps of 4.2.5.1 and 4.2.5.2, the applicant again [incorrectly] stated

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**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER** [REDACTED]

that he had performed the sequence correctly. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps, and a lack of ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions affect plant and system conditions.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

Systems: Control Room "g"

**JPM/TASK:**

Returning ESF Bus from Diesel Generator (DG) to Normal Supply.

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove DG1B from bus 1BA03 in accordance with procedure 13427B-1, "4160V AC Bus 1BA03 1E Electrical Distribution System." At step 4.2.5.1 of this procedure, the applicant was expected to lower DG1B load to 3000 kW in maximum increments of 1000 kW and 500 kVAR in time increments of 5 minutes. When the applicant reached step 4.2.5.1, the diesel would be running with ~3250 kW load and ~300 kVARs lagging. Step 4.2.5.2 of the procedure directs the operator to concurrently unload the DG to 700 kW and 200-300 kVARs lagging after the diesel load has been stable at 3000 kW for a 5 minute period. None of the above-mentioned steps in the procedure were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

During the JPM, when the applicant performed step 4.2.5.1 of the procedure to unload the diesel, he lowered load from ~3200 kW to ~2100 kW and then waited 5 minutes. This was incorrect because diesel load was lowered below ~3000 kW.

During post-JPM questions with the examiner, the examiner asked the applicant to go back through the procedural steps of 4.2.5.1 and 4.2.5.2. At this time, the applicant stated that he should have only lowered load to 3000 kW instead of 2100 kW, and that he realized the mistake when he turned the page and read step 4.2.5.2. However, the applicant correctly performed all critical steps in the JPM. Therefore, the applicant was evaluated as successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to interpret and execute procedure steps.

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**ATTACHMENT 2: DYNAMIC SIMULATOR SCENARIO**  
**COMPARISON SUPPORTING DOCUMENTS**

**CROSS REFERENCE:**

1.b: Interpretation/Diagnosis – Ensure Accuracy

**SCENARIO/EVENT:**

Scenario 3, Event 5: Main Turbine EHC Pump Tripped and Standby Pump Failed to Auto Start

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to recognize that the standby EHC pump did not automatically start after the running EHC pump tripped and EHC pressure reached 1400 psig, at which time the applicant was expected to direct a manual start of the standby EHC pump. Alternatively, the applicant was expected to recognize shortly after the running EHC pump tripped that the standby pump would be required and its automatic start was imminent, and thereby preemptively direct the standby EHC pump to be started prior to its automatic start setpoint (1400 psig) being reached.

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly diagnosed that EHC pressure had dropped below 1400 psig, which is the standby EHC pump automatic start setpoint. The applicant correctly directed the start of the standby pump, but the applicant provided this direction because she believed the standby pump had failed to automatically start. The EHC pressure had not dropped below 1400 psig at the time the applicant directed the start of the standby pump. The scenario was designed for the automatic start of the standby pump to fail, but EHC pressure had not yet lowered to 1400 psig where the automatic start would have been demanded. During the scenario, the applicant directed C&T to investigate the automatic start feature on the standby EHC pump. After the scenario, the applicant was asked to explain her directives. The applicant stated that the standby EHC pump should have automatically started, which was incorrect. The applicant was downgraded in this competency because she misdiagnosed the failure of the automatic start of the standby EHC pump when pressure had not yet decayed to less than 1400 psig, which is when an automatic start of the standby pump would have been demanded.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to obtain accurate EHC pressure data on which to base her diagnosis.

**POTENTIAL CONSEQUENCES:**

The potential consequences of this error are related to an operator's ability to obtain accurate and complete information on which to base a diagnosis that subsequently requires an operator action based on that diagnosis. Potential consequences include starting equipment unnecessarily before it is demanded to start, as well as not starting equipment when a demand is present.

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**APPLICANT DOCKET NUMBER 55-23694**

**K/A (SRO IMPORTANCE RATING): 045G2.1.7 (4.7)**

**10CFR55.45(a)(4):** Identify the instrumentation systems and the significance of facility instrument readings.

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**CROSS REFERENCE:**

1.b: Interpretation/Diagnosis – Ensure Accuracy

**SCENARIO/EVENT:**

Scenario 3, Event 5: Main Turbine EHC Pump Tripped and Standby Pump Failed to Auto Start

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to recognize that the standby EHC pump did not auto start several minutes after the running EHC pump tripped, and direct the standby pump to be manually started at that time. Alternatively, the applicant was expected to recognize shortly after the running EHC pump trip that the standby pump would be required and its automatic start was imminent, and thereby preemptively direct the standby EHC pump to be started prior to its automatic start setpoint being reached.

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly diagnosed that the EHC pressure had dropped below 1400 psig, which is the standby EHC pump automatic start setpoint. The applicant correctly directed the start of the standby pump, but the applicant provided this direction because he incorrectly believed the standby pump had failed to automatically start. The EHC pressure had not dropped below 1400 psig at the time the applicant directed the automatic start of the standby pump. The scenario was designed for the automatic start of the standby pump to fail, but EHC pressure had not yet lowered to the point where the automatic start would have been demanded. After the scenario, the applicant was asked to explain his directives. The applicant stated that EHC pressure had dropped to approximately 1250 psig, which was incorrect. The applicant was downgraded in this competency because he misdiagnosed the failure of the EHC pump to automatically start because he did not obtain accurate EHC pressure information on which to base his diagnosis.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to obtain accurate EHC pressure data on which to base his diagnosis.

**CROSS REFERENCE:**

3.b: Control Board Operations – Understanding

**SCENARIO/EVENT:**

Scenario 3, Event 5: Main Turbine EHC Pump Tripped and Standby Pump Failed to Auto Start

**EXPECTED ACTION/RESPONSE:**

The applicant, as UO, was expected to recognize that the running EHC pump had tripped, respond initially in accordance with ALB33-B07 489V SWGR 1NB02 TROUBLE alarm to diagnose the pump failure and then provide input to the SRO as to the status of the standby pump and when it would auto start.

**APPLICANT ACTION/RESPONSE:**

The applicant identified the failure of the running EHC pump. The applicant failed to supply any additional information to the SRO or correct the SRO when he identified that the standby EHC pump failed to start. Prior to receiving ALB20-D05 HYD FLUID LO PRESS alarm, the SRO directed the standby EHC pump to be started. The applicant failed to recognize that this annunciator response procedure provided information as to when the low pressure alarm is received (1600 psig) and when the standby EHC will receive an automatic start (1400 psig). The applicant also failed to provide detailed information as to the rate of EHC pressure decrease to ensure that the SRO realized that it would take several minutes to receive the low pressure alarm and then several more minutes prior to an auto start on the standby EHC pump. The applicant was downgraded in this competency because he failed to understand the provide accurate EHC pressure information or identify the low pressure or auto start pressure setpoints for the standby EHC pump.

The applicant made only one error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to deliver accurate EHC pressure data and annunciator procedure information for the SRO to adequately diagnosis plant conditions.

**CROSS REFERENCE:**

1.b: Interpretation/Diagnosis – Ensure Accuracy

**SCENARIO/EVENT:**

Scenario 3, Event 7: DBA Steam Generator Tube Rupture on SG #1

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to direct low steam line pressure SI/SLI to be blocked when pressurizer pressure was less than 2000 psig, as indicated by the P-11 status lights, in accordance with procedure 19030-C, "E-3 Steam Generator Tube Rupture," Step 12.

**APPLICANT ACTION/RESPONSE:**

The applicant directed the Reactor Operator (RO) to block SI/SLI when pressurizer pressure was approximately 2007 psig, but his actions were not successful. At the time the applicant gave this initial direction to block SI/SLI, the P-11 status lights also indicated that blocking of SI/SLI would not be successful. A few minutes elapsed and the RO successfully blocked SI/SLI. After the scenario, the applicant was asked to explain why blocking SI/SLI was not initially successful. The applicant stated that she thought pressurizer pressure was 1998 psig. She stated that P-11 must not have been at that same point. The SRO was downgraded in this competency because she did not ensure the appropriate interlock was met (pressurizer pressure below 2000 psig) when first attempting to block SI/SLI.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to ensure the collection of correct and accurate pressurizer pressure data.

**POTENTIAL CONSEQUENCES:**

The potential consequences of this error are related to an operator's ability to obtain accurate and complete information on which to base a diagnosis and subsequent operator actions that result from that diagnosis. Potential consequences may include challenges to coordinating multiple control room activities that must occur within a short period of time. This was demonstrated during the scenario when the RO was required to hold both HS-0500A and HS-0500B handswitches in BYPASS INTERLOCK at the same time SI/SLI was required to be blocked. An accurate initial diagnosis would have been conducive to providing clear direction to both board operators to accomplish both actions in a more controlled manner, thereby reducing the potential for human error during control board manipulations.

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APPLICANT DOCKET NUMBER [REDACTED]

K/A (SRO IMPORTANCE RATING): 006A4.09 (4.2)

10CFR55.45(a)(4): Identify the instrumentation systems and the significance of facility instrument readings.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

226

Examiner: Cepchet

**CROSS REFERENCE:**

3.b: Control Board Operation – Understanding

**SCENARIO/EVENT:**

Scenario 3, Event 7: DBA Steam Generator Tube Rupture on SG #1

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to block the low steam line pressure SI/SLI when pressurizer pressure was less than 2000 psig as indicated by the P-11 status lights in accordance with procedure 19030-C, "E-3 Steam Generator Tube Rupture," Step 12.

**APPLICANT ACTION/RESPONSE:**

The applicant was directed by the Senior Reactor Operator (SRO) to block SI/SLI at approximately 2007 psig when pressurizer pressure was still above the required interlock setpoint of ~ 2000 psig. The applicant attempted to block SI/SLI but was not successful. At the time the SRO gave the direction to block SI/SLI, the P-11 status light was lit, indicating that SI/SLI could not be blocked. The applicant failed to recognize that the P-11 status light provided another mechanism to verify if the interlock condition was met to block SI/SLI. A few minutes later, the applicant successfully blocked SI/SLI. The applicant was downgraded in this competency because he did not verify or provide feedback to the SRO that pressurizer pressure was above 2000 psig when first attempting to block SI/SLI.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his understanding of system operation and interlocks that allow operation of the SI/SLI block.

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**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to understand the impact of the LT-459 failure on charging flow and direct the crew to place the charging flow controller, FIC-0121, to manual prior to selecting an unaffected pressurizer level channel in accordance with procedure 18001-C, Section D, Failure of Pressurizer Level Instrumentation. Placing FIC-0121 to manual was necessary to avoid a rapid lowering of charging flow because pressurizer level had been above setpoint for several minutes due to the LT-459 failure, thereby causing the controller output signal (*i.e.* which would be "saturated") to demand less charging flow. It was expected that FIC-0121 remain in manual until the controller output signal would maintain charging flow at an acceptable level (*i.e.* until the controller "unsaturated"). Placing it back to automatic too soon would result in a rapid lowering of charging flow.

**APPLICANT ACTION/RESPONSE:**

The applicant initially directed placing the charging flow controller to manual prior to selecting an unaffected pressurizer level channel. However, after the Reactor Operator (RO) selected an unaffected pressurizer level channel, the applicant directed the RO to place FIC-0121 back to automatic before the controller was able to control charging flow at a rate that would provide adequate flow through the regenerative heat exchanger. Subsequently, charging flow rapidly lowered, at which time the RO placed FIC-0121 back to manual. The Unit Operator (UO) informed the applicant that he believed that FIC-0121 was failed. After the scenario, the examiner asked the applicant if there was a problem with FIC-0121. The applicant stated that the charging control valve was closing and that it should not have closed because pressurizer level was on program. The applicant was downgraded in this competency because she did not understand that charging flow would lower due to the controller's response to a high pressurizer level over several minutes.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant displayed a weakness in understanding plant system and component interaction.

**POTENTIAL CONSEQUENCES:**

The potential consequences of this error include flashing of letdown line fluid from liquid to steam due to the loss of cooling caused by the loss of charging flow. Flashing of the letdown line could lead to loss of letdown inventory via the relief valves and "water hammer" damage to the letdown piping system.

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**APPLICANT DOCKET NUMBER [REDACTED]**

**K/A (SRO IMPORTANCE RATING): 004K1.01 (4.0)**

**10CFR55.45(a)(2): Manipulate the console controls as required to operate the facility between shutdown and designated power levels.**

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER

[REDACTED] 120 Examiner Bates

**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to direct the crew to place the charging flow controller, FIC-0121, to manual prior to selecting an unaffected pressurizer level channel in accordance with procedure 18001-C, Section D, Failure of Pressurizer Level Instrumentation. Placing the charging flow controller to manual was necessary to avoid a total loss of charging because pressurizer level had been above setpoint for several minutes due to the LT-459 failure.

**APPLICANT ACTION/RESPONSE:**

The applicant did not direct placing the charging flow controller to manual prior to selecting an unaffected pressurizer level channel. Immediately after the applicant directed the RO to select an unaffected pressurizer level channel, charging flow rapidly lowered, at which time the applicant directed the Reactor Operator (RO) to place the charging flow controller back to manual. The crew discussed the plant response and verbalized that they thought FIC-0121 had failed. The applicant was downgraded in this competency because he did not understand that selecting an unaffected pressurizer level channel would cause charging flow to lower due to the controller's response to a high pressurizer level over several minutes.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in understanding how plant systems and components interact.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to understand the impact of the LT-459 failure on charging flow and direct the crew to place the charging flow controller, FIC-0121, to manual prior to selecting an unaffected pressurizer level channel in accordance with procedure 18001-C, Section D, Failure of Pressurizer Level Instrumentation. Placing the charging flow controller to manual was necessary to avoid a total loss of charging because pressurizer level had been above setpoint for several minutes due to the LT-459 failure.

**APPLICANT ACTION/RESPONSE:**

The applicant did not direct placing the charging flow controller to manual prior to selecting an unaffected pressurizer level channel. Immediately after the applicant directed the RO to select an unaffected pressurizer level channel, charging flow rapidly lowered, at which time the applicant directed the Reactor Operator (RO) to place FIC-0121 back to manual. The crew discussed the plant response and through their conversation it was determined that they fully understood the plant response. The SRO was downgraded in this competency because, at the time he provided direction to the RO to select an unaffected channel, he did not understand that charging flow would lower to zero due to selecting that unaffected pressurizer level channel.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in providing the proper amount of direction and oversight when the crew was selecting an unaffected pressurizer level channel.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

2x10

Examiner: Meeks

**CROSS REFERENCE:**

3.c: Control Board Operations – Understanding

**SCENARIO/EVENT:**

Scenario 6, Event 4: Pressurizer (PRZR) Level Channel LT-459 Slowly Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to correctly understand the operational implications of selecting an unaffected PRZR level channel with the charging controller in automatic. The applicant was also expected to correctly understand the impacts of "saturation" on the PRZR level control system/charging flow controller when returning the charging flow controller (FIC-121) to automatic operation.

**APPLICANT ACTION/RESPONSE:**

At the direction of the Senior Reactor Operator (SRO), the applicant selected an unaffected PRZR level channel on LS-459D in accordance with AOP 18001-C. When the unaffected channel was selected, charging flow rapidly lowered due to the charging controller sensing actual PRZR levels greater than program. At this point, the applicant was directed by the SRO to take manual control of charging and restore charging to approximately 130 gpm (the previous value). The applicant was then directed by the SRO to return FIC-121 to automatic after approximately 7 minutes in manual. When the applicant agreed with the SRO and placed FIC-121 to auto, the valve -121 again went closed, again charging flow rapidly lowered, but the applicant was able to go back to manual on FIC-121 and re-open the valve before letdown had to be isolated. The applicant then stated that he believed that there was a failure in FIC-121.

During post-scenario follow-up questions, the applicant correctly stated that on the initial transient, the team did not discuss the effects of selecting a good channel and did not anticipate the plant response. The applicant further stated (incorrectly) that the team determined there was an additional problem with the FIC-121 controller. The applicant made two non-critical errors associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation (K/A G2.1.7).

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APPLICANT DOCKET NUMBER [REDACTED]

Examining: Capehart

**CROSS REFERENCE:**

1.b: Interpretation/Diagnosis - Interpret &amp; Diagnose Conditions

**SCENARIO/EVENT:**

Scenario 6, Event 4: PRZR level channel LT-459 slowly failed low over 10 minutes. The RO was required to take manual control of FIC-0121 to stabilize charging flow and PRZR level, swap control channels, return charging flow to automatic.

**EXPECTED ACTION/RESPONSE:**

The applicant, as UO, was expected to assist in diagnosing LT-459 failing low and its affect on charging flow and PRZR level control. With the selected level input from LT-459 failed low, charging flow increased to maximum in an attempt to restore PRZR level. After the RO initially stabilized PRZR level and RCP seal flow by placing charging controller, FCV-0121, to manual and reducing flow to its normal value, the applicant, as UO, was expected to aid in diagnosing that the Master PRZR level controller should be placed in Manual prior to placing FCV-0121 back to AUTO. This action would ensure that the Master PRZR level controller had time to unsaturate. If this did not occur, the Master PRZR Level Controller would demand a much lower level after the RO selected a good level input via the PRZR LVL CNTL SELECT switch and cause a large decrease in charging flow. The large decrease in charging flow would cause flashing of letdown fluid to steam and require isolation of the letdown system.

**APPLICANT ACTION/RESPONSE:**

The applicant failed to assist in diagnosing LT-459 failing low and its affect on charging flow and PRZR level control and incorrectly informed the SRO that FCV-0121 failed to operate properly after being placed in AUTO by the RO. A subsequent loss of letdown due to flashing in the letdown heat exchanger was caused by the low charging flow condition.

The applicant made more than one error in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her diagnosis of LT-459 failure and its affect on the charging flow controller and PRZR level control.

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APPLICANT DOCKET NUMBER [REDACTED] EKL

Examiner: Meeks

**CROSS REFERENCE:**

3.b.: Control Board Operations – Understanding

**SCENARIO/EVENT:**

Scenario 6, Event 4: Pressurizer (PRZR) Level Channel LT-459 Slowly Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to correctly understand the impacts of "saturation" on the PRZR level control system/charging flow controller when returning the charging flow controller (FIC-121) to automatic operation.

**APPLICANT ACTION/RESPONSE:**

The applicant placed FIC-121 to manual in accordance with AOP 18001-C in order to mitigate the PRZR level channel failure. The applicant was then directed by the Senior Reactor Operator (SRO) to return FIC-121 to automatic after approximately 18 minutes in manual. When the applicant agreed with the SRO and placed FIC-121 to auto, the valve -121 went fully closed, charging flow rapidly lowered, and the REGEN HX LTDN HI TEMP alarm came in. Without further guidance from the SRO, the applicant went back to manual on FIC-121 and re-opened the valve before letdown had to be isolated. The Unit Operator (UO) restored RCP seal injection flow rates while the applicant restored charging flow.

During post-scenario follow-up questions, the applicant incorrectly stated that he thought there was an issue with FIC-121. He further stated that when he returned FIC-121 to automatic "pressurizer level and program level were matched, but then demand on the controller went from sixty to seventy-five percent to twenty-five percent immediately, which drove charging and [RCP] seal flows down." The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

**CROSS REFERENCE:**

1.d: Interpretation/Diagnosis – Diagnose

**SCENARIO/EVENT:**

Scenario 6, Event 6: Power Reduction Due to High Vibrations on "B" MFPT

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to monitor valid indications of Tave and compare to Tref values in order to effectively monitor automatic control rod insertion during the power reduction. Procedure 18013-C, "Rapid Power Reduction," provides guidance to monitor Tave/Tref deviation using IPC computer point UT-0495; however, this indication was not accurate due to the Loop 1 HL NR RTD failing earlier in the scenario. With UT-0495 not being accurate, the applicant was expected to choose a valid indication of Tave and compare that to program Tref. Based on the Tave/Tref deviation the SRO was expected to ensure automatic control rod insertion was responding appropriately.

**APPLICANT ACTION/RESPONSE:**

The applicant monitored points UT-0420 and UT-0496 to evaluate correct response of the rod control system. During the initial portion of the power reduction, Tave was lower than Tref. With Tave approximately 2 °F lower than Tref, the applicant directed the Reactor Operator (RO) to take manual control of rods and insert control rods 5 steps. The RO recommended not initially placing rods to manual, and suggested continued monitoring and inserting rods in manual if they do not move as required. The applicant agreed with this suggestion. Shortly thereafter, the RO informed the applicant that he was taking rods to manual and inserting control rods 5 steps (Tave was still approximately 2 °F lower than Tref and rods are not designed to step in when Tave is lower than Tref). The SRO agreed with the control rod insertion. The RO began to insert control rods 5 more steps and the applicant stated "no - Tave was already cold." Shortly thereafter, ALB12-A5, TAVE/TREF DEVIATION, alarmed. After the scenario, the applicant was asked why she had directed placing rods to manual. She stated that placing rods in manual was a bad idea. The examiner also asked which temperature indications she was monitoring. She stated that the normal average temperature indication was impacted by the HL RTD failure so she chose the lowest of the loop Tave values. The applicant was downgraded in this competency because she incorrectly directed control rods be placed in manual and then directed rod insertion when Tave was lower than Tref, which resulted in the TAVE/TREF DEVIATION alarm.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to correctly diagnose the Tave-to-Tref deviation, which caused her to instruct the RO to manually insert control rods to the point where the TAVE/TREF DEVIATION alarm was received.

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**APPLICANT DOCKET NUMBER 55-23694**

**POTENTIAL CONSEQUENCES:**

The potential consequences of this error included placing control rods to manual based on an incorrect diagnosis that automatic control rod insertion was not functioning properly. In this case, the incorrect diagnosis placed an additional burden on the operator to manually insert control rods.

**K/A (SRO IMPORTANCE RATING): 001A3.06 (3.9)**

**10CFR55.45(a)(3):** Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

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APPLICANT DOCKET NUMBER [REDACTED] 1290

Examiner: Bates

**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 8, Events 2 &amp; 6: RCS Loop 1 HL NR RTD Failed High &amp; Power Reduction due to "B" MFPT High Vibrations

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to direct the crew to monitor proper automatic control rod response during the power reduction. In part, the applicant was expected to understand how the Loop 1 HL NR RTD failure earlier in the scenario would affect UT-0495, which was the computer point operators were directed to use by procedure 18013-C, "Rapid Power Reduction." The applicant was expected to monitor proper automatic control rod insertion using indications that were impacting the rod control system. The applicant was not expected to use UT-0495 to evaluate proper automatic control rod insertion because it was not an accurate indication due to the previous failure.

**APPLICANT ACTION/RESPONSE:**

The applicant and the other crew members were monitoring Tave/Tref deviations using UT-0495 for the first few minutes of the power reduction. The crew discussed that control rods should be inserting due to Tave being more than 3 °F above Tref. Shortly after that conversation began, control rods began to step into the core to lower Tave. After the scenario, the applicant was asked to explain the temperature indications that were being monitored during the power reduction. The applicant stated that they were incorrectly using UT-0495. He stated that UT-0495 was not an accurate indication due to the earlier Loop 1 NR RTD failure. The applicant was downgrade in this competency because he exhibited a weakness in understanding how the earlier RTD failure impacted his ability to accurately monitor automatic rod control.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in understanding how plant systems and components interact.

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APPLICANT DOCKET NUMBER [REDACTED]

2210

Examiner: M. edis

**CROSS REFERENCE:**

3.c.: Control Board Operations – Manual Control

**SCENARIO/EVENT:**

Scenario 6, Event 6: 'B' Main Feed Pump Turbine (MFPT) Experienced High Vibrations, Rapid Power Reduction Required

**EXPECTED ACTION/RESPONSE:**

If directed by the Senior Reactor Operator (SRO) to control average Reactor Coolant System (RCS) temperature (Tave) with control rods in manual, the applicant, as Reactor Operator (RO), was expected to correctly control Tave-to-reference temperature (Tref) approximately matched, and within procedurally directed bands. Procedure 18013-C, "Rapid Power Reduction," requires the operators to maintain Tave within 6 °F of Tref. It was expected that the applicant would maintain the Tave-to-Tref difference approximately matched, or slightly negative, during the rapid downpower.

**APPLICANT ACTION/RESPONSE:**

Although 18013-C directs the operators to maintain rods in automatic, the applicant was directed by the SRO to "place control rods in manual and insert up to 5 steps at a time." After the applicant placed rods to manual, he performed a 3 step rod insertion. At this time, Tave was approximately 2.0 °F colder than Tref, but the applicant was mis-reading the Tave-to-Tref difference as Tave being 2.0 °F hotter than Tref. Approximately one minute after the first rod insertion, the applicant performed a 5 step rod insertion, making the deviation worse. Tave continued to lower until it was approximately 5.2 °F colder than Tref. At this point, the applicant became concerned about pressurizer level lowering (due to the lowering Tave) and announced to the SRO that "we're at max charging and pressurizer level is 48%!" Several minutes later, the SRO ultimately determined that they had been mis-reading the Tave-to-Tref difference and gave direction to return rod control to automatic. After the applicant returned rods to automatic, the rod control system responded as designed during the remaining power reduction.

During post-scenario follow-up questions, the applicant stated that when the SRO "put Tave and Tref on the [computer] screen I thought we were greater than 1.5 degrees off, but what I actually did was [incorrectly calculate] absolute value. Driving rods in caused Tave to go the other way, once we took rods to auto the rods stepped in as required." The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

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**CROSS REFERENCE:**

3.a: Control Board Operations – Locate & Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 1: Raise Power in Accordance With 12004-C, Power Operation (Mode 1)

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to make the required reactivity adjustments to maintain Tave within 2°F of Tref during a power ascension from 29%.

**APPLICANT ACTION/RESPONSE:**

Prior to commencing the power ascension, the Senior Reactor Operator (SRO) directed the applicant to maintain Tave within 2°F of Tref. However, the applicant allowed Tave to drop approximately 2.3 °F below Tref after the power ascension was suspended. Tave trended downward for approximately 40 minutes before reaching the maximum deviation of 2.3 °F, at which time the applicant withdrew control rods and brought Tave back within the directed control band. After the scenario, the applicant was asked to state the Tave/Tref control band provided by the SRO. The applicant stated 2 °F. The applicant was also asked to state the maximum difference between Tave and Tref prior to the reactor trip. The applicant stated 2.3 °F. The applicant was downgraded in this competency because her reactivity manipulations were not timely enough to maintain the control band provided by the SRO.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to make timely reactivity changes to maintain Tave within 2 °F of Tref as directed by the SRO.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not maintaining parameters within control bands directed by the SRO could result in alarms and unnecessary operator actions that could distract the operator.

**K/A (SRO IMPORTANCE RATING):** 001A4.03 (3.7)

**10CFR55.45(a)(3):** Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

**CROSS REFERENCE:**

3.a: Control Board Operations – Locate & Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 1: Raise Power per UOP-12004-C, Power Operation (Mode 1)

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to maintain Tave within 2 °F of Tref as determined by turbine first stage pressure and as directed by the Senior Reactor Operator (SRO). The applicant was expected to use a combination of dilutions and control rods to maintain Tave within the provided band.

**APPLICANT ACTION/RESPONSE:**

The applicant allowed Tave to deviate from Tref by 2.6 °F during the controlled power increase as determined by turbine first stage pressure. After the scenario, the applicant was asked to explain his temperature control as power was raised. He stated that he was using a Tref value from a table on the control board using a core delta-T power to determine the corresponding value for Tref.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to accurately manipulate controls to maintain Tave within the band directed by the SRO.

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APPLICANT DOCKET NUMBER [REDACTED] 2210

Examiner: Meeks

**CROSS REFERENCE:**

5.b: Directing Operations – Oversight

**SCENARIO/EVENT:**

Scenario 7, Event 1: Raise Power in accordance with 12004-C, Power Operation (Mode 1)

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to remain in a position of oversight in order to ensure the Reactor Operator (RO) made the required reactivity adjustments to maintain Tave within 2°F of Tref during a power ascension from 29%.

**APPLICANT ACTION/RESPONSE:**

Prior to commencing the power ascension, the applicant directed the RO to maintain Tave within 2°F of Tref. However, Tave lowered to approximately 2.3 °F below Tref after the power ascension was suspended. Tave trended downward for approximately 40 minutes before reaching the maximum deviation of 2.3 °F, at which time the RO withdrew control rods and restored Tave back within the directed control band. During this 40 minute period, the applicant did not notice that Tave was trending out of the directed band, and did not provide further guidance to the RO to correct the condition.

The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to direct personnel activities in the control room.

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**CROSS REFERENCE:**

3.a: Control Board Operations – Locate & Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 6: RWST Sludge Mixing Line Pipe Break with Failure to Automatically Isolate

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to know the location of the RWST sludge mixing isolation valves' (1-LT-0991 & 1-LT-0990) handswitches, which were located on the control room back panel QPCP. As a result, the applicant was expected to assist the crew in locating and closing the sludge mixing isolation valves in a timely manner following annunciation of ALB06-E04, RWST LO LEVEL. The applicant was the RO, therefore, it was not expected that she leave her control boards to close the valves. However, it was expected that she recommend to the crew that those valves were located in the control room (and also modeled in the simulator) and that the automatic actions for those valves to close on low RWST level needed to be ensured.

**APPLICANT ACTION/RESPONSE:**

After receipt of ALB06-E04, the applicant did not recommend to the crew that they needed to ensure that the sludge mixing isolation valves, were closed. During this event the Unit Operator (UO) stated to the applicant that the sludge mixing valves should have closed on low RWST level, but the applicant did not recommend that the crew ensure that those control room handswitches be checked closed. The entire crew, including the applicant, allowed the RWST leak to continue for approximately 19 minutes when the only action required to isolate the leak was closing the control room handswitches for the sludge mixing isolation valves, which should have been verified closed as part of performing the alarm response procedure associated with ALB06-E04.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in locating the sludge mixing isolation valves' handswitches.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not closing sludge mixing isolation valves was a reduction in RWST inventory available to cool the core following a safety injection, including a potential inability to achieve cold leg recirculation due to the depletion of RWST inventory.

K/A (SRO IMPORTANCE RATING): 006K4.24 (3.0)

10CFR55.45(a)(3): Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

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APPLICANT DOCKET NUMBER [REDACTED] 226

Examiner: Bates

**CROSS REFERENCE:**

3.a: Control Board Operations – Locate &amp; Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 6: RWST Sludge Mixing Line Pipe Break with Auto Valve Closure Failure

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to ensure that the crew closed the sludge mixing isolation valves when ALB06-E04, RWST LO LEVEL, was received.

**APPLICANT ACTION/RESPONSE:**

The applicant allowed 11 minutes to elapse from the time the RWST LO LEVEL alarm annunciated to the time when the sludge mixing isolation valves were closed. This malfunction was originally designed for the Unit Operator (UO) to address the alarm; however, such a long time elapsed that all crew members had the opportunity to view the ARP and provide input to successfully isolate the leak by closing the isolation valves, both of which were located in the control room. After the scenario, the applicant was asked if he had ever been exposed to this failure during training or if he had ever had to operate those valves either in the plant or in the simulator. The applicant stated that he had not previously operated those valves and did not initially know where they were located. The applicant was downgraded in this competency due to not knowing the location of the sludge mixing isolation valves.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to locate the sludge mixing isolation valves in the control room.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

[REDACTED] Ex 16 Examiner: Capehart

**CROSS REFERENCE:**

3.a: Control Board Operations – Locate &amp; Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 6: RWST Sludge Mixing Line Pipe Break With Failure to Automatically Isolate

**EXPECTED ACTION/RESPONSE:**

The applicant, as UO, was expected to respond to a RWST Low Level Alarm in accordance with alarm response procedure ALB06-E04, recognize that the automatic action for the RWST Sludge Mixing Tank did not occur and take manual action to shut the RWST Sludge Mixing Isolation Valve(s) on the QPCP.

**APPLICANT ACTION/RESPONSE:**

The applicant pulled the associated alarm response procedure for ALB06-E04 but failed to recognize that the associated valves listed to close as an automatic action were located in the Control Room on the QPCP. The entire crew, including the applicant, allowed the RWST leak to continue for approximately 11 minutes when the only action required to isolate the leak was closing the sludge mixing isolation valves, which should have been verified closed as part of performing the alarm response procedure associated with ALB06-E04. On a follow-up question, the applicant identified that he was not sure if the valves were located in the control room.

The applicant made one error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in locating the sludge mixing isolation valves.

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[Redacted] 916 Examiner: ~~Pat~~ Capelhart

**CROSS REFERENCE:**

2.b: Procedures/Tech Specs – Procedure Compliance

**SCENARIO/EVENT:**

Scenario 7, Event 6: RWST Sludge Mixing Line Pipe Break With Failure to Automatically Isolate

**EXPECTED ACTION/RESPONSE:**

The applicant, as Unit Operator (UO), was expected to respond to an RWST Low Level Alarm in accordance with alarm response procedure ALB06-E04, recognize that the automatic action for the RWST Sludge Mixing Tank did not occur, and take manual action to shut the RWST Sludge Mixing Isolation Valve(s) on the QPCP.

**APPLICANT ACTION/RESPONSE:**

The applicant pulled the associated alarm response procedure for ALB06-E04 but failed to recognize that the associated valves listed to close as an automatic action were located in the Control Room on the QPCP. The entire crew, including the applicant, allowed the RWST leak to continue for approximately 19 minutes when the only action required to isolate the leak was closing the sludge mixing isolation valves, which should have been verified closed as part of performing the alarm response procedure associated with ALB06-E04.

Later, the Senior Reactor Operator (SRO) directed the UO to review the SI OP (Operation Procedure), 131050-1, for guidance steps on how to secure the RWST Sludge Mixing Tank System. The UO reviewed procedure 131050-1, Rev. 52, section 4.2.7 for "Operating the RWST Sludge Mixing System" and incorrectly informed the SS that the SI OP did not give any direction for isolating the sludge mixing tank. In fact, procedure 13105-1, Steps 4.2.7.3 – 4.2.7.5, gave direction to stop the sludge mixing pump and then close the sludge mixing isolation valves.

The SRO identified that the valves were located on the QPCP by using the P&ID prints and informed the UO to secure the isolation valves. The UO at that time closed the sludge mixing tank valves at the QPCP. Subsequently, the sludge mixing tank pump automatically tripped. The UO failed to recognize that the steps for isolating the RWST Sludge Mixing Tank were in the SI OP procedure.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in locating the appropriate SI OPS procedure section for isolating the sludge mixing tank system.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED] 2210

Examiner: Meeks

**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 7, Event 6: The Refueling Water Storage Tank (RWST) Developed a Leak With RWST Sludge Mixing Isolation Valves Failed to Automatically Close

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to understand that the RWST sludge mixing valves should automatically close on a RWST LO LEVEL alarm, and ensure that the operators verify that the expected automatic actions do, in fact, occur.

**APPLICANT ACTION/RESPONSE:**

When the RWST LO LEVEL alarm annunciated, the applicant directed the ARP to be referenced and actions taken. The applicant verified that RWST levels were actually lowering on all channels and dispatched non-licensed operators to the area to investigate the problem. However, the entire crew (including the applicant) allowed the RWST leak to continue for approximately 11 minutes before they isolated the leak by manually closing the RWST sludge mixing isolation valves (1-LT-0991 and 1-LT-0990) using handswitches on the control room back-panel QPCP. The applicant ultimately determined that the valves had switches in the control room after referencing a piping diagram.

During post-scenario follow-up questions, the applicant stated that he did not initially think to check the RWST valves closed as part of verifying the automatic actions of the RWST LO LEVEL alarm response procedure because he was not sure they were in the control room. The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of knowledge of annunciator alarms, indications, or response procedures; as well as a lack of ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Meeks

**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 7, Event 6: The Refueling Water Storage Tank (RWST) Developed a Leak With RWST Sludge Mixing Isolation Valves Failed to Automatically Close

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to understand that the RWST sludge mixing valves should automatically close on a RWST LO LEVEL alarm, and ensure that the operators verify that the expected automatic actions do, in fact, occur.

**APPLICANT ACTION/RESPONSE:**

When the RWST LO LEVEL alarm annunciated, the applicant directed the ARP to be referenced and actions taken. The applicant verified that RWST levels were actually lowering on all channels and dispatched non-licensed operators to the area to investigate the problem. However, the entire crew (including the applicant) allowed the RWST leak to continue for approximately 19 minutes before they isolated the leak by manually closing the RWST sludge mixing isolation valves (1-LT-0991 and 1-LT-0990) using handswitches on the control room back-panel QPCP.

During post-scenario follow-up questions, the applicant stated that he did not initially think to check the RWST valves closed as part of verifying the automatic actions of the RWST LO LEVEL alarm response procedure. The applicant made two non-critical errors associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of knowledge of annunciator alarms, indications, or response procedures; as well as a lack of ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.

**CROSS REFERENCE:**

3.c: Control Board Operations – Manual Control

**SCENARIO/EVENT:**

Scenario 7, Event 3: Loss of Cooling to Letdown Heat Exchanger (TE-0130 Failed Low)

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to diagnose the failure of TE-0130, Letdown Heat Exchanger Outlet Temperature, and manually control TV-0130 using controller 1TIC-130, LETDOWN HX OUTLET TEMP.

**APPLICANT ACTION/RESPONSE:**

When TE-0130 failed low, the applicant acknowledged the associated alarms (ALB07-F04 & ALB07-B04), but did not take any actions to manually control letdown temperature, and also did not recommend to the Senior Reactor Operator (SRO) that she could manually control letdown temperature. Approximately seven minutes after the first alarm annunciated, the applicant made the statement, "The only thing we can do is call C&T [Clearance & Tagging] to get the TE fixed." Approximately one minute later, the SRO directed the applicant to take manual control of 1TIC-130 and monitor the VCT outlet temperature. When the applicant began manipulating 1TIC-130, she initially pressed the up arrow, and the SRO immediately informed her that the controller raises and lowers temperature and that the arrows are not indicative of opening and closing the valve. After the incorrect manipulation and specific direction from the SRO, the applicant gained control of letdown temperature. After the scenario, the applicant was asked to explain her response to the malfunction. She stated that she initially pressed the up pushbutton, and then corrected her actions and pushed the down pushbutton.

The applicant had seven minutes to understand that the automatic function of controlling letdown temperature could be accomplished manually. Instead of making this recommendation to the SRO, she stated that the only option was to call C&T to get the TE repaired. Furthermore, she demonstrated a weakness in taking manual control of an automatic function by her incorrect manipulation of 1TIC-130. The applicant was downgraded in this competency due to not demonstrating the ability to manually control an automatic function.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to take manual control of an automatic function. Specifically, this was demonstrated by the applicant not taking manual control of letdown temperature or recommending manual control for approximately seven minutes before the SRO finally directed manual control. Furthermore, she demonstrated a weakness in ability to take manual control of an automatic function by incorrectly manipulating 1TIC-130 until being corrected by the SRO.

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**POTENTIAL CONSEQUENCES:**

The potential consequences of not correctly controlling letdown temperature include a challenge to the interlock that protects the demineralizers from high temperatures as well as reactivity effects resulting from letdown temperature changes.

**K/A (SRO IMPORTANCE RATING): 006K4.24 (3.0)**

**10CFR55.45(a)(3):** Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

3.b: Control Board Operations – Understanding

**SCENARIO/EVENT:**

Scenario 4, Event 3: PORV 456 Failed Open with Block Valve Auto Closure Failure

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to diagnose the failed open PORV and manually shut the associated block valve. There was not a malfunction associated with the automatic pressurizer pressure control; therefore, the applicant was expected to understand that once the block valve was closed, the automatic pressure control would slowly recover pressurizer pressure.

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly thought that the master pressurizer pressure controller would not control pressure due to being saturated, placed the controller in manual, and controlled pressure manually for the remainder of the scenario. The master pressure controller was recovering pressure at the time the applicant placed the controller to manual and no malfunctions were associated with the master pressure controller. After the scenario the applicant was asked if pressure could have been maintained adequately by leaving the master pressure controller in automatic. The applicant stated that the controller would not have maintained pressure if it remained in automatic.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his understanding of the response of the automatic pressurizer pressure controller to a failed open PORV.

**CROSS REFERENCE:**

4.b: Communications – Crew & Others Informed

**SCENARIO/EVENT:**

Scenario 3, Event 1: Steam Generator (SG) #4 NR LT-554 Failed High

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to request the Shift Manager's permission prior to placing 1-FIC-540 (SG #4 FRV) back to automatic after selecting the unaffected SG level control channel. Procedure NMP-OS-007-001, Version 9.0, "Conduct of Operations Standards and Expectations," Step 6.29.2.1, states, in part, "When a system or component has been placed in manual due to a transient caused by an automatic control malfunction, SM permission is required prior to returning the system or component to automatic control following stabilization from the transient and correction of the malfunction."

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly directed the Unit Operator (UO) to place 1-FIC-540 back to automatic without first getting permission from the Shift Manager. After the applicant gave the direction to the UO, the Reactor Operator (RO) whispered to the applicant that she needed to get the Shift Manager's permission prior to going to automatic. The applicant then instructed the UO to wait to place 1-FIC-540 back to automatic until the Shift Manager's permission was obtained. The applicant obtained the Shift Manager's permission, and then correctly directed the UO to place 1-FIC-540 back to automatic. The applicant was downgraded due to not keeping the Shift Manager informed as required by NMP-OS-007-001. It was only the correction by the RO that allowed the communication requirement to be met.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to keep other crew members informed by not getting permission from the Shift Manager prior to placing 1-FIC-540 back to automatic.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not keeping all crew members informed in accordance with plant administrative procedures is that incorrect decisions could be made, or a delay in actions or response could be incurred while that information is conveyed at a later time.

**K/A (SRO IMPORTANCE RATING):** G2.1.17 (4.0)

**10CFR55.45(a)(13):** Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**  
**APPLICANT DOCKET NUMBER 55-23694**

Examiner: Bates

**CROSS REFERENCE:**

4.b: Communications – Crew &amp; Others Informed

**SCENARIO/EVENT:**

Scenario 3, Event 4: Controlling Pressurizer Pressure Channel PT-455 Failed High

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to request the Shift Manager's permission prior to placing the pressurizer master pressure controller back to automatic following the selection of an unaffected pressurizer channel. Procedure NMP-OS-007-001, Version 9.0, "Conduct of Operations Standards and Expectations," Step 6.29.2.1, states, in part, "When a system or component has been placed in manual due to a transient caused by an automatic control malfunction, SM permission is required prior to returning the system or component to automatic control following stabilization from the transient and correction of the malfunction."

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly directed the Unit Operator (UO) to place the pressurizer master pressure controller back to automatic without first getting permission from the Shift Manager. The applicant was downgraded due to not keeping the Shift Manager informed as required by NMP-OS-007-001.

The applicant made two non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to keep other crew members informed by not getting permission from the Shift Manager prior to placing the pressurizer master pressure controller back to automatic.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not keeping all crew members informed in accordance with plant administrative procedures is that incorrect decisions could be made, or a delay in actions or response could be incurred while that information is conveyed at a later time.

**K/A (SRO IMPORTANCE RATING):** G2.1.17 (4.0)

**10CFR55.45(a)(13):** Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

4.b: Communications – Crew &amp; Others Informed

**SCENARIO/EVENT:**

Scenario 8, Event 2: RCS Loop 1 HL NR RTD Failed High

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to request Shift Manager permission prior to placing control rods back to automatic after defeating the failed channel temperature channel. Procedure NMP-OS-007-001, Version 9.0, "Conduct of Operations Standards and Expectations," Step 6.29.2.1, states, in part, "When a system or component has been placed in manual due to a transient caused by an automatic control malfunction, SM permission is required prior to returning the system or component to automatic control following stabilization from the transient and correction of the malfunction."

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly directed the Reactor Operator (RO) to place control rods back to automatic without first getting permission from the Shift Manager.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to keep other crew members informed by not getting permission from the shift manager prior to placing control rods back to automatic.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bates

**CROSS REFERENCE:**

4.b: Communications – Crew &amp; Others Informed

**SCENARIO/EVENT:**

Scenario 6, Event 2: RCP Loop 1 HL NR RTD Failed High

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to request Shift Manager permission prior to placing control rods back to automatic after defeating the failed temperature channel. Procedure NMP-OS-007-001, Version 9.0, "Conduct of Operations Standards and Expectations," Step 6.29.2.1, states, in part, "When a system or component has been placed in manual due to a transient caused by an automatic control malfunction, SM permission is required prior to returning the system or component to automatic control following stabilization from the transient and correction of the malfunction."

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly directed the Reactor Operator (RO) to place control rods back to automatic without first getting permission from the Shift Manager.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to keep other crew members informed by not getting permission from the shift manager prior to placing control rods back to automatic.

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PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER [REDACTED]

Examined: Capehart

**CROSS REFERENCE:**

4.a: Communications – Provide Information

**SCENARIO/EVENT:**

Scenario 8, Event 1: ACCW Pump #1 Locked Rotor With Failure of the Standby ACCW Pump to Automatically Start

**EXPECTED ACTION/RESPONSE:**

The applicant, as Unit Operator (UO), was expected to enforce proper three way communication of technical data in accordance with the three-way communication standards stated in procedure 00004-C, "Plant Communications," Revision 9.5. Specifically, during this event, when the applicant stated that alarms were consistent with the failure of the ACCW pump malfunctions, it was expected that the Senior Reactor Operator (SRO) repeat the information and the applicant complete the communication by stating that the repeated information was correct.

**APPLICANT ACTION/RESPONSE:**

The applicant clearly stated to the SRO that the alarms were consistent with the ACCW pump malfunctions, but the SRO did not repeat the information. The applicant did not ensure that the SRO correctly received the information by forcing a repeat back of the information.

The applicant made one non-critical error in this rating factor, therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to correctly transmit technical information to the SRO.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Capehart

**CROSS REFERENCE:**

4.a: Communications - Provide Information

**SCENARIO/EVENT:**

Scenario 6, Event 6: MFPT B turbine vibration will rise to > 5 mils requiring entry into 18013-C, "Rapid Power Reduction," and trip of MFPT B.

**EXPECTED ACTION/RESPONSE:**

The applicant, as UO, was expected to reduce turbine load as directed by the SS and announce crew updates for every 100 MW change.

**APPLICANT ACTION/RESPONSE:**

The applicant failed twice to update the crew via crew update as required by the rapid downpower procedure.

The applicant made only one error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in communicating required parameters to the crew.

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APPLICANT DOCKET NUMBER [REDACTED] 826

Examiner: Meeks

**CROSS REFERENCE:**

4.a.: Communications – Clarity

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer (PRZR) Pressure Channel PI-456 Failed High, PORV Block Valve HV-8000B Failed to Close in Automatic

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to clearly state verbal direction to the control room operators, including using proper plant nomenclature.

**APPLICANT ACTION/RESPONSE:**

When PI-456 failed high, the Reactor Operator (RO) correctly closed the PRZR spray valves, but then incorrectly turned the PRZR PORV switch to the "OPEN" position (thinking that she was closing the valve). When the PORV did not go closed, and with PRZR pressure lowering rapidly, the RO turned to the SRO for guidance. At this point, the applicant stated "SHUT THAT VALVE!" without giving any further nomenclature or clarification as to which valve he wanted to be closed. The RO then closed the PORV.

The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to make accurate, clear, and concise verbal reports.

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APPLICANT DOCKET NUMBER [REDACTED]

File Examiner: Meeks

**CROSS REFERENCE:**

4.c.: Communications – Receive Information

**SCENARIO/EVENT:**

Scenario 7, Event 7: MFRV #3 Failed Shut Requiring Reactor Trip, Three Stuck Rods

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to correctly receive verbal communications from the control board operators, and ensure appropriate corrections occurred when the communications from the control board operators were incorrect.

**APPLICANT ACTION/RESPONSE:**

After the manual reactor trip was initiated, the applicant directed the Reactor Operator (RO) to "check if SI is required," at step 4 RNO of 19000-C, "E-0 Reactor Trip or Safety Injection." The first bulleted substep of this RNO directs the operator to check "PRZR pressure less than or equal to 1870 psig." At this point, the RO checked Steam Generator pressures and reported to the applicant that "pressurizer pressures 1020 pounds and stable." Actual pressurizer pressure was 2228 psig at this time. The applicant failed to acknowledge the incorrect report from the RO, and failed to ensure the correct report was made. If actual PRZR pressure had been 1020 pounds, a Safety Injection should have been actuated.

The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to receive accurate, clear, and concise verbal reports.

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 3, Event 4: Controlling Pressurizer Pressure Channel PT-455 Failed High

**EXPECTED ACTION/RESPONSE:**

In part, the applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Specification (TS) 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation, Function 1d (SI Low PRZR Press), Condition D, to place the channel in trip within 72 hours or be in Mode 3 within 78 hours and Mode 4 within 84 hours.

**APPLICANT ACTION/RESPONSE:**

The applicant did not document TS 3.3.2, Function 1d, Condition D, on her informal logs. Also, the applicant did not address any TS during her crew brief. After the scenario, the applicant was asked to state the TS implications of the failure. The applicant stated all required TS, with the exception of TS 3.3.2, Function 1d, Condition D.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to correctly recognize applicable Technical Specifications.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not identifying a Technical Specification Required Action could result in operation outside of the licensed basis.

**K/A (SRO IMPORTANCE RATING):** G2.2.40 (4.7)

**10CFR55.45(a)(13):** Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Specification (TS) 3.3.4, Remote Shutdown System, Function 8, Condition A, for the loss of one required channel of pressurizer level instrumentation.

**APPLICANT ACTION/RESPONSE:**

The applicant did not identify TS 3.3.4, Function 8, Condition A. The applicant wrote down the other applicable TS on her informal log sheet, but did not write down TS 3.3.4, Function 8, Condition A. The applicant then conducted a crew brief and also did not initially discuss TS 3.3.4, Function 8, Condition A. She did however, go back and address the Technical Specification following the brief after the Unit Operator (UO) prompted her. The applicant was downgraded in this competency because she did not recognize TS 3.3.4, Function 8, Condition A, on her informal log or initially during the crew brief prior to being prompted by the UO.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to recognize applicable Technical Specifications.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not identifying a Technical Specification Required Action could result in operation outside of the licensed basis.

**K/A (SRO IMPORTANCE RATING):** G2.2.40 (4.7)

**10CFR55.45(a)(13):** Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer Pressure Channel (PT-456) Failed High with PORV Block Valve Failure to Automatically Close

**EXPECTED ACTION/RESPONSE:**

The LCO bases of Technical Specification (TS) 3.4.11, "Pressurizer PORVs," states the following:

The LCO requires the PORVs and their associated block valves to be OPERABLE for manual operation to mitigate the effects associated with an SGTR, or loss of heat sink, and to achieve safety grade cold shutdown. The PORVs are considered OPERABLE in either the manual or automatic mode. [...] An OPERABLE PORV is required to be capable of manually opening and closing, and not experiencing excessive seat leakage. [...] An OPERABLE block valve may be either open and energized, or closed and energized with the capability to be opened, since the required safety function is accomplished by manual operation.

In accordance with the above, the applicant, as Reactor Operator (RO), was expected to correctly recognize that LCO 3.4.11 was met following the PI-456 failure and failure of the PORV block valve HV-8000B to close. Because both the PORV and the block valve were capable of being cycled in manual operation, both valves remained OPERABLE.

**APPLICANT ACTION/RESPONSE:**

After the scenario, the applicant was asked about the operability status of the PORV block valve that failed to automatically close. The applicant incorrectly informed the examiner that the PORV block valve was inoperable due to not automatically closing on low pressure as designed. The applicant was downgraded in this competency because of her incorrect understanding of PORV block valve operability requirements and the associated impacts on meeting the conditions of the LCO.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in her ability to recognize conditions which would require Technical Specification directed actions. The Basis for Technical Specification 3.4.11 states that the PORV block valve safety function may be accomplished manually. The applicant lacked the knowledge of the Basis for Technical Specification 3.4.11, which was required to make a correct operability determination on the PORV block valve.

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**POTENTIAL CONSEQUENCES:**

The potential consequences of incorrectly determining the operability of a safety related component could result in operation outside of the licensed basis or an unnecessary plant transient created by incorrectly entering a Technical Specification Shutdown Statement.

**K/A (SRO IMPORTANCE RATING): G2.2.37 (4.6)**

**10CFR55.45(a)(13):** Demonstrate the applicant's ability to function within the control room team as appropriate to the assigned position, in such a way that the facility licensee's procedures are adhered to and that the limitations in its license and amendments are not violated.

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Specification (TS) 3.3.1, Reactor Trip System Instrumentation, Function 9, Condition M, for the loss of one required channel of Pressurizer Water Level – High.

The applicant was also expected to identify TS 3.3.4, Remote Shutdown System, Function 8, Condition A, for the loss of one required channel of pressurizer level instrumentation.

The applicant was not expected to identify TS 3.3.1, Reactor Trip System Instrumentation, Functions 8a and 8b, which pertained to pressurizer pressure.

**APPLICANT ACTION/RESPONSE:**

The applicant did not identify TS 3.3.1, Function 9, Condition M. The applicant also did not identify TS 3.3.4, Remote Shutdown System, Function 8, Condition A.

Furthermore, the applicant incorrectly identified TS 3.3.1, Functions 8a and 8b.

Correctly recognizing the Technical Specifications for this event was the only error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to recognize applicable Technical Specifications.

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APPLICANT DOCKET NUMBER [REDACTED]

Examiner: Bales

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 2, Event 5: Normal Charging Pump (NCP) Tripped

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Requirement (TR) 13.1.3, Boration Flowpaths, and TR 13.1.5, Charging Pumps – Operating, due to Centrifugal Charging Pump (CCP) "A" being in PTL and the NCP being tripped.

**APPLICANT ACTION/RESPONSE:**

The applicant did not identify the TRM requirements during the scenario; therefore, after the scenario, the examiner questioned the applicant on applicable Technical Specifications for the plant conditions at the time the NCP tripped. When the applicant did not mention any applicable Technical Specifications, the examiner asked specifically about requirements in the Technical Requirements Manual (TRM). The applicant again did not state any TRM required actions. The applicant was downgraded in this competency because he did not identify applicable requirements from the TRM.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in identification of TRM action statements.

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APPLICANT DOCKET NUMBER [REDACTED] 2/2/12

Examiner: Bates

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer Pressure Channel (PT-458) Failed High with PORV Block Valve Failure to Automatically Close

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to recognize that the failure of the PORV block valve did not result in the block valve being inoperable. The Basis for Technical Specification 3.4.11 states that the PORV block valve safety function may be accomplished manually.

**APPLICANT ACTION/RESPONSE:**

The applicant failed to recognize that the failure of the PORV block valve did not result in the block valve being inoperable.

After the scenario, the applicant was asked about the operability status of the PORV block valve that failed to automatically close. The applicant incorrectly informed the examiner that the PORV block valve was inoperable due to not automatically closing on low pressure as designed. The applicant was downgraded in this competency because of his incorrect understanding of PORV block valve operability requirements the associated impacts on LCO entry.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to recognize conditions which would require Technical Specification directed actions.

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**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer (PRZR) Pressure Channel PI-456 Failed High, PORV Block Valve HV-8000B Failed to Close in Automatic

**EXPECTED ACTION/RESPONSE:**

The LCO bases of Technical Specification (TS) 3.4.11, "Pressurizer PORVs," states the following:

The LCO requires the PORVs and their associated block valves to be OPERABLE for manual operation to mitigate the effects associated with an SGTR, or loss of heat sink, and to achieve safety grade cold shutdown. The PORVs are considered OPERABLE in either the manual or automatic mode. [...] An OPERABLE PORV is required to be capable of manually opening and closing, and not experiencing excessive seat leakage. [...] An OPERABLE block valve may be either open and energized, or closed and energized with the capability to be opened, since the required safety function is accomplished by manual operation.

In accordance with the above, the applicant, as Senior Reactor Operator (SRO), was expected to correctly recognize that LCO 3.4.11 was met following the PI-456 failure and failure of the PORV block valve HV-8000B to close. Because both the PORV and the block valve were capable of being cycled in manual operation, both valves remained OPERABLE.

**APPLICANT ACTION/RESPONSE:**

When the applicant performed step C9 of AOP 18001-C, which directs placing the PORVs in AUTO, the applicant directed the Reactor Operator to maintain the PORV in manual and closed per the Tech Specs.

During post-scenario follow-up questions, the applicant incorrectly stated that he had entered Condition C of LCO 3.4.11 for an inoperable PORV block valve. The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to determine operability and/or availability of safety related equipment (K/A G2.2.37).

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APPLICANT DOCKET NUMBER [REDACTED]

Examining: Meeks

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer (PRZR) Pressure Channel PI-456 Failed High, PORV Block Valve HV-8000B Failed to Close in Automatic

**EXPECTED ACTION/RESPONSE:**

The LCO bases of Technical Specification (TS) 3.4.11, "Pressurizer PORVs," states the following:

The LCO requires the PORVs and their associated block valves to be OPERABLE for manual operation to mitigate the effects associated with an SGTR, or loss of heat sink, and to achieve safety grade cold shutdown. The PORVs are considered OPERABLE in either the manual or automatic mode. [...] An OPERABLE PORV is required to be capable of manually opening and closing, and not experiencing excessive seat leakage. [...] An OPERABLE block valve may be either open and energized, or closed and energized with the capability to be opened, since the required safety function is accomplished by manual operation.

In accordance with the above, the applicant, as Senior Reactor Operator (SRO), was expected to correctly recognize that LCO 3.4.11 was met following the PI-456 failure and failure of the PORV block valve HV-8000B to close. Because both the PORV and the block valve were capable of being cycled in manual operation, both valves remained OPERABLE.

**APPLICANT ACTION/RESPONSE:**

When the applicant performed step C9 of AOP 18001-C, which directs placing the PORVs in AUTO, the applicant stated that he would "maintain PORV-456 in the close position due to Tech Spec action."

During post-scenario follow-up questions, the applicant incorrectly stated that he could not perform step C9 because he was required by Tech Specs to keep the PORV in manual and closed. The applicant further stated that he "...was more comfortable calling it inoperable and having people look at it. To manually cycle the block valve would constitute troubleshooting." The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to determine operability and/or availability of safety related equipment.

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APPLICANT DOCKET NUMBER [REDACTED]

1/2/10

Examiner: Meek

**CROSS REFERENCE:**

6.a: Technical Specifications – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 4, Event 5: Reserve Auxiliary Transformer (RAT) Supply Breakers to Bus 1AA02 Tripped Open Due to a Fault on the Bus. Diesel Generator (DG) 1A Started, but Did Not Re-Energize the Bus

**EXPECTED ACTION/RESPONSE:**

During the post-transient actions, procedure AOP 18031-C, "Loss of Class 1E Electrical Systems," directs the operators to take manual control of the turbine-driven AFW pump and lower speed. This action renders the TDAFW pump inoperable. The "A" motor-driven AFW pump would also be inoperable due to the loss of bus 1AA02. The applicant, as Senior Reactor Operator (SRO), was expected to recognize this condition and correctly enter LCO 3.7.5 Condition C, which requires the plant to shut down to MODE 3 in a 6 hour completion time.

**APPLICANT ACTION/RESPONSE:**

During post-scenario follow-up questions, the applicant incorrectly stated that the only Technical Specification he was in for this event was LCO 3.8.1 Condition B for one inoperable DG.

The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to determine operability and/or availability of safety related equipment.

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APPLICANT DOCKET NUMBER [REDACTED] 726

Examiner: Meeks

**CROSS REFERENCE:**

6.b: Technical Specifications – Compliance

**SCENARIO/EVENT:**

Scenario 4, Event 5: Reserve Auxiliary Transformer (RAT) Supply Breakers to Bus 1AA02 Tripped Open Due to a Fault on the Bus. Diesel Generator (DG) 1A Started, but Did Not Re-Energize the Bus

**EXPECTED ACTION/RESPONSE:**

Due to the electrical fault on safeguards bus 1AA02, the offsite circuit supplying this train was rendered inoperable and DG 1A was also rendered inoperable (*i.e.*, the bus failure prevented either source of electrical power to perform its designed safety functions). The applicant, as Senior Reactor Operator (SRO), was expected to correctly comply with this condition in accordance with Technical Specification (TS) 3.8.1, "AC Sources – Operating." The applicant was expected to enter (1) LCO 3.8.1 Condition A for one required offsite circuit inoperable, (2) LCO 3.8.1 Condition B for one DG inoperable, and (3) LCO 3.8.1 Condition E for one required offsite circuit inoperable AND one DG inoperable; and to perform all required actions for these conditions.

**APPLICANT ACTION/RESPONSE:**

During post-scenario follow-up questions, the applicant incorrectly stated that the only Technical Specification he was in for this event was LCO 3.8.1 Condition B for one inoperable DG.

The applicant made one non-critical error associated with this rating factor, and was therefore evaluated with a score of "2" for this rating factor.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to determine operability and/or availability of safety related equipment.

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