
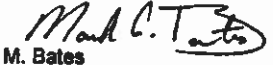

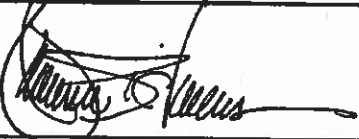


U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's Name: Charlissa Carlette' Smith				Docket Number 55- <span style="background-color: black; color: black;">[REDACTED]</span>	
<input type="checkbox"/>	<input type="checkbox"/>	Examination Type (Initial or Retake)	Facility Name: Vogtle		
<input type="checkbox"/>	<input type="checkbox"/>	Reactor Operator	Facility Description	<input checked="" type="checkbox"/>	Hot
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Senior Reactor Operator (SRO) Instant		<input type="checkbox"/>	Cold
<input type="checkbox"/>	<input type="checkbox"/>	SRO Upgrade		<input type="checkbox"/>	BWR
<input type="checkbox"/>	<input type="checkbox"/>	SRO Limited to Fuel Handling		<input checked="" type="checkbox"/>	PWR

Written Examination Summary					
NRC Author/Reviewer: M. Meeks			RO/SRO/Total Exam Points 75 / 25 / 100		
NRC Grader/Reviewer: M. Meeks			Applicant Points 66 / 23 / 89		
Date Administered: April 20, 2012			Applicant Grade (%) 88.00 / 92.00 / 89.00		
Operating Test Summary					
Administered by: M. Bates			Date Administered: March 26-- April 13, 2012		
Walk-Through (Overall)					S
Administrative Topics					S
Simulator Operating Test					U
Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 M. Meeks	05/10/2012
Operating Test	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 M. Bates	10 MAY 2012
Final Recommendation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	 M. Meeks	05/10/2012
License Recommendation					
	Issue License				Date
<input checked="" type="checkbox"/>	Deny License		Supervisor's Signature  Malcolm T. Widmann		05/10/12

## PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: 55-██████		
Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
<b>Administrative Topics</b>		
a. Perform AFD Monitoring (Administered by M. Meeks)	S	
b. $K_{eff}$ Determination for Shutdown Banks Withdrawn (Administered by M. Meeks)	S	
c. Determine Tagging Requirements (Administered by M. Meeks)	S*	4
d. Determine if Task Can Be Completed Without Exceeding any Radiological Limits (Administered by M. Meeks)	S	
e. Emergency Plan Classification and Notification	S	
<b>Systems: Control Room</b>		
a. Control Rod Operability Test (Administered by M. Meeks)	S*	5
b. Transfer ECCS Pumps to Cold Leg Recirc (Administered by M. Meeks)	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured SG	S	
d. Start an RCP with Subsequent Seal Failure	S*	6
e. Transfer AFW Suction Source to CST 2 (Administered by P. Capehart)	S	
f. Dilute Containment with Service Air (Administered by M. Meeks)	S	
g. Return ESF Bus from Diesel Generator to Normal Supply (Administered by M. Meeks)	S*	7
h. N/A	N/A	
<b>Systems: In-Plant</b>		
i. Establish RWST Gravity Drain Through RHR Pumps to HLs	S	
j. Establish Local Control of 1E Switchgear (Administered by P. Capehart)	S	
k. Placing the RHR 25kVA Inverter 1DD116 in Service	S	

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**

Applicant Docket Number: 55-██████					
Senior Reactor Operator Simulator Operating Test Grading Details					
Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No.
1. Interpretation/Diagnosis					
a. Recognize & Attend	0.20	3	0.60		
b. Ensure Accuracy	0.20	1	0.20	1.70	8, 10
c. Understanding	0.30	1	0.30		12, 14
d. Diagnose	0.30	2	0.60		16
2. Procedures					
a. Reference	0.30	3	0.90		
b. EOP Entry	0.30	3	0.90	3.00	
c. Correct Use	0.40	3	1.20		
3. Control Board Operations					
a. Locate & Manipulate	0.34	1	0.34		18, 19, 20
b. Understanding	0.33	3	0.99	1.99	
c. Manual Control	0.33	2	0.66		21
4. Communications					
a. Clarity	0.40	1	0.40		23, 24, 25
b. Crew & Others Informed	0.40	1	0.40	1.20	26, 27
c. Receive Information	0.20	2	0.40		28
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90		
b. Oversight	0.30	3	0.90	3.00	
c. Solicit Crew Feedback	0.20	3	0.60		
d. Monitor Crew Activities	0.20	3	0.60		
6. Technical Specifications					
a. Recognize and Locate	0.40	1	0.40		29, 30, 31
b. Compliance	0.60	3	1.80	2.20	

[Note: Enter RF Weights (nominal, adjusted, or "0" if not observed (N/O)), RF Scores (1, 2, 3, or N/O), and RF Grades from Form ES-303-4 and sum to obtain Competency Grades.]

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

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

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

**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 55-██████****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 55-██████****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.



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

**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.

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

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**

**APPLICANT DOCKET NUMBER 55-██████**

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

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

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**  
**APPLICANT DOCKET NUMBER 55- [REDACTED]****CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**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 perform steps of 18001-C, "Systems Instrumentation Malfunction," Section C, to gain control of pressurizer pressure, select an unaffected channel on PS-455F, and return pressurizer pressure control to automatic. The applicant was not expected to maintain manual control of pressurizer heaters after the pressurizer pressure control system was realigned to function properly in automatic following the selection of an unaffected channel.

**APPLICANT ACTION/RESPONSE:**

The applicant entered 18001-C, Section C, and performed all steps with the exception of directing pressurizer heaters to be placed in automatic. When the applicant reached Step C8.b to place heaters in automatic, she stated that they were going to wait to place heaters in automatic. She also stated, "I do not think heaters are operating properly." A few minutes later, the SRO informed the Reactor Operator (RO) that he could place the pressurizer heaters in automatic. Instead, the RO placed the "A" backup heaters to ON. The applicant permitted the RO to manually control pressurizer heaters for the remainder of the scenario. After the scenario, the applicant was asked to explain her actions pertaining to pressurizer heater operation during the scenario. The applicant stated that she did not want to place heaters to automatic until pressure was lower. The applicant was downgraded in this competency because the pressurizer pressure control system was functioning properly after an unaffected channel was selected, and the applicant decided not to direct completion of 18001-C, Step C8.b, which would have returned heaters to automatic.

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 understanding that the pressure control system, including the pressurizer heaters, were working as designed after the selection of an unaffected channel.

**POTENTIAL CONSEQUENCES:**

The potential consequences of this error include placing unnecessary burden on control room operators by maintaining manual control of parameters that have the capability of being automatically controlled. Furthermore, a misunderstanding of automatic pressure control could cause incorrect pressure control manipulations.

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

**K/A (SRO IMPORTANCE RATING): 010A3.02 (3.5)**

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

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

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

APPLICANT DOCKET NUMBER 55-

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 55- [REDACTED]****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.



**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**  
**APPLICANT DOCKET NUMBER 55- [REDACTED]**

**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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****CROSS REFERENCE:**

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

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**  
**APPLICANT DOCKET NUMBER 55- [REDACTED]****CROSS REFERENCE:**

3.a: Control Board Operations – Locate & Manipulate

**SCENARIO/EVENT:**

Scenario 7, Event 5: Pressurizer (PRZR) Pressure Transmitter (PT-456) Failed High causing PORV to Open, PORV Block Valve Failed to Automatically Close

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to diagnose a failure of PT-456, and correctly perform the immediate operator actions of procedure 18001-C, "Systems Instrumentation Malfunction," Section C, which included:

- closing pressurizer spray valves
- closing the affected PORV, and
- operating heaters as necessary to restore pressure.

The applicant was expected to complete these Immediate Operator Actions without requiring assistance from other crew members.

**APPLICANT ACTION/RESPONSE:**

The applicant correctly diagnosed that PT-456 failed high and immediately closed the pressurizer spray valves. However, she did not immediately close the affected PORV, or its associated PORV Block Valve, and PRZR pressure continued to lower. Approximately 30 seconds after initiation of the failure, the Senior Reactor Operator loudly directed, "Shut that valve!" The applicant then closed the PORV to halt the pressure decrease. After the scenario, the applicant was asked to explain her response to the PT-456 failure. The applicant stated that she had initially manipulated the PORV switch in the wrong direction. The applicant was downgraded in this competency because she did not manipulate the PORV handswitch in an accurate manner.

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 accurately operate the PORV handswitch.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not closing either the PORV or its associated block valve include an unnecessary reactor trip due to the vapor space loss of coolant accident through the open PORV.

**K/A (SRO IMPORTANCE RATING):** 010A2.03 (4.2)

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

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****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 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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY**  
**APPLICANT DOCKET NUMBER 55- [REDACTED]****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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55-** [REDACTED]**CROSS REFERENCE:**

4.a: Communications – Clarity

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Channel LT-459 Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to accurately state the status of FIC-0121 during the crew brief that was performed following plant stabilization.

**APPLICANT ACTION/RESPONSE:**

In response to LT-459 failing low, the applicant directed the Reactor Operator (RO) to place FIC-0121 in manual to control pressurizer level. However, approximately one minute later, the applicant stated during a crew brief that FIC-0121 was in automatic. The RO quickly corrected the communication error. The applicant was downgraded due to not clearly and accurately communicating the status of FIC-0121 to the crew.

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 communicate the status of FIC-0121 to the crew during a brief.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not correctly communicating component status to the crew include incorrect operator actions and confusion as to actions that may be required.

**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- [REDACTED]****CROSS REFERENCE:**

4.a: Communications – Clarity

**SCENARIO/EVENT:**

Scenario 6, Event 4: Controlling Pressurizer Level Channel LT-459 Failed Low

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to enter the correct procedure (18001-C) and begin performing the steps to address the failure of LT-459. The applicant was not expected to direct the Unit Operator (UO) to perform Immediate Operator Actions because there were no Immediate Operator Actions associated with this failure.

**APPLICANT ACTION/RESPONSE:**

The applicant, in response to LT-459 failing low, directed the UO to perform Immediate Operator Actions. The UO responded that no Immediate Operator Actions existed. The applicant then proceeded to enter the correct procedure and perform steps in the correct section of that procedure. After the scenario, the applicant was asked what Immediate Operator Actions she had intended the UO to perform after the associated alarms were received. The applicant stated that she had "misspoke" when providing that direction. The applicant was downgraded in this competency because she did not communicate in a clear, accurate, and easily understood manner when she provided direction to the UO to perform Immediate Operator Actions that did not exist for the failure of LT-459.

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 communicate in a clear, accurate, and easily understood manner when she provided direction to the UO to perform Immediate Operator Actions that did not exist.

**POTENTIAL CONSEQUENCES:**

The potential consequences of incorrectly directing immediate operator actions include creating confusion surrounding the correct diagnosis of plant conditions.

**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-**CROSS REFERENCE:**

4.a: Communications – Clarity

**SCENARIO/EVENT:**

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

**EXPECTED ACTION/RESPONSE:**

The applicant, as Reactor Operator (RO), was expected to state that pressurizer pressure was not less than 1870 psig in accordance with procedure 19000-C, "E-0 Reactor Trip or Safety Injection," Step 4 RNO.

**APPLICANT ACTION/RESPONSE:**

When the Senior Reactor Operator (SRO) directed the applicant to "check if SI is required," the applicant initially checked steam generator pressures, and then incorrectly informed the SRO that pressurizer pressures were 1020 psig and stable. The SRO did not correct the communication, nor did the applicant correct the false information. The SRO did not direct any incorrect actions based on the communication error. The applicant was downgraded in this competency because she did not communicate in an accurate manner when a determination was being made on whether safety injection was required.

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 communicate information to the SRO when checking to see if a safety injection was required.

**POTENTIAL CONSEQUENCES:**

The potential consequences of providing an incorrect pressurizer pressure include making the wrong decision on whether safety injection is required.

**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- [REDACTED]****CROSS REFERENCE:**

4.b: Communications – Crew &amp; 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- [REDACTED]****CROSS REFERENCE:**

4.b: Communications – Crew & 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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****CROSS REFERENCE:**

4.c: Communications – Receive Information

**SCENARIO/EVENT:**

Scenario 6, Event 1: ACCW Pump #1 Locked Rotor with Failure of the Standby ACCW Pump to Automatically Start

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to acknowledge 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 Unit Operator (UO) stated that alarms were consistent with the failure of the ACCW pump malfunctions, it was expected that the applicant repeat the information and the UO complete the communication by stating that the repeated information was correct.

**APPLICANT ACTION/RESPONSE:**

The UO clearly stated to the applicant that the alarms were consistent with the ACCW pump malfunctions, but the applicant did not repeat the information. Also, the UO did not ensure that the SRO correctly received 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 her ability to correctly receive verbal technical information.

**POTENTIAL CONSEQUENCES:**

The potential consequences of not receiving information 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-[REDACTED]**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.

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****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.

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

**PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY****APPLICANT DOCKET NUMBER 55- [REDACTED]****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.



Facility: Vogtle Scenario No.: 8 Op-Test No.: 2012-301  
 Examiners: MARK BATES Operators: Charlissa Smith (SRo) T  
MICHAEL MEEKS (OATC) V  
PHIL CAPEHART (Luo) N

**Initial Conditions:** The plant is at 100% power, BOL, steady state operations, control rods in automatic.  
 (Base IC # 10, snapped to IC # 186 for HL17 NRC Exam)

**Equipment OOS:** Safety Injection Pump "A" is tagged out for motor repair.

**Turnover:** The plant is at 100% power, Containment mini-purge is in service for a Containment entry on the next shift.

**Preloaded Malfunctions:**

AC03B - ACCW Pump-2 Hand switch Auto Contact Failure

AF05A, B, C Failure of all AFW pumps to automatically start

ES01 - Failure of Automatic Reactor Trip

ES02 - Failure of Manual Reactor Trip

TU18 - Auto Turbine Trip Failure

**Overrides**

Note to Simbooth: Place Containment Mini-Purge in service.

Event No.	Mal. No.	Event Type*	Event Description
T1	AC02A	C-UO C-SS	ACCW Pump # 1 locked rotor with failure of the standby ACCW pump to automatically start.
T2	RC08A @ 100%	I-OATC I-SS TS-SS	RCP Loop 1 HL NR RTD fails high resulting in inward rod motion.  LCO 3.3.1, Condition A, FU 6, 7 Condition E and LCO 3.3.2 Condition A, FU 5b Condition I
T3	RM-006	TS-SS	Cnmt Bldg Oper Lev Rad - hi Range, RE-006 fails to 100%.  LCO 3.3.3 Condition A, FU 14, Condition B

Event No.	Mal. No.	Event Type*	Event Description
T4	PR03A (56.5-0%) Ramp 600 sec	I-OATC I-SS  TS-SS	Controlling PRZR level channel LT-459 fails low over 10 minutes resulting in FIC-0121 raising charging flow.  LCO 3.3.1 Condition A, FU 9, Condition M INFO LCO 3.3.3 FU 6 LCO 3.3.4 Condition A, FU 8
T5	FW14 @100% Ramp 60 Seconds	I-UO I-SS	FW pressure transmitter PT-508 fails slowly high resulting in MFPT speed reducing and lowering FW flows and SG levels.
6	N/A	R-OATC N-UO R-SS	Power reduction due to MFPT B high vibrations.
T7	EL06A	M-ALL	Loss of 13.8kV bus 1NAA resulting in loss of 2 RCPs and 2 Condensate Pumps, 1 circulating water pump - ATWT.
T8	RD07 with 69 sec delay	C-OATC C-SS Critical	ATWT ~ Auto rod motion fails after ~ 1 minute.
9	Preload	C-UO C-SS Critical	Turbine Auto Trip failure requiring Manual Trip.
10	Preload	C-UO C-SS Critical	MDAFW and TDAFW pumps fail to automatically start.
T11	MS06D @50%	CREW	Main Steam Safety for Loop # 4 fails 50% open requiring an eventual transition to E-2 to attempt to isolate the faulted SG # 4.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

**Event 1:**

ACCW pump # 1 will trip due to a locked rotor and ACCW pump # 2 will fail to automatically start.

**Verifiable Actions:**

UO – Starts standby ACCW pump # 2.

**Technical Specifications:**

None

Facility: Vogtle Scenario No.: 7 Op-Test No.: 2012-301

Examiners: Michael Meeks Operators: ~~Charles Smith~~ (SRo) Y  
Mark Bates Charles Smith (OATC) T  
Phil Capehart ~~Charles Smith~~ (LWR) N

Initial Conditions: The plant is at 29% power, BOL, steady state operations, control rods in manual.  
 (Base IC # 36, snapped to IC # 187 for HL17 NRC Exam)

Equipment OOS: Safety Injection Pump "A" is tagged out for motor repair.

Turnover: The plant is at 29% power, Containment mini-purge is in service for a Containment entry on the next shift, raise power at < 8% per hour.

Preloaded Malfunctions:

ES19A - Block CVI Actuation Train A

ES19B - Block CVI Actuation Train B

ES10 - Train A Main Steam Line Isol Auto Actuation Failure

ES11 - Train B Main Steam Line Isol Auto Actuation Failure

SI08A - RWST Sludge Mixing Valve 10957 Failure

SI08B - RWST Sludge Mixing Valve 10958 Failure

RD17D - (K-14) @ 36 steps

RD17H - (D-4) @ 24 steps

RD17L - (G-13) @ 30 steps

PR12B PORV 456 Block Valve 8000B Auto Closure Failure

Overrides

HV-8104 Emergency Borate valve shut.

Note to Simbooth: Place Containment Mini-Purge in service.

Event No.	Mal. No.	Event Type*	Event Description
1	N/A	R-OATC R-SS N-UO	Raises power in accordance with UOP-12004-C.
T2	SG05D @100%	C-UO C-SS	SG # 4 Steam Flow indicator fails high.

**Appendix D**
**Scenario Outline**
**Form ES-D-1**

Event No.	Malif. No.	Event Type*	Event Description
T3	CV04	I-OATC I-SS	Loss of Cooling to Letdown Heat Exchanger (TE-0130 fails low)
T4	new malif (9)	TS-SS	NSCW Cooling Tower Fan # 1 on Train A trips with ambient wet-bulb temperature > 63°F  LCO 3.7.9 Ultimate Heat Sink (UHS) Condition B
T5	PR02B @100%	I-OATC I-SS  TS-SS	PRZR PT-456 fails high resulting in PORV 456 failing open and block valve HV-8000B failure to auto close.  LCO 3.3.1 Condition A, FU 6 Condition E, LCO 3.3.1 FU 8a Condition M, LCO 3.3.1 FU 8b Condition E LCO 3.3.2 Condition A, FU 1d Condition D, LCO 3.3.2 FU 8b Condition L, LCO 3.4.1 Condition A
T6	RF TK02 95-88% 1200 sec ramp	C-UO C-SS TS-SS	RWST sludge mixing line pipe break with auto closure failure.  LCO 3.5.4 Condition B and Condition D (1 hour action) TR 13.1.7 Condition D (Immediate TR action)
T7 10	FW04C  Preload	C-OATC  C-OATC C-SS	MFRV # 3 fails shut, requiring reactor trip, 3 stuck rods.  Emergency borate due to 3 stuck rods with failure of HV-8104 to open.
T8  T9  11  12	SG01C @45%  FW06C @40%  Preload  Preload	M-ALL  M-ALL  C-UO C-SS Critical  C-UO C-SS Critical	Ruptured Faulted SG IRC with failure of CVI to occur.  Ruptured Faulted SG IRC with failure of CVI to occur.  CVI actuation failure requiring manual alignment.  Main Steam Line Auto Actuation Failure
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Facility: Vogtle Scenario No.: 3 Op-Test No.: 2012-301

Examiners: Mark Baker Operators: Charlissa Smith (SRO) T  
Phil Copehuet Surrogate (OATC) N  
N/A Surrogate (UO)

**Initial Conditions:** The plant is at 100% power, MOL, steady state operations.  
 (Base IC # 14, snapped to IC # 183 for HL17 NRC Exam)

**Equipment QOS:** Safety Injection Pump "A" is tagged out for motor repair.

**Turnover:** Maintain 100% power. Containment mini-purge is in service for a Containment entry on the next shift.

**Preloaded Malfunctions:**

**TU10B Main Turbine EHC Pump B Auto Start Failure**

**Overrides**

**HS-3009 OPEN (Panel Map B-Left, HS-3009 LP-1 MS SPLY to AFW TD PMP-1 to OPEN)**

Event No.	Matf. No.	Event Type*	Event Description
T1	SG02D @ 100%	I-UO I-SS TS-SS	SG # 4 NR LT fails high (LT-554).  LCO 3.3.1 Condition A LCO 3.3.1 Condition A, FU 13 Condition E LCO 3.3.2 Condition A LCO 3.3.2 Condition A, FU 5e Condition I LCO 3.3.2 FU 6b Condition D
T2	CV08 @ 25%	C-OATC C-SS TS-SS	CVCS Letdown Leak ORC (Aux. Building - Isolable).
3	N/A	N-OATC N-SS	Places Excess Letdown in service.
T4	PR02A @ 100%.	I-OATC I-SS TS-SS	Controlling PRZR Pressure channel PT-455 fails high.  LCO 3.3.1 Condition A, FU 6 Condition E, LCO 3.3.1 FU 8a Condition M, LCO 3.3.1 FU 8b Condition E, LCO 3.3.2 Condition A, FU 1d Condition D, LCO 3.3.2 FU 8b Condition L (One hour action), LCO 3.4.1.a Condition A
T5	TU11	C-UO C-SS	Main Turbine EHC Pump A trips with failure of standby EHC pump to automatically start.

Event No.	Malfunction No.	Event Type*	Event Description
T6	SG01A @ 3%	R-OATC N-UO R-SS TS-SS	Steam Generator # 1 10 gpm SGTL requiring a rapid down power.  LCO 3.4.13 Condition A
T7	SG01A @ 45% Ramp 180 seconds	M-ALL	DBA SGTR on SG # 1 (~450 gpm)
8	Preload Critical	C-UO C-SS	TDAFW steam supply valve from SG # 1 will not manually close requiring closure of TDAFW Trip and Throttle valve to isolate SG # 1.
T9	PR07 @ 80% Critical	C-OATC C-SS	PRZR spray valve loop 4 fails 80% open after maximum rate depressurization of RCS when OATC attempts to shut the valve.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			