

EX 6

U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's [REDACTED]			Docket Number [REDACTED]		
I	R	Examination Type (Initial or Retake)	Facility Name: Vogtle		
		Reactor Operator		X	Hot
X		Senior Reactor Operator (SRO) Instant	Facility Description		Cold
		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

Written Examination Summary	
NRC Author/Reviewer: M. Meeks	RO/SRO/Total Exam Points 75 / 25 / 100
NRC Grader/Reviewer: M. Meeks	Applicant Points 72 / 22 / 94
Date Administered: April 20, 2012	Applicant Grade (%) 96.00 / 88.00 / 94.00

Operating Test Summary	
Administered by: M. Meeks	Date Administered: March 26– April 13, 2012
Walk-Through (Overall)	S
Administrative Topics	S
Simulator Operating Test	S

Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Operating Test	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Final Recommendation	X			<i>Mark G. Tate</i> M. Bates	10 MAY 2012

License Recommendation			
<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature <i>Malcolm T. Widmann</i> Malcolm T. Widmann	Date
<input type="checkbox"/>	Deny License		05/10/12

EX 6

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 Determination for Shutdown Banks Withdrawn	S	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

Ex 6

Applicant Docket Number: [REDACTED]					
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 b. Ensure Accuracy c. Understanding d. Diagnose	0.20 0.20 0.30 0.30	3 3 2 3	0.60 0.60 0.60 0.90	2.70	7
2. Procedures a. Reference b. EOP Entry c. Correct Use	0.30 0.30 0.40	3 3 3	0.90 0.90 1.20	3.00	
3. Control Board Operations a. Locate & Manipulate b. Understanding c. Manual Control	0.34 0.33 0.33	3 3 3	1.02 0.99 0.99	3.00	
4. Communications a. Clarity b. Crew & Others Informed c. Receive Information	0.40 0.40 0.20	3 3 3	1.20 1.20 0.60	3.00	
5. Directing Operations a. Timely & Decisive Action b. Oversight c. Solicit Crew Feedback d. Monitor Crew Activities	0.30 0.30 0.20 0.20	3 3 3 3	0.90 0.90 0.60 0.60	3.00	
6. Technical Specifications a. Recognize and Locate b. Compliance	0.40 0.60	3 3	1.20 1.80	3.00	

[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.]

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

APPLICANT DOCKET NUMBER

**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.

[REDACTED]  
APPLICANT DOCKET NUMBER: [REDACTED]**CROSS REFERENCE:**

Systems – In-Plant JPM “k”

**JPM/TASK:**

Placing the RHR 25kVA Inverter 1DD116 in Service

**EXPECTED ACTION/RESPONSE:**

The applicant was also expected to direct installation of the annunciator card associated with ALB34-E07 and check that the alarm was lit in accordance with step 4.4.3 (b) of procedure 13011-1, “Residual Heat Removal System,” Rev 69.

**APPLICANT ACTION/RESPONSE:**

The applicant also did not initially verify that the annunciator card associated with ALB34-E07 had been installed. However, the applicant did recognize his error when he was provided a cue that the alarm was dark. The applicant stated that he had thought that he had already performed those actions in accordance with a previous procedure step, but then he recognized that the previous step was associated with ALB34-F07 rather than ALB34-E07.

The applicant’s performance was rated as satisfactory because he completed all critical steps correctly. The applicant did direct installation of the annunciator card associated with ALB34-E07 prior to proceeding to the next procedure step.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in his ability to correctly complete procedure steps.

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

**U.S. Nuclear Regulatory Commission  
Individual Examination Report**

Applicant's Name: [REDACTED] Docket Number [REDACTED]

I	R	Examination Type (Initial or Retake)	Facility Name: Vogtle
		Reactor Operator	Facility Description <input checked="" type="checkbox"/> Hot <input type="checkbox"/> Cold <input type="checkbox"/> BWR <input checked="" type="checkbox"/> PWR
X		Senior Reactor Operator (SRO) Instant	
		SRO Upgrade	
		SRO Limited to Fuel Handling	

**Written Examination Summary**

NRC Author/Reviewer: M. Meeks	RO/SRO/Total Exam Points 75 / 25 / 100
NRC Grader/Reviewer: M. Meeks	Applicant Points 68 / 23 / 91
Date Administered: April 20, 2012	Applicant Grade (%) 90.66 / 92.00 / 91.00

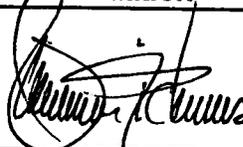
**Operating Test Summary**

Administered by: M. Meeks	Date Administered: March 26– April 13, 2012
Walk-Through (Overall)	S
Administrative Topics	S
Simulator Operating Test	S

**Examiner Recommendations**

Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Operating Test	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Final Recommendation	X			<i>Mark G. T. Bates</i> M. Bates	10 MAY 2012

**License Recommendation**

<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature Malcolm T. Widmann	 Date 05/10/12
<input type="checkbox"/>	Deny License		

Ex 6

E+6

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

Ex 6

Applicant Docket Number: [REDACTED]					
<b>Senior Reactor Operator Simulator Operating Test Grading Details</b>					
Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No.
1. Interpretation/Diagnosis a. Recognize & Attend b. Ensure Accuracy c. Understanding d. Diagnose	0.20 0.20 0.30 0.30	3 3 1 2	0.60 0.60 0.30 0.60	<b>2.10</b>	6,7 8
2. Procedures a. Reference b. EOP Entry c. Correct Use	0.30 0.30 0.40	3 3 2	0.90 0.90 0.80	<b>2.60</b>	9
3. Control Board Operations a. Locate & Manipulate b. Understanding c. Manual Control	0.34 0.33 0.33	3 2 2	1.02 0.66 0.66	<b>2.34</b>	10 11
4. Communications a. Clarity b. Crew & Others Informed c. Receive Information	0.40 0.40 0.20	2 3 2	0.80 1.20 0.40	<b>2.40</b>	12 13
5. Directing Operations a. Timely & Decisive Action b. Oversight c. Solicit Crew Feedback d. Monitor Crew Activities	0.30 0.30 0.20 0.20	3 2 3 3	0.90 0.60 0.60 0.60	<b>2.70</b>	14
6. Technical Specifications a. Recognize and Locate b. Compliance	0.40 0.60	2 3	0.80 1.80	<b>2.60</b>	15

[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.]

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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-U4-108, CSP A Pump Casing Vent Valve, as a required vent path to be tagged in the UNFLANGE/OPEN or UNCAP/OPEN position. The other required vent path was via 1-1206-X4-108, CSP A Header Vent Valve, which was required to be tagged in the UNCAP/OPEN position. Proper tagging of both 1-1206-U4-108 and 1-1206-X4-108 were critical steps in the JPM, because both vents being open were required to completely drain the pump.

**APPLICANT ACTION/RESPONSE:**

When the applicant developed the tagout, the applicant incorrectly did not include 1-1206-U4-108 in any position on the tagout.

During post-JPM discussion with the examiner, the applicant incorrectly stated that 1-1206-X4-108 was the high point, and the only required vent path for the pump. The applicant did not correctly perform a critical step in the JPM. Therefore, the applicant was evaluated as not successfully completing the JPM.

**LACK OF ABILITY/KNOWLEDGE:**

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

EX 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**CROSS REFERENCE:**

Systems – In Plant JPM “j”

**JPM/TASK:**

Establish Local Control of 1E Switchgear

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to perform steps 17 through 19 of AOP 18038-2, “Operation from Remote Shutdown Panels,” Revision 32.1. At step 19, the applicant was expected to verify that no ACCW pump was running, and that no ACCW pump could be started. The applicant was then expected to proceed to the RNO column of step 19, stop all RCPs, and isolate letdown. Stopping RCPs and isolation of letdown were critical steps in the JPM.

**APPLICANT ACTION/RESPONSE:**

The applicant successfully completed steps 17 and 18 of the AOP. At step 19, the applicant attempted to start both ACCW Pump 1 and Pump 2 from its local test switch. Upon determining that the ACCW pumps could not be started, he requested guidance from the Shift Supervisor (SS). The examiner informed him that the SS requested that he follow the procedure guidance as given. The applicant then informed the examiner that he could not continue any further in the procedure because he could not start an ACCW pump. At this time, the applicant handed in his procedure, cue sheet, and informed the examiner that he was done with the JPM. The applicant failed to evaluate or perform the RNO column of step 19 when the left-hand step “Verify at least one ACCW Pump RUNNING” could not be completed. RNO steps 19.a and 19.b were critical steps in the JPM.

The applicant’s performance was rated as unsatisfactory because he failed to complete all critical steps.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in the ability to correctly use procedures.

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**CROSS REFERENCE:**

1.c: Interpretation/Diagnosis – Understanding

**SCENARIO/EVENT:**

Scenario 1, Event 1: Unblock Both Source Range High Flux At Shutdown (HFASA) Channels, Raise Reactor Power to beyond the Point-Of-Adding-Heat (POAH).

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to direct the Unit Operator (UO) to unblock both channels of source range HFASA. Once these channels had been unblocked, the applicant was expected to understand that receipt of the ALB10-C01 SOURCE RANGE HI FLUX LEVEL AT SHUTDOWN alarm was not an expected condition for continuing with the reactor power ascension.

**APPLICANT ACTION/RESPONSE:**

Approximately two minutes after directing the Reactor Operator (RO) to commence raising reactor power, the ALB10-C01 alarm annunciated. The applicant, as SRO, allowed the power ascension to continue and directed the UO to verify if the alarm was valid. Approximately six minutes after the alarm, the UO reported to the applicant that the alarm was a valid alarm. However, the applicant continued the power ascension. The POAH was reached approximately 11 minutes after the ALB10-C01 alarm annunciated.

During post-scenario follow-up questions, the applicant incorrectly stated that the ALB10-C01 alarm was expected for raising power, although he could have possibly reset the alarm [again] once reactor power had stabilized. 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.

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

Ex 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**CROSS REFERENCE:**

1.d: Interpretation/Diagnosis – Diagnosis

**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 diagnose the LT-459 failure and make appropriate reports to the Senior Reactor Operator (SRO). Indications of the LT-459 failure included the LT-459 channel indication slowly lowering, the other two PRZR level channel indications slowly rising, charging flow FIC-0121 rising to maximum, annunciator ALB11-D01 PRZR LO LEVEL DEVIATION alarming, and PRZR pressure rising as actual pressurizer level compressed the PRZR bubble.

**APPLICANT ACTION/RESPONSE:**

When the PRZR LO LEVEL DEVIATION alarm annunciated, the applicant announced in a confident tone "pressurizer level is lowering," and then stated in a questioning tone "pressure is rising?" Neither the applicant nor the SRO diagnosed the PRZR level channel failure, and after a long pause, the SRO began to order "perform immediate operator actions—" when the Unit Operator (UO) cut off the SRO in mid-communication and loudly announced that there was a PRZR level instrument failure to the team.

During post-scenario follow-up questions, the applicant stated that he "...initially saw the IPC [computer screen indication] pressurizer level trend lowering and pressurizer pressure rising ... I thought if it was a RCS leak, then pressurizer level and pressure would be going down the same way. [The UO] saw one channel failing." 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 identify and interpret diverse indications to validate the response of another indication.

EX 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**CROSS REFERENCE:**

2.c: Procedures – Correct Use

**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 correctly perform steps in procedure AOP 18001-C section C to mitigate the PRZR pressure channel failure. Specifically, while performing steps C8, C9, and C10, the applicant was expected to (C8) place PRZR heaters and PRZR spray valve controllers in AUTO, (C9) place PORVs in AUTO and verify proper operation, and then (C10) return the PRZR master pressure controller to AUTO.

**APPLICANT ACTION/RESPONSE:**

When the applicant performed step C8, he essentially skipped over steps C8.b. and c., which place the PRZR heaters in AUTO and then place PRZR spray valve controllers in AUTO. At step C9, 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." The applicant then did perform step C10, which returned the PRZR pressure master controller to AUTO. At this point the PRZR pressure control system was in a very abnormal lineup: although the master controller was in AUTO, the applicant had PRZR heaters in a manual configuration, PRZR spray valves in a manual configuration, and one PRZR PORV valve in a manual configuration.

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 then stated he "...should have performed step C8 b. and c. before C10." 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 interpret and execute procedure steps.

EX 6  
[REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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 46%!" 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.

EX 6  
[REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

EX 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

EX 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

EX 6  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**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.

APPLICANT DOCKET NUMBER

Ex 6

U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's Name: [REDACTED]			Docket Number [REDACTED]		
I	R	Examination Type (Initial or Retake)	Facility Name: Vogtle		
		Reactor Operator		X	Hot
	X	Senior Reactor Operator (SRO) Instant	Facility Description		Cold
		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

Written Examination Summary	
NRC Author/Reviewer: M. Meeks	RO/SRO/Total Exam Points 75 / 25 / 100
NRC Grader/Reviewer: M. Meeks	Applicant Points 67 / 22 / 89
Date Administered: April 20, 2012	Applicant Grade (%) 89.33 / 88.00 / 89.00

Operating Test Summary	
Administered by: N/A	Date Administered: Waived
Walk-Through (Overall)	W
Administrative Topics	W
Simulator Operating Test	W

Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Operating Test			X	N/A	
Final Recommendation	X			<i>Malcolm T. Widmann</i> M. Bates / M. Meeks	05/10/2012

License Recommendation			
<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature Malcolm T. Widmann	Date
<input type="checkbox"/>	Deny License		05/10/12

[REDACTED]

EX 6

U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's [REDACTED]			Docket Number: [REDACTED]		
I	R	Examination Type (Initial or Retake)	Facility Name: <b>Vogtle</b>		
		Reactor Operator	Facility Description	<input checked="" type="checkbox"/>	Hot
<input checked="" type="checkbox"/>		Senior Reactor Operator (SRO) Instant		<input type="checkbox"/>	Cold
		SRO Upgrade		<input type="checkbox"/>	BWR
		SRO Limited to Fuel Handling		<input checked="" type="checkbox"/>	PWR

Written Examination Summary	
NRC Author (Reviewer) <b>Daniel X. Bacon</b>	RO/SRO/Total Exam Points: <b>73 / 25 / 98</b>
NRC Grader/Reviewer: <b>Phillip G. Capehart</b>	Applicant Points: <b>61 / 16 / 77</b>
Date Administered: <b>04/01/2011</b>	Applicant Grade (%): <b>83.56 / 64.00 / 78.57</b>

Operating Test Summary	
Administered by: <b>Phillip G. Capehart</b>	Date Administered: <b>03/16 - 24/2011</b>
Walk-Through (Overall)	<b>S</b>
Administrative Topics	<b>S</b>
Simulator Operating Test	<b>S</b>

Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination		<input checked="" type="checkbox"/>		<i>Phillip G. Capehart</i> Phillip G. Capehart	05/02/2011
Operating Test	<input checked="" type="checkbox"/>			<i>Phillip G. Capehart</i> Phillip G. Capehart	05/02/2011
Final Recommendation		<input checked="" type="checkbox"/>		<i>Michael K. Meeks</i> Michael K. Meeks	05/02/2011

License Recommendation		
		Date
<input type="checkbox"/>	Issue License	
<input checked="" type="checkbox"/>	Deny License	05/03/11
	Malcolm T. Widmann	<i>Malcolm T. Widmann</i>

Ex 10

Applicant Docket Number: [REDACTED]		
Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
<b>Administrative Topics</b>		
a. Critical Safety Function Status Tree Evaluation	S	
b. Evaluate Inoperable AFD Monitor Alarm (Administered by M. Meeks)	S	
c. Determine mode change requirements (Administered by M. Meeks)	S	
d. Life Saving in Emergency Conditions (Administered by J. Hopkins)	S	
e. Classify an Emergency Event	S	4
<b>Systems - Control Room</b>		
a. Emergency Borate due to Rods below insertion limits (RIL) (Administered by P. Capehart)	S	
b. Establish Safety Grade Letdown (Administered by J. Hopkins)	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available	S	
d. Isolate a Faulted Steam Generator	S	
e. Place Containment Hydrogen Monitors in service using 13130-1	S	5
f. DG Parallel Operation with voltage regulator failure	S	6
g. Perform Power Range NI ACOT (Administered by M. Meeks)	S	
h. NA		
<b>Systems - In-Plant</b>		
i. Establish RWST Gravity Drain Through RHR Pumps (Administered by M. Meeks)	S	
j. Response to the Inability to Reset or Block SI (Administered by J. Hopkins)	U	7
k. Locally Remove Diesel Generator From Service (Administered by J. Hopkins)	S	

Ex 6

Applicant Docket Number: [REDACTED]					
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	3.00	
b. Ensure Accuracy	0.20	3	0.60		
c. Understanding	0.30	3	0.90		
d. Diagnose	0.30	3	0.90		
2. Procedures					
a. Reference	0.30	3	0.90	3.00	
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	3	1.20		
3. Control Board Operations					
a. Locate & Manipulate	0.34	3	1.02	3.00	
b. Understanding	0.33	3	0.99		
c. Manual Control	0.33	3	0.99		
4. Communications					
a. Clarity	0.40	3	1.20	2.80	8
b. Crew & Others Informed	0.40	3	1.20		
c. Receive Information	0.20	2	0.40		
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	3.00	
b. Oversight	0.30	3	0.90		
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	2	0.80	2.60	9
b. Compliance	0.60	3	1.80		

[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.]

## APPLICANT DOCKET

**CROSS REFERENCE:**

Administrative Topic "e"

**JPM/TASK:**

Classify an Emergency Event

**EXPECTED ACTION/RESPONSE:**

The applicant was directed to complete NMP-EP-110, "EMERGENCY CLASSIFICATION DETERMINATION," Checklist 1, "Classification Determination." At step 1, the applicant was expected to check both boxes for the appropriate Initiating Condition Matrix for classification of the event, and continue to step 2. At step 2, the applicant was expected to identify that each fission product barrier is intact in step 2a and initial the step; for step 2b, the applicant was expected to mark "NONE" for the highest applicable fission product barrier Initial Condition and initial the step.

**APPLICANT ACTION/RESPONSE:**

The applicant, in step 1 of the NMP-EP-110 Checklist 1, checked only the "COLD IC/EAL Matrix Evaluation Chart" and proceeded to step 3 of the checklist. The applicant did not perform step 2a or 2b to identify any potential degraded fission product barriers. These steps were not critical; therefore, the applicant's performance was graded as satisfactory.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant displayed a weakness in his ability to take actions called for in the facility emergency plan (K/A G2.4.38). Specifically, the applicant did not meet the plant expectations to properly fill out Checklist 1 of E-Plan procedure NMP-EP-110 for dual plant events.

APPLICANT DOCKET NUMBER

**CROSS REFERENCE:**

Simulator JPM "e"

**JPM/TASK:**

Place Containment Hydrogen Monitors in service using 13130-1

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to place the Train A Containment Hydrogen Monitors in service using 13130-1, "Post-Accident Hydrogen Control," Section 4.2. At step 4.2.1.9, the applicant was expected to note hydrogen concentration on 1-AI-12979 on the Main Control Board (QMCB).

**APPLICANT ACTION/RESPONSE:**

At step 4.2.1.9, the applicant used recorder 1-AR-12979 on the QMCB. The failure to use the appropriate indication per this step was not critical and therefore the applicant was graded as satisfactory on this JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant displayed a lack of ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions (K/A G2.2.44). Specifically, the applicant did not use the correct instrumentation as required by the procedure.

Ex 6  
APPLICANT DOCKET**CROSS REFERENCE:**

Simulator JPM "f"

**JPM/TASK:**

DG Parallel Operation with voltage regulator failure

**EXPECTED ACTION/RESPONSE:**

Using procedure SOP 13427A-1, the applicant was directed to parallel D/G-1A to 1AA02 and raise D/G-1A load to 7000kW. Step 4.2.1.20 substep a. states to, "Adjust DG load to 2100 to 7000kW by gradually increasing the pot setting on DSL GEN 1A LOADING SET PT CONTROL 1SE-4915." The applicant was expected to initially load the D/G to 3000 kW per the note prior to the step that states "It is highly desirable to initially load the DG to 3000kW and maintain the load until cylinder exhaust temperatures stabilize or 15 minutes".

**APPLICANT ACTION/RESPONSE:**

At step 4.2.1.20, the applicant initially loaded the D/G to 2000kW and waited for 5 minutes to increase the DG load in 1000kW increments every 5 minutes. A follow up question was asked as to why the applicant loaded the D/G to 2000 kW. The applicant referenced step 4.2.1.20 that states to "adjust DG load to 2100 to 7000kW" and one of the five bulleted notes prior to step 4.2.1.20 that states "The DG should be loaded in increments of approximately 1000kW and 500kVAR in time increments of approximately 5 minutes between load changes". The failure to perform this step was not critical; therefore, the applicant was graded as satisfactory on this JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant displayed a lack of ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions (K/A 2.2.44). Specifically, the applicant did not take the necessary actions to ensure that the D/G is operated within the desired plant parameters.

## APPLICANT DOCKET

**CROSS REFERENCE:**

In-plant JPM "j"

**JPM/TASK:**

Response to the Inability to Reset or Block SI

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to reset the safety injection (SI) signal on Unit 2 Train A using 19011-C, Attachment D, Response to Inadvertent SI and Inability to Reset or Block SI. Specifically, per Step 2 of Attachment D, the applicant was expected to de-energize the Top and Bottom 48 VDC power supplies for the Train A SSPS Logic Cabinet by placing only the 48 VDC ON/OFF switches to the OFF position. The Top power supply is panel number 2374A07G01 and the Bottom power supply is panel number 2384A38G01.

**APPLICANT ACTION/RESPONSE:**

On the Top power supply panel, the applicant placed both the 48 VDC and the 15 VDC ON/OFF switches to the OFF position. The applicant identified the error, stated that he would report the error to the shift supervisor and would recommend placing the 15 VDC switch back to the ON position. The examiner, acting as the shift supervisor, directed the applicant not to reposition the 15 VDC switch and to continue with the JPM. The applicant successfully completed the remaining steps in the JPM.

Placing only the 48 VDC ON/OFF switch to the OFF position was a critical step; therefore, the applicant's performance was rated as unsatisfactory for this JPM.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant displayed a lack of ability to manually operate and/or monitor resetting of engineered safety features actuation system (ESFAS) channels in the control room (K/A 013A4.02). Specifically, the applicant placed both the 48 VDC and the 15 VDC ON/OFF switches to the OFF position.

## APPLICANT DOCKET

**CROSS REFERENCE:**

4. c. Communications – Receive Information

**SCENARIO/EVENT:**

Scenario 5 / Event 7,8, 9: A steam line break developed on SG #4 inside containment (IRC) with a failure of both trains of steam line isolation (SLI) to automatically isolate and failure of automatic SI.

**EXPECTED ACTION/RESPONSE:**

Steps 3.3.1.8 and 3.3.1.9 of procedure 10000-C, "OPERATIONS ADMINISTRATIVE CONTROLS," provide detailed guidance on Vogtle operations department expectations for verbal communications for on-shift operators. Specifically, step 3.3.1.8 reads, in part: "Three way closed loop communications are essential to the safe and efficient operation. Using informal or vague communications can potentially result in a breakdown in understanding between individuals. When relating numerical values to another individual provide a specific value or clearly state the provided value is an approximation. Trend information may also be relevant." In accordance with the above guidance, the applicant was expected to correctly perform three-way closed loop communications with other operating team members.

**APPLICANT ACTION/RESPONSE:**

Step 9 of procedure 19000-C, "REACTOR TRIP OR SAFETY INJECTION," directs the operators to check RCS temperature stable at or trending to 557 °F. The applicant, as the Operator at the Controls (OATC), reported to the Shift Supervisor (SS) that RCS cold leg temperatures were "464 degrees and not stable at or trending to." The SS responded, "564 degrees and stable." The applicant replied "correct."

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to implement station requirements for verbal communications when performing procedures, specifically in that the applicant did not correctly communicate (receive) a provided numerical value. 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.

APPLICANT DOCKET

**CROSS REFERENCE:**

6. a. Tech Specs – Recognize and Locate

**SCENARIO/EVENT:**

Scenario 1 / Event 4: PR NIS N-42 Lower Detector Fails High requiring entry into AOP-18002-C, Section B for PR NIS Malfunction.

**EXPECTED ACTION/RESPONSE:**

The applicant, as Shift Supervisor (SS), was expected to identify that PR NIS N-42 lower detector had failed the Tech Specs LCO Condition and initiate the required actions per the LCO statements.

**APPLICANT ACTION/RESPONSE:**

The applicant correctly identified the applicable 3.3.1 Reactor Trip System Instrumentation Tech Specs for this failure. However, the applicant also identified incorrectly that a 3.0.3 condition existed due to previous RCS NR Temperature Instrument failure. This failure was in the same loop as the NIS failure; therefore, a 3.0.3 condition did not exist.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a lack of ability to evaluate overlapping Tech Spec LCO conditions for generic 3.0.3 conditions. 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.

Ex 6

U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's Name: [REDACTED]			Docket Number: [REDACTED]		
I	R	Examination Type (Initial or Retake)	Facility Name: Vogtle		
		Reactor Operator	Facility Description	X	Hot
		Senior Reactor Operator (SRO) Instant			Cold
X		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

Written Examination Summary	
NRC Author/Reviewer: M. Meeks	RO/SRO/Total Exam Points 75 / 25 / 100
NRC Grader/Reviewer: M. Meeks	Applicant Points 71 / 21 / 92
Date Administered: April 20, 2012	Applicant Grade (%) 94.66 / 84.00 / 92.00

Operating Test Summary	
Administered by: M. Meeks	Date Administered: March 26– April 13, 2012
Walk-Through (Overall)	S
Administrative Topics	S
Simulator Operating Test	S

Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	X			<i>Michael Meeks</i> M. Bates / M. Meeks	05/10/2012
Operating Test	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Final Recommendation	X			<i>Mark G. Tate</i> M. Bates	10 MAY 2012

License Recommendation			
<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature Malcolm T. Widmann	Date 05/10/12
<input type="checkbox"/>	Deny License		

[Redacted]

Ex 6

Applicant Docket Number: [Redacted]		
Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
<b>Administrative Topics</b>		
a. Perform AFD Monitoring	S	
b. $K_{eff}$ Determination for Shutdown Banks Withdrawn	S	
c. Determine Tagging Requirements	S	
d. Determine if Task Can Be Completed Without Exceeding any Radiological Limits	S	
e. Emergency Plan Classification and Notification (Administered by P. Capehart)	S*	4
<b>Systems: Control Room</b>		
a. N/A		
b. Transfer ECCS Pumps to Cold Leg Recirc	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured SG (Administered by P. Capehart)	S	
d. N/A		
e. N/A		
f. N/A		
g. N/A		
h. N/A		
<b>Systems: In-Plant</b>		
i. Establish RWST Gravity Drain Through RHR Pumps to HLs (Administered by M. Bates)	S	
j. Establish Local Control of 1E Switchgear (Administered by P. Capehart)	S	
k. Placing the RHR 25kVA Inverter 1DD116 in Service (Administered by M. Bates)	S	

[Redacted]

Ex 6

Applicant Docket Number: [REDACTED]					
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	3.00	
b. Ensure Accuracy	0.20	3	0.60		
c. Understanding	0.30	3	0.90		
d. Diagnose	0.30	3	0.90		
2. Procedures					
a. Reference	0.30	2	0.60	2.30	5
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	2	0.80		6
3. Control Board Operations					
a. Locate & Manipulate	0	N/O	N/O	N/O	
b. Understanding	0	N/O	N/O		
c. Manual Control	0	N/O	N/O		
4. Communications					
a. Clarity	0.40	3	1.20	2.80	7
b. Crew & Others Informed	0.40	3	1.20		
c. Receive Information	0.20	2	0.40		
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	3.00	
b. Oversight	0.30	3	0.90		
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	3	1.20	3.00	
b. Compliance	0.60	3	1.80		

[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.]

APPLICANT DOCKET NUMBER

**CROSS REFERENCE:**

Administrative Topic "e"

**JPM/TASK:**

Classify an Emergency Event, Complete EN Form

**EXPECTED ACTION/RESPONSE:**

The applicant was expected to complete Checklist 1 – Classification Determination of procedure NMP-EP-110, "Emergency Classification Determination and Initial Action," to the HIGHEST emergency level in accordance with the procedure steps. At step 1 of the Checklist, the applicant was expected to determine that the appropriate Initiating Condition Matrix for the classification of the event was the HOT IC/EAL Matrix Evaluation Chart and proceed to step 2 to evaluate the fission product barriers. At step 3 of the Checklist, the applicant was expected to enter the highest applicable IC/EAL determined from step 2 and transfer the IC/EAL from step 3 to step 4.

**APPLICANT ACTION/RESPONSE:**

The applicant incorrectly completed Checklist 1 and Figure 1 - EN Form. On the checklist, the applicant failed to transfer the identified highest applicable IC/EAL from step 3 and enter it into the "Based on IC#" column in step 4. The step 4 "Based on IC" column was left blank. Step 4 was marked as a critical step; however, since this same information was captured in step 3 correctly and filled in and transmitted correctly to the public via Figure 1 – EN Form, it has been evaluated as a non-critical portion of this step. The applicant also incorrectly identified item 8, Event Prognosis, of the EN Form as "Degrading". A follow up question was asked as to how the applicant determined that plant conditions were degrading. The applicant stated that based on the lack of details of the given current plant conditions, this was the most appropriate event prognosis. This was not a critical step.

The applicant's performance was rated as satisfactory because he successfully completed all critical steps.

**LACK OF ABILITY/KNOWLEDGE:**

The applicant demonstrated a weakness in completing the checklist as required by procedure.

APPLICANT DOCKET NUMBER

**CROSS REFERENCE:**

2.a: Procedures – Reference

**SCENARIO/EVENT:**

Scenario 2, Event 2: Dropped Control Rod (K-14) and Rapid Power Reduction

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to enter procedure 18003-C, "Rod Control System Malfunction," Section A for Dropped Rods in Mode 1. Step A8.a of this procedure directs the operator to "[Maintain] AFD—WITHIN PLUS OR MINUS 5% OF TARGET." It was also acceptable for the applicant to enter procedure 18013-C, "Rapid Power Reduction," and perform this procedure in parallel with 18003-C to execute the power reduction. Step 1 of procedure 18013-C (4<sup>th</sup> bullet) directs the operator to "Maintain AFD within the doghouse [sic]." The applicant was expected to recognize that the more limiting AFD requirement was in the dropped rod procedure, and to utilize this more limiting AFD band during the power reduction.

**APPLICANT ACTION/RESPONSE:**

During the shutdown briefing, the applicant incorrectly read the step from procedure 18013-C ("maintain AFD within the doghouse"), and did not set the more limiting AFD band that was required by procedure 18003-C ("[maintain] AFD within 5% of target.")

During post-scenario follow-up questions, the applicant stated that he should have used the more limiting band for AFD control. 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 abnormal condition procedures.

EFL  
[REDACTED] # [REDACTED]  
APPLICANT DOCKET NUMBER [REDACTED]**CROSS REFERENCE:**

2.c: Procedures – Correct Use

**SCENARIO/EVENT:**

Scenario 2, Event 2: Dropped Control Rod (K-14) and Rapid Power Reduction

**EXPECTED ACTION/RESPONSE:**

The applicant, as Senior Reactor Operator (SRO), was expected to correctly perform step 7.b. RNO of procedure 18013-C, "Rapid Power Reduction." Step 7.b. first directs the operators to "Verify rods inserting as required." Due to a previous failure in the rod control system, the applicant was expected to answer the step as a logical "no," and then perform the RNO step. The RNO to step 7.b. directs the operators that "Manual rod control should be used with insertions of up to 5 steps at a time."

**APPLICANT ACTION/RESPONSE:**

During the rapid power reduction, the applicant incorrectly performed step 7.b., did not transition to the RNO column, and therefore did not read that rod insertions should be limited to up to 5 steps at a time. Instead, the applicant directed 10 step rod insertions on 5 separate occasions during the team's rapid downpower.

During post-scenario follow-up questions, the applicant admitted that he had mis-read the RNO step, and said that it would have been better to use the 5 step limit on rod insertions. 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 interpret and execute procedural steps.

APPLICANT DOCKET

**CROSS REFERENCE:**

4.c: Communications – Receive Information

**SCENARIO/EVENT:**

Scenario 2, Event 4: NSCW Pump #3 Tripped (Locked Rotor) with NSCW Pump #5 Shaft Sheared After Auto Start

**EXPECTED ACTION/RESPONSE:**

Steps 3.3.1.8 and 3.3.1.9 of 10000-C, "Operations Administrative Controls," provide detailed guidance on Vogtle operations department expectations for verbal communications for on-shift operators. Specifically, step 3.3.1.8 reads, in part: "Three way closed loop communications are essential to the safe and efficient operation. [...] Using informal or vague communications can potentially result in a breakdown in understanding between individuals. When relating numerical values to another individual, provide a specific value or clearly state the provided value is an approximation. Trend information may also be relevant." In accordance with the above guidance, the applicant, as Senior Reactor Operator (SRO), was expected to correctly perform three-way closed loop communications with other operating team members.

**APPLICANT ACTION/RESPONSE:**

When the problem occurred on the NSCW system, the Unit Operator (UO) made a good verbal diagnostic report to the applicant, stating in part that "... number five discharge valve is open, but discharge pressure is fifty psig which is low." The applicant incorrectly did not repeat-back the information or acknowledge the report in any way; instead, he immediately conducted a team update to enter AOP 18021-C, "Loss of Nuclear Service Cooling Water System."

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.

APPLICANT DOCKET NUMBER

**U.S. Nuclear Regulatory Commission  
Individual Examination Report**

Applicant's [REDACTED]		Docket Number [REDACTED]	
I	R	Examination Type (Initial or Retake)	Facility Name: Vogtle
		Reactor Operator	X Hot
		Senior Reactor Operator (SRO) Instant	Cold
	X	SRO Upgrade	BWR
		SRO Limited to Fuel Handling	X PWR

**Written Examination Summary**

NRC Author/Reviewer: M. Meeks	RO/SRO/Total Exam Points 75 / 25 / 100
NRC Grader/Reviewer: M. Meeks	Applicant Points 67 / 21 / 88
Date Administered: April 20, 2012	Applicant Grade (%) 89.33 / 84.00 / 88.00

**Operating Test Summary**

Administered by: N/A	Date Administered: Waived
Walk-Through (Overall)	W
Administrative Topics	W
Simulator Operating Test	W

**Examiner Recommendations**

Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
Operating Test			X	N/A	
Final Recommendation	X			<i>Malcolm T. Widmann</i> M. Bates / M. Meeks	05/10/2012

**License Recommendation**

<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature Malcolm T. Widmann	Date 05/10/12
<input type="checkbox"/>	Deny License		

EX 6