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
X		Senior Reactor Operator (SRO) Instant			Cold
		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

Written Examination Summary	
NRC Author/Reviewer **Daniel X. Bacon**	RO/SRO/Total Exam Points: **73 / 25 / 98**
NRC Grader/Reviewer: **Phillip G. Capehart**	Applicant Points: **60 / 13 / 73**
Date Administered: **04/01/2011**	Applicant Grade (%): **82.19 / 52.00 / 74.48**

Operating Test Summary	
Administered by: **Jay Hopkins**	Date Administered: **03/16 – 24/2011**
Walk-Through (Overall)	**S**
Administrative Topics	**S**
Simulator Operating Test	**S**

Examiner Recommendations					
Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination		X		PG Capehart Phillip G. Capehart	05/02/2011
Operating Test	X			PG Capehart for Jay Hopkins	05/02/2011
Final Recommendation		X		PG Capehart Phillip G. Capehart	05/02/2011

License Recommendation			
	Issue License		Date
✓	Deny License	Malcolm T. Widmann	05/03/11

Applicant Docket Number: [redacted]

Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
Administrative Topics		
a. Critical Safety Function Status Tree Evaluation (Administered by M. Meeks)	U	4
b. Evaluate Inoperable AFD Monitor Alarm (Administered by P. Capehart)	S	
c. Determine mode change requirements (Administered by P. Capehart)	S	
d. Life Saving in Emergency Conditions (Administered by M. Meeks)	U	5
e. Classify an Emergency Event (Administered by M. Meeks)	S	6
Systems - Control Room		
a. Emergency Borate due to Rods below insertion limits (RIL) (Administered by P. Capehart)	U	7
b. Establish Safety Grade Letdown	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available (Administered by P. Capehart)	S	8
d. Isolate a Faulted Steam Generator	S	
e. Place Containment Hydrogen Monitors in service using 13130-1	S	
f. DG Parallel Operation with voltage regulator failure (Administered by P. Capehart)	S	9
g. Perform Power Range NI ACOT (Administered by P. Capehart)	S	
h. NA		
Systems - In-Plant		
i. Establish RWST Gravity Drain Through RHR Pumps	S	
j. Response to the Inability to Reset or Block SI	S	
k. Locally Remove Diesel Generator From Service	S	

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		
b. Ensure Accuracy	0.20	3	0.60	3.00	
c. Understanding	0.30	3	0.90		
d. Diagnose	0.30	3	0.90		
2. Procedures					
a. Reference	0.30	3	0.90		
b. EOP Entry	0.30	3	0.90	**2.20**	10-11
c. Correct Use	0.40	**1**	**0.40**		
3. Control Board Operations					
a. Locate & Manipulate	0.34	3	1.02		
b. Understanding	0.33	3	0.99	3.00	
c. Manual Control	0.33	3	0.99		
4. Communications					
a. Clarity	0.40	3	1.20		
b. Crew & Others Informed	0.40	**2**	**0.80**	**2.60**	12
c. Receive Information	0.20	3	0.60		
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	3	1.20		
b. Compliance	0.60	3	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.]

CROSS REFERENCE:

Administrative JPM "a"

JPM/TASK:

Monitor / Evaluate CSFSTs - Integrity

EXPECTED ACTION/RESPONSE:

Given a data sheet listing various plant parameters and data points, the applicant was expected to properly identify the status of all Critical Safety Function Status Trees (CSFSTs) in accordance with 19200-C, "F-0 CRITICAL SAFETY FUNCTION STATUS TREES." The applicant was expected to evaluate the F-0.1, SUBCRITICALITY, status tree as follows:

(1) Power Range Greater than 5%? No – Power Range (PR) Nuclear Instruments (NIs) were given as 0% on all four channels;
(2) Intermediate Range (IR) Start-Up-Rate (SUR) Positive? No – IR SUR were given as -0.1 Decades Per Minute (DPM) and -0.12 DPM;
(3) Int. Range P-6 Present? Yes – IR NI readings were given as $3.0X10^{-4}$% and $3.2X10^{-4}$%, which are both above the nominal P-6 interlock setpoint of $2.0X10^{-5}$% as listed in Technical Specifications;
(4) Int. Range SUR Greater Than -0.2 dpm? Yes – IR SUR were given as -0.1 DPM and -0.12 DPM.

This flow path directs the operator to transition to YELLOW Path procedure 19212-C, "FR-S.2 RESPONSE TO LOSS OF CORE SHUTDOWN." Correctly evaluating the SUBCRITICALITY status tree was a critical step in the JPM.

APPLICANT ACTION/RESPONSE:

The applicant answered the (3) Int. Range P-6 Present? decision block as "No," and ultimately declared that the SUBCRITICALITY critical safety function was "SAT" (Green).

Properly evaluating F-0.1, SUBCRITICALITY, was a critical step; therefore, the applicant was graded as unsatisfactory for this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, and containment conditions (K/A G2.4.21). Specifically, the applicant did not correctly evaluate the SUBCRITICALITY critical safety function status tree.

CROSS REFERENCE:

Administrative JPM "d"

JPM/TASK:

Lifesaving in Emergency Conditions

EXPECTED ACTION/RESPONSE:

The applicant was expected to correctly complete the four numbered steps on Data Sheet #1, "Permit for Emergency Radiation Exposure," of 91301-C, "EMERGENCY EXPOSURE GUIDELINES." After calculating the projected (i.e., estimated) dose to the rescuer of 40 REM, the applicant was expected to correctly determine that the Total Effective Dose Equivalent (TEDE) Dose Limit for the given situation (lifesaving) was >25 REM. On step 2 of Data Sheet 1, the applicant was expected to enter ">25" in the portion of Data Sheet #1 that reads as follows: "DOSE LIMITS: _____ REM TEDE." Correctly completing the "DOSE LIMITS" section of Data Sheet #1 was a critical step in the JPM.

APPLICANT ACTION/RESPONSE:

On step 2 of Data Sheet 1, the applicant filled in the information as follows: "DOSE LIMITS: _____40_____ REM."

Following the completion of the JPM, the examiner pointed out that the applicant had filled in Data Sheet #1 with 40 REM as the dose limit. The examiner then asked the applicant, if the rescuer hypothetically received more than 40 REM during the lifesaving rescue, did the rescuer violate the dose limits? The applicant stated, "well, HP [Health Physics] would have to evaluate it on a case-by-case basis." The examiner asked again, if it took longer than expected and the volunteer received 41 REM, were the dose limits exceeded? The applicant stated, "it probably would have been better to put down greater than 25 rem like the procedure says, but 40 rem is the estimated dose."

The applicant failed to correctly perform a critical step of the JPM; therefore, the applicant received a grade of unsatisfactory on this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to take actions called for in the facility emergency plan, including supporting or acting as emergency director if required (K/A G2.4.38), and a lack of knowledge of radiation exposure limits under normal or emergency conditions (K/A G2.3.4).

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 both boxes and proceeded to step 2 of the checklist. The applicant did not perform 2b to identify any potential degraded fission product barriers. This step was not critical; therefore, the applicant's performance was evaluated as satisfactory.

LACK OF ABILITY/KNOWLEDGE:

The applicant displayed a weakness in his knowledge of the emergency plan (Generic K/A 2.4.29). 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.

CROSS REFERENCE:

Simulator JPM "a"

JPM/TASK:

Emergency Borate due to Rods below insertion limits (RIL)

EXPECTED ACTION/RESPONSE:

The applicant was directed to emergency borate the RCS using SOP 13009-1 to clear the rod bank Lo-Lo Limit alarm. At step 4.9.3.6, the applicant was expected to use the charging line flow controller (1-FIC-0121) to obtain a charging flow indication on 1-FI-0121C of greater than 100 gpm (Critical step).

APPLICANT ACTION/RESPONSE:

At step 4.9.3.6, the applicant used flow indicator 1-FI-0121A instead of 1-FI-0121C as required by the procedure. A follow up question was asked to identify which flow indicator was required to be used by the procedure to determine the amount of charging line flow. The applicant identified at this time that he used the incorrect flow indicator and that the flow was approximately 99 gpm. The applicant did not successfully complete all of critical steps; therefore, the applicant was graded as unsatisfactory on this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant displayed a weakness in his ability to verify status and operation of a system and understand how his actions affected system conditions (Generic K/A 2.2.44). Specifically, the applicant demonstrated a lack of knowledge of the minimum flow requirement from the RWST that establishes emergency boration to the RCS.

CROSS REFERENCE:

Simulator JPM "c"

JPM/TASK:

Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available

EXPECTED ACTION/RESPONSE:

The applicant was expected to depressurize the RCS using a PORV to at or slightly below ruptured SG pressure per EOP 19030-C. At step 34 substep a), the applicant was expected to note that when he initially tried to arm the first available train of COPS that the PRZR PORV Block Valve did not open and proceed to the RNO column to attempt to manually open the PRZR PORV Block valve.

APPLICANT ACTION/RESPONSE:

When performing step 34 substep a), the applicant noted that when he initially tried to arm the first available train of COPS that the PRZR PORV Block Valve did not open. The applicant at that time proceeded to arm the other train of COPS and verified that the PRZR PORV Block valve opened. Performance of the RNO for step 34 a) was not critical to the performance of the JPM; therefore, the JPM was evaluated as satisfactory.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to interpret and execute procedure steps (Generic K/A 2.1.20). Specifically, the applicant failed to follow the proper EOP flow path for an inoperable train of COPS and to attempt to manually open the PRZR PORV Block Valve.

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 1800kW. A follow up question was asked as to why the applicant loaded the D/G to 1800 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 evaluated 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 take the necessary actions to ensure that the D/G is operated within the desired plant parameters.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 5 / Event No. 3: Pressurizer Heater Group "A" Trip

EXPECTED ACTION/RESPONSE:

The applicant, as Shift Supervisor (SS), was expected to direct the Unit Operator (UO) to respond per 17033-1 Annunciator Response Procedure (ARP) for a 480 V Switchgear 1NB01 Trouble alarm and carry out the entire INITIAL and SUBSEQUENT OPERATOR ACTIONS sections.

APPLICANT ACTION/RESPONSE:

While the applicant correctly dispatched an operator to switchgear 1NB01, the applicant "closed out" the ARP at Subsequent Operator Action Step 2 before the operator reported from switchgear 1NB01. The applicant did not direct Subsequent Operator Action Steps 3 – 11 be completed.

After the scenario was completed, the applicant was asked why he "closed out" the ARP before the operator reported the condition of switchgear 1NB01. The applicant stated that he should have completed Subsequent Operator Action Steps 3 – 11 prior to "closing out" the ARP.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to interpret and execute procedure steps. Specifically, the applicant did not address all the SUBSEQUENT OPERATOR ACTIONS in the ARP and failed to use proper place keeping techniques. The applicant made more than one non-critical error associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 1 / Event No. 7: Failure of Safety Injection Train "A" to auto actuate; Failure of Safety Injection Pump (SIP) "A" to auto start; Failure of Centrifugal Charging Pump (CCP) "A" to auto start; and Trip of CCP "B" and SIP "B" during startup.

EXPECTED ACTION/RESPONSE:

The applicant, as the operator at the controls (OATC), was expected to complete the OATC Initial Actions steps in 19000-C, E-0 Reactor Trip or Safety Injection. Specifically, per Step 3, OATC Initial Actions Steps, the applicant was expected to identify that CCP "A" had not auto started after the "A" Train of Safety Injection had been manually actuated. Additionally, the applicant was then expected to place the alternate mini-flow valve handswitch, HS-8508A, in ENABLE PTL (pull-to-lock) and then start CCP "A."

APPLICANT ACTION/RESPONSE:

The applicant correctly identified that CCP "A" had not auto started. The applicant failed to place the HS-8508A in ENABLE PTL before starting CCP "A." The Shift Supervisor identified the error and directed the applicant to place HS-8508A in ENABLE PTL. The applicant repositioned the handswitch and correctly completed the OATC Initial Actions Steps in EOP 19000-C.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to interpret and execute procedure steps. Specifically, the applicant failed to place the alternate mini-flow valve handswitch, HS-8508A, in ENABLE PTL before starting CCP "A." The applicant made more than one non-critical error associated with this rating factor; therefore, the applicant received a score of "1" for this rating factor.

CROSS REFERENCE:

4. b Communications – Crew & Others Informed

SCENARIO/EVENT:

Scenario No. 5 / Event No. 2: Nuclear Service Cooling Water (NSCW) Pump #4 Trips with NSCW Pump #6 Auto Start Failure

EXPECTED ACTION/RESPONSE:

The applicant, as Shift Supervisor (SS), was expected to keep crew members informed of plant status by providing a control room crew update when 18021-1, "Loss of NSCW System," was being entered to respond to the malfunction.

APPLICANT ACTION/RESPONSE:

After the #4 NSCW pump tripped and the #6 NSCW pump failed to auto start, the applicant entered 18021-1 and began directing control room crew activities to respond to the malfunction. The applicant did not provide a crew update when entering 18021-1.

After the scenario was completed, the applicant was asked what the Operations Department's expectations were regarding crew updates during malfunctions. The applicant stated that the SS was expected to inform the control room crew when a new procedure was entered.

LACK OF ABILITY/KNOWLEDGE:

The applicant's demonstrated a weakness in the knowledge of the station's requirements for verbal communications when implementing procedures. Specifically, the applicant did not provide a crew update when entering 18021-1 as required by the Conduct of Operations Standards and Expectations. The applicant made one non-critical error associated with this rating factor; therefore, the applicant received a score of "2" for this rating factor.

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
X		Senior Reactor Operator (SRO) Instant			Cold
		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

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

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

Examiner Recommendations

Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination		X		Phillip G. Capehart	05/02/2011
Operating Test	X			Phillip G. Capehart	05/02/2011
Final Recommendation		X		Michael K. Meeks	05/02/2011

License Recommendation

	Issue License		Date
✓	Deny License	Malcolm T. Widmann	05/03/11

Applicant Docket Number: [redacted]

Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
Administrative Topics		
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
Systems - Control Room		
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		
Systems - In-Plant		
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	

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 3 3	0.60 0.60 0.90 0.90	3.00	
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 **2**	1.20 1.20 **0.40**	**2.80**	8
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	**2** 3	**0.80** 1.80	**2.60**	9

[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.]

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.

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.

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.

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.

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.

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.

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
X		Senior Reactor Operator (SRO) Instant			Cold
		SRO Upgrade			BWR
		SRO Limited to Fuel Handling		X	PWR

Written Examination Summary

NRC Author/Reviewer: **Daniel X. Bacon**	RO/SRO/Total Exam Points: **73 / 25 / 98**
NRC Grader/Reviewer: **Phillip G. Capehart**	Applicant Points: **62 / 16 / 78**
Date Administered: **04/01/2011**	Applicant Grade (%): **84.93 / 64.00 / 79.59**

Operating Test Summary

Administered by: **Jay Hopkins**	Date Administered: **03/16 – 24/2011**
Walk-Through (Overall)	**S**
Administrative Topics	**S**
Simulator Operating Test	**S**

Examiner Recommendations

Check Blocks	Pass	Fail	Waive	Signature	Date
Written Examination		X		PGCapehart Phillip G. Capehart	05/02/2011
Operating Test	X			PGCapehart for Jay Hopkins	05/02/2011
Final Recommendation		X		PGCapehart Phillip G. Capehart	05/02/2011

License Recommendation

	Issue License		Date
✓	Deny License	Malcolm T. Widmann	05/03/11

Applicant Docket Number: [redacted]		
Walk-Through Grading Details	**Evaluation (S or U)**	**Comment Page Number**
Administrative Topics		
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 P. Capehart)	S	
d. Life Saving in Emergency Conditions	S	4
e. Classify an Emergency Event (Administered by P. Capehart)	S	
Systems - Control Room		
a. Emergency Borate due to Rods below insertion limits (RIL) (Administered by P. Capehart)	S	5
b. Establish Safety Grade Letdown (Administered by P. Capehart)	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available (Administered by P. Capehart)	S	6
d. Isolate a Faulted Steam Generator	S	7
e. Place Containment Hydrogen Monitors in service using 13130-1	S	
f. DG Parallel Operation with voltage regulator failure (Administered by P. Capehart)	S	8
g. Perform Power Range NI ACOT	S	
h. NA		
Systems - In-Plant		
i. Establish RWST Gravity Drain Through RHR Pumps (Administered by M. Meeks)	S	9
j. Response to the Inability to Reset or Block SI	S	
k. Locally Remove Diesel Generator From Service	S	

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		
b. Ensure Accuracy	0.20	**2**	**0.40**	**2.50**	10
c. Understanding	0.30	3	0.90		
d. Diagnose	0.30	**2**	**0.60**		11
2. Procedures					
a. Reference	0.30	3	0.90		
b. EOP Entry	0.30	3	0.90	**2.20**	
c. Correct Use	0.40	**1**	**0.40**		12-16
3. Control Board Operations					
a. Locate & Manipulate	0.34	**2**	**0.68**		17
b. Understanding	0.33	3	0.99	**2.33**	
c. Manual Control	0.33	**2**	**0.66**		18
4. Communications					
a. Clarity	0.40	**2**	**0.80**		19
b. Crew & Others Informed	0.40	**2**	**0.80**	**2.00**	20
c. Receive Information	0.20	**2**	**0.40**		21
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90		
b. Oversight	0.30	3	0.90	**2.80**	
c. Solicit Crew Feedback	0.20	**2**	**0.40**		22
d. Monitor Crew Activities	0.20	3	0.60		
6. Technical Specifications					
a. Recognize and Locate	0.40	3	1.20		
b. Compliance	0.60	3	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.]

CROSS REFERENCE:

Administrative JPM "d"

JPM/TASK:

Lifesaving in Emergency Conditions

EXPECTED ACTION/RESPONSE:

The applicant was expected to correctly complete the four numbered steps on Data Sheet 1, "Permit for Emergency Radiation Exposure", of 91301-C,"EMERGENCY EXPOSURE GUIDELINES." On step 2 of Data Sheet 1, the applicant was expected to record a dose limit of > 25 REM TEDE. A dose limit of > 25 REM TEDE for life saving activities was required by Table 1 from procedure 91301-C.

APPLICANT ACTION/RESPONSE:

The applicant incorrectly completed Step 2 on Data Sheet 1 from procedure 91301-C. Specifically, the applicant recorded a dose limit of 25 REM TEDE instead of the correct dose limit of > 25 REM TEDE.

After the JPM was completed, the applicant was asked how she determined the dose limit recorded at Step 2 of Data Sheet 1. The applicant correctly described the information needed to complete Data Sheet 1, including that the dose limit was > 25 REM TEDE. The applicant stated that the value of > 25 REM TEDE should have been recorded on Data Sheet 1.

Completing all four of the numbered items on Data Sheet 1 was identified as a critical step. Based on the applicant's responses to follow-up questions, the applicant demonstrated a satisfactory understanding of the licensee's emergency exposure guidelines and her performance is therefore evaluated as satisfactory for this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant initially displayed a lack of knowledge of radiation exposure limits under normal and emergency conditions (Generic K/A 2.3.4).

CROSS REFERENCE:

Simulator JPM "a"

JPM/TASK:

Emergency Borate due to Rods below insertion limits (RIL)

EXPECTED ACTION/RESPONSE:

The applicant was directed to emergency borate the RCS using SOP 13009-1 to clear the rod bank Lo-Lo Limit alarm. At step 4.9.3.9, the applicant was expected to turn on the Pressurizer (PRZR) Backup Heaters to equalize boron concentrations between the RCS and the Pressurizer.

APPLICANT ACTION/RESPONSE:

At step 4.9.3.9, the applicant noted that the PRZR backup heaters were energized (PRZR pressure was low at this time) and did not turn the switches to the ON position. After completing the JPM, the applicant was asked the status of the PRZR heaters. By this time, PRZR pressure had restored to its normal band and the backup heaters had deenergized. The applicant stated that she should have turned the backup heaters to the ON position to ensure the heaters stayed on for equalization. The applicant successfully completed all of critical steps; therefore, the applicant was evaluated as satisfactory on this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant displayed a weakness in his ability to verify status and operation of a system and understand how his actions affected system conditions (Generic K/A 2.2.44). Specifically, the applicant demonstrated a lack of ability to properly follow the steps of the emergency boration procedure to ensure that the PRZR backup heaters stay energized to ensure proper equalization of boron concentration between the RCS and the Pressurizer.

CROSS REFERENCE:

Simulator JPM "c"

JPM/TASK:

Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available

EXPECTED ACTION/RESPONSE:

The applicant was expected to depressurize the RCS using a PORV to at or slightly below ruptured SG pressure per EOP 19030-C. At step 34 substep a), the applicant was expected to note that when she initially tried to arm the first available train of COPS that the PRZR PORV Block Valve did not open and proceed to the RNO column to attempt to manually open the PRZR PORV Block valve.

APPLICANT ACTION/RESPONSE:

When performing step 34 substep a), the applicant noted that when she initially tried to arm the first available train of COPS that the PRZR PORV Block Valve did not open. The applicant at that time proceeded to arm the other train of COPS and verified that the PRZR PORV Block valve opened. Performance of the RNO for step 34 a) was not critical to the performance of the JPM; therefore, the JPM was evaluated as satisfactory.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to interpret and execute procedure steps (Generic K/A 2.1.20). Specifically, the applicant failed to follow the proper EOP flow path for an inoperable train of COPS via the arming switch

CROSS REFERENCE:

Simulator JPM "d"

JPM/TASK:

Isolate a Faulted Steam Generator-Alternate Path

EXPECTED ACTION/RESPONSE:

The applicant was expected to refer to EOP 19121-C, Uncontrolled Depressurization of all Steam Generators (ECA-2.1), Step 2, Check steam generators (SGs) secondary pressure boundaries. Specifically, the applicant was expected to refer to Step 2.c and verify the SG Blowdown and Sampling isolation valves were closed by observing the status lights LIT on the GP4 Mon LTS TRAIN A and B Status panels.

The four SG Blowdown isolation valves, HV-7303A through HV-7303D, were on panels 1601Q5MLB005 (Train A) and 1601Q5MLB006 (Train B). The four SG Sample isolation valves, HV-9451 through HV-9454, were on panels 1601Q5MLB007 (Train A) and 1601Q5MLB008 (Train B).

APPLICANT ACTION/RESPONSE:

The applicant placed the SG blowdown isolation valve control switches in the "hard closed" position and stated that the valves were closed. The applicant then pointed to the SG Blowdown isolation valve status lights LIT on panels 1601Q5MLB005 (Train A) and 1601Q5MLB006 (Train B) and stated the Sample isolation valves were closed.

After the JPM was completed, the applicant was asked how she determined that the SG Sample isolation valves were closed. The applicant again pointed to the SG Blowdown isolation valve status lights LIT on panels 1601Q5MLB005 (Train A) and 1601Q5MLB006 (Train B) and again stated the Sample isolation valves were closed.

Since the SG Blowdown isolation valves and Sample isolation valves were already closed and verifying the valves closed was not a critical step, the applicant's performance was evaluated as satisfactory for this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant initially displayed a lack of ability to adhere to appropriate procedures and operation within the limitations in the facility's license and amendments (Westinghouse EPE K/A E12EA2.2).

CROSS REFERENCE:

Simulator JPM "f"

JPM/TASK:

DG Parallel Operation with voltage regulator failure

EXPECTED ACTION/RESPONSE:

The applicant was directed to parallel D/G-1A to 1AA02 and raise D/G-1A load to 7000kW. At step 4.2.1.8, the applicant was expected to use the color coded removable voltmeter switch to select the highest Normal Incoming 1AA02 4160V Bus phase voltage and then remove the same voltmeter switch to check 1AA02 4160V Bus voltage. At step 4.2.18, the applicant was expected to select the highest 1AA02 4160V Bus voltage by moving the "Normal Incoming Voltmeter Switch" through all positions to identify the highest voltage. At step 4.2.1.12, the applicant was expected to adjust DG voltage to approximately 50V above the highest phase of the bus voltage. At step 4.2.1.20, the applicant was expected to adjust the kVAR loading with the load set pot and 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 4.2.1.8, the applicant used the removable voltmeter switch to check the 1AA02 4160V Bus Normal Incoming voltage. At step 4.2.1.9, the applicant acquired a second voltmeter switch to check the 1AA02 4160V Bus voltage. A follow up question was asked to qualify if there were any precautions and limitations associated with the use of the voltmeter switch. The applicant at this time stated that there is caution statement prior to step 4.2.1.4 that restricts the use of more than one voltmeter switch at a time due to the possibility of blowing a PT fuse. At step 4.2.1.12, the applicant used the "Normal Incoming Bus Voltage" readings instead of the "Bus Voltage" readings to adjust the DG voltage to 50V above the highest bus phase voltage. At step 4.2.1.20, the applicant initially loaded the D/G to 2000kW. The applicant then tried to increase kVARs by using the speed controller. The applicant noted her mistake at this point and referred to the caution prior to step 4.2.1.20 and readjusted the load set pot down to correct the error. The applicant then proceeded to adjust the kVAR loading by using the DG Voltage. 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 these steps was not critical; therefore, the applicant's performance was evaluated 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 take the necessary actions to ensure that the D/G is operated within the desired plant parameters.

CROSS REFERENCE:

In-Plant JPM "i"

JPM/TASK:

Establish RWST Gravity Drain Through RHR Pumps to RCS Hot Legs

EXPECTED ACTION/RESPONSE:

Given a set of operationally valid initial conditions, the applicant was expected to align Unit 2 RHR Train 'A' for gravity drain at the greatest possible flow rate using 18019-C, "LOSS OF RESIDUAL HEAT REMOVAL" Section C, "RWST GRAVITY DRAIN THROUGH RHR SUCTION LOOPS TO HOT LEGS," of Attachment A, "RWST GRAVITY DRAIN TO RCS." In accordance with the above procedural direction, the applicant was expected to properly locate and then simulate proper manual operation of Motor-Operated-Valves (MOVs) as follows: locally OPEN 2-HV-8812A, then locally CLOSE 2-HV-8809A.

APPLICANT ACTION/RESPONSE:

The applicant initially simulated OPEN valves 2-HV-8812A and 2-HV-8812B, and then locally simulated CLOSE valves 2-HV-8809A and 2-HV-8809B. This alignment would have allowed gravity drain through both 'A' and 'B' trains of RHR, which was contrary to the initiating cue of the JPM. At this point, the applicant stated, "I should have only done train 'A,'" and went back to re-position the 'B' train valves to their initial positions.

During post-JPM follow-up questioning, the examiner asked the applicant why she had operated train 'B' valves. The applicant stated that the procedure steps were bulleted, and that [the applicant] had momentarily forgotten to only align train 'A' of RHR.

The applicant correctly performed all critical steps of the JPM and completed the assigned task; therefore, the applicant's performance was evaluated as satisfactory on this JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to interpret and execute procedure steps, as related to a loss of RHR condition (K/A 025AG2.1.20).

CROSS REFERENCE:

1. b. Interpretation/Diagnosis – Ensure Accuracy

SCENARIO/EVENT:

Scenario No. 1 / Event No. 3: Normal Charging Pump (NCP) Trips

EXPECTED ACTION/RESPONSE:

The applicant, as the operator at the controls (OATC), was expected to report that the loss of charging flow was due to the trip of the normal charging pump (NCP).

APPLICANT ACTION/RESPONSE:

When the NCP tripped, the applicant reported charging line flow decreased to 0 gallons per minute (gpm), reactor coolant pump seal injection flow decreased to 0 gpm and the NCP had tripped. The applicant isolated letdown per 18007-C, Chemical and Volume Control System Malfunction, Section B, Step B1. Approximately two minutes later, the applicant informed the Shift Supervisor (SS) that the failure may have been PI-131, the letdown back pressure instrument. Approximately two additional minutes later, when asked by the SS to determine the cause of the loss of charging per Step B4.a RNO, the applicant reported that PIC-131, the letdown back pressure controller was the cause of the loss of charging. The SS informed the applicant at this time that the cause was due to the trip of the NCP.

After the scenario was completed, the applicant was asked why she reported PIC-131 (indicating the back pressure regulating valve was closed) was the cause of the loss of charging. The applicant stated that there were indications of low charging flow and flashing in the letdown line. The applicant saw that the back pressure regulating valve demanded position on PIC-131 indicated the valve was closed and that looked a little weird. The applicant further stated she started her diagnostics with the letdown system and PIC-131 was the first thing she saw. The applicant planned to go to the charging system next.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the ability to identify and interpret diverse indications to validate the response of another indication (Generic K/A 2.1.45). Specifically, the applicant reported that PIC-131, the letdown back pressure controller, was the cause for a loss of charging flow following a NCP trip. 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.

CROSS REFERENCE:

1. d. Interpretation/Diagnosis – Diagnose

SCENARIO/EVENT:

Scenario No. 1 / Event No. 6: Ejected Rod H-8

EXPECTED ACTION/RESPONSE:

The applicant, as the Operator at the Controls (OATC), was expected to correctly interpret/diagnose plant conditions based on control room indications by reporting the status of rod bottom lights per 19000-C, E-0 Reactor Trip or Safety Injection, Step 1. Specifically, the applicant was expected to report that one rod bottom light was not lit.

APPLICANT ACTION/RESPONSE:

At the beginning of the transient, the applicant reported a dropped rod and identified that an Anticipated Transient Without Trip (ATWT) had occurred and manually tripped the reactor. While performing 19000-C Step 1, the Shift Supervisor asked if the rod bottom lights were lit. The applicant reported all rod bottom lights lit.

After the scenario was completed, the applicant was asked to describe the status of the rods after the trip. The applicant stated that one rod bottom was not on the bottom and that she had incorrectly reported all rods were on the bottom. When asked which rod had not fully inserted, the applicant looked at the digital rod position indication (DRPI) panel and stated that she couldn't see any indication of a rod not on the bottom. The applicant stated there was a General Warning (GW) light on the DRPI panel but no annunciator on the main control board indicating a rod not fully inserted.

When asked a second time which rod had not fully inserted, the applicant stated that rod M-4 had not inserted. When asked to explain the choice of rod M-4, the applicant guessed that the rod was stuck based on the GW light lining up above the rod bottom light for rod M-4. The applicant further stated that it may have been rod D-4.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the ability to interpret control room indications to verify the status and operation of a system. Specifically, the applicant reported all rod bottom lights were lit when rod H-8 had ejected and was not inserted into the reactor core. 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.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 1 / Event No. 7: Failure of Safety Injection (SI) Train "A" to auto actuate; Failure of Safety Injection Pump (SIP) "A" to auto start; Failure of Centrifugal Charging Pump (CCP) "A" to auto start; and Trip of CCP "B" and SIP "B" during startup

EXPECTED ACTION/RESPONSE:

The applicant, as the Operator at the Controls (OATC), was expected identify that SI Train "A" had failed to auto actuate and manually actuate Train "A" per 19000-C, E-0 Reactor Trip or Safety Injection, OATC Initial Actions of E-0, Step 1 RNO. Specifically, the applicant was expected to check both trains of emergency core cooling system (ECCS) equipment were aligning for the injection phase by observing the monitor light board (MLB) indications on the main control board, identify that SI Train "A" had not actuated and manually actuate the train.

APPLICANT ACTION/RESPONSE:

When performing 19000-C, OATC Initial Actions of E-0 Step 1, the applicant reported that she had not actuated SI because the MLB indications were positioning and that it would be taken care of during the OATC Initial Actions of E-0. The Shift Supervisor directed the applicant to manually actuate SI.

After the scenario was completed, the applicant was asked what was the status of the SI sequence (i.e., ECCS equipment realigning for injection) at the beginning of the event. The applicant stated that she observed equipment aligning based on the MLB indications and then went to check the status of ECCS pumps. (SI Train "B" had auto actuated and the SI Train "B" MLB indications were changing. SI Train "A" had not auto actuated and SI Train "A" MLB indications were not changing).

LACK OF ABILITY/KNOWLEDGE:

The applicant failed to correctly follow procedural steps and plant expectations. Specifically, as the OATC, the applicant did not manually actuate SI Train "A" as required by 19000-C, OATC Initial Actions of E-0, Step 1 RNO. The applicant made more than one non-critical error associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 4 / Event No. 3: Chemical and Volume Control System (CVCS) Volume Control Tank (VCT) Level Transmitter LV-112 Fails High

EXPECTED ACTION/RESPONSE:

The applicant, as the Shift Supervisor, was expected to follow procedure steps in the correct sequence by going to Step C6 of 18007-C, CVCS Malfunction Section C, Loss of VCT Makeup. Specifically, when the level transmitter was repaired, the applicant directed the Operator at the Controls (OATC) to perform Step C4.a RNO of 18007-C Section C. The applicant was then expected to go to Step C4.b RNO. Step C4.b RNO was the routing step to go to Step C6.

APPLICANT ACTION/RESPONSE:

When the level transmitter was repaired, the applicant directed the OATC to perform Step C4.a RNO. The applicant performed Step C4.a and then performed Step C5 which returned the crew to the procedure and step in effect to continue the power increase started earlier in the scenario. The applicant should have gone to Step C4.b RNO. Step C4.b RNO would have routed the applicant to Step C6. After the scenario was completed, the applicant was asked why she didn't go to Step C4.b RNO. The applicant stated that she should have performed Step C4.b RNO instead of performing Step C5.

LACK OF ABILITY/KNOWLEDGE:

The applicant failed to correctly follow procedural guidance. Specifically, the applicant did not complete Step C4 RNO of 18007-C, Section C. After Step C4.a RNO was read, the applicant transitioned to Step C5 instead of Step C4.b RNO. The applicant made more than one non-critical error associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 4 / Event No. 10: "A" Motor Driven Auxiliary Feedwater (MDAFW) Pump running with a sheared shaft; "B" MDAFW Pump will not start automatically or manually; and Turbine Driven AFW (TDAFW) Pump trips on overspeed when started. TDAFW pump Trip and Throttle valve must be repaired prior to restarting the TDAFW Pump.

EXPECTED ACTION/RESPONSE:

The applicant, as the Shift Supervisor (SS), was expected to read 19231-C, Step 6 to "Check if RCS bleed and feed is required by checking if wide range (WR) level in any 3 SGs is less than 29% OR RCS pressure is greater than 2335 psig due to loss of secondary heat sink."

APPLICANT ACTION/RESPONSE:

When the applicant read Step 6 to check if RCS bleed and feed was required, the applicant correctly read to check if WR level in any 3 SGs is less than 29%, but incorrectly read the second part of the Step. The applicant read to "check if RCS pressure was greater than 2335 psig," but did not read "due to loss of secondary heat sink."

After the scenario was completed, the applicant was asked why Step 6 stated "...RCS pressure greater than 2335 psig due to a loss of heat sink." The applicant stated that RCS pressure being greater than 2335 psig was the criteria for bleed and feed. The licensee's lesson plan for Loss of Heat Sink, LO-LP-37051-18-C, states in part, "RCS pressure may be greater than 2335 psig if a SI occurs coincident with a loss of AFW. The pressurizer will probably go solid but this should not be interpreted as meeting the criteria for a loss of heat sink. A substantial RCS heatup must be evident".

LACK OF ABILITY/KNOWLEDGE:

The applicant failed to correctly follow procedural guidance. Specifically, the applicant did not read all of the bleed and feed criteria in 19231-C, Step 6. The applicant made more than one non-critical error associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

CROSS REFERENCE:

2. c. Procedures – Correct Use

SCENARIO/EVENT:

Scenario No. 4 / Event No. 10: "A" Motor Driven Auxiliary Feedwater (MDAFW) Pump running with a sheared shaft; "B" MDAFW Pump will not start automatically or manually; and Turbine Driven AFW (TDAFW) Pump trips on overspeed when started. TDAFW pump Trip and Throttle valve must be repaired prior to restarting the TDAFW Pump.

EXPECTED ACTION/RESPONSE:

The applicant, as the Shift Supervisor (SS), was expected to follow procedure steps in the correct sequence by transitioning to Step 35, EOP 19231-C, to establish bleed and feed when the criteria was met and then continue attempts to restore flow to the SGs. Specifically, the applicant was expected to establish TDAFW flow to at least one SG per Step 53 of 19231-C and to feed the SGs until narrow range (NR) level in a least one SG was greater than 10%.

APPLICANT ACTION/RESPONSE:

After bleed and feed was correctly established using the guidance beginning in Step 35, the applicant directed the Unit Operator (UO) to place the TDAFW pump in service and feed the SGs. The UO started the TDAFW pump and established approximately 40 gpm to each SG. The applicant then discussed a plan with the crew to isolate flow to three SGs to more rapidly raise level in the remaining SG. The UO disagreed and stated that the TDAFW pump was capable of feeding all SGs. The applicant directed the UO to feed all SGs so that total feed flow was greater than 570 gpm. Feed flow was raised to approximately 440 gpm. Approximately 4 minutes later, the applicant had another discussion with the crew regarding isolating flow to three SGs to quickly raise the level in the remaining SG. The crew agreed to isolate flow to SGs #2, #3 and #4 in order to increase level in SG #1.

After the scenario was completed, the applicant was asked what procedural guidance was used to restore flow to the SGs. The applicant stated that she returned to Step 11 to try to establish TDAFW flow to at least one SG because it was a Continuous Action Step Prior to Establishing Bleed and Feed. The applicant stated she should have gone forward in the EOP instead of going back to Step 11.

Additionally, the applicant was asked what procedural guidance was used to isolate TDAFW flow to three SGs. The applicant stated she interpreted Step 11 to allow establishing flow to one SG. The applicant stated that Step 11.c checked if total flow was greater than 570 gpm. The applicant stated that when she read the step, the UO reported flow was approximately 40 gpm per SG. The applicant then went to Step 11.c RNO and concluded that feeding only one SG would be the quickest way to raise NR level to greater than 10%. The applicant stated that raising NR level in at least one SG to greater than 10% was necessary to complete EOP 19231-C.

LACK OF ABILITY/KNOWLEDGE:

The applicant failed to correctly follow procedural guidance. Specifically, the applicant transitioned back to 19231-C Step 11 to establish TDAFW flow to the SGs instead of continuing

in 19231-C and establishing TDAFW flow to the SGs per Step 53. The applicant made more than one non-critical error associated with this rating factor, and was therefore evaluated with a score of "1" for this rating factor.

CROSS REFERENCE:

3. a. Control Board Operations – Locate & Manipulate

SCENARIO/EVENT:

Scenario No. 5 / Event No. 7: Steam Generator (SG) #4 Faulted Inside Reactor Containment

EXPECTED ACTION/RESPONSE:

The applicant, as the Unit Operator (UO), was expected to locate system instruments in an accurate manner by checking the affected SG sample isolation valve was closed per 19020-C, E-2 Faulted Steam Generator Isolation, Step 10. Specifically, the applicant was expected to check that the valve position light for the #4 SG sample isolation valve, HV-9454, on panel 1601Q5MLB008 indicated the valve was closed. (Both trains of Steam Line Isolation and Safety Injection had been manually actuated earlier in the scenario and all of the SG sample isolation valves were already closed.)

APPLICANT ACTION/RESPONSE:

When asked by the shift supervisor (SS) to check that the #4 SG sample valve was closed, the applicant looked at and touched the valve position lights for the four SG blowdown isolation valves, HV-7303A through HV-7303D, on panels 1601Q5MLB005 and 1601Q5MLB006 instead of the SG sample isolation valve position lights. The Operator at the Controls (OATC) informed the applicant that the SG sample isolation valve position lights were on panels 1601Q5MLB007 and 1601Q5MLB008. The applicant then correctly reported #4 SG sample isolation valve was closed.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup. Specifically, the applicant initially checked the position of the SG blowdown isolation valves instead of the SG sample isolation valves. 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.

CROSS REFERENCE:

3. c. Control Board Operations – Manual Control

SCENARIO/EVENT:

Scenario No. 5 / Event No. 4: Steam Generator (SG) #4 Atmospheric Relief Valve (ARV) Pressure Transmitter Fails High

EXPECTED ACTION/RESPONSE:

The applicant, as the Unit Operator (UO), was expected to demonstrate the ability to take manual control of SG #4 ARV by placing the controller in manual and closing the valve per 18008-C, Secondary Coolant Leakage, Step 1.

APPLICANT ACTION/RESPONSE:

The applicant initially took manual control of the SG #4 ARV controller and closed the valve. The applicant then depressed the automatic push button which caused the valve to begin to re-open. The applicant identified the error and again took manual control and closed the valve.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the ability to manipulate console controls as required to operate the facility. Specifically, the applicant returned SG #4 ARV controller to automatic which caused the valve to begin to re-open. 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.

CROSS REFERENCE:

4. a. Communications – Clarity

SCENARIO/EVENT:

Scenario No. 5 / Event No. 2: Nuclear Service Cooling Water (NSCW) Pump #4 Trips with NSCW Pump #6 Auto Start Failure

EXPECTED ACTION/RESPONSE:

The applicant, as the Unit Operator (UO), was expected when asked to report the NSCW "B" Train supply temperature per 18021-1, "Loss of NSCW System," Step 9 to communicate and ensure that the Shift Supervisor (SS) understood the verbal report that NSCW "B" Train supply temperature was 79.9°F and stable.

APPLICANT ACTION/RESPONSE:

After the #4 NSCW pump tripped and the #6 NSCW pump had been manually started, the applicant was asked to report the NSCW "B" Train supply temperature. The applicant reported to the Shift Supervisor (SS) that the temperature was 79.9°F and stable. The SS repeated back to the applicant that the temperature was 70.9°F. The applicant stated that was correct.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the knowledge of the station's requirements for verbal communications when implementing procedures. Specifically, the applicant did not ensure the SS understood the verbal report that NSCW "B" Train supply temperature was 79.9°F and stable. 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.

CROSS REFERENCE:

4. b. Communications – Crew & Others Informed

SCENARIO/EVENT:

Scenario No. 4 / Event No. 2: Continue Power Ascension from 33%

EXPECTED ACTION/RESPONSE:

The applicant, as Shift Supervisor (SS), was expected to keep crew members informed of plant status by providing timely control room crew briefings per NMP-OS-007-001, Conduct of Operations Standards and Expectations, Section 6.13.2.2, Crew Briefings. Specifically, when providing information related to the planned power increase, the applicant was expected to announce a "Crew Brief," describe expected future actions and announce "End of Brief."

APPLICANT ACTION/RESPONSE:

After the Operator at the Controls (OATC), had aligned the makeup control system for frequent dilutions and the Unit Operator (UO), indicated that she was ready to increase turbine load, the applicant failed to give a "Crew Brief" to discuss the impending power increase and instead informed the crew that the first stopping point would be 40% and to go nice and controlled. The applicant then directed the OATC to start the dilution. The applicant did not announce a "Crew Brief" or an "End of Brief."

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the knowledge of the station's requirements for verbal communications when implementing procedures. Specifically, the applicant did not announce a Crew Brief or End of Brief when informing the crew of the first stopping point of a planned power increase. 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.

CROSS REFERENCE:

4. c. Communications – Receive Information

SCENARIO/EVENT:

Scenario No. 1 / Event No. 1: RCS Loop 2 Narrow Range Temperature Instrument TE-421B (Tcold) Fails High

EXPECTED ACTION/RESPONSE:

The applicant, as the Operator at the Controls (OATC), was expected to ensure receipt of clear, easily-understood communications by using formal 3-way communication per Administrative Procedure 00004-C, Plant Communications, Section 4.1, Three-Way Communications. Specifically, the applicant was expected to correctly repeat back information while using 3-way communication.

APPLICANT ACTION/RESPONSE:

After the applicant had placed the rod control system in manual due to the instrument failure, the applicant was restoring RCS average temperature to the reference temperature using control rods. After a 3-step rod pull from 221 steps to 224 steps, the Unit Operator (UO) reported that there was no indication of rod motion on the digital rod position indication (DRPI) panel. The applicant repeated that DRPI showed rod motion. The Shift Supervisor (SS) corrected the applicant and the applicant repeated that DRPI did not show rod motion.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the knowledge of the station's requirements for verbal communications when implementing procedures. Specifically, the applicant did not correctly repeat back to the UO that there was no indication of rod motion on the digital rod position indication panel. 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.

CROSS REFERENCE:

5. c. Directing Operations – Solicit Crew Feedback

SCENARIO/EVENT:

Scenario No. 4 / Event No. 10: "A" Motor Driven Auxiliary Feedwater (MDAFW) Pump running with a sheared shaft; "B" MDAFW Pump will not start automatically or manually; and Turbine Driven AFW (TDAFW) Pump trips on overspeed when started. TDAFW pump Trip and Throttle valve must be repaired prior to restarting the TDAFW Pump.

EXPECTED ACTION/RESPONSE:

The applicant, as the Shift Supervisor (SS), was expected to direct the Unit Operator (UO) to attempt to manually start the MDAFW pumps per 19211-C, FR-S.1, Response to Nuclear Power Generation/ATWT, Step 3 RNO.

APPLICANT ACTION/RESPONSE:

While performing 19211-C Step 3, the UO reported that none of the MDAFW pumps were running. The applicant asked the UO if the TDAFW pump was running. The UO reported the TDAFW pump was running and injecting in all 4 SGs. The applicant proceeded to Step 4 to emergency borate the RCS. The UO informed the applicant that Step 3 RNO directs an attempt be made to start the MDAFW pumps. The applicant did not direct the UO to start the MDAFW pumps as required by Step 3 RNO.

After the scenario was completed, the applicant was asked why she didn't direct the UO to attempt to start the MDAFW pumps per Step 3 RNO. The applicant stated she was tuned-in on the "A" MDAFW pump being tripped and didn't want to try to start a tripped pump. The applicant stated she was thinking too fast and should have paid closer attention to the "B" MDAFW pump.

LACK OF ABILITY/KNOWLEDGE:

The applicant failed to correctly follow procedural guidance. Specifically, the applicant, as the SS, did not direct the UO to attempt to manually start the MDAFW pumps per 19211-C, FR-S.1, Response to Nuclear Power Generation/ATWT, Step 3 RNO. 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.