U.S. Nuclear Regulatory Commission Individual Examination Report 'C'					
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		Phillip G. Capehart	05/02/2011
Operating Test	X			Jay Hopkins	05/02/2011
Final Recommendation		X		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	

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

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**	
c. Correct Use	0.40	**1**	**0.40**		10-11
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.