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U.S. Nuclear Regulatory Commission Individual Examination Report					
Applicant's Name: ██████████			Docket Number 55-██████		
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: 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. Bates</i> M. Bates	10 MAY 2012

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

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: 55-██████		
Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
Administrative Topics		
a. Perform AFD Monitoring	S	
b. K _{off} Determination for Shutdown Banks Withdrawn	S	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	
Systems: Control Room		
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	
Systems: In-Plant		
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

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: 55-██████					
Senior Reactor Operator Simulator Operating Test Grading Details					
Competencies/ Rating Factors (RFs)	RF Weights	RF Scores	RF Grades	Comp. Grades	Comment Page No.
1. Interpretation/Diagnosis a. Recognize & Attend 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.]

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

CROSS REFERENCE:

Systems: Control Room "d"

JPM/TASK:

Start an RCP with Subsequent Seal Failure

EXPECTED ACTION/RESPONSE:

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

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

APPLICANT ACTION/RESPONSE:

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

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

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

CROSS REFERENCE:

Systems: Control Room "g"

JPM/TASK:

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

EXPECTED ACTION/RESPONSE:

The applicant was directed to parallel Reserve Auxiliary Transformer (RAT) "B" to bus 1BA03, and then remove 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.

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

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-~~F~~07 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.

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

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.

Facility: Vogtle Scenario No.: 6 Op-Test No.: 2012-301

Examiners: Mark Bates Operators: [REDACTED] (SRO) S
Michael Meeks [REDACTED] (OATC) U
Phil Capelhart [REDACTED] (uo) M

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

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

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

Preloaded Malfunctions:

AC03B - ACCW Pump-2 Hand switch Auto Contact Failure

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

ES01- Failure of Automatic Reactor Trip

ES02 - Failure of Manual Reactor Trip

TU18 - Auto Turbine Trip Failure

Overrides

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

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

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

Event 1:

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

Verifiable Actions:

UO - Starts standby ACCW pump # 2.

Technical Specifications:

None

Facility: Vogtle Scenario No.: 7 Op-Test No.: 2012-301
 Examiners: Michael Meeks Operators: [REDACTED] (SRD) U
Mark Bates [REDACTED] (OATC) S
Phil Copeland [REDACTED] (uo) M

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

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

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

Preloaded Malfunctions:

ES19A – Block CVI Actuation Train A

ES19B - Block CVI Actuation Train B

ES10 - Train A Main Steam Line Isol Auto Actuation Failure

ES11 - Train B Main Steam line Isol Auto Actuation Failure

SI08A - RWST Sludge Mixing Valve 10957 Failure

SI08B - RWST Sludge Mixing Valve 10958 Failure

RD17D - (K-14) @ 36 steps

RD17H - (D-4) @ 24 steps

RD17L - (G-13) @ 30 steps

PR12B PORV 456 Block Valve 8000B Auto Closure Failure

Overrides

HV-8104 Emergency Borate valve shut.

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

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

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