

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

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

Written Examination Summary					
NRC Author/Reviewer: M. Meeks			RO/SRO/Total Exam Points 75 / 25 / 100		
NRC Grader/Reviewer: M. Meeks			Applicant Points 70 / 18 / 88		
Date Administered: April 20, 2012			Applicant Grade (%) 93.33 / 72.00 / 88.00		
Operating Test Summary					
Administered by: M. Bates			Date Administered: March 26– April 13, 2012		
Walk-Through (Overall)				S	
Administrative Topics				S	
Simulator Operating Test				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>Mark G. Bates</i> M. Bates	10 MAY 2012
Final Recommendation	X			<i>Michael Meeks</i> M. Meeks	05/10/2012
License Recommendation					
<input checked="" type="checkbox"/>	Issue License	Supervisor's Signature Malcolm T. Widmann <i>Malcolm T. Widmann</i>			Date
<input type="checkbox"/>	Deny License				05/10/12

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: 55 [REDACTED]		
Walk-Through Grading Details	Evaluation (S or U)	Comment Page Number
Administrative Topics		
a. Perform AFD Monitoring (Administered by M. Meeks)	S	
b. K_{eff} Determination for Shutdown Banks Withdrawn (Administered by M. Meeks)	S	
c. Determine Tagging Requirements (Administered by M. Meeks)	U	4
d. Determine if Task Can Be Completed Without Exceeding any Radiological Limits (Administered by M. Meeks)	S	
e. Emergency Plan Classification and Notification (Administered by P. Capehart)	S*	5
Systems: Control Room		
a. Control Rod Operability Test (Administered by M. Meeks)	S*	6
b. Transfer ECCS Pumps to Cold Leg Recirc (Administered by M. Meeks)	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured SG	S*	7
d. Start an RCP with Subsequent Seal Failure	S*	8
e. Transfer AFW Suction Source to CST 2	S	
f. Dilute Containment with Service Air (Administered by M. Meeks)	S	
g. Return ESF Bus from Diesel Generator to Normal Supply (Administered by M. Meeks)	S	
h. N/A	N/A	
Systems: In-Plant		
i. Establish RWST Gravity Drain Through RHR Pumps to HLs	S	
j. Establish Local Control of 1E Switchgear (Administered by P. Capehart)	S	
k. Placing the RHR 25kVA Inverter 1DD116 in Service	S	

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLYApplicant Docket Number: 55-[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	2.50	9 10
b. Ensure Accuracy	0.20	2	0.40		
c. Understanding	0.30	2	0.60		
d. Diagnose	0.30	3	0.90		
2. Procedures					
a. Reference	0.30	3	0.90	3.00	
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	3	1.20		
3. Control Board Operations					
a. Locate & Manipulate	0.34	2	0.68	2.66	11
b. Understanding	0.33	3	0.99		
c. Manual Control	0.33	3	0.99		
4. Communications					
a. Clarity	0.40	3	1.20	2.60	12
b. Crew & Others Informed	0.40	2	0.80		
c. Receive Information	0.20	3	0.60		
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	3.00	
b. Oversight	0.30	3	0.90		
c. Solicit Crew Feedback	0.20	3	0.60		
d. Monitor Crew Activities	0.20	3	0.60		
6. Technical Specifications					
a. Recognize and Locate	0.40	2	0.80	2.60	13
b. Compliance	0.60	3	1.80		

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

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

Administrative Topic "c"

JPM/TASK:

Determine Tagging Requirements.

EXPECTED ACTION/RESPONSE:

Given the appropriate references, the applicant was expected to correctly determine the appropriate boundary points and required positions of components to (1) isolate the fluid boundary and (2) drain the "A" Containment Spray Pump (CSP), 1-1206-P6-001, in preparation for maintenance on the pump seals. The applicant was expected to identify 1-1206-U4-108, CSP A Pump Casing Vent Valve, as a required vent path to be tagged in the UNFLANGE/OPEN or UNCAP/OPEN position. The other required vent path was via 1-1206-X4-108, CSP A Header Vent Valve, which was required to be tagged in the UNCAP/OPEN position. Proper tagging of both 1-1206-U4-108 and 1-1206-X4-108 were critical steps in the JPM, because both vents being open were required to completely drain the pump.

APPLICANT ACTION/RESPONSE:

When the applicant developed the tagout, the applicant incorrectly did not include 1-1206-U4-108 in any position on the tagout. The applicant did tag the other vent path, valve 1-1206-X4-108 in the OPEN position, but did not recognize that the -X4-108 valve was also required to be un-capped.

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

LACK OF ABILITY/KNOWLEDGE:

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

CROSS REFERENCE:

Administrative Topic "e"

JPM/TASK:

Classify an Emergency Event, Complete EN Form

EXPECTED ACTION/RESPONSE:

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

APPLICANT ACTION/RESPONSE:

The applicant incorrectly completed Checklist 1. The applicant failed to enter the highest applicable IC/EAL in step 3 and checked the "None" block. Step 4 asked for this same information and the highest IC/EAL classification was correctly listed. Step 3 was not a critical step.

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

LACK OF ABILITY/KNOWLEDGE:

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

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

CROSS REFERENCE:

Systems: Control Room "a"

JPM/TASK:

Perform Control Rod Operability Test.

EXPECTED ACTION/RESPONSE:

The applicant was expected to correctly perform surveillance procedure 14410-1, "Control Room Operability Test," for control banks A, B, C, and D. Step 5.1.7 of this procedure directs the operator to record the test IPC Bank Demand reading for the control bank being tested on Data Sheet 1. At this step, the applicant was expected to correctly determine IPC Bank Demand using the plant computer and record the appropriate value on the data sheet. However, properly determining the IPC Bank Demand was not a critical step in the JPM.

APPLICANT ACTION/RESPONSE:

At step 5.1.7, the applicant called up IPC screen "SHOW30" on the main control board, which displayed both IPC Bank Demand information and IPC individual rod position information. However, the applicant incorrectly recorded the IPC individual rod position information (which was at 216 steps) instead of the correct reading for IPC Bank Demand (which was at 218 steps).

Although the applicant did not correctly perform this specific portion of the surveillance, the applicant did correctly perform all of the critical steps in the JPM. In this case, incorrectly recording IPC Bank Demand did not impact any Technical Specification requirements. Therefore, the applicant was evaluated as successfully completing the JPM.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a lack of ability to use plant computers to evaluate system or component status.

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

CROSS REFERENCE:

Systems – Control Room “c”

JPM/TASK:

Depressurize RCS to Reduce Break Flow to Ruptured SG

EXPECTED ACTION/RESPONSE:

The applicant was expected to open a pressurizer PORV to depressurize the RCS in accordance with procedure 19030-C, “E-3 Steam Generator Tube Rupture,” Revision 37.1, Step 34. The applicant was then expected to secure the depressurization when pressurizer pressure was less than the ruptured SG pressure. The JPM was designed for subcooling and pressurizer level to be satisfactory throughout the performance of the depressurization.

APPLICANT ACTION/RESPONSE:

The applicant correctly initiated the depressurization by opening a pressurizer PORV. The applicant then secured the depressurization because he thought that subcooling had lowered below 24°F, which was one of the alternate criteria to secure the depressurization. Subcooling remained above 50°F during the entire depressurization. Following completion of the JPM, the applicant was asked to explain the criteria which caused him to stop the depressurization. The applicant once again looked at his subcooling value and stated that he had looked at the value for cooldown rate, which was located directly above the subcooling value on the computer screen.

The applicant’s performance was rated as satisfactory because when he terminated the depressurization based on an incorrect subcooling value, pressurizer pressure was 6 psig lower than the ruptured SG pressure, thereby resulting in successful completion of the task.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in the ability to locate control room instrumentation.

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.

APPLICANT ACTION/RESPONSE:

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

The applicant's performance was rated as satisfactory because performing alarm panel checks was not a critical step.

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.

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

1.b: Interpretation/Diagnosis – Ensure Accuracy

SCENARIO/EVENT:

Scenario 3, Event 5: Main Turbine EHC Pump Tripped and Standby Pump Failed to Auto Start

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to recognize that the standby EHC pump did not auto start several minutes after the running EHC pump tripped, and direct the standby pump to be manually started at that time. Alternatively, the applicant was expected to recognize shortly after the running EHC pump trip that the standby pump would be required and its automatic start was imminent, and thereby preemptively direct the standby EHC pump to be started prior to its automatic start setpoint being reached.

APPLICANT ACTION/RESPONSE:

The applicant incorrectly diagnosed that the EHC pressure had dropped below 1400 psig, which is the standby EHC pump automatic start setpoint. The applicant correctly directed the start of the standby pump, but the applicant provided this direction because he incorrectly believed the standby pump had failed to automatically start. The EHC pressure had not dropped below 1400 psig at the time the applicant directed the automatic start of the standby pump. The scenario was designed for the automatic start of the standby pump to fail, but EHC pressure had not yet lowered to the point where the automatic start would have been demanded. After the scenario, the applicant was asked to explain his directives. The applicant stated that EHC pressure had dropped to approximately 1250 psig, which was incorrect. The applicant was downgraded in this competency because he misdiagnosed the failure of the EHC pump to automatically start because he did not obtain accurate EHC pressure information on which to base his diagnosis.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in his ability to obtain accurate EHC pressure data on which to base his diagnosis.

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

CROSS REFERENCE:

1.c: Interpretation/Diagnosis – Understanding

SCENARIO/EVENT:

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to understand the impact of the LT-459 failure on charging flow and direct the crew to place the charging flow controller, FIC-0121, to manual prior to selecting an unaffected pressurizer level channel in accordance with procedure 18001-C, Section D, Failure of Pressurizer Level Instrumentation. Placing the charging flow controller to manual was necessary to avoid a total loss of charging because pressurizer level had been above setpoint for several minutes due to the LT-459 failure.

APPLICANT ACTION/RESPONSE:

The applicant did not direct placing the charging flow controller to manual prior to selecting an unaffected pressurizer level channel. Immediately after the applicant directed the RO to select an unaffected pressurizer level channel, charging flow rapidly lowered, at which time the applicant directed the Reactor Operator (RO) to place FIC-0121 back to manual. The crew discussed the plant response and through their conversation it was determined that they fully understood the plant response. The SRO was downgraded in this competency because, at the time he provided direction to the RO to select an unaffected channel, he did not understand that charging flow would lower to zero due to selecting that unaffected pressurizer level channel.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in providing the proper amount of direction and oversight when the crew was selecting an unaffected pressurizer level channel.

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

CROSS REFERENCE:

3.a: Control Board Operations – Locate & Manipulate

SCENARIO/EVENT:

Scenario 7, Event 6: RWST Sludge Mixing Line Pipe Break with Auto Valve Closure Failure

EXPECTED ACTION/RESPONSE:

The applicant, as Reactor Operator (RO), was expected to ensure that the crew closed the sludge mixing isolation valves when ALB06-E04, RWST LO LEVEL, was received.

APPLICANT ACTION/RESPONSE:

The applicant allowed 11 minutes to elapse from the time the RWST LO LEVEL alarm annunciated to the time when the sludge mixing isolation valves were closed. This malfunction was originally designed for the Unit Operator (UO) to address the alarm; however, such a long time elapsed that all crew members had the opportunity to view the ARP and provide input to successfully isolate the leak by closing the isolation valves, both of which were located in the control room. After the scenario, the applicant was asked if he had ever been exposed to this failure during training or if he had ever had to operate those valves either in the plant or in the simulator. The applicant stated that he had not previously operated those valves and did not initially know where they were located. The applicant was downgraded in this competency due to not knowing the location of the sludge mixing isolation valves.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in his ability to locate the sludge mixing isolation valves in the control room.

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

CROSS REFERENCE:

4.b: Communications – Crew & Others Informed

SCENARIO/EVENT:

Scenario 6, Event 2: RCP Loop 1 HL NR RTD Failed High

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to request Shift Manager permission prior to placing control rods back to automatic after defeating the failed temperature channel. Procedure NMP-OS-007-001, Version 9.0, "Conduct of Operations Standards and Expectations," Step 6.29.2.1, states, in part, "When a system or component has been placed in manual due to a transient caused by an automatic control malfunction, SM permission is required prior to returning the system or component to automatic control following stabilization from the transient and correction of the malfunction."

APPLICANT ACTION/RESPONSE:

The applicant incorrectly directed the Reactor Operator (RO) to place control rods back to automatic without first getting permission from the Shift Manager.

The applicant made one non-critical error in this rating factor; therefore, a score of "2" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in his ability to keep other crew members informed by not getting permission from the shift manager prior to placing control rods back to automatic.

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

CROSS REFERENCE:

6.a: Technical Specifications – Recognize and Locate

SCENARIO/EVENT:

Scenario 6, Event 4: Controlling Pressurizer Level Transmitter (LT-459) Failed Low

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Specification (TS) 3.3.1, Reactor Trip System Instrumentation, Function 9, Condition M, for the loss of one required channel of Pressurizer Water Level – High.

The applicant was also expected to identify TS 3.3.4, Remote Shutdown System, Function 8, Condition A, for the loss of one required channel of pressurizer level instrumentation.

The applicant was not expected to identify TS 3.3.1, Reactor Trip System Instrumentation, Functions 8a and 8b, which pertained to pressurizer pressure.

APPLICANT ACTION/RESPONSE:

The applicant did not identify TS 3.3.1, Function 9, Condition M. The applicant also did not identify TS 3.3.4, Remote Shutdown System, Function 8, Condition A.

Furthermore, the applicant incorrectly identified TS 3.3.1, Functions 8a and 8b.

Correctly recognizing the Technical Specifications for this event was the only error in this rating factor; therefore, a score of "2" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in his ability to recognize applicable Technical Specifications.

Appendix D

Scenario Outline

Form ES-D-1

Facility: Vogtle Scenario No.: 3

Op-Test No.: 2012-301

Examiners: Mark Bates
Phil Capehart
N/A

Operators: [Redacted] (SRO) S
[Redacted] (OATC) M
Surrogate (UO)

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

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

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

Preloaded Malfunctions:

TU10B Main Turbine EHC Pump B Auto Start Failure

Overrides

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

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

Appendix D

Scenario Outline

Form ES-D-1

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

Appendix D

Scenario Outline

Form ES-D-1

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

Examiners: Mark Bates Operators: [REDACTED] (SR0) S
Michael Meeks [REDACTED] (OATC) U
Phil Capehart [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.	Maif. 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

Appendix D

Scenario Outline

Form ES-D-1

Event No.	Malfunction 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

Appendix D Scenario Outline Form ES-D-1

Facility: Vogtle Scenario No.: 7 Op-Test No.: 2012-301
 Examiners: Michael Meeks Operators: [Redacted] (SRo) U
Mark Bates [Redacted] (OATC) S
Phil Capelhart [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.	Maif. No.	Event Type*	Event Description
1	N/A	R-OATC R-SS N-UO	Raises power in accordance with UOP-12004-C.
T2	SG05D @100%	C-UO C-SS	SG # 4 Steam Flow indicator fails high.

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

Event No.	Malif. No.	Event Type*	Event Description
T3	CV04	I-OATC I-SS	Loss of Cooling to Letdown Heat Exchanger (TE-0130 fails low)
T4	new malif (9)	TS-SS	NSCW Cooling Tower Fan # 1 on Train A trips with ambient wet-bulb temperature > 63°F LCO 3.7.9 Ultimate Heat Sink (UHS) Condition B
T5	PR02B @100%	I-OATC I-SS TS-SS	PRZR PT-456 fails high resulting in PORV 456 failing open and block valve HV-8000B failure to auto close. LCO 3.3.1 Condition A, FU 6 Condition E, LCO 3.3.1 FU 8a Condition M, LCO 3.3.1 FU 8b Condition E LCO 3.3.2 Condition A, FU 1d Condition D, LCO 3.3.2 FU 8b Condition L, LCO 3.4.1 Condition A
T6	RF TK02 95-88% 1200 sec ramp	C-UO C-SS TS-SS	RWST sludge mixing line pipe break with auto closure failure. LCO 3.5.4 Condition B and Condition D (1 hour action) TR 13.1.7 Condition D (Immediate TR action)
T7	FW04C	C-OATC	MFRV # 3 fails shut, requiring reactor trip, 3 stuck rods.
10	Preload	C-OATC C-SS	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			