

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

Written Examination Summary					
NRC Author/Reviewer: M. Meeks			RO/SRO/Total Exam Points 75 / 25 / 100		
NRC Grader/Reviewer: M. Meeks			Applicant Points 70 / 20 / 90		
Date Administered: April 20, 2012			Applicant Grade (%) 93.33 / 80.00 / 90.00		
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 <i>Malcolm T. Widmann</i> Malcolm T. Widmann			Date
<input type="checkbox"/>	Deny License				05/10/12

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: [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b. K _{eff} Determination for Shutdown Banks Withdrawn (Administered by M. Meeks)	S	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)	S	
d. Determine if Task Can Be Completed Without Exceeding any Radiological Limits (Administered by M. Meeks)	S	
e. Emergency Plan Classification and Notification	S	
Systems: Control Room		
a. Control Rod Operability Test (Administered by M. Meeks)	S	
b. Transfer ECCS Pumps to Cold Leg Recirc (Administered by P. Capehart)	S	
c. Depressurize RCS to Reduce Break Flow to Ruptured SG	S*	4
d. Start an RCP with Subsequent Seal Failure	S*	5
e. Transfer AFW Suction Source to CST 2 (Administered by P. Capehart)	S	
f. Dilute Containment with Service Air (Administered by M. Meeks)	S	
g. Return ESF Bus from Diesel Generator to Normal Supply (Administered by P. Capehart)	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 1DD1I6 in Service	S	

PRIVACY ACT INFORMATION - FOR OFFICIAL USE ONLY

Applicant Docket Number: ██████████					
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	2.70	6
b. Ensure Accuracy	0.20	3	0.60		
c. Understanding	0.30	3	0.90		
d. Diagnose	0.30	2	0.60		
2. Procedures					
a. Reference	0.30	3	0.90	2.20	7, 8, 9
b. EOP Entry	0.30	3	0.90		
c. Correct Use	0.40	1	0.40		
3. Control Board Operations					
a. Locate & Manipulate	0.34	3	1.02	2.67	10
b. Understanding	0.33	2	0.66		
c. Manual Control	0.33	3	0.99		
4. Communications					
a. Clarity	0.40	3	1.20	3.00	
b. Crew & Others Informed	0.40	3	1.20		
c. Receive Information	0.20	3	0.60		
5. Directing Operations					
a. Timely & Decisive Action	0.30	3	0.90	2.80	11
b. Oversight	0.30	3	0.90		
c. Solicit Crew Feedback	0.20	3	0.60		
d. Monitor Crew Activities	0.20	2	0.40		
6. Technical Specifications					
a. Recognize and Locate	0.40	2	0.80	2.60	12
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** [REDACTED]**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 successfully arm one available train of COPS in accordance with procedure 19030-C, “E-3 Steam Generator Tube Rupture,” Revision 37.1, Step 34, which would negate the need to perform Step 34 RNO (Open PORV Block Valve). Specifically, the applicant was expected to attempt to arm the first train of COPS, recognize that it failed to successfully arm, and then arm the second train of COPS, which was designed to properly arm. The applicant was not expected to proceed to the RNO column of the procedure after the first train of COPS failed to arm because the left hand column of the procedure could be successfully performed by arming the other train of COPS. The RNO column should not have been performed until arming of both trains of COPS had been attempted and proven to be unsuccessful. The design of this JPM actually allowed for the second train of COPS to be armed, thereby negating the need to perform Step 34 RNO.

APPLICANT ACTION/RESPONSE:

The applicant attempted to arm the first train of COPS, recognized that the PORV Block Valve did not open, and then proceeded to the RNO column and attempted to manually open the PORV Block Valve. The applicant then went back to the left hand column of the same step and armed the second train of COPS and successfully completed the task. The applicant made a procedural usage error in that he should not have proceeded to the RNO column of Step 34 because the left hand column of the procedure directed arming one train of COPS, which could be accomplished per JPM design.

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 the ability to correctly use procedures.

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.

CROSS REFERENCE:

1.d: Interpretation/Diagnosis – Diagnose

SCENARIO/EVENT:

Scenario 4, Event 8: Loss of Secondary Heat Sink

EXPECTED ACTION/RESPONSE:

The applicant, as Reactor Operator (RO), was expected to diagnose that the pressurizer PORV was lifting as designed and that pressurizer safety valves were not lifting.

APPLICANT ACTION/RESPONSE:

The applicant observed pressurizer PORV and safety valve discharge line temperature rise and stated to the Senior Reactor Operator (SRO) that a pressurizer safety valve had lifted. The Unit Operator (UO) corrected the applicant's misdiagnosis. After the scenario, the applicant was asked to explain his diagnosis of the pressurizer safety valve lifting. The applicant stated that he understood that the safety valve was not open and the discharge line temperatures were elevated due to PORV operation. The applicant was downgraded in this competency for not accurately diagnosing pressurizer safety valve status.

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 diagnose a failed open pressurizer safety valve.

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

2.c: Procedures – Correct Use

SCENARIO/EVENT:

Scenario 2, Event 2: Dropped Rod K14 and Subsequent Power Reduction

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to reduce power to less than 75% within 1 hour from the time the rod dropped in accordance with procedure 18003-C, "Rod Control System Malfunction," Step A4.

APPLICANT ACTION/RESPONSE:

The applicant did not facilitate crew performance to accomplish a power reduction to less than 75% within one hour from the time the rod dropped. The applicant did, however, provide sufficient direction to meet the Technical Specification requirement of having power less than 75% within 2 hours. The applicant was questioned after the scenario and the applicant stated that he was managing the power reduction to the 2 hour Technical Specification requirement and not the 1 hour procedural requirement. The applicant was downgraded in this competency due to not ensuring the 1 hour procedure requirement was accomplished.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in complying with procedures.

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

2.c: Procedures – Correct Use

SCENARIO/EVENT:

Scenario 2, Event 3: Controlling SG #3 Feed Flow Channel (FI-530A) Failed Low

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to direct the Reactor Operator (RO) to return main feedwater pump speed controller, (SIC-509A) to automatic and THEN return steam generator feed flow valve (1FV-530) to automatic, in accordance with procedure 18001-C, "System Instrumentation Malfunction," Steps G3 and G4, respectively.

APPLICANT ACTION/RESPONSE:

The applicant first directed performance of Step G4, and then Step G3, which was the incorrect sequence as stated in 18001-C. The applicant was asked after the scenario if these steps were required to be performed in a specified order. The applicant stated that Step G3 was required to be performed prior to step G4 in accordance with procedural usage requirements. The applicant also recalled that he had performed the steps in the incorrect order. The applicant was downgraded in this competency because he directed procedure steps to be performed in an incorrect sequence. The applicant's error was not detrimental to plant operation, but it did signify a weakness in procedure use.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in performing procedure steps in the correct sequence.

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

CROSS REFERENCE:

2.c: Procedures – Correct Use

SCENARIO/EVENT:

Scenario 3, Event 6: SG #1 10 gpm Tube Leak and Subsequent Rapid Power Reduction

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to direct actions to maintain pressurizer level in accordance with procedure 18009-C, "Steam Generator Tube Leak," Step 2a (Adjust charging flow) and Step 2b (Check PRZR level stable or rising). During the time in question, normal letdown was isolated due to an earlier leak on the letdown piping, and excess letdown was in service. After the 10 gpm steam generator tube leak was instituted, the applicant was expected to direct charging flow to be increased to stabilize pressurizer level. Charging flow capacity was sufficient to stabilize pressurizer level with the 10 gpm leak; therefore, Step 2b RNO (Isolate letdown) should not have been performed.

APPLICANT ACTION/RESPONSE:

Shortly after the 10 gpm letdown leak occurred, the applicant directed that excess letdown be isolated without first directing charging flow to be increased to stabilize pressurizer level. This resulted in a loss of pressurizer level control as level was rising with no mechanism or process to halt the level rise. The applicant was downgraded in this competency because he did not direct procedure steps in the proper sequence. Specifically, the applicant did not direct charging flow to be increased prior to directing isolation of letdown.

The applicant made three non-critical errors in this rating factor; therefore, a score of "1" was assigned.

LACK OF ABILITY/KNOWLEDGE:

The applicant demonstrated a weakness in his ability to properly direct procedure steps.

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APPLICANT DOCKET NUMBER [REDACTED]

CROSS REFERENCE:

3.b: Control Board Operations – Understanding

SCENARIO/EVENT:

Scenario 4, Event 3: PORV 456 Failed Open with Block Valve Auto Closure Failure

EXPECTED ACTION/RESPONSE:

The applicant, as Reactor Operator (RO), was expected to diagnose the failed open PORV and manually shut the associated block valve. There was not a malfunction associated with the automatic pressurizer pressure control; therefore, the applicant was expected to understand that once the block valve was closed, the automatic pressure control would slowly recover pressurizer pressure.

APPLICANT ACTION/RESPONSE:

The applicant incorrectly thought that the master pressurizer pressure controller would not control pressure due to being saturated, placed the controller in manual, and controlled pressure manually for the remainder of the scenario. The master pressure controller was recovering pressure at the time the applicant placed the controller to manual and no malfunctions were associated with the master pressure controller. After the scenario the applicant was asked if pressure could have been maintained adequately by leaving the master pressure controller in automatic. The applicant stated that the controller would not have maintained pressure if it remained in automatic.

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 understanding of the response of the automatic pressurizer pressure controller to a failed open PORV.

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

CROSS REFERENCE:

5.d: Directing Operations – Monitor Crew Activities

SCENARIO/EVENT:

Scenario 3, Event 4: Controlling Pressurizer Pressure Channel (PT-455) Failed High

EXPECTED ACTION/RESPONSE:

During the event recovery, the applicant, as Senior Reactor Operator (SRO), was expected to direct pressurizer heaters, sprays, and PORVs to be placed in automatic and soon thereafter to direct placing the master pressure controller to automatic, in accordance with procedure 18001-C, "Systems Instrumentation Malfunction," Section C.

APPLICANT ACTION/RESPONSE:

The applicant correctly directed placing pressurizer heaters, sprays, and PORVs to automatic. Then the applicant delayed several minutes to call the Shift Manager and C & T to notify them of the failures and request permission to place the master controller back to automatic. During this delay period, ALB11-B03, PRZR HI PRESS, alarmed which caused the applicant to direct manual control of sprays again. After the Reactor Operator (RO) regained manual control of pressurizer pressure, and approximately eight minutes after initially going back to automatic on sprays, the applicant again directed placing sprays and then the master pressure controller back to automatic. The applicant was downgraded in this competency because he did not ensure procedurally directed timely activities were carried out by the crew.

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 ensure that timely procedure actions were completed by the crew.

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

CROSS REFERENCE:

6.a: Technical Specifications – Recognize and Locate

SCENARIO/EVENT:

Scenario 2, Event 5: Normal Charging Pump (NCP) Tripped

EXPECTED ACTION/RESPONSE:

The applicant, as Senior Reactor Operator (SRO), was expected to identify Technical Requirement (TR) 13.1.3, Boration Flowpaths, and TR 13.1.5, Charging Pumps – Operating, due to Centrifugal Charging Pump (CCP) “A” being in PTL and the NCP being tripped.

APPLICANT ACTION/RESPONSE:

The applicant did not identify the TRM requirements during the scenario; therefore, after the scenario, the examiner questioned the applicant on applicable Technical Specifications for the plant conditions at the time the NCP tripped. When the applicant did not mention any applicable Technical Specifications, the examiner asked specifically about requirements in the Technical Requirements Manual (TRM). The applicant again did not state any TRM required actions. The applicant was downgraded in this competency because he did not identify applicable requirements from the TRM.

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 identification of TRM action statements.

Appendix D

Scenario Outline

Form ES-D-1

Facility: Vogtle Scenario No.: 2 Op-Test No.: 2012-301
 Examiners: Mark Bates Operators: [Redacted] (SRO) O
Michael Meeks [Redacted] (OATC) P
Phil Capehart [Redacted] (UO) K

Initial Conditions: The plant is at 100% power, MOL, steady state operations.
 (Base IC # 14, snapped to IC # 182 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:

- GE12A - PCB 161710 Auto Trip Failure**
- GE12B - PCB 161810 Auto Trip Failure**
- SI06B - Block Auto Start on SI Pump B**

Overrides

- 1HV-8801A BIT Discharge Valve - SHUT**
- 1HV-8801B BIT Discharge Valve - SHUT**

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

Event No.	Malf. No.	Event Type*	Event Description
T1	TU19A @ 0%	I-OATC I-SS TS-SS	Main Turbine Impulse Pressure Transmitter - PT505 fails low. LCO 3.3.1, Condition A, FU 16b, 16f Condition S (1 hour Tech Spec actions)
T2	RD13D	R-OATC N-UO R-SS TS-SS	Dropped Rod K-14 in Control Bank B, reduces power to < 75 in 1 hour. LCO 3.1.4 Condition B
T3	FW02C @ 0%	C-UO C-SS	Controlling SG # 3 feed flow channel (FI-530A) fails low.
T4	NS02B NS04C	C-UO C-SS TS-SS	NSCW pump # 3 locked rotor, NSCW pump # 5 shaft shears on start. LCO 3.7.8 Condition A, LCO 3.8.1 Condition B
T5	CV07	C-OATC C-SS TS-SS	Normal Charging Pump (NCP) trips. LCO TR 13.1.5 Condition A, LCO TR 13.1.3 Condition A

Appendix D

Scenario Outline

Form ES-D-1

6	N/A	N-OATC N-SS	Places CVCS Charging and Letdown in service.
T7	RC16 @ 0.6%	M-ALL OATC UO Critical	RCS Head LOCA (Small Break LOCA just large enough to reach RCP Trip Criteria over time). Trips RCPs with RCS pressure < 1375 psig and ECCS flow present.
8	Preloaded	C-OATC C-SS Critical	SIP B auto start failure requiring manual start.
9	Preloaded	I-UO I-SS	Main Generator Output Breakers fail to automatically trip open.
Event No.	Malf. No.	Event Type*	Event Description
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Event 1:

Main Turbine Impulse Pressure PT-505 falls low (Tref) resulting in inward rod motion.

Verifiable Actions:

OATC – Performs IOA of 18001-C, section H and places control rods in manual to stop uncontrolled inward rod motion.

OATC – Restores Tavg to program band to maintain Tavg and Tref matched.

UO – Verifies PIC-507 Steam Dump Control Pot at 7.28 (1092 psig) and in AUTO, then place Steam Dumps in the Steam Pressure Mode.

Technical Specifications:

LCO 3.3.1 Reactor Trip System (RTS) Instrumentation Condition A

LCO 3.3.1 Reactor Trip System (RTS) Instrumentation FU 16b, 16f Condition S.
(1 hour Tech Spec actions)

Appendix D

Scenario Outline

Form ES-D-1

Facility: Vogtle Scenario No.: 3 Op-Test No.: 2012-301
 Examiners: Mark Bates Operators: [REDACTED] (SRD) O
Phil Caschert [REDACTED] (OATC) K
N/A [REDACTED] (LW)

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 8b 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.: 4 Op-Test No.: 2012-301
 Examiners: Michael Meeks Operators: [REDACTED] (SR) P
Mark Bates [REDACTED] (OFT) O
Phil Capelhart [REDACTED] (UO) K

Initial Conditions: The plant is at 61% power, BOL, steady state operations, control rods in automatic. (Base IC # 37, snapped to IC # 184 for HL17 NRC Exam)

Equipment OOS: MFPT B tagged out for shaft repair, awaiting parts, Safety Injection Pump "A" is tagged out for motor repair.

Turnover: Maintain 61% power per 12004-C, Power Operation (Mode 1), section 4.3. Containment mini-purge is in service for a Containment entry on the next shift.

Preloaded Malfunctions:

- CV06B - Centrifugal Charging Pump Trip – Pump 2**
- EL19B - Emergency Diesel Fails to Start – 1B**
- ES01 - Failure of Automatic Reactor Trip**
- PR12B - PORV 456 Block Valve 8000B Auto Close Failure**
- C011C - Condensate Pump 3 Auto Start Failure**
- SI06B - Block Auto Start on SI Pump B**
- AF03B - MDAFW pump B coupling failure**

Overrides

HS-40007 Neutral, (QMCB Panel C Reactor Trip Hand switch)

Event No.	Malf. No.	Event Type*	Event Description
T1	NI10C	I-OATC N-UO I-SS TS-SS	PR Lower Detector Fails High – Channel 43. LCO 3.3.1 Condition A, FU 2a Condition D, FU 2b Condition E, FU 3 Condition E, FU 6 Condition E, FU 16c, d, e Conditions S & R (one hour actions)
T2	CO05A	C-UO C-SS	Condensate Pump # 1 trip with failure of Condensate Pump # 3 to automatically start.

Appendix D

Scenario Outline

Form ES-D-1

Event No.	Malf. No.	Event Type*	Event Description
T3	PR04 @30%	C-OATC C-SS TS-SS	PORV 456 fails 30% open with HV-8000B Block Valve auto close failure. LCO 3.4.11 Condition B (one hour actions) Note to Simbooth: RF PR02 and PR04 used to de-energize PORV-456 and Block Valve 8000B.
T4	CV12 @100%	I-OATC I-SS	VCT Level Transmitter LT-185 fails high.
T5	EL07A	C-UO C-SS TS-SS	Loss of Control Building 4.16 KV SWGR 1AA02. LCO 3.8.1 Conditions A, B, and E LCO 3.8.9 Condition A LCO 3.7.5 Condition C Note to Simbooth: RF EL22, 24, 32, 33, and 35 will be used to swap battery charger power, NYR / NYRS power, and control room lighting when requested.
T6	EL03 Critical	C-UO C-SS	Reserve Aux Transformer 1NXRB trips on reactor trip with failure of DG1B to automatically start.
T7	FW15A	C-OATC C-SS	MFPT A Shaft shears requiring a manual reactor trip. QMCB panel C reactor trip hand switch will not work, OATC will have to use panel A2 hand switch.
T8	AF02A Preload	M-ALL	TDAFW pump trips on over speed. MDAFW pump B coupling failure. Loss of Secondary Heat Sink.
T10	RF FW06 ZLB003 FV-5200 GL-ON RL-OFF	Simbooth	This is a Remote Function to fail open MFPT A miniflow valve to assist in lowering SG levels to ensure a LOHS occurs. The MFPT A mini-flow light indications are also overridden. The simbooth operator may use this trigger if necessary. ZLB for MFPT A Mini-flow FV-5200 green light is overridden to the ON position and the red light is overridden to the OFF position.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			