

Final Submittal
OCONEE JUNE 2003 EXAM
50-269/2003-301

JUNE 16 - 27, 2003

FINAL SAMPLE PLANS / OUTLINES

Final Submittal

Facility: Oconee		Date of Examination: June 16, 2003
Examination Level (circle one): RO / SRO		Operating Test Number: 1
Administrative Topic	Describe activity to be performed	
Conduct of Operations GEN 2.1.23 (3.9/4.0)	CRO-203, Calculate Final SFP Boron Concentration OP/1&2/A/1104/006 C (SFP Makeup), Enclosure 4.9 (SFP Makeup With DW) (group activity) (new) (10 min)	
Conduct of Operations GEN 2.1.7 (3.7/4.4)	CRO-043, Perform Manual RCS Leakage Calculation; PT/0600/010 (RO Only) (group activity) (18 min)	
Equipment Control GEN 2.2.12 (3.0/3.4)	CRO-204, Perform weekly surveillance test to determine RIA-40 setpoint PT/230/001 Encl. 13.10 (Operation of RIA-40) (new) (20 min)	
Radiation Control GEN 2.3.4 (2.5/3.1)	CRO – 205, Calculate the Maximum Permissible Stay Time Within Emergency Dose Limits (group activity) (new) (20 min)	
Note: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		

Final Submittal

Facility: Oconee		Date of Examination: June 16, 2003
Examination Level (circle one): RO / SRO		Operating Test Number: 1
Administrative Topic	Describe activity to be performed	
Conduct of Operations GEN 2.1.23 (3.9/4.0)	CRO-203, Calculate Final SFP Boron Concentration OP/1&2/A/1104/006 C (SFP Makeup), Enclosure 4.9 (SFP Makeup With DW) (group activity) (new) (10 min)	
Conduct of Operations GEN 2.1.3 (3.0/3.4)	JPM-003, Evaluate Overtime Eligibility OMP 2-01 Attachment "C", NSD 200 (SRO only) (25 min)	
Equipment Control GEN 2.2.12 (3.0/3.4)	CRO-204, Perform weekly surveillance test to determine RIA-40 setpoint PT/230/001 Encl. 13.10 (Operation of RIA-40) (new) (20 min)	
Radiation Control GEN 2.3.4 (2.5/3.1)	CRO – 205, Calculate the Maximum Permissible Stay Time Within Emergency Dose Limits (new) (20 min)	
Emergency Plan GEN 2.4.38 (2.2/4.0)	SRO-206, Determine Emergency Classification and Protective Action Recommendations (SRO only) (group activity) (new) (20 min)	
Note: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		

Facility: Oconee		Date of Examination: 06/16-25/03
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: 1		
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. CRO- 083, Re-establish RCS letdown flow AP/32 (Loss of Letdown) [KA: 004 A2.07 (3.4/3.7)]	M, A, S	2
b. CRO- 066, Perform Required Actions for RCS Pressure \leq 550 psig EOP Encl. 5.1 (ES Actuation) [KA: EPE011 EA1.13 (4.1/4.2)]	D, A, S	3
c. CRO-202, Reset RIA-40 setpoints and enter the OAC Pri to Sec Admin Limit PT/230/001 Encl. 13.10 (Operation of RIA-40) [KA: 073 A4.02 (3.7/3.7)] (new)	N, S	7
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
d. NLO-022, Station ASW Pump Alignment EOP Encl. 5.10 [KA: APE054 AA1.01 (4.5/4.4)] (last exam)	D, R, L	4S
e. NLO-007, Start Diesel Air Compressor And Align To Service Air Header AP/32, Encl. "Emergency Start of the Diesel Air Compressor", [KA: APE-065 AA1.04 (3.5*/3.4*)]	D	8
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Facility: Oconee		Date of Examination: 06/16-25/03
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: 1		
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. CRO-200, Makeup to the LDST OP/1103/004 (Soluble Poison Control) [KA: 004 A4.13 (3.3/2.9)] (new)	N, S	1
b. CRO-083, Re-establish RCS letdown flow AP/32 (Loss of Letdown) [KA: 004 A2.07 (3.4/3.7)]	M, A, S	2
c. CRO-066, Perform Required Actions for RCS Pressure \leq 550 psig EOP Encl. 5.1 (ES Actuation) [KA: EPE011 EA1.13 (4.1/4.2)]	D, A, S	3
d. CRO-013, Align MDEFDWP Suction to the Hotwell and Feed the SGs EOP Encl. 5.9 [KA: APE054 AA1.01 (4.5/4.4)]	D, L, S	4S
e. CRO-201, Restart RCP EOP, Encl. 5.6 [KA: 003 A4.06 (2.9*/2.9)] (new)	N, S	4P
f. CRO-202, Reset RIA-40 setpoints and enter the OAC Pri to Sec Admin Limit PT/230/001 Encl. 13.10 (Operation of RIA-40) [KA: 073 A4.02 (3.7/3.7)] (new)	N, S	7
g. CRO-11A, Align Intake Canal For Recirc On Dam Failure AP/13 (Dam Failure), [KA: 075 A2.01 (3.0/3.2)]	D, L, A, S	8
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
h. NLO-022, Station ASW Pump Alignment EOP Encl. 5.10 [KA: APE054 AA1.01 (4.5/4.4)] (last exam)	D, R, L	4S
i. CRO-47, Emergency start SSF Diesel Generator and supply power to the SSF ASW and SSF RCMU pumps AP/25, [KA: 062 A2.11 (3.7/4.1)]	M, A, L	6
j. NLO-007, Start Diesel Air Compressor And Align To Service Air Header AP/32, Encl. "Emergency Start of the Diesel Air Compressor", [KA: APE-065 AA1.04 (3.5*/3.4*)]	D	8
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Facility: Oconee		Date of Examination: 06/16-25/03
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: 1		
Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. CRO-200, Makeup to the LDST OP/1103/004 (Soluble Poison Control) [KA: 004 A4.13 (3.3/2.9)] (new) (15 min)	N, S	1
b. CRO- 083, Re-establish RCS letdown flow AP/32 (Loss of Letdown) [KA: 004 A2.07 (3.4/3.7)] (10 min)	M, A, S	2
c. CRO- 066, Perform Required Actions for RCS Pressure ≤ 550 psig EOP Encl. 5.1 (ES Actuation) [KA: EPE011 EA1.13 (4.1/4.2)] (15 min)	D, A, S	3
d. CRO-013, Align MDEFDWP Suction to the Hotwell and Feed the SGs EOP Encl. 5.9 [KA: APE054 AA1.01 (4.5/4.4)] (10 min)	D, L, S	4S
e. CRO-201, Restart RCP EOP, Encl. 5.6 [KA: 003 A4.06 (2.9*/2.9)] (new) (20 min)	N, S	4P
f. CRO-009, Following a Keowee Emergency Start Transfer from CT-4 to CT-5 OP/0/A/1106/019 Encl. 4.12 [KA: 062 A4.01 (3.3/3.1)] (10 min)	D, L, S	6
g. CRO-202, Reset RIA-40 setpoints and enter the OAC Pri to Sec Admin Limit PT/230/001 Encl. 13.10 (Operation of RIA-40) [KA: 073 A4.02 (3.7/3.7)] (new) (10 min)	N, S	7
h. CRO-11A, Align Intake Canal For Recirc On Dam Failure AP/13 (Dam Failure), [KA: 075 A2.01 (3.0/3.2)] (15 min)	D, L, A, S	8
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. NLO-022, Station ASW Pump Alignment EOP Encl. 5.10 [KA: APE054 AA1.01 (4.5/4.4)] (last exam) (12 min)	D, R, L	4S
j. CRO-47, Emergency start SSF Diesel Generator and supply power to the SSF ASW and SSF RCMU pumps AP/25, [KA: 062 A2.11 (3.7/4.1)] (10 min)	M, A, L	6
k. NLO-007, Start Diesel Air Compressor And Align To Service Air Header AP/32, Encl. "Emergency Start of the Diesel Air Compressor", [KA: APE-065 AA1.04 (3.5*/3.4*)] (10 min)	D	8
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Final Submittal

Facility: Oconee		Date of Exam: 2003																	
Tier	Group	RO K/A Category Points											SRO-Only Points						
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	K	A	A 2	G *	Total	
1. Emergency & Abnormal Plant Evolutions	1	3	2	3				2	6				2	18	1		4	2	7
	2	1	2	2				1	2				1	9			3	2	5
	Tier Totals	4	4	5				3	8				3	27	1		7	4	12
2. Plant Systems	1	3	3	5	2	3	2	2	2	2	3	1	28			2	2	4	
	2	2		1	2			1	1	1	1	1	10			1	1	2	
	Tier Totals	5	3	6	4	3	2	3	3	3	4	2	38			3	3	6	
3. Generic Knowledge and Abilities Categories				1		2		3		4		10		1	2	3	4	7	
				2		2		1		5		3	1	1	2				

Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.

2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.

3. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.

4. Systems/evolutions within each group are identified on the associated outline.

5. The shaded areas are not applicable to the category/tier.

6.* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.

7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals for each system and category. Enter the group and tier totals for each category in the table above; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A." Use duplicate pages for RO and SRO-only exams.

h. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.

i. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.

Final Submittal

ES-401		PWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO/SRO)						Form ES-401-2	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		02					Knowledge of interrelationship between vital system status and Facility's heat removal system.	4.2/4.2	1
000008 Pressurizer Vapor Space Accident / 3					22		Ability to determine and interpret Vapor Space as they apply to the consequences of RCS pressure loss.	3.8/4.2	1
000009 Small Break LOCA / 3	01				15 39	2.1.31	Knowledge of Natural Circulation SRO ONLY RCS Parameters SRO ONLY Adequate Core Cooling Ability to locate control room switches, controls and indications.	4.2/4.7 3.3/3.4 4.3/4.7 4.2/3.9	2 1 1
000011 Large Break LOCA / 3									
000015/17 RCP Malfunctions / 4					10		Ability to determine and interpret the loss of cooling water as it applies to RCP malfunctions	3.7/3.7	1
000022 Loss of Rx Coolant Makeup / 2	03						Loss of RC effects on PZR level	3.0/3.4	1
000025 Loss of RHR System / 4			01				SRO ONLY Knowledge of the reasons for shift to alternate flow path as it applies to Loss of RHR.	3.1/3.4	1
000026 Loss of Component Cooling Water / 8						2.4.24	GEN 2.4.24 Knowledge of loss of cooling water procedures	3.3/3.7	1
000027 Pressurizer Pressure Control System Malfunction / 3	01					2.1.12	Definition of saturated as it applies to PZR malfunction. SRO ONLY Gen 2.1.12 Ability to apply TS	3.1/3.4 2.9/4.0	1 1
000029 ATWS / 1			12		09		Actions contained in EOPs for ATWS Reactor Trip/turbine trip as it applies to ATWS	4.4/4.7 4.4/4.5	1 1
000038 Steam Gen Tube Rupture/3				19			MFV as it applies to SGTR	3.4/3.4	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4					01		Selection of procedures associated with Excessive heat transfer	3.0/4.2	1
000054 (CE/E06) Loss of Main Feedwater / 4			03				KA moved from K2 because of importance factors	3.8/4.2	1
000055 Station Blackout / 6					1		SRO ONLY Existing valve position on loss of instrument air associated with SOB	3.4/3.7	1
000056 Loss of Off-site Power / 6					47		Proper operation of EDG load sequencer	3.8/3.9	1
000057 Loss of Vital AC Inst. Bus / 6					06	2.1.8	Manual control of components SRO ONLY Coordinate Activities outside the CR	3.5/3.5 3.8/3.6	1 1
000058 Loss of DC Power / 6					03		SRO ONLY DC Loads lost	3.5/3.9	1
000062 Loss of Nuclear Svc Water / 4				07			Flow rates to components furnished by NSW	2.9/3.0	1
000065 Loss of Instrument Air / 8									
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4		2	3				Heat removal systems associated with inadequate heat transfer Manipulation of controls associated with inadequate heat transfer	4.2/4.2 4.2/3.8	2
K/A Category Totals:	3	2	3/1	2	6/4	2/2	Group Point Total:		18/7

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1									
000003 Dropped Control Rod / 1						2.4.1	SRO ONLY EOP entry conditions	4.3/4.6	1
000005 Inoperable/Stuck Control Rod / 1									
000024 Emergency Boration / 1									
000028 Pressurizer Level Malfunction / 2		02			01		PZR sensors/detectors SRO ONLY PZR Level Indications	2.6/2.7 3.4/3.6	1 1
000032 Loss of Source Range NI / 7									
000033 Loss of Intermediate Range NI / 7									
000036 (BW/A08) Fuel Handling Accident / 8					02		Fuel handling incident	3.4/4.1	1
000037 Steam Generator Tube Leak / 3									
000051 Loss of Condenser Vacuum / 4					02		SRO ONLY Conditions Requiring reactor or Turbine Trip	3.9/4.1	1
000059 Accidental Liquid RadWaste Rel. / 9			01				Termination of radioactive release	3.5/3.9	1
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7	01						ARM detector limitations	2.5/2.9	1
000067 Plant Fire On-site / 9-8			04			2.4.27	Actions contained in EOPs for plant fires Knowledge of fire in the plant procedures	3.3/4.1 3.0/3.5	1 1
000068 (BW/A06) Control Room Evac. / 8									
000074 (W/E06&E07) Inad. Core Cooling / 4									
000076 High Reactor Coolant Activity / 9									
BW/A01 Plant Runback / 1				2			Operating behavior characteristics of the facility associated with Runback	3.2/3.5	1
BW/A02&A03 Loss of NNI-X/Y / 7									
BW/A04 Turbine Trip / 4					02		Adherence to appropriate procedures and operational limits	3.7/3.7	1
BW/A05 Emergency Diesel Actuation / 6		01					Control and safety systems, including instrumentation and interlocks	4.0/3.8	1
BW/A07 Flooding / 8									
BW/E03 Inadequate Subcooling Margin / 4									
BW/E08; W/E03 LOCA Cooldown - Depress. / 4						2.4.18	Knowledge of EOP Basis	2.7/3.6	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4									
BW/E13&E14 EOP Rules and Enclosures					01		EOP Rules - facility conditions and selection of appropriate procedure	3.4/4.0	1
K/A Category Point Totals:	1	2	2	1	2/3	1/2	Group Point Total:		9/5

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
Reactor Coolant Pump					04				02			RCP Shutdown effect on Secondary Parameter RCP Motor current	3.2/3.5 2.6/2.5	2
004 Chemical and Volume Control		02									2.4.11	MUP power supply SRO ONLY - Knowledge of abnormal condition procedures	2.9/3.1 3.4/3.6	1 1
005 Residual Heat Removal			07									Refueling	3.2/3.6	1
006 Emergency Core Cooling										05	2.1.7	ECCS Flowpath SRO ONLY - ECCS - Ability to evaluate plant performance	3.9/3.8 3.7/4.4	1 1
007 Pressurizer Relief/Quench Tank	03											connection to RCS	3.0/3.2	1
008 Component Cooling Water			02					01		01		Loss of CCW to CRDs loss of ccw pump indications and controls	2.9/3.1 3.3/3.6 3.3/3.1	3
010 Pressurizer Pressure Control		01										PZR Heaters	3.0/3.4	1
012 Reactor Protection					01	04						DNB Bypass Block Circuits	3.3/3.8 3.3/3.6	2
013 Engineered Safety Features Actuation			03				06					Containment BWST Level	4.3/4.7 3.6/3.9	2
022 Containment Cooling														
Steam Condenser												N/A		
026 Containment Spray			01								2.1.27	CCS malfunction System Purpose	3.9/4.1 2.6/2.9	2
039 Main and Reheat Steam	02				01							ADV Water Hammer	3.3/3.3 2.9/3.1	2
056 Condensate								04				Predict the impact of the loss of cond pump	2.6/2.8	1
059 Main Feedwater							3					MFV Power Restrictions	2.7/2.9	1
061 Auxiliary/Emergency Feedwater						01			01			malfunction of EFW controller AFW start-up	2.5/2.8 4.2/4.2	2
062 AC Electrical Distribution				02				10				Circuit Breakers switching power supplies	2.5/2.7 3.0/3.3	2
063 DC Electrical Distribution		01								01		System Loads Major breakers and control power fuses	2.6/2.8 2.8/3.1	2
064 Emergency Diesel Generator				03								Governor Valve operation	2.5/3.0	1
076 Service Water								01				SRO ONLY Impact of the loss of SWS	3.5/3.7	1
078 Instrument Air	04		02									Containment air systems Cooling water to compressor	3.1/3.4 2.6/2.9	2
Category Point Totals:	3	3	5	2	3	2	2	2/2	2	3	1/2	Group Point Total:		28/4

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
001 Control Rod Drive								13				<i>SRO ONLY Control rod drive system response to an ATWS</i>	4.4/4.6	1
002 Reactor Coolant														
011 Pressurizer Level Control			02									Pressurizer level failure effects on the RCS	3.5/3.7	1
014 Rod Position Indication							02					RPIS Controls	3.2/3.6	1
015 Nuclear Instrumentation											2.1.32	<i>SRO ONLY explain precautions and limitations</i>	3.4/3.8	1
016 Non-nuclear Instrumentation								01				detector failure	3.0/3.1	1
017 In-core Temperature Monitor														
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control														
029 Containment Purge	01											purge system	3.0/3.1	1
033 Spent Fuel Pool Cooling														
034 Fuel Handling Equipment											2.2.27	Knowledge of Refuel process	2.6/3.5	1
Steam Generator										05		Level control to enhance Natural Circulation	3.8/4.0	1
041 Steam Dump/Turbine Bypass Control														
045 Main Turbine Generator														
055 Condenser Air Removal									03			diversion of CARS	2.5/2.7	1
068 Liquid Radwaste														
071 Waste Gas Disposal				01								Pressure capability of WGD	2.6/3.0	1
072 Area Radiation Monitoring														
075 Circulating Water	01											physical connection to SWS	2.5/2.5	1
079 Station Air														
086 Fire Protection				03								Location of fires	3.1/3.7	1
K/A Category Point Totals:	2		1	2			1	1/1	1	1	1/1	Group Point Total:		10/2

Final Submittal

ES-401		Generic Knowledge and Abilities Outline (Tier 3)		Form ES-401-3		
Facility: Oconee Nuclear Station		Date of Exam: 06/27/03				
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.6	Ability to supervise and assume management roles during plant transients and upset conditions. SRO ONLY			4.4	1
	2.1.11	Knowledge of 1 hour TS action statements. SRO ONLY			3.8	1
	2.1.14	Knowledge of system status criteria requiring notification of plant personnel. SRO ONLY			3.0	1
	2.1.27	Knowledge of system purpose or function. RO ONLY	2.8	1		
	2.1.32	Ability to explain and apply all system limitations and precautions. RO ONLY	3.4	1		
		Subtotal		2		3
2. Equipment Control	2.2.17	Knowledge of procedures for managing maintenance activities during power operation. SRO ONLY			3.5	1
	2.2.2	Ability to manipulate control consoles as required to operate between shutdown and power operations. RO ONLY	4.0	1		
	2.2.12	Knowledge of surveillance procedures. RO ONLY	3.0	1		
		Subtotal		2		1
3. Radiation Control	2.3.3	Knowledge of SRO responsibilities for auxiliary systems outside the control room. SRO ONLY			2.9	1
	2.3.2	Knowledge of facility ALARA program. RO ONLY	2.5	1		
		Subtotal		1		1
4. Emergency Procedures / Plan	2.4.6	Knowledge of symptom based EOP strategies. SRO ONLY	3.1	1		
	2.4.41	Knowledge of EAL thresholds and classification. SRO ONLY			4.1	1
	2.4.3	Ability to identify post accident instrumentation. RO ONLY	3.5	1		
	2.4.7	Knowledge of event based EOP strategies. RO ONLY			3.8	1
	2.4.12	Knowledge of general operating crew responsibilities during emergency operations. RO ONLY	3.4	1		
	2.4.23	Knowledge of the basis for prioritizing emergency procedure implementation during emergency operation. RO ONLY	2.8	1		
	2.4.25	Knowledge of fire protection procedures. RO ONLY	2.9	1		
		Subtotal		5		2
Tier 3 Point Total				10		7

/ Group	Randomly Selected K/A	Reason for Rejection
T1G1	000028K1.01	KA not applicable to ONS. New KA = 000028K2.02
T1G2	000033A2.11	KA not applicable to ONS (ONS no longer has IR Detectors). New KA = 000036AA2.02
T1G1	000011K1.01	LBLOCA redefined at ONS (A 200 gpm leak will not saturate the plant). Q fits SBLOCA. New KA to fit Q is 000009EA2.39
T2G1	000022A1.04	KA not applicable to ONS. New KA = 000008K3.02
T2G2	000079A2.01	KA not applicable to ONS. IA does not backup SA. New KA = 000014A1.02
T2G2	000034G2.1.27	ONS fuel handling system purpose is to limited to write a good discriminatory Q. Changed KA. New KA = 000034G2.2.27

Facility: **Oconee**Scenario No.: **1**Op-Test No.: **1 (Final Submittal)**Examiners: _____

_____Operators: _____

Initial Conditions:

- 75% Reactor Power EOL, per dispatcher request (Snap -217)

Turnover:

- Unit 1 TD EFDW Pump OOS to repair oil leak, expected returned this shift
- SASS in MANUAL for I&E testing
- AMSAC/DSS bypassed for I&E testing
- Keowee Unit 1 generating to the grid
- Diamond in MANUAL for I&E test
- Chemistry has requested that the RCS be De-Lithiation with the Normal deborating Demineralizer for 5 minutes. OP/1103/004 Encl. 4.26 completed up to step 2.6.
- 1B Letdown Filter isolated due to leak

Event No.	Malfunction No.	Event Type*	Event Description
0a	Pre-Insert MSS330		TD EFDW Pump Fails to Start
0b	Pre-Insert Updater		SASS in manual
0c	Pre-Insert Updater		AMSAC/DSS bypassed
1		N, BOP, SRO	De-Lithiation with the Normal deborating Demin.
2	MPI121, 100	I, BOP, SRO	PZR LVL #1 Transmitter Fails HIGH
3	MCR021 Override	C, OATC, SRO	Drop CR Group 2 Rod 6, (TS) Diamond blocked from AUTO operation
4	MPS440 (40-80%)	C, BOP, SRO	1A ₁ RCP High Vibration (secure RCP)
5	MPI281	I, OATC, SRO	ΔT_c fails HIGH when RCP secured
6	MCR022	C, OATC, SRO	Second dropped control rod, requiring a manual reactor trip
7	MEL090	M, ALL	ATWS CT-1 Lockout (Loss of Power)
8	MEL180	M, ALL	Keowee Unit 1 Emergency Lockout (blackout, PRA)

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: **Oconee**Scenario No.: **2**Op-Test No.: **1 (Final Submittal)**
 Examiners: _____

 Operators: _____

Initial Conditions:

- 100% Reactor Power (IC-41)

Turnover:

- AMSAC/DSS bypassed for I&E testing
- SASS in manual for I&E testing
- "A" Condensate Booster Pump OOS, breaker to be replaced
- Keowee Unit 2 OOS for unplanned reasons
- Keowee Unit 1 aligned to underground

Event No.	Malfunction No.	Event Type*	Event Description
0a	Pre-Insert		AMSAC/DSS bypassed
0b	Pre-Insert MNI082		NI-9 OOS
0c	Pre-Insert AOR		"A" AFIS circuit disabled "B" AFIS circuit disabled
0d	Pre-Insert MEL180		Keowee Unit 2 Emergency Lockout
0e	Pre-Insert		ES Channels 7 and 8 fail to automatically actuate
1a	Override	N, BOP, SRO	Low "A" CFT Pressure (N ₂ makeup)
1b	Override	C, BOP, SRO	1N-298 (N ₂ Fill CFT 1A) fails OPEN
2	MPS090	C, OATC, SRO	1HP-120 (RC Volume Control) Fails closed
3	MCS004	I, OATC, SRO	Controlling Tave fails HIGH
4	Override	C, BOP, SRO	Seismic event (PRA) 1A RBCU rupture (TS)
5	MPS020	C, ALL	1B SG Tube leak 5 gpm (TS)
6	MPS020	C, ALL	1B SG Tube leak increases to rupture of 100 gpm
7		R, OATC, SRO	Unit Shutdown
8	MSS360,50	M, ALL	1A Main Steam line break in RB

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: **Oconee**Scenario No.: **3**Op-Test No.: **1 (Final Submittal)**Examiners: _____

_____Operators: _____

Initial Conditions:

- 25% Reactor Power (IC-45), startup in progress

Turnover:

- Unit 1 TD EFDW Pump OOS to repair oil leak
- NI-9 OOS, to be replaced next outage
- Keowee Unit 2 OOS for unplanned reasons
- Keowee Unit 1 aligned to underground
- Operability test of Keowee Unit 1 is to be performed per PT/620/009 (Keowee Hydro Operation) after turnover and before startup continues. ONS to perform remote Keowee start.

Event No.	Malf. No.	Event Type*	Event Description
0a	Pre-Insert MSS330		TD EFDW Pump Fails to Start
0b	Pre-Insert Updater		SASS in manual
0c	Pre-Insert Updater		AMSAC DSS bypassed
0d	Pre-Insert MEL180		Keowee Unit 2 Emergency Lockout
1	MEL020 Override	N, BOP, SRO C, BOP, SRO	Operability test Unit 1 Keowee Unit 1 Gen Field Flashing Breaker fails to OPEN automatically
2	MPS460 Override	C, OATC, SRO	"A" HPI Pump sheared shaft and standby HPI pump fails to start (TS)
3	MNI032	I, OATC, SRO	Controlling NI fails LOW
4	MSS310	C, BOP, SRO	Loss of Instrument Air
5	MPI290	C, OATC, SRO	Main FDW Pump Trips Main Turbine Fails to trip (Lockout EHC Pumps)
6	MSS280,100 Override	M, ALL	"A" TBVs fail open 1MS-17 ("A" TBV Block) fails to close
7	MPS010	M, ALL	"A" SG Tube Rupture

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: **Oconee**Scenario No.: **SPARE**

Op-Test No.: 1 (Final Submittal)

Examiners: _____

_____Operators: _____

Initial Conditions:

- 50% Reactor Power, shutdown in progress (IC-44)

Turnover:

- AMSAC/DSS bypassed for I&E testing
- NI-9 OOS, to be replaced next outage

Event No.	Malf. No.	Event Type*	Event Description
0a	Pre-Insert		AMSAC/DSS bypassed
0b	Pre-Insert MNI082		NI-9 OOS
0c	Pre-Insert		1HP-26 Failed CLOSED
0d	Pre-insert		1FDW-316 Failed OPEN
1	MPI171, 100 MPI500, 100	I, OATC, SRO	T _h Fails HIGH (repair return to auto)
2	MPS290 Override	C, BOP, SRO	1A CC Pump trips (1B CC Pump fails to auto start)
3	MPS110	C, BOP, SRO	1HP-5 Fails closed
4	MPS405	C, BOP, SRO	Unidentified RCS leak in RB (20 gpm) (TS)
5	MCR040	C, OATC, SRO	Inability for CRD insertion in automatic during shutdown.
6		R, OATC, SRO	Manual CRD power decrease
7	MPS400.5	M, ALL	SBLOCA

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor