ADMINISTRATIVE DOCUMENTS

(Yellow Paper)

1. Exam Preparation Checklist ES-201-1
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5. Control Room Systems & Facility Walk-through Test Outline (Final) . . . . See Final Outline Tab ES-301-2
6. Operating Test Quality Check Sheet ES-301-3
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OCONEE JUNE 2006-301 EXAM

05000269, 05000270, AND 05000287/2006301

JUNE 19 - 28, 2006 AND JUNE 30, 2006 (WRITTEN)

Facility: Oconee Date of Exam: June 2006

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	A2	G*	Total
1. Emergency & Abnormal Plant Evolutions	1	3	3	4	N/A			2	3	N/A		3	18	3	3	6
	2	2	2	2				1	1			1	9	1	3	4
	Tier Totals	5	5	6				3	4			4	27	4	6	10
2. Plant Systems	1	3	2	2	2	1	2	3	2	4	3	4	28	2	3	5
	2	1	1	1	1	1	1	1	1	1	0	1	10	1	2	3
	Tier Totals	4	3	3	3	2	3	4	3	5	3	5	38	3	5	8
3. Generic Knowledge and Abilities Categories		1			2			3			4		10	1	2	3	4	7
		3			2			3			2			2	2	1	2	

Note:

1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two).

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. Systems / evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operability-important, site-specific systems that are not included on the outline should be added. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.

4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.

5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively, unless the entire exam will be administered only to SRO applicants, in which case the SRO ratings should be used throughout.

6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.

7.* 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.

8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance rating (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. Use duplicate pages for RO and SRO-only exams.

9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, importance ratings, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO-R / **SRO-S**)

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1					R S		R BW/E02 EA2.1 Ability to determine and interpret the following as they apply to the (Vital System Status Verification): Facility conditions and selection of appropriate procedures during abnormal and emergency operations. **S BW/E02 EA2.2 Ability to determine and interpret the following as they apply to the (Vital System Status Verification): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.**	2.5 **3.8**	
000008 Pressurizer Vapor Space Accident / 3		R			S		R 008 AK2.01 Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the following: Valves. **S 008 AA2.03 Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: PORV position indicators and acoustic monitors.**	2.7 **3.9**	
000009 Small Break LOCA / 3			R				R 009 EK3.12 Knowledge of the reasons for the following responses as they apply to the small break LOCA: Letdown isolation.	3.4	
000011 Large Break LOCA / 3		R			S		R 011EK2.02 Knowledge of the interrelations between the LBLOCA and the following: Pumps. **S 011EA2.01 Ability to determine or interpret the following as they apply to a Large Break LOCA: Actions to be taken, based on RCS temperature and pressure – saturated and superheated.**	2.6 **4.7**	
000015/17 RCP Malfunctions / 4						R	R 015/017 G2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	3.7	
000022 Loss of Rx Coolant Makeup / 2	R						R 022 AK1.03 Knowledge of the operational implications of the following concepts as they apply to Loss of Reactor Coolant Pump Makeup: Relationship between charging flow and PZR level.	3.0	
000025 Loss of RHR System / 4		R					R 025 AK2.02 Knowledge of the interrelations between the Loss of Residual Heat Removal System and the following: LPI or Decay Heat Removal / RHR pumps.	3.2	
000026 Loss of Component Cooling Water / 8						R	R 026 G2.4.24 Knowledge of loss of cooling water procedures.	3.3	
000027 Pressurizer Pressure Control System Malfunction / 3	R						R 027 AK1.02 Knowledge of the operational implications of the following concepts as they apply to Pressurizer Pressure Control Malfunctions: Expansion of liquids as temperature increases.	2.8	
000029 ATWS / 1	R						R 029 EK1.03 Knowledge of the operational implications of the following concepts as they apply to the ATWS: Effects of boron on reactivity.	3.6	
000038 Steam Gen. Tube Rupture / 3					R	S	R 038 EA2.02 Ability to determine or interpret the following as they apply to a SGTR: Existence of an S/G tube rupture and its potential consequences. **S 038 G2.4.48 Ability to interpret control room indications to verify the status and operation of the system, and understand how operator actions and directives affect plant and system conditions.**	4.5 **3.8**	
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4					R		R BW/E05 EA2.2 Ability to determine and interpret the following as they apply to the (Excessive Heat Transfer): Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	3.6	
000054 (CE/E06) Loss of Main Feedwater / 4				R			R 054 AA1.04 Ability to operate and / or monitor the following as they apply to the Loss of Main Feedwater (MFW): HPI, under total feedwater loss conditions.	4.4	
000055 Station Blackout / 6						R	R 055 G2.1.32 Ability to explain and apply all system limits and precautions.	3.4	
000056 Loss of Off-site Power / 6			R				R 056 AK3.02 Knowledge of the reasons for the following responses as they apply to the Loss of Offsite Power: Actions contained in EOP for loss of offsite power.	4.4	
000057 Loss of Vital AC Inst. Bus / 6							Not selected.		

PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO-R / **SRO-S**)

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000058 Loss of DC Power / 6			R				R 058 AK3.01 Knowledge of the reasons for the following responses as they apply to the loss of DC Power: Use of dc control power by D/Gs.	3.4	
000062 Loss of Nuclear Svc Water / 4							Not selected.		
000065 Loss of Instrument Air / 8				R		S	R 065 AA1.05 Ability to operate and / or monitor the following as they apply to the Loss of Instrument Air: RPS **S 065 G2.1.20 Ability to execute procedure steps.**	3.3 **4.2**	
W/E04 LOCA Outside Containment / 3							Not selected.		
W/E11 Loss of Emergency Coolant Recirc. / 4							Not selected.		
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4			R			S	R BW/E04 EK3.4 Knowledge of the reasons for the following responses as they apply to the (Inadequate Heat Transfer): RO or SRO function within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and the limitations in the facilities license and amendments are not violated. **S BW/E04 G2.4.48 Ability to interpret control room indications to verify the status and operation of system, and understand how operator actions and directives affect plant and system conditions.**	3.5 **3.8**	
	K 1	K 2	K 3	A 1	A 2	G			
K/A Category Totals:	3	3	4	2	3 **3**	3 **3**	Group Point Total:	18 / 6	

PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO-R / **SRO-S**)

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1		R					R 001 AK2.05 Knowledge of the interrelations between the Continuous Rod Withdrawal and the following: Rod motion lights.	2.9	
000003 Dropped Control Rod / 1						R	R 003 G2.4.10 Knowledge of annunciator response procedures.	3.0	
000005 Inoperable/Stuck Control Rod / 1							Not selected.		
000024 Emergency Boration / 1							Not selected.		
000028 Pressurizer Level Malfunction / 2					R		R 028 AA2.03 Ability to determine and interpret the following as they apply to the Pressurizer Level Control Malfunctions: Charging subsystem flow indicator and controller.	2.8	
000032 Loss of Source Range NI / 7							Not selected.		
000033 Loss of Intermediate Range NI / 7							Not selected.		
000036 (BW/A08) Fuel Handling Accident / 8						S	**S BW/A08G2.2.29 Knowledge of SRO fuel handling responsibilities.**	**3.8**	
000037 Steam Generator Tube Leak / 3					S		**S 037 AA2.10 Ability to determine and interpret the following as they apply to the Steam Generator Tube Leak: Tech-Spec limits for RCS leakage.**	**4.1**	
000051 Loss of Condenser Vacuum / 4							Not selected.		
000059 Accidental Liquid RadWaste Rel. / 9		R					R 059 AK2.01 Knowledge of the interrelations between the Accidental Liquid Radwaste Release and the following: Radioactive-liquid monitors.	2.7	
000060 Accidental Gaseous Radwaste Rel. / 9				R			R 060 AA1.01 Ability to operate and / or monitor the following as they apply to the Accidental Gaseous Radwaste: Area radiation monitors.	2.8	
000061 ARM System Alarms / 7							Not selected.		
000067 Plant Fire On-site / 8						S	**S 067 G2.4.27 Knowledge of fire in plant procedure.**	**3.5**	
000068 (BW/A06) Control Room Evac. / 8			R				R BW/A06 AK3.2 Knowledge of the reasons for the following responses as they apply to the (Shutdown Outside Control Room): Normal, abnormal and emergency operating procedures associated with (Shutdown Outside Control Room).	3.8	
000069 (W/E14) Loss of CTMT Integrity / 5							Not selected.		
000074 (W/E06&E07) Inad. Core Cooling / 4							Not selected.		
000076 High Reactor Coolant Activity / 9						S	**S 076 G2.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.**	**3.7**	
W/EO1 & E02 Rediagnosis & SI Termination / 3							Not selected.		
W/E13 Steam Generator Over-pressure / 4							Not selected.		
W/E15 Containment Flooding / 5							Not selected.		
W/E16 High Containment Radiation / 9							Not selected.		
BW/A01 Plant Runback / 1							Not selected.		
BW/A02&A03 Loss of NNI-X/Y / 7							Not selected.		
BW/A04 Turbine Trip / 4	R						R BW/A04 AK1.1 Knowledge of the operational implications of the following concepts as they apply to the (Turbine Trip): Components, capacity, and function of emergency systems.	3.0	
BW/A05 Emergency Diesel Actuation / 6							Not selected.		
BW/A07 Flooding / 8							Not selected.		
BW/E03 Inadequate Subcooling Margin / 4							Not selected.		

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PWR Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO-R / **SRO-S**)

Form ES-401-2

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
BW/E08; W/E03 LOCA Cooldown - Depress. / 4			R				R BW/E08 EK3.2 Knowledge of the reasons for the following responses as they apply to the (LOCA Cooldown): Normal, abnormal and emergency operating procedures associated with (LOCA Cooldown).	3.0	
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4							Not selected.		
BW/E13&E14 EOP Rules and Enclosures	R						R BW/E13 EK1.2 Knowledge of the operational implications of the following concepts as they apply to the (EOP Rules): Normal, abnormal and emergency operating procedures associated with (EOP Rules).	3.0	
CE/A11; W/E08 RCS Overcooling - PTS / 4							Not selected.		
CE/A16 Excess RCS Leakage / 2							Not selected.		
CE/E09 Functional Recovery							Not selected.		
	K 1	K 2	K 3	A 1	A 2	G			
K/A Category Point Totals:	2	2	2	1	1 1	1 3	Group Point Total:	9/4	

PWR Examination Outline
Plant Systems – Tier 2/Group 1 (RO-R / **SRO-S**)

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
003 Reactor Coolant Pump						R						R 003 K6.02 Knowledge of the effect of a loss or malfunction on the following will have on the RCPS: RCP seals and seal water supply.	2.7	
004 Chemical and Volume Control										R	R	R 004 G2.4.46 Ability to verify that alarms are consistent with the plant conditions. R 004 A4.15 Ability to manually operate and/or monitor in the control room: Boron concentration.	3.5 3.6	
005 Residual Heat Removal								R				R 005 A2.04 Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: RHR valve malfunction.	2.9	
006 Emergency Core Cooling		R							R			R 006 K2.01 Knowledge of bus power supplies to the following: ECCS pumps. R 006 A3.02 Ability to monitor automatic operation of the ECCS, including: Pumps.	3.6 4.1	
007 Pressurizer Relief/Quench Tank				R								R 007 K4.01 Knowledge of PRTS design feature(s) and/or interlock(s) which provide for the following: Quench tank cooling.	2.6	
008 Component Cooling Water				R					R			R 008 K4.02 Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Operation of the surge tank, including the associated valves and controls. R 008 A3.01 Ability to monitor automatic operation of the CCWS, including: Setpoints on instrument signal levels for normal operations, warnings, and trips that are applicable to the CCWS.	2.9 3.2	
010 Pressurizer Pressure Control						R					S	R 010 K6.04 Knowledge of the effect of a loss or malfunction of the following will have on the PZR PCS: PRT. **S 010 G2.2.22 Knowledge of limiting conditions for operations and safety limits.**	2.9 **4.1**	
012 Reactor Protection									R			R 012 A3.06 Ability to monitor automatic operation of the RPS, including: Trip logic.	3.7	
013 Engineered Safety Features Actuation	R							S			R	R 013 G2.4.2 Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions. R 013 K1.12 Knowledge of the physical connections and/or cause effect relationships between the ESFAS and the following systems: ED/G. **S 013 A2.03 Ability to (a) predict the impacts of the following malfunctions or operations on the ESFAS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Rapid depressurization.**	3.9 4.1 **4.7**	
022 Containment Cooling		R								R		R 022 G2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. R 022 K3.02 Knowledge of the effect that a loss or malfunction of the CCS will have on the following: Containment instrumentation readings.	3.4 3.0	
025 Ice Condenser												Not applicable.		
026 Containment Spray							S			R		R 026 G2.4.31 Knowledge of annunciators, alarms, and indications, and use of response instructions. **S 026 A2.04 Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of spray pump.**	3.3 **4.2**	
039 Main and Reheat Steam				R								R 039 K5.01 Knowledge of the operational implications of the following concepts as they apply to the MRSS: Definition and causes of steam/water hammer.	2.9	

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PWR Examination Outline
Plant Systems – Tier 2/Group 1 (RO-R / SRO-S)

Form ES-401-2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
059 Main Feedwater										R		R 059 A4.01 Ability to manually operate and monitor in the control room: MFW turbine trip indication.	3.1	
061 Auxiliary/Emergency Feedwater							R		R			R 061 A1.05 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW controls including: AFW flow/motor amps. R 061 A3.03 Ability to monitor automatic operation of the AFW, including: AFW S/G level control on automatic start.	3.6 3.9	
062 AC Electrical Distribution								R		R		R 062 A2.07 Ability to (a) predict the impacts of the following malfunctions or operations on the ac distribution system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of opening a disconnect under load. R 062 A4.03 Ability to manually operate and/or monitor in the control room: Synchroscope, including an understanding or running and incoming voltages.	3.0 2.8	
063 DC Electrical Distribution		R										R 063 K2.01 Knowledge of bus power supplies to the following: Major DC loads.	2.9	
064 Emergency Diesel Generator							R				S	R 064 A1.03 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ED/G system controls including: Operating voltages, currents, and temperatures. **S 064 G2.4.30 Knowledge of which events related to system operations/status should be reported to outside agencies.**	3.2 **3.6**	
073 Process Radiation Monitoring							R					R 073 A1.01 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRM system controls including: Radiation levels.	3.2	
076 Service Water	R										S	R 076 K1.08 Knowledge of the physical connections and/or cause-effect relationships between the SWS and the following systems: RHR system. **S 076 G2.1.12 Ability to apply technical specifications for a system.**	3.5 **4.0**	
078 Instrument Air			R									R 078 K3.02 Knowledge of the effect that a loss or malfunction of the IAS will have on the following: Systems having pneumatic valves and controls.	3.4	
103 Containment	R											R 103K1.02 Knowledge of the physical connections and/or cause-effect relationships between the containment system and the following systems: Containment Isolation / Containment Integrity.	3.9	
	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G			
K/A Category Point Totals:	3	2	2	2	1	2	3	2 2	4	3	4 3	Group Point Total:		28/5

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PWR Examination Outline
Plant Systems - Tier 2/Group 2 (RO-R / **SRO-S**)

Form ES-401-2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
001 Control Rod Drive						R						R 001 K6.14 Knowledge of the effect of a loss or malfunction on the following CRDS components: Location and interpretation of reactor trip breaker.	4.0	
002 Reactor Coolant			R									R 002 K3.03 Knowledge of the effect that a loss or malfunction of the RCS will have on the following: Containment.	4.2	
011 Pressurizer Level Control				R								R 011 K4.02 Knowledge of PZR LCS design feature(s) and / or interlock(s) which provide for the following: PZR level controller.	3.3	
014 Rod Position Indication								S				**S 014 A2.04 Ability to (a) predict the impacts of the following malfunctions or operations on the RPIS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Misaligned rod.**	3.9	
015 Nuclear Instrumentation		R										R 075 K2.01 Knowledge of bus power supplies to the following: NIS channels, components, and interconnections.	3.3	
016 Non-nuclear Instrumentation												Not selected.		
017 In-core Temperature Monitor											S	**S 017 G2.4.4 Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.**	4.3	
027 Containment Iodine Removal												Not selected.		
028 Hydrogen Recombiner and Purge Control											R	R 028 G2.1.8 Ability to coordinate personnel activities outside the control room.	3.8	
029 Containment Purge												Not selected.		
033 Spent Fuel Pool Cooling							R					R 033 A1.01 Ability to predict and / or monitor changes in parameters (to prevent exceeding design limits) associated with Spent Fuel Pool Cooling System operating the controls including: Spent Fuel Pool Water Level.	2.7	
034 Fuel Handling Equipment												Not selected.		
035 Steam Generator	R											R 035 K1.02 Knowledge of the physical connections and/or cause-effect relationship between the S/GS and the following systems: MRSS.	3.2	
041 Steam Dump/Turbine Bypass Control									R			R 041 A3.01 Ability to monitor automatic operation of the SDS, including: RCS T-ave. meter (cooldown rate).	3.2	
045 Main Turbine Generator												Not selected.		
055 Condenser Air Removal												Not selected.		
056 Condensate												Not selected.		
068 Liquid Radwaste												Not selected.		
071 Waste Gas Disposal												Not selected.		
072 Area Radiation Monitoring					R							R 072 K5.01 Knowledge of the operational implications of the following concepts as they apply to the ARM System: Radiation theory, including sources, types, units, and effects.	2.7	
075 Circulating Water												Not selected.		
079 Station Air								R				R 079 A2.01 Ability to (a) predict the impacts of the following malfunctions or operations on the SAS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Cross-connection with IAS.	2.9	
086 Fire Protection											S	**S 086 G2.1.14 Knowledge of system status criteria which require the notification of plant personnel.**	3.3	
K/A Category Point Totals:	1	1	1	1	1	1	1	1 **1**	1	0	1 **2**	Group Point Total:	10/3	

ES-401	Generic Knowledge and Abilities Outline (Tier 3)					Form ES-401-3
Facility:	Oconee		Date of Exam :	June 2006		
Category	K/A #	Topic	RO		SRO - Only	
			IR	#	IR	#
Conduct of Operations	R G2.1.2	Knowledge of operator responsibilities during all modes of plant operation.	3.0	1		
	R G2.1.22	Ability to determine Mode of Operation.	2.8	1		
	R G2.1.30	Ability to locate and operate components, including local controls.	3.9	1		
	S G2.1.6	**Ability to supervise and assume a management role during plant transients and upset conditions.**			**4.3**	**1**
	S G2.1.10	**Knowledge of conditions and limitations in the facility license.**			**3.9**	**1**
	N/A					
	Subtotal			3		2
Equipment Control	R G2.2.12	Knowledge of surveillance procedures.	3.0	1		
	R G2.2.13	Knowledge of tagging and clearance procedures.	3.6	1		
	S G2.2.11	**Knowledge of the process for controlling temporary changes.**			**3.4**	**1**
	S G2.2.23	**Ability to track limiting conditions for operations.**			**3.8**	**1**
	N/A					
	N/A					
	Subtotal			2		2
Radiation Control	R G2.3.1	Knowledge of 10 CFR: 20 and related facility radiation control requirements.	2.6	1		
	R G2.3.4	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	1		
	R G2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	2.9	1		
	S G2.3.8	**Knowledge of the process for performing a planned gaseous radioactive release.**			**3.2**	**1**
	N/A					
	N/A					
	Subtotal			3		1
Emergency Procedures / Plan	R G2.4.16	Knowledge of EOP implementation hierarchy and coordination with other support procedures.	3.0	1		
	R G2.4.35	Knowledge of local auxiliary operator tasks during emergency operations including system geography and system implications.	3.3	1		
	S G2.4.6	**Knowledge of symptom based EOP mitigation strategies.**			**4.0**	**1**
	S G2.4.38	**Ability to take actions called for in the facility emergency plan, including (if required) supporting or acting as emergency coordinator.**			**4.0**	**1**
	N/A					
	N/A					
	Subtotal			2		2
Tier 3 Point Total				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
1 / 1	008AA2.02	Changed to: 008AA2.03. Could not write SRO-only level question to original K/A.
1 / 1	011EK1.01	Changed to: 011EK2.02. Reflux boiling during LBLOCA does not fit.
1 / 1	022AK1.04	Changed to: 022AK1.03. Oconee does not have variable pzr level program.
1 / 1	038EA2.12	Changed to: 038EA2.02. Oconee does not have MSIV.
1 / 1	BW/E04G2.4.44	Changed to: BW/E04G2.4.48. K/A conflicted with PAR question already written.
1 / 2	005AA2.01	Changed to 037AA2.10. Could not write a discriminating question to the K/A.
1 / 2	028AA2.06	Changed to: 028AA2.03. L/D flow has no interface with pzr level control.
1 / 2	059G2.3.6	Changed to: BW/A08G2.2.29. Licensed operators have no station responsibility for liquid radwaste releases.
1 / 2	BW/A01G2.2.25	Changed to: 076G2.2.25. There is no Tech Spec basis for runback control function.
1 / 2	BW/A06AK3.1	Changed to: BW/A06AK3.2. Could not write a discriminating question to the K/A.
2 / 1	004A4.02	Changed to: 004A4.15. No Warnings/Cautions/Notes to base question on.
2 / 1	026G2.4.20	Changed to: 026G2.4.31. Could not write a discriminating question to the K/A.
2 / 1	103K1.03	Changed to: Changed to 103K1.02. They have no shield building. K/A catalog implies that shield building is different from containment.
2 / 2	045K5.23	Changed to: Changed to 072K5.01. They do not adjust boron on T/G load increase. Thus making it difficult to write a question on the relationship between rod control and boron concentration on a T/G load increase.
2 / 2	068A2.02	Changed to: 014A2.04. Licensed operators have no station responsibility for liquid radwaste releases.
2 / 2	075K2.03	Changed to: 015K2.01. Circ water and essential SW not related at Oconee.
2 / 2	079G2.4.4	Changed to: 017G2.4.4. Could not write SRO-only level question to original K/A.

Final Submittal
(Blue Paper)

FINAL OUTLINES

OPERATING TEST

2/9/06

Facility: OCONEE Date of Examination: JUNE 2006

Examinations Developed by: Facility Written / (Operating Test) NRC (Written) / Operating Test

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	MB
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	MB
-120	3. Facility contact briefed on security and other requirements (C.2.c)	MB
-120	4. Corporate notification letter sent (C.2.d)	MB
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	MB
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	MB
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	MB
{-45}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6), and reference materials due (C.1.e, f, g and h; C.3.d)	MB
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	MB
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	MB
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	MB
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	MB
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	WB
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204) Burkhart & Patterson	MB
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	MB
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	MB

* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.
[Applies only] {Does not apply} to examinations prepared by the NRC.

WRITTEN
FINAL

Facility: OCONEE Date of Examination: JUNE 2006

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	MB		
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	MB	N/A	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	MB		
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	MB		
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.			
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.		N/A	
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.		N/A	
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations			
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.			
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	MB		
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	MB		
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	MB	N/A	
	d. Check for duplication and overlap among exam sections.	MB		
	e. Check the entire exam for balance of coverage.	MB		
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	MB		

	Printed Name/Signature	Date
a. Author	MARK A. BATES / Mark A. Bates	06/16/2006
b. Facility Reviewer (*)	N/A	N/A
c. NRC Chief Examiner (#)	GERARD W. LASKA	06/27/2006
d. NRC Supervisor	JAMES H. MOUTMASTER	6-28-06

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

OP TEST
FINAL

Facility: Oconee Date of Examination: June 19, 2006

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	N/A	N/A	N/A
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	N/A	N/A	N/A
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	N/A	N/A	N/A
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	N/A	N/A	N/A
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	[illegible]	[illegible]	MB
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	[illegible]	[illegible]	MB
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	[illegible]	[illegible]	MB
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	[illegible]	[illegible]	MB
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	[illegible]	[illegible]	MB
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	[illegible]	[illegible]	MB
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	[illegible]	[illegible]	MB
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	N/A	N/A	N/A
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	N/A	N/A	N/A
	d. Check for duplication and overlap among exam sections.	[illegible]	[illegible]	MB
	e. Check the entire exam for balance of coverage.	[illegible]	[illegible]	MB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	[illegible]	[illegible]	MB

	Printed Name/Signature	Date
a. Author	Gabriel Washburn / [signature]	6/12/2006
b. Facility Reviewer (*)	John R Steely / [signature]	6/12/2006
c. NRC Chief Examiner (#)	Mark A. Bates / [signature]	6/14/2006
d. NRC Supervisor	James H Moorman III / [signature]	6.15.06

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Examination Security Agreement

Form ES-201-3

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **6-19/26-2006** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of **6-19/26-2006** From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Robert L. Manning	RO / Shift OPS		5/7/06		8/24/06	
2.	DIANE PERRY	ADMIN. SPECIALIST		05/08/06		08/17/06	
3.	Neil Constance	Mgr-Ops Trng		5/16/06		7-6-06	
4.	Dean Hubbard	Training Mgr		5/16/06	DMHubbard USC	7-6-06	
5.	BRIAN SHALAYDA	RO / SHIFT OPS (ISRO)		5-26-06		7-5-06	
6.	CARLOS L. MINOR	RO / SHIFT OPS		5/26/06		7-12-06	
7.	Robert Wilks	RO / Shift OPS		5/26/06		7-13-06	
8.	Kevin Moses	SRO / Shift OPS		5/26/06		07/27/06	
9.	PHILIP J. NORTH	SOM		5/30/06		7/5/06	
10.	MELVINA MANICK	OWPG		5/30/06		7/17/06	
11.	Michael Kennard	RO / SHIFT OPS		6/13/06		8-7-6	
12.	WAYNE Smith	RO / SHIFT OPS		6/14/06		7-27-06	
13.	Larry Gentry	INSTRUCTOR / TRNG		6/14/06		7/24/06	
14.	Tracy Lamons	SRO / SHIFT OPS		6-14-06		7/27/06	
15.	Gregory B Baumgaw	Instructor		6-19-06		7/5/06	

NOTES:

1. Pre-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Gabriel WASHBURN	Instructor / Exam Development		2-20-06		7-3-06	
2.	Rick Robinson	SRO / Exam Review		3-15-06		7-13-06	
3.	John R Steely	Supervisor / Exam Review & oversight		3-29-06		7-5-06	
4.	JAMES M. BYKO	Instructor / Simulator Config.		4-14-06		7-3-06	
5.	KEITH P. Walchel	Sim Support / Supv.		4-17-06		7-14-06	
6.	Tam V. VO	Sim Support		4-27-06		7-3-06	
7.	Jeff G. Pottmeyer	Sim Support		4-17-06		7-3-06	
8.	Allen G. Collins	Sim Support		4-17-06		7-5-06	
9.	Diane T Burrell	Admin Support		4-17-06		7-6-06	
10.	Eric J Dark	RO / Exam Validation		4-22-06		7-13-06	
11.	C. Dean Porter Jr	SRO / Exam Validation		4-22-06		7/11/06	
12.	Richard A. Scholz	RO / EXAM VALIDATION		4-22-06		7/11/06	
13.	Kenneth D Schaef	Instructor / Exam Development		4-26-06		7-5-06	
14.	Jeffrey P. Hekking	Instructor / Exam Development		5-3-06		7-10-06	
15.	J Ed Burchfield Jr.	SRO / Shift OPS		5-2-06		7-18-06	

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **6-19/26-2006** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of **6-19/26-2006** From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Olson Mercedo	Nucl. Instr / Sequester		6/19/06		7-5-06	
2.	James L. Collins Jr.	OSM / OPS Liason		6-19-06		7-3-06	
3.	Clifford P. Witherspoon	Instructor		6-19-06		7-3-06	
4.	Scott L. Batson	OPS Supt		06-19-06		7-6-06	
5.	Norman D. Shepard Jr.	LIT		06-21-06		7-11-06	
6.	John Youmans	LIT		06-21-06		7/11/06	
7.	Troy N Inman	Nucl Instructor		06-22-06		7-3-06	
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15.							

NOTES:

Examination Security Agreement

Form ES-201-3

07/11/2006 11:13 FAX 864+885+3402 DUKE OOB ENGR 002

07/15/2006 MON 15:04 FAX 8648853037 UIC

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 6-19/26-2006 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 6-19/26-2006 From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	James R. Kiser	SR. ENGINEER / VHE (Relief valve Engr)	James R. Kiser	5-15-06	James R. Kiser	7-11-06	
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NOTES:

Examination Security Agreement

Form ES-201-3

06/13/2006 11:57 FAX 8648853143 RP SPA EXAM DEVELOPMENT ROOM 001

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **6-19/26-2006** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	TIMOTHY A McCarver	RP SUPERVISOR	Timothy A McCarver	6-13-06	Timothy A McCarver	7/31/06	
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NOTES:

FINAL

Facility: **Oconee** Date of Examination: **June, 2006**

Examination Level: RO [X] SRO [ ] Operating Test Number: **1**

Administrative Topic	Type Code*	Describe activity to be performed
Conduct of Operations GEN 2.1.33 (3.4/4.0)	**D, R**	**Admin-116, Reactor Power Imbalance Verification** - Tech Specs/COLR; PT/600/01, (**RO only**) (Group) (12 min)
Conduct of Operations		
Equipment Control GEN 2.2.12 (3.0/3.4)	**D, R**	**Admin-204, Perform weekly surveillance test to determine RIA-40 setpoint** PT/230/001 Encl. 13.10 (Operation of RIA-40) (**RO Only**) (Group) (20 min)
Radiation Control GEN 2.3.10 (2.9/3.3)	**N, R**	**Admin-303, Determine Radiation Protection Requirements for an Activity** (Group) (13 min)
Emergency Plan GEN 2.4.39 (3.3/3.1)	**N, C**	**Admin-406, Perform the Emergency Plan Requirements for a Hazmat Event** RP/1000/017, Spill Response (**RO Only**) (14 min) (Control Room)

Note: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria:
(C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

FINAL

Initial Submittal

Facility: **Oconee**	Date of Examination: **June, 2006**
Exam Level: RO [X] SRO-I [ ] SRO-U [ ]	Operating Test No.: 1

Control Room Systems@ (8 for RO); (7 for SRO-I); 2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. **CRO-105, RCS Boration From CBAST** OP/1/A/1103/004 A Encl. 4.1 [KA: 004 A4.07 (3.9/3.7)] (15 min)	N, S, L	1
b. **CRO-204, ES Recovery,** EOP Enclosure 5.41, ES Recovery [KA: 006 A4.08 (4.2/4.3)] (25 min)	N, S, E	2
c. **CRO-028, Align HPI/LPI Piggyback Mode** EOP, Encl. 5.12 (ECCS Suction Swap to RBES) [KA: EPE 009 EK3.21 (4.2/4.5)] (10 min)	M, A, S, E	3
d. **CRO-400, Swapping LPI Modes - LPI Series Mode to LPI Normal Mode** OP/1/A/1104/004, Encl. 4.20 (Swapping LPI Modes LPI Series Mode to LPI Normal Mode) [KA: 005 A4.01 (3.6*/3.4)] (15 min)	N, S	4P
e. **CRO-015, Establish EFDW Flow Through Startup Valves** EOP, Rule 3, Encl. 5.27 (Alternate Methods For Controlling EFDW Flow) [KA: APE-054 AA2.04 (4.2/4.3)] (10 min)	D, A, S	4S
f. **CRO-500, Restore RB Auxiliary Fan Coolers Following a Loss of LPSW** AP/24, Loss of LPSW; OP/1/A/1104/010, LPSW Encl. 4.31 (LPSW Shutdown and Return to Service RB Aux Coolers) [KA: 022 A4.04 (3.1*/3.2)] (15 min)	N, S	5
g. **CRO-010, Following Keowee Emergency Start Transfer From CT-4 To CT-1** OP/0/A/1106/019 Encl. 4.12 [KA: 062 A4.01 (3.3/3.1)] (20 min)	D, S	6
h. **CRO-100A, Place The RB Purge in Operation (PR-3 Fails to Open)** OP/0/A/1102/014, Encl. 4.1 [KA: 029 A2.03 (2.7/3.1)] (20 min)	M, S, A, L	8

In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **NLO-200, Align HPI Pump Suction to BWST During a Blackout** EOP Encl. 5.7, HPI Pump Operations from ASW Pump Switchgear [KA: APE022 G2.4.35 (3.3/3.5)] (15 min)	N, R, E	2
j. **CRO-401, Aligning SSF-ASW for SG Feed** EOP Encl. 5.34, Aligning SSF-ASW for SG Feed [KA: APE 054 AA1.01 (4.5/4.4)] (10 min)	N, A, E	4S
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*)] (20 min))	D, A, E	8

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

FINAL

Initial Submittal

Facility: **Oconee**	Date of Examination: **June, 2006**
Exam Level: 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, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. **CRO-105, RCS Boration From CBAST** OP/1/A/1103/004 A Encl. 4.1 [KA: 004 A4.07 (3.9/3.7)] (15 min)	N, S, L	1
b. **CRO-204, ES Recovery,** EOP Enclosure 5.41, ES Recovery [KA: 006 A4.08 (4.2/4.3)] (25 min)	N, S	2
c. **CRO-028, Align HPI/LPI Piggyback Mode** EOP, Encl. 5.12 (ECCS Suction Swap to RBES) [KA: EPE 009 EK3.21 (4.2/4.5)] (10 min)	M, A, S, E	3
d. **N/A**		
e. **CRO-015, Establish EFDW Flow Through Startup Valves** EOP, Rule 3, Encl. 5.27 (Alternate Methods For Controlling EFDW Flow) [KA: APE-054 AA2.04 (4.2/4.3)] (10 min)	D, A, S	4S
f. **CRO-500, Restore RB Auxiliary Fan Coolers Following a Loss of LPSW** AP/24, Loss of LPSW; OP/1/A/1104/010, LPSW Encl. 4.31 (LPSW Shutdown and Return to Service RB Aux Coolers) [KA: 022 A4.04 (3.1*/3.2)] (15 min)	N, S	5
g. **CRO-010, Following Keowee Emergency Start Transfer From CT-4 To CT-1** OP/0/A/1106/019 Encl. 4.12 [KA: 062 A4.01 (3.3/3.1)] (20 min)	D, S	6
h. **CRO-100A, Place The RB Purge in Operation (PR-3 Fails to Open)** OP/0/A/1102/014, Encl. 4.1 [KA: 029 A2.03 (2.7/3.1)] (20 min)	M, S, A, L	8

FINAL

In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **NLO-200, Align HPI Pump Suction to BWST During a Blackout** EOP Encl. 5.7, HPI Pump Operations from ASW Pump Switchgear [KA: APE022 G2.4.35 (3.3/3.5)] (15 min)	N, R, E	2
j. **CRO-401, Aligning SSF-ASW for SG Feed** EOP Encl. 5.34, Aligning SSF-ASW for SG Feed [KA: APE 054 AA1.01 (4.5/4.4)] (10 min)	N, A, E	4S
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*)] (20 min))	D, A, E	8

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

FINAL

Initial Submittal

Facility: **Oconee**	Date of Examination: **June, 2006**
Exam Level: 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, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. **CRO-105, RCS Boration From CBAST** OP/1/A/1103/004 A Encl. 4.1 [KA: 004 A4.07 (3.9/3.7)] (15 min)	N, S, L	1
c. **CRO-028, Align HPI/LPI Piggyback Mode** EOP, Encl. 5.12 (ECCS Suction Swap to RBES) [KA: EPE 009 EK3.21 (4.2/4.5)] (10 min)	M, A, S, E	3
h. **CRO-100A, Place The RB Purge in Operation (PR-3 Fails to Open)** OP/0/A/1102/014, Encl. 4.1 [KA: 029 A2.03 (2.7/3.1)] (20 min)	M, S, A, L	8
In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **NLO-200, Align HPI Pump Suction to BWST During a Blackout** EOP Encl. 5.7, HPI Pump Operations from ASW Pump Switchgear [KA: APE022 G2.4.35 (3.3/3.5)] (15 min)	N, R, E	2
j. **CRO-401, Aligning SSF-ASW for SG Feed** EOP Encl. 5.34, Aligning SSF-ASW for SG Feed [KA: APE 054 AA1.01 (4.5/4.4)] (10 min)	N, A, E	4S

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

Facility: **Oconee** Scenario No.: **1 fnl** Op-Test No.: **1**

Examiners: _____ Operators: _____

Initial Conditions:
- 100% Reactor Power EOL (SNAP 201)

Turnover:
- Unit 1 TD EFDW Pump OOS to repair oil leak, expected returned this shift
- AMSAC/DSS bypassed for I&E testing
- SASS in Manual for I&E testing
- 1B GWD Tank release in progress
- Keowee Unit 2 OOS for unplanned reasons
- Keowee Unit 1 aligned to underground, operability test complete
- ICS in manual to repair Tave setpoint control
- OP/1/A/1102/004 A Encl. 4.1 in progress
- Repair complete, after turnover place ICS in Automatic

Event No.	Malfunction No.	Event Type*	Event Description
0a	Pre-Insert MSS330		TD EFDW Pump Fails to Start
0b	Pre-Insert Updater		AMSAC/DSS bypassed
0c	Pre-Insert MEL180		Keowee Unit 2 Emergency Lockout
0d	MPS330		RBS Pump Fails to Receive ES Signal
1		N, OATC, SRO	Place ICS in AUTO
2	MPI011 MPS400	TS, SRO	RCS WR Pressure Fails LOW (TS) Small RCS Leak
3	Override	N, BOP	QT level high, pump QT
4	MPI021	C, BOP, SRO	Inadvertent ES Channels 1 and 2 actuation
5	MCS004	I, OATC, SRO	Tave fails HIGH
6	Override	C, TS, BOP, SRO	50 gpm RCS leak (TS)
7		R, OATC, SRO	Manual power reduction due to RCS leak
8	MPS400	M, ALL	SBLOCA
9	MEL180	M, ALL	LBLOCA 1A LPI Fails to re-start

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

Facility: **Oconee** Scenario No.: **2 fnl** Op-Test No.: **1**

Examiners: _____ Operators: _____

Initial Conditions:
- 75% Reactor Power, startup in progress (SNAP 202)

Turnover:
- AMSAC/DSS bypassed for I&E testing
- SASS in MANUAL
- NI-9 OOS, to be replaced next outage
- 1B GWD Tank release in progress
- 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. Begin at Encl. 13.1 at Step 2.2

Event No.	Malfunction No.	Event Type*	Event Description
0a	Pre-Insert		AMSAC/DSS bypassed
0b	Pre-Insert MNI082		NI-9 OOS
0c	Pre-Insert MEL180		Keowee Unit 2 Emergency Lockout
0d	Pre-Insert		PORV Fails to close after opening
0e	Pre-Insert		1FDW-316 Fails closed in AUTO
1		N, BOP, SRO	Operability test Keowee Unit 1
2	MPS090	C, OATC, SRO	1HP-120 (RC Volume Control) fails closed
3	Override	I, BOP, SRO	1RIA-37 and 38 fails to terminate GWR
4	MNI032	C, OATC, SRO	PZR Spray Valve Fails OPEN
5	Override MSS340	C, BOP, SRO TS	Seismic event (PRA) 1A RBCU rupture (TS) STAR Module failure
6	MPS020	TS, ALL	1B SG Tube leak, 50 gpm (TS)
7		R, OATC	Unit Shutdown
8	MSS360	M, ALL	Both Main FDW Pumps Trip Main Turbine Trip ATWS
9			1FDW-316 Fails Closed (Auto Only)

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

Facility: **Oconee** Scenario No.: **3 fnl** Op-Test No.: **1**

Examiners: _____ Operators: _____

Initial Conditions:
- 45% Reactor Power (SNAP 203)

Turnover:
- Startup in progress after adding oil to 1B1 RCP
- SASS in MANUAL for I&E troubleshooting
- GWD release is in progress
- 1A Main FDW pump operating
- After turnover, the crew should start 1B1 RCP

Event No.	Malf. No.	Event Type*	Event Description
0a	Pre-Insert		SASS in manual
0b	Pre-Insert MSS330		TD EFDW Pump Fails to start
0c	Pre-Insert MPI290		Block All Turbine Trips Except Manual
0d	Pre-Insert		1C HPI Pump Fails to Start
1	Override Z3424D1	N, BOP, SRO	Start 1B1 RCP AC Oil Lift pump will not develop adequate discharge pressure
2	MPI 281	I, OATC, SRO	Δ Tc Fails High
3		TS, SRO	Loss of Oil on the 1B MDEFDW Pump (TS)
4	MSS570	C, BOP, SRO	Vacuum leak
5	MPS290 Override	C, BOP, SRO	1A CC Pump trips (1B CC Pump fails to auto start)
6	MSS200	TS, SRO	UST leak (TS)
7		R, OATC, SRO	Manual unit shutdown due to UST level
8	MSS010	C, OATC, SRO	1A Main FDW pump trips Main Turbine Fails to trip (Lockout EHC Pumps)
9	MPS260	M, ALL	Loss of EFDW - CBP feed
10	Override	M, ALL	CBPs trip -Loss of ALL FDW - HPI Forced Cooling

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

FINAL

Facility: **Oconee** Scenario No.: **4 fnl** Op-Test No.: **1**

Examiners: _____ Operators: _____

Initial Conditions:
- 3% on Wide Range (SNAP 204)

Turnover:
- Unit Startup in progress
- SASS is in manual for I&E testing
- GWD tank release in progress
- 1SA8/A11 (CF Tank A Press HIGH/LOW) has just actuated
- Continue startup

Event No.	Malfunction No.	Event Type*	Event Description
0a	Pre-Insert		1HP-26 (1A HP INJECTION) Failed closed
0b	Pre-Insert		SASS in MANUAL
1	Override	N, BOP, SRO	Pressurize "A" CFT with N_2 1N-298 (N_2 Fill CFT 1A), fails open
2	MPS120 Override	C, OATC, SRO TS	1A HPI Pump sheared shaft and standby HPI pump fails to start (TS)
3	Override	C, BOP, SRO	1HP-31 Fails open
4	Override	C, BOP, SRO TS	"A" LPSW pump suction valve closes and Standby pump does not auto start (TS)
5	MPI121	I, OATC, SRO	PZR Level # 1 Fails LOW
6	MCR061	C, OATC, SRO	Continuous Regulating Rod Withdrawal
7	MSS280 Override	M, ALL	"1A" TBVs fail open 1MS-17 ("A" TBV Block) fails to close
8	MPS010	M, ALL	"1A" SG Tube Rupture

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

Facility: Oconee	Date of Exam: June 19, 2006	Operating Test No.: 1

1. General Criteria	Initials a	b*	c#
a. The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).			
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.			
c. The operating test shall not duplicate items from the applicants audit test(s). (see Section D.1.a.)			
d. Overlap with the written examination and between different parts of the operating test is within acceptable limits.			
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			
2. Walk-Through Criteria	--	--	--

a. Each JPM includes the following, as applicable:
- initial conditions
- initiating cues
- references and tools, including associated procedures
- reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee
- operationally important specific performance criteria that include:
  - detailed expected actions with exact criteria and nomenclature
  - system response and other examiner cues
  - statements describing important observations to be made by the applicant
  - criteria for successful completion of the task
  - identification of critical steps and their associated performance standards
  - restrictions on the sequence of steps, if applicable			

b. Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.			
3. Simulator Criteria	--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.			

	Printed Name / Signature	Date
a. Author	Gabriel Washburn /	6/12/2006
b. Facility Reviewer (*)	John R Steely /	6/12/2006
c. NRC Chief Examiner (#)	MARK A. BATES /	6/14/2006
d. NRC Regional Supervisor	James H. Moorman III /	6·15·06

Note: * The facility signature is not applicable for NRC-developed tests.
Independent NRC reviewer initial items in Column c; chief examiner concurrence required.

Facility: OGNOE	Date of Exam: 6/19/2006	Scenario Numbers: 1/2/3/4 /	Operating Test No.: 1

QUALITATIVE ATTRIBUTES	Initials a	b*	c#
1. The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.			
2. The scenarios consist mostly of related events.			
3. Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)			
4. No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			
5. The events are valid with regard to physics and thermodynamics.			
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
7. If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.			
8. The simulator modeling is not altered.			
9. The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.			
10. Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.			
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			
12. Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).			
13. The level of difficulty is appropriate to support licensing decisions for each crew position.			

Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes								
1. Total malfunctions (5–8)	8	8	8	8					
2. Malfunctions after EOP entry (1–2)	3	2	3	2					
3. Abnormal events (2–4)	3	2	3	3					
4. Major transients (1–2)	2	1	2	2					
5. EOPs entered/requiring substantive actions (1–2)	2	2	2	2					
6. EOP contingencies requiring substantive actions (0–2)	1	1	0	1					
7. Critical tasks (2–3)	3	2	3	4					

ES-301 Transient and Event Checklist Form ES-301-5

Final Submittal

Facility Oconee Date of Exam: June 19, 2006 Operating Test No.: 1

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
U2	RX													0	1	1	0
	NOR									1	1			2	1	1	1
	I/C									4, 5	2, 3 4, 5 6			7	4	4	2
	MAJ									9, 10	7, 8			4	2	2	1
	TS										2, 4			2	0	2	2
I2	RX							7						0	1	1	0
	NOR							1						1	1	1	1
	I/C							2, 4 5, 8				2, 5 6		~~8~~ 7	4	4	2
	MAJ							9, 10				7, 8		4	2	2	1
	TS							3, 6						2	0	2	2
R2	RX								7					1	1	1	0
	NOR												1	1	1	1	1
	I/C								2, 8				3, 4	~~5~~ 4	4	4	2
	MAJ								9, 10				7, 8	4	2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to their applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Author: _____

NRC Reviewer: _____

ES-301 Transient and Event Checklist Form ES-301-5

Final Submittal

Facility: Oconee Date of Exam: June 19, 2006 Operating Test No.: 1

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
U3	RX				7 ✓									1 ✓	1	1	0
	NOR				1 ✓					1 ✓				2 ✓	1	1	1
	I/C				2, 4 ✓ 3, 5 ✓ 6 ✓					4, 5 ✓ ✓				7 ✓	4	4	2
	MAJ				8 ✓					9, 10 ✓				3 ✓	2	2	1
	TS				5, 6 ✓									2 ✓	0	2	2
I3	RX					7 ✓		7 ✓						2 ✓	1	1	0
	NOR							1 ✓						1 ✓	1	1	1
	I/C					2, 4 ✓ ✓		2, 4 ✓ 5, 8 ✓						6 ✓	4	4	2
	MAJ					8 ✓		9, 10 ✓						3	2	2	1
	TS							3, 6 ✓ ✓						2 ✓	0	2	2
R3	RX								7 ✓					1 ✓	1	1	0
	NOR						1 ✓							1 ✓	1	1	1
	I/C						3, 5 ✓ ✓		2, 8 ✓ ✓					4 ✓	4	4	2
	MAJ						8 ✓		9, 10 ✓ ✓					3 ✓	2	2	1
	TS													0 ✓	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to their applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Author: Kalip Wade

NRC Reviewer: Mark A. Lat

ES-301 Transient and Event Checklist Form ES-301-5

Final Submittal

Facility: **Oconee** Date of Exam: **June 19, 2006** Operating Test No.: 1

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
U1	RX				7									1	1	1	0
	NOR				1								1	2	1	1	1
	I/C				2, 4, 3, 5, 6								3, 4	7	4	4	2
	MAJ				8								7, 8	3	2	2	1
	TS				5, 6									2	0	2	2
I1	RX					7								1	1	1	0
	NOR										1			1	1	1	1
	I/C					2, 4					2, 3, 4, 5, 6			7	4	4	2
	MAJ					8					7, 8			3	2	2	1
	TS										2, 4			2	0	2	2
R1	RX													0	1	1	0
	NOR						1							1	1	1	1
	I/C						3, 5					2, 5, 6		5	4	4	2
	MAJ						8					7, 8		3	2	2	1
	TS													0	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to their applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Author: Hale P Wood

NRC Reviewer: Mark A. Lesser

ES-301 Transient and Event Checklist Form ES-301-5

Final Submittal

Facility: Oconee Date of Exam: June 19, 2006 Operating Test No.: 1

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
U4	RX				7									1	1	1	0
	NOR				1									1	1	1	1
	I/C				2, 4, 3, 5, 6							2, 5, 6		8	4	4	2
	MAJ				8							7, 8		3	2	2	1
	TS				5, 6									2	0	2	2
R4	RX					7								1	1	1	0
	NOR												1	1	1	1	1
	I/C					2, 4							3, 4	4	4	4	2
	MAJ					8							7, 8	3	2	2	1
	TS													0	0	2	2
U5	RX													0	1	1	0
	NOR						1				1			2	1	1	1
	I/C						3, 5				2, 3, 4, 5, 6			7	4	4	2
	MAJ						8				7, 8			3	2	2	1
	TS										2, 4			2	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to their applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Author: Kathy Weber

NRC Reviewer: Mark A. Tatum

ES-301
Final Submittal

Competencies Checklist

Form ES-301-6

	SRO		RO		BOP	
Competencies	SCENARIO		SCENARIO		SCENARIO	
	1	2 U1, U4, U3	1	2 I1, R4, I3	1	2 R1, U5, R3
Interpret / Diagnose Events and Conditions		2, 3, 4, 5, 6		2, 4, 6		3, 5, 6, 9
Comply With and Use Procedures (1)		2, 3, 4, 5 6, 7, 8		2, 4, 6, 8		1, 3, 5, 6, 9
Operate Control Boards (2)				2, 4, 6, 7 8		1, 3, 5, 6 7, 9
Communicate and Interact		1, 2, 3, 4 5, 6, 7, 8, 9		2, 4, 6, 7 8		1, 3, 5, 6 7, 9
Demonstrate Supervisory Ability (3)		1, 2, 3, 4 5, 6, 7, 8, 9				
Comply With and Use Tech. Specs. (3)		5, 6				

Notes:
(1) Includes Technical Specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

Instructions:

Circle the applicant's license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: _____

NRC Reviewer: _____

Competencies Checklist

Form ES-301-6

	SRO		RO		BOP	
Competencies	SCENARIO		SCENARIO		SCENARIO	
	3 I2, I3	4 I1, U2, U5	3 R2, R3	4 R1, I2, U4	3 U2, U3	4 U1, R2, R4
Interpret / Diagnose Events and Conditions	1, 2, 3, 4 5, 6, 8, 9 10	1, 2, 3, 4 5, 6, 7, 8	2, 6, 8, 9 10	2, 5, 6, 7 8	1, 4, 5, 6 9, 10	1, 3, 4, 7, 8
Comply With and Use Procedures (1)	1, 2, 3, 4 5, 6, 7, 8 9, 10	1, 2, 3, 4 5, 6, 7, 8	2, 6, 7, 8 10	2, 5, 6, 7 8	1, 4, 5, 6 9, 10	1, 3, 4, 7, 8
Operate Control Boards (2)			2, 7, 8, 10	2, 5, 6, 7 8	1, 4, 5, 9, 10	1, 3, 4, 7, 8
Communicate and Interact	1, 2, 3, 4 5, 6, 7, 8 9, 10	1, 2, 3, 4 5, 6, 7, 8	2, 6, 7, 8 10	2, 5, 6, 7 8	1, 4, 5, 9, 10	1, 3, 4, 7, 8
Demonstrate Supervisory Ability (3)	1, 2, 3, 4 5, 6, 7, 8 9, 10	1, 2, 3, 4 5, 6, 7, 8				
Comply With and Use Tech. Specs. (3)	3, 6	2, 4				

Notes:
(1) Includes Technical Specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

Instructions:

Circle the applicant's license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: _____

NRC Reviewer: _____

WRITTEN
FINAL

Facility: OCONEE Date of Exam: JUNE 2006 Exam Level: RO [X] SRO [X]

Item Description	Initial a	Initial b*	Initial c*
1. Questions and answers are technically accurate and applicable to the facility.	MB		
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	MB		
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	MB		
4. The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).			
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or ✓ the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	MB	N/A	
6. Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right. Bank: 8/75 12/25; Modified: 10/75 3/25; New: 57/75 20/25	MB		
7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right. Memory: 30/75 10/25; C/A: 45/75 15/25	MB		
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	MB		
9. Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	MB		
10. Question psychometric quality and format meet the guidelines in ES Appendix B.	MB		
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	MB		

	Printed Name / Signature	Date
a. Author	MARK A. BATES / Mark A. Bates	06/14/2006
b. Facility Reviewer (*)	N/A	N/A
c. NRC Chief Examiner (#)	GERALD W. LAKIN	06/27/2006
d. NRC Regional Supervisor	James H. Moorman, III / James H. Moorman	6-28-06

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Oconee

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.

2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).

3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - One or more distractors is not credible.
   - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).

4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.

5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).

6. Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?

7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

RO/SRO Combined Question

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		

Generic:

1. **I would reference all LOs where applicable .**
2. **Many questions could be written in the "fill in the blank" format.**
3. **Many questions contain extra words in the stem that will be time consuming to read. For example, unless a state is changed, "initial" and "current" conditions can be boiled down to "plant conditions".**
4. **Consider the use of tables like in 059A4.01 whenever possible**
5. **Some distractors have two sentences. Either put a space between them or put them in paragraph form. Otherwise, they look like typos (example RO 039K5.01).**

1		M	2	X				X		X			Y	N	E	Move "Which one..." to the beginning and put "Assuming the APSRs... "to the end. It reads better. Capitalize the "nots" in the 4 choice. RFA 04/25/06
															S	"Nots" were capitalized in all answer choices. Decided not to re-arrange sentence. I will allow licensee to suggest wording changes if they think it is needed. MAB 05/01/2006
2		C	2	X						X			Y	N	E	001K6.14 Recommend making this a fill in the blank Q as follows: ____ safety rods trip. ____ regulating rods trip. A. All / All B. All / No C. No / All D. No / No RFA 04/25/06
															S	This comment is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. MAB 05/01/2006
3		C	2										Y	N		I don't think anyone will miss it. Very little discriminatory value but meets minimum standards. It's about all you can do with this KA. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I agree. MAB 01/05/2006
4		M	2					X					Y	N	E	003AG2.4.10 Psychometrics: If B was correct, D would be also. Suggest putting "ONLY" at the end of D. RFA 04/25/06
															S	Placing "only" at the end of "D" would be misleading, thus arguably making "D" an incorrect answer when it is intended to be the only correct answer. If "only" is used in "D" and another alarm annunciates that was not anticipated when writing the question, then "D" would arguably be incorrect because the two listed alarms would not be the "only" alarms to annunciate. I checked with another examiner and we agreed that the applicant must have specific plant knowledge in order to eliminate answer choices, or choose the correct answer. In other words, the applicant will not be able to eliminate answer choices purely on psychometrics. There are plant conditions (i.e. power level) that would make "B" correct. The applicant must know what these plant conditions are in order to eliminate "B" as a correct answer choice. MAB 05/01/2006
5		C	3					X		X			Y	N	E	003K6.02 Seal Return Flow should be gpm NOT F. Psychometrics: If "A" was correct, "C" would be also. CAF notes. RFA 04/25/06
															S	Seal Return Flow units changed to "gpm". I agree with comment on psychometrics. "Only" added to distractor "C". MAB 05/01/2006
6	3	M	1										Y	N		004A4.15 RFA 05/08/06
															S	MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
7			3							X			Y	N		004G2.4.46 This meets the criteria for a "C/A" Q not "M"
															S	I agree. Question has been changed to C/A. MAB 05/01/2006
8		C	4					X					Y	N	E	005A2.04 If "D" was the correct answer, Could "C" be arguably correct? Please evaluate. Otherwise very good Q. RFA 04/24/06
															S	I reworded "C" and "D" to raise flow to a specific value. I think this should clarify both answer choices. MAB 05/01/2006
9		C	4							X			Y	N		006A3.02 U until CAF for values. Facility may argue that shutoff head amps are not required knowledge. Q sat after values inserted. RFA 04/24/06
															S/U	Licensee input required to complete question. MAB 05/01/2006
10		M	2	X						X			Y	N	E	006K2.01 Change Q to fill in the blank: Pump motor power is provided by Bus ___. Control power to the breaker is provided by ___ A. 1TD / 1D1B CAF for control power to breaker RFA 04/24/06
															S*	The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. Licensee verbally provided information to support the control power supply, but I have requested that they provide written documentation to add to the exam package. Question can be rated as "S" after licensee provides written documentation.

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
11		M	2							X			Y	N	E	007K4.01 Cap all the "not"s. In "D": Change "or" to "nor". RFA 04/25/06
															S	"Nots" in the answer choices were all capitalized. "Or" changed to "nor" in answer choice "D". MAB 05/01/2006
12		M	2							X			Y	N	E	008A3.01 Change "B" and "D" to "... the "B" CC Pump MUST be manually started" RFA 04/25/06
															S	I capitalized the "Nots" in distractors "B" and "D". I believe the question is better worded by testing whether or not the pump automatically starts. Your suggestion places a lot of weight on the word MUST, when the question is actually just testing whether an auto start signal is present. Question not changed. MAB 05/01/2006
13		C	3										Y	N		008AK2.01 RFA 04/25/06
															S	MAB 05/01/2006
14		M	2										Y	N		008K4.02 RFA 04/25/06
															S	MAB 05/01/2006
15		C	3					X					Y	N	E	009EK3.12 In "D" 3/3 trip logic in not plausible. Replace "D". This Q is a little tricky, but I like it. "D" needs some work. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	3/3 logic is plausible because the RPS will have a trip condition lock in until it is reset. Therefore, it is reasonable for an operator to believe that the Eng. Safeguards would be wired in a similar fashion. The "A" channel initially loses power, then is re-energized - What state are the electronics in when the bus re-energizes? This seems like a reasonable place to draw the line on plausibility. MAB 05/01/2006
16		C	4							X				N		010K6.04 Psychometrics: If no reference is supplied, applicant may dump distractors A and D since no mention of a one hour requirement is implied. Suggest allowing reference to lend A and D plausibility. I think the KA is a systems KA. Without knowledge of TS, one may not be able to answer this Q. Get a second opinion. RFA 04/25/06
															S	I agree, the applicant must know TS to answer the question, but the applicant must also know the effect the PRT will have on the Pzr Pressure Control System, which meets the K/A. Regarding your comment on eliminating "A" and "D" because there is no mention of one hour or less TS - No mention of a one hour or less TS is made in "B" or "C" either. This question does not test required completion times at all, but the question does pertain to a less than one hour TS. The knowledge level for this question was set at TS Entry Conditions only. Therefore, I think that all three distractors have a high level of plausibility. A reference should not be required because the question only requires knowledge of TS entry conditions for a less than one hour TS. Providing a reference would degrade the plausibility of all the distractors. MAB 05/01/2006
17		C	3	X				X					Y	N	E	011EK2.02
																I suggest redesigning the stem in a table format. This is very difficult to follow as written. Bold/cap the word "first". I missed it. Psychometrics: "D" not balanced due to RCP amps abnormal. Applicant will immediately dump this one. Rewrite to model after A,B, and C. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I agree. I have changed stem to a table format. "First" was changed to all CAPS. Amps being abnormal is what adds plausibility to "D". The applicant must decide if indications of distress (amps) are required prior to securing pumps. MAB 05/01/2006
18		C	3										Y	N		011K4.02 RFA 04/25/06
															S	Question was changed to memory level. MAB 05/01/2006
19		C	3					X					Y	N	E	012A3.06 CAF logic parameters. Verify "D" in incorrect! If facility confirms then the Q remains **blue** RFA 04/25/06
															S	Licensee confirmed over the phone that "D" was incorrect. Licensee will verify the question in its current form when they get it for review. The question is marked to trigger the licensee to verify this very point. MAB 05/01/2006
20		C	3					X					Y	N	E	013G2.4.2 "A" may be considered correct. Manually actuating components per enclosure 5.1 could be considered as "manually actuating." Suggest in "A" "...and manually actuating ES-7 digital channel ***from panel*** ___. This implies a one switch actuation which is incorrect. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	This question has already been discussed with the licensee and it was decided that the question needed to be worded such that it was asking for what "will" mitigate the conditions. This is different than testing, "what does the procedure direct you to do to try to mitigate the consequences." Distractor "A" was also specifically worded to state "manual actuation of the ES-7 digital channel." This is worded so as not to confuse it with manual actuation of each individual component. MAB 05/01/2006
21			3							X			Y	N	E	013K1.12 Psychometrics: If "D" was correct, "C" would be also. Add Only to "C". Could not find in reference where ACB-4 automatically re-closes. Please re-verify. I think this Q qualifies as a C/A. RFA 04/25/06
															S	I agree with psychometric comment. "Only" has been added to "C". Question was changed to C/A. I deleted Keowee frequency = 62 cycles and lowering. I think deleting this is necessary to add more plausibility to "A" and "B". Page 18 of 34 of the EL-KHG Lesson Plan states that ACB-4 will reclose. Licensee will get a chance to verify during their review also. I will ensure this topic is a discussion point during the review. MAB 05/01/2006
22		C	3										Y	N		015/17AG2.1.7 RFA 04/25/06
															S	MAB 05/01/2006
23		C	2										Y	N		015K2.01 RFA 04/25/06
															S	MAB 05/01/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
24		C	3							X			Y	N	E	022AK1.03 Put "The Bailey .....HP-120 because" in the stem because this is common to all choices. Makes it easier to read. Cap "not" in "C" and "D". RFA 04/25/06
															S	The comment on moving words to the stem is personal preference. I will default to the licensee. If they suggest that their applicants would prefer part of the answer choices moved to the stem, then I will change it. "Not" changed to all CAPS in "C" and "D". MAB 05/01/2006
25		C	3							X			Y			022G2.1.33 Put "LCO 3.6.5.....entered at" in stem because this is common to all choices. Makes it easier to read. This is NOT a one hour TS. Therefore, are references provided? Is this above RO knowledge? Are they required to memorize notes in TS? RFA 04/25/06
															S	The comment on moving words to the stem is personal preference. I will default to the licensee. If they suggest that their applicants would prefer part of the answer choices moved to the stem, then I will change it. The question does not test TS application. The question only tests TS entry conditions, which places it into the required knowledge of an RO. This is supported by Generic K/A 3.1.33, which has an RO Importance Rating (IR) of 3.4, which suggested that it is important for an RO to know TS entry conditions. The note is quite important in this case and actually modifies the entry conditions of the LCO, therefore, it is necessary to know the note in order to know the entry conditions. I do not think providing references is appropriate to test entry conditions to a TS. References should generally only be provided for TS Application when the Required Action Times are more than one hour. MAB 05/01/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
26		C	3	X						X			Y	N	E	022K3.02 Place everything but what changes, in the stem. It makes for much easier reading and the applicants won't be looking for distractor changes that don't exist. Basically, make it a fill in the blanks. The rise will be subjective unless a curve or table is provided to show the differential change in tank level WRT temperature. Granted, there is a huge difference between 105 and 135F, but an applicant may play that card. Statement D.1 in OP-OC-PNS-CF should be acceptable but CAF. RFA 04/25/06
															S*	The comment on moving words to the stem is personal preference. I will default to the licensee. If they suggest that their applicants would prefer part of the answer choices moved to the stem, then I will change it. I have added a note for the licensee to provide documentation for the CFT level change as a function of temperature. They should be able to produce a hand calculation with density changes and corresponding level changes even if they do not have an existing graph. MAB 05/02/2006
27		C	3	X						X			Y	N	E	025AK2.02 Why are initial conditions necessary? Suggest delete. Put the conditions under the "which one" statement. Why is "....via MFW nozzles" plausible? Cap "not"s in "C" and "D". RFA 04/25/06
															S	Initial conditions are necessary. One of the items in the initial conditions (trip of all RCPs) is necessary to determine whether AFW or MFW is required to be used for feeding the SGs, which also answers your second question of why MFW is plausible. See the highlighted reference material that was attached to the question. Page 1 of 7 of Enclosure 5.9, Step 2 provides the decision step for determining which FW source to use (MFW vs. AFW). "Not" changed to all CAPS in "C" and "D". MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
28		C	3										Y	N		026AG2.4.24 RFA 04/25/06
															S	MAB 05/02/2006
29		C	3										Y	N		026G2.4.31 RFA 05/08/06
															S	MAB 05/08/2006
30		C	3	X						X			Y	N	E	027AK1.02 Set this Q up as a fill in the blank with "rise/lower" being the choices. No reference supplied. CAF - may want to test on the simulator. RFA 04/25/06
															S*	The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. No reference was supplied because the question was only dealing with reactor physics and thermal hydraulics. This will be a discussion point with the licensee to ensure that the question is technically accurate. MAB 05/02/2006
31		C	3	X						X			Y	N	E	028AA2.03 The first bullet in the stem is NOT an event. Move it below or put it in the "which one" statement. Cap "open and close" and the "not" words. RFA 04/25/06
															S	Re-arranged question to "Initial Conditions / Current Conditions" format. "Not", "open", and "close" changed to all CAPS. MAB 05/02/2006
32		M	2	X						X			Y	N	E	028G2.1.8 Make all conditions Unit 1 plant conditions. No need to separate initial and current conditions. There was no change in initial state. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I disagree. Initial and current conditions are different. Initially the PAGS Panel is in service for testing, which is a key part of the starting point for the question. Current conditions are that RCS pressure has dropped to 1075 psig, which is about half the magnitude as compared to the initial full power conditions. This is also key, because now Safety Injection has actuated, which places the plant in a condition where the highlighted reference material can be tested. See referenced OP, Step 2.4. MAB 05/02/2006
33		C	3					X					Y	N	E	029EK1.03 Psychometrics: If "B" was correct, "C" would be also. Add "only" to "C". RFA 04/25/06
															S	I agree. "Only" was added to "C". MAB 05/02/2006
34		M	2	X									Y	N	E	033A1.01 Need to add the worn "minimum" to the stem. Otherwise, if "A" was correct, B,C, and D would be also. RFA 04/25/06
															S	"Minimum" added to stem. The question initially was worded "at the time that level is reached," which I think accomplished the same thing as "minimum", but now the stem contains both. MAB 05/02/2006
35		M	2										Y	N		035K1.02 RFA 04/25/06
															S	MAB 05/02/2006
36		C	3										Y	N		038EA2.02 RFA 04/25/06
															S	MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
37		C	3	X						X			Y	N	E	039K5.01 Make C and D one paragraph to be consistent with A and B. Consider Putting unit 2 impacts for 2 of the distractors. This would make a great differences question. RFA 04/25/06
															S	"C" and "D" are already consistent with "A" and "B" because the second part of all four answer choices start on a new line, but I will delete the hard line returns to move the second part of "C" and "D" up to the previous line. I did not change the distractors for "C" and "D" because their plausibility is already based on the fact that one part of "C" and both parts of "D" would be correct if the applicant confuses Unit 1 and Unit 2, therefore, the unit differences are already playing a part in plausibility of the distractors. Therefore, unit differences are already being tested. MAB 05/02/2006
38		C	3	X									Y	N	E	041A3.01 Consider the following: TBV will control at setpoint ____ psig. TBV should ____ or throttling in the ____ direction. A. 125 / open / open The question is so much easier to read and the applicant is much less apt to make a reading mistake. RFA 04/25/06
															S	The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
39		M	2	X									Y	N	E	054AA1.04 There are some words missing in the stem. The sentence (Question) doesn't make any sense. If I understand it correctly, consider the following: Which one of the following statements correctly describes the (Loss of Heat Transfer (LOHT), IF AT ANY TIME carryover step criteria) for establishing HPI forced cooling? RFA 04/25/06
															S	Stem was revised for clarity. MAB 05/02/2006
40		M?	3										Y	N		055AG2.1.32 I believe this Q qualifies as C/A. RFA 05/04/06
															S	The facility wrote this question and determined that is was a memory level. After they faxed the question, they called me and stated that they had forgot to change the Cog Level to memory. I tend to agree that the applicant really only needs to memorize the procedural limits and precautions step. Question Cog Level was left unchanged at the memory level. MAB 05/08/2006
41		C	3					X					Y	N	E	056AK3.02 Is there anything significant about 560 F? I would suggest 575 F which I think is the no load Tc. 560 F doesn't mean anything or seem plausible. Please reconsider. RFA 05/04/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	Post Trip EOP SA Steps have them stabilize SG pressures at 1010 psig, which corresponds to 548F. Therefore, RCS Temp would be a few degrees hotter than the SGs to allow for heat transfer. I chose 560F because there needs to be some delta T to drive the natural circulation. 560F is the temperature given in the initial conditions. The plausibility comes from the fact that answer choices "C" and "D" are stating that RCS parameters should be stabilized right where the plant currently is, vice cooling down. I think 575F would be a little too high. I will discuss this with the utility during the review to ensure that we have realistic conditions. MAB 05/08/2006
42		C	3					X		X			Y	N	E	058AK3.01 Psychometrics: Distractor "A" is not plausible. Either replace distractor "A" to include KHU-1 will start and run if called upon"or build symmetry by modifying C or D to include "KHU-1 will not start if called upon." RFA 04/25/06
															S	Symmetry is a good goal for each answer choice, but I do not think that symmetry should be prioritized over plausibility. Based on the technical merits of "A", it is plausible if the applicant has a misconception of control power supplies. I added a second sentence to "A" about control power not being available. This will give the appearance of more symmetry, but it does not change the technical merits of the answer choice. MAB 05/02/2006
43		C	3					X		X			Y	N	E	059A4.01 Consider making this Q a "fill in the blank." To much time is spent reading common words in each distractor. The table in the stem is excellent. Consider this table format for many of the previous questions. RFA 04/25/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. "Not" changed to all CAPS - carrying over comments you made from previous questions. The table format was incorporated in question 005A2.04. MAB 05/02/2006
44		M	2							X			Y	N	E	059AK2.01 Put C and D in paragraph form. They look like typos. Cap "not" in C and D. RFA 04/25/06
															S	I placed each answer choice on a separate line to clearly delineate between each part of each potential answer. I will move the second sentence up to join the first, but I will ask the licensee how they would prefer to read it and I may reverse the change based on their feedback. MAB 05/02/2006
45	3	M	1				X						Y	N		060AA1.01 It would stand to reason that the correct answer is A or B. It would seem that if the computer point can turn red that it would in this instant. If this is the case then distractors C and D are NOT plausible. Red will need to be yellow. The Q is unsat until the facility is consulted. CAF for reference. RFA 04/25/06
															S/U	I agree. I think it would be a better question if "does not turn red" is changed to "turns yellow". The licensee has assured me that the parameter turns to a different color when the ALERT LED annunciates. Utility will need to verify and provide documentation for the indication. Once this is done, I believe the question can be changed to "S". MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
46		C	2					X		X			Y	N	E	061A1.05 Psychometrics: Because the way the Q is written, the applicant will choose between C and D. Modify distractor C. I would also change SG pressure to 900 psig to make it less obvious. RFA 04/25/06
															S	SG Pressure was changed to 900 psig. Distractor "C" was revised to add an "if" portion to the second part of the answer choice. MAB 05/02/2006
47		C	2	X				X		X			Y	N	E	061A3.03 1st bullet: change "due" to "due to" Change "B" to ".... for the "**B**" SG only" Change "D" to ".... for the "**A**" SG only" RFA 04/25/06
															S	"to" added to first bullet. I made the suggested changes for "only" in distractors "B" and "D". This comment applies to many other questions. I hesitate to hang the incorrectness on one word, such as "only" if it is avoidable to do so. The way I had originally worded these distractors made it unequivocally clear that the level control only applied to the one SG. Evaluate my logic and if needed, we can change other questions. I agree, that the question may be a little more difficult to read, but by adding the extra words, the question essentially defines what "only" means. It may be a "tighter" way to write the question. Let me know what you think. MAB 05/02/2006
48	3	M	1				X						Y	N		062A2.07 You cannot have a loss of offsite power without the reactor tripping. Distractors B and D are NOT plausible. Suggest replacing these two distractors, choose a disconnect that won't trip the reactor (maybe the disconnects to the unit SU xformer, or choose another KA. RFA 04/26/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I disagree. The question is already set up so that a loss of power to the S/U transformer is occurring. The plant is at 100 MWe, which is a point where the plant is relying on S/U power. The plant will swap to station power at about 200 MWe. Therefore, if the operator overlooks the fact that the plant is being powered by S/U power, then answer choices "B" and "D" begin to look very attractive. In summary, if the plant is at 200 MWe, then the first part of "B" and "D" are actually correct; therein lies the plausibility of these two distractors. MAB 05/02/2006
49	3	C	1				X						Y	N		062A4.03 Two distractors NOT plausible as is: Remove the last sentence from A and C and add the word "only" to both. By telling the applicant that ACB 1 and 2 will NOT trip is telegraphing that these are the wrong answers. Consider incorporating the "defeat interlock switch." RFA 04/26/06
															S	"Nots" were changed to all CAPS. Question is now OK per our discussion. MAB 05/02/2006
50		C	2					X					Y	N	E	063K2.01 Change "do not trip" to "remain running" in A and C. This way, you are not telegraphing that these are the wrong answers. RFA 04/26/06
															S	I disagree. I fail to see how the verbiage is telegraphing. I made the suggested change because it is a functionally equivalent substitution. MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
51		M	2										Y	N		064A1.03 RFA 05/04/06
															S	MAB 05/08/2006
52		C	2					X					Y	N	E	065AA1.05 C: Suggest add the word "immediately" at the end of second sentence. D: Manually trip both feed water pumps prior to SG levels in any SG reaching ____ inches. RFA 05/04/06
															S	"C" - I hesitate to add the word "immediately" for two reasons: 1. It is not needed to differentiate this answer choice from any of the other answer choices. 2. The direction to trip the MFW Pumps is a SA Step, not an IA Step. I do not want to run the risk of an applicant arguing that it does not need to be performed "immediately." - thus making the argument that there is no correct answer. "D": This wording would create a correct answer. It would be correct for them to state that MFW Pumps are required to be tripped prior to SG levels reaching their high level setpoint. Consider my responses. We can discuss further if necessary. MAB 05/08/2006
53		C	3										Y	N		072K5.01 RFA 05/04/06
															S	MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
54		C	3	X						X			Y	N	E	073A1.01 Simplify: How about: Which one of the following correctly describes the process radiation monitor response as a result of a steady rise on RIA-49? RIA-49A (High Gas) will: Indicate.. Indicate.. Track.. Track.. I would BOLD **RIA-49** and **RIA-49A**. It took me a minute or 2 to see the difference. RFA 05/04/06
															S	Incorporated wording suggestion for question portion of stem. I did not incorporate moving part of the answer choices to the stem. This is a personal preference type of comment, so I will take the licensee's feedback and reword the question to their liking if necessary. RIA-49/A were bolded. MAB 05/08/2006
55		M	2	X						X			Y	N	E	076K1.08 Simplify: How about: Which one of the following correctly states how cooldown rate is affected by continuing to raise LPSW flow from 5700 gpm? RCS cooldown rate can be increased until LPSW flow: Through... Through... To the ... To the ... RFA 05/04/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I incorporated your comment in the question part of the stem. I did not incorporate moving part of the answer choices to the stem. This is a personal preference type of comment, so I will take the licensee's feedback and reword the question to their liking if necessary. MAB 05/08/2006
56		M	2										Y	N		078K3.02 RFA 05/04/06
															S	MAB 05/08/2006
57	3	C	1				X						Y	N		079A2.01 The "do not" statements in distractors C and D render them not plausible. The stem states which actions are next, distractor D has no actions. You could re-write C to say "immediately trip the reactor and then trip all main FDW pumps" and leave it at that. RFA 05/04/06
															S	I added "... if any" to the question portion of the stem. This should help the plausibility of "D" because it will now mesh with what is being asked in the stem. I incorporated your comment on "C". MAB 05/08/2006
58		M	2										Y	N		103K1.02 RFA 05/05/06
															S	MAB 05/08/2006
59		C	3										Y	N		BW/A04AK1.1 RFA 05/05/06
															S	MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
60		C	3					X					Y	N	E	BW/A06AK3.2 I could argue that "B" could be a correct response. Please re-evaluate. RFA 05/08/06
															S	"B" was reworded to more closely tie it to the wording in the lesson plan. "B" should be considered incorrect because the LOHT procedure defines inadequate HPI. As long as two pumps and two flow paths are operating, HPI is adequate for core cooling. In the scenario given in this question, the plant has two operable pumps with two operable flow paths. MAB 05/08/2006
61		C	3	X						X			Y	N	E	BW/E02EA2.1 Bullet Typo:"EFW to both **SGs**" B distractor analysis: The second stated action is from rule 5 not 3. The distractor is still good because the first part is wrong. RFA 05/05/06
															S	Typo corrected. I agree. I added a sentence to the "B" distractor analysis. MAB 05/08/2006
62		M	2										Y	N		BW/E04RK3.4 Good Q RFA 05/05/06
															S	MAB 05/08/2006
63		C	3					X					Y	N	E	BW/E05EA2.2 If D was correct, C would be also. C needs the word "only" somewhere. RFA 05/05/06
															S	"Only" added to "C". MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
64		M	2											N		BW/E08EK3.2 The Q is good. However, the KA is a stretch. Please get a second opinion. RFA 05/05/06
															S	A second opinion was obtained for K/A match. Both of us believe that the K/A is met. MAB 05/08/2006
65			3							X			Y	N	E	BW/E13K1.2 This Q qualifies as C/A. I think the applicant will need a reference to answer this Q. State "Reference attached"? RFA 05/05/06
															S	There is a lot of information in the stem to place the applicant in the correct state, but the only knowledge needed to answer the question is: "what is the required SG level when SCM = 0 F?. I added a few words to the distractor analysis to explain this. I would agree that a reference would be necessary if one of the other SG parameters were the correct answer, but the applicant should know from memory, what SG level is required when SCM = 0 F. I left the Question unchanged. MAB 05/08/2006
66			3							X			Y	N	E	G2.1.2 I think this Q qualifies as C/A. Add a Unit 2 OATC responsibility to distractor D. In distractor C, Change Unit 1 OATC to Unit 2 or 3 OATC (psychometrics) RFA 05/05/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	Question was designated as memory level because the operator only needs to know the OMP 2-01 Staffing Requirement. The situation is describes in the stem, which makes the question appear as if it could be a C/A. Cog Level was left unchanged. "C" was left unchanged. Unit 3 OATC would not be plausible because the Unit 1 and 2 control rooms are common, with the ability to share resources, whereas the Unit 3 control room is separate, thus preempting control room resource sharing. Placing an OATC action in "D" would cause a symmetry problem with the question portion of the stem. The question portion, for preciseness and clarity, asks for specific responsibilities with respect to SSF activation. An OATC does not have any responsibilities with respect to SSF activation as asked in the question. Therefore, if I place an OATC action in the correct answer, then it has to be a correct action, something other than a responsibility for SSF activation. Symmetry for "D": There are a handful of questions thoughout the exam where all answer choices are not the same length. This is OK as long as the answer choice is symmetric with what is being asked in the stem. Some of the questions have the shorter answer choice being an incorrect choice, whereas some questions have the shorter answer choice as being the correct answer (this question for instance). Symmetry should not be an overriding criteria for plausibility. If applicants attempt to answer the question using psychometrics, rather than plant knowledge, they will arrive at incorrect answers on many of the questions. MAB 05/08/2006
67		M	2							X			Y	N	E	G2.1.22 The applicant may ask for an RCS T since mode is also based on that. RFA 05/05/06
															S	This should not be an issue. The question states that all other systems worked as designed. Therefore, SG pressures are correctly being maintained by TBVs and they should know what the temperature corresponds to this. If applicants ask for RCS temp, they should be told that they have all the information necessary to answer the question. MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
68		M	2							X			Y	N	E	G2.1.30 Cap "not" in distractors C and D. RFA 05/05/06
															S	"Nots" changed to all CAPS. MAB 05/08/2006
69		C	3							X			Y	N	E	G2.2.12 Please review the bullets. Some of the wording seems unclear/incomplete. RFA 05/05/06
															S	Revised wording in bullets. MAB 05/08/2006
70		M	2							X			Y	N	E	G2.2.13 "must" and "can" can be ambiguously interchangeable. Suggest changing all the "can" to "must" since they are all on distractors. Underlines can be deleted too. RFA 05/05/06
															S	"Must" changed to "required to". "Can" changed to "required to". MAB 05/08/2006
71		M	2										Y	N		G2.3.1 RFA 05/05/06
															S	MAB 05/08/2006
72		C	4										Y	N		G2.3.10 Good Q - would make a good Admin JPM. RFA 05/05/06
															S	MAB 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
73		C	2										Y	N		G2.3.4 RFA 05/05/06
															S	MAB 05/08/2006
74		M	2					X					Y	N	E	G2.4.16 IMAs are always performed first. I don't think the first part of distractor A is plausible because IMAs are performed second. Please get a second opinion. RFA 05/05/06
															S	The plausibility comes into play because these are Immediate Actions from an AP, not an EOP. Without knowing the rules, it would seem plausible that an EOP action would take priority over an AP action. This would not be a frequently occurring situation, where an AP action would take precedent over an EOP action. Most AP Immediate Actions are structure to prevent the reactor from tripping. In this case the reactor has already tripped, placing them into the EOPs. Considering the situation, I think that the distractor is plausible. MAB 05/08/2006
75		M	2										Y	N		G2.4.35 RFA 05/05/06
															S	MAB 05/08/2006

RON ACCEPTED RESPONSES ON RO EXAM QUESTIONS. - 05/08/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
SRO ONLY																
1		C	3										Y	Y		008AA2.03 RFA 04/26/06
															S	MAB 05/02/2006
2		M	2	X									Y	Y	E	010G2.2.22 Convert this to a fill in the blank with choices in psig and inches. Otherwise a very good Q. RFA 04/26/06
															S	The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. MAB 05/02/2006
3		C	3	X									Y	Y		011EA2.01 Please walk me through this. I get a different answer. RFA 04/26/06
															S	Good catch. There could have been two correct answers. I added "No LPI pumps are running". This should allow only one correct answer and clear up any confusion. The LPI factors into RVLS operability. MAB 05/02/2006
4		C	3										Y	Y		013A2.03 RFA 04/26/06
															S	MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
5	3	C	3				X						Y	Y		014A2.04 Consider a space between sentences in distractors or putting sentences in paragraph form. Potential multiple or no correct answers: If the rod is fully in the core, is not by definition tripable? If all other rods were tripped, would SD margin be satisfied? Distractor C might be arguably correct because it is in fact tripped. Please re-evaluate. RFA 04/26/06
															S	I added spaces between sentences. If the rod falls into the core it is "trippable" unless there is some other reason which would bring into question its "trippability". In this case there is no reason to suspect that the rod would not have, or will not, trip when a valid trip signal exists. Secondly, the tripping, or dropping, of control rods has no impact on SDM. Boron concentration is really the only player in SDM when the plant is at steady state operations. "Trippable" and "operable" are two different terms with different meanings. Just because a rod is "trippable" does not mean that a rod is "operable". In order for the rod to be "operable", it must be able to respond to a control signal. Your point is valid in the sense that "trippability" is a part of "operability". I have modified "C" to ensure that it is clearly incorrect. For symmetry purposes, I have also modified the other answer choices to read similarly to "C". MAB 05/02/2006
6		C	2					X					Y	Y	E	017G2.4.4 Suggest giving them a SG leak < 25 gpm and change C to "Go to SGTR tab" (page 7 of 15). There is no HPI CD tab mentioned in EP/1/A/1800/001. RFA 04/26/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	Your suggestion of < 25 gpm SGTR appears to be less plausible because a leak size of such a small magnitude is well within capacity of CVCS to makeup. The HPI C/D is not mentioned in the SA steps, but plant conditions are such that the LOSCM Tab will direct HPI C/D. The plausibility is based on the fact that this is part of the success path, but to get here the operators must first transition to LOSCM Tab. Therefore, I decided to leave this distractor in tact because I believe that it is more plausible than a < 25 gpm SGTR. MAB 05/02/2006
7		C	2							X			Y	Y	E	026A2.04 5th bullet: change "ofRBS" to "of RBS" See generic note 5 above on formatting. RFA 04/26/06
															S	Fifth bullet corrected. Spaces were added between each part of the answer choices. MAB 05/02/2006
8		C	2							X			Y	Y	E	037AA2.10 See generic note 5 above on formatting. RFA 04/26/06
															S	Spaces were added between each part of the answer choices. MAB 05/02/2006
9	3	C	2	X			X						Y	Y		038AG2.4.48 We tell the applicant that we want to prevent overfill. "A" seems to be the only plausible response. Remove "to steam the ruptured SG to prevent overfill" from the stem. As is there are no credible distractors RFA 04/26/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	Good comment. I deleted "to prevent overfill" from the stem. This should add plausibility to all the distractors. MAB 05/02/2006
10		C	2	X						X			Y	Y	E	064G2.4.30 Typo in stem: "with tha" Make this a fill in the blank for easy reading. Not enough references attach to confirm answer. RFA 04/26/06
															S	Typo corrected. I walked though references with Ron and he was satisfied with accuracy of the question. The comment on fill-in-the-blank is personal preference. I will default to the licensee. If they suggest that their applicants would prefer fill-in-the-blank, then I will change it. MAB 05/02/2006
11	3	C	3				X						Y	Y		065AG2.1.20 See generic note 5 above on formatting. Cap "not" in C and D. These statements are "soft" because they say "not needed." Plausibility: I think they will be immediately eliminated. Suggest rewording them. RFA 04/26/06
															S	Spaces were added between each part of the answer choices. Reworded "C" and "D" from "does not need" to "not required". MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
12		M	2					X		X			Y	Y	E	067AG2.4.27 See generic note 5 above on formatting. If "D was correct, "C" would be also - Modify one or the other In light of this event, NOT starting the EDG just doesn't seem plausible. Consider reworking C and D. RFA 04/26/06
															S	Spaces were added between each part of the answer choices. I disagree with the comment on: if "D" is correct, then "C" is correct. "C" is not a subset of "D" because "C" contains "security event", which is unique to that answer choice. "D" is also not a subset of "C" because "D" contains "Equipment Room", which is unique to that answer choice. "C" and "D" are two unique answer choices. They are both plausible because both parts of both answers are correct AP/25 actions if the plant conditions are slightly different. MAB 05/02/2006
13		C	3	X						X			Y	Y	E	076G2.1.12 CAF utility comment. Restate Q: Which one of the following TS statements, given the above conditions, is correct? Cap the "not" words in choices. RFA 04/26/06
															S	"Not" changed to all CAPS. I chose not to restate the question. I think the question asks what needs to be solicited from the applicants. I will make any wording changes based on feedback from the licensee. MAB 05/02/2006
14	3	M	2				X						Y	Y		076G2.2.25 A one hour site dose is not listed and therefore is not plausible. Distractors A and C need to be modified. RFA 04/26/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I discussed plausibility with Ron. I think that 1 hour is plausible based on the memory level nature of the question. Also, 1 hour is a key time frame on other questions dealing with reportability, notifications, and Tech Specs. I looked for another time that may contain some meaning, but I do not think a time other than one hour will add plausibility. MAB 05/02/2006
15		C	3							X			Y	Y	E	086G2.1.14 Change "...and enter AP..." to "... and entry into AP..." Good Q. RFA 04/26/06
															S	Revised stem as suggested. MAB 05/02/2006
16	3	M	2					X					Y	Y	E	BW/A08G2.2.29 Change "within" to "no later than.___ after..." Otherwise, if B was correct, A could be challenged as correct. Same goes for B and D. RFA 04/26/06
															S	I disagree. Your suggested change is synonymous with the original wording. I did not make the change because I wanted the wording to be consistent with the procedure. I did, however, add the procedure title to the question portion of the stem. This should tie what is being asked directly to the procedure. MAB 05/02/2006
17		M	2										Y	Y		BW/E02EA2.2 RFA 04/26/06
															S	MAB 05/02/2006
18		C	3					X		X			Y	Y	E	BW/E04AG2.4.48 Delete "allowing for the best possible pressurizer spray." Deleting this will add discriminatory value to the first part of each choice. RFA 04/26/06

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
															S	I am hesitant to delete this because the procedure directs to secure one RCP in each loop. Without the direction to provide the best spray, they could secure any one pump in each loop and argue it as being in compliance with the procedure - and they would be correct. Leaving "best pressurizer spray" allows the answer choices to iterate on which cold leg provides the best pressurizer spray. There is plausibility in this being a memory item. MAB 05/02/2006
19		C	3					X					Y	Y	E	G2.1.10 Psychometrics: The distractors are NOT balanced. I would give them the fact that the LCO is not met and require them to know the action steps, thus, balancing the distractors. RFA 04/26/06
															S	Two distractors have no Required Action and two distractors have Required Actions. This appears to be balanced. Also, you suggest testing action steps. The LCO Required Actions are to deactivate HPI. The second part of answer choices "C" and "D" are testing what needs to be done to deactivate HPI. I left the question unchanged. MAB 05/02/2006
20		C	2					X					Y	Y	E	G2.1.6 If D was correct, C would be also. Modify D. RFA 04/26/06
															S	This is a similar comment to SRO Question 16 (BW/A08G2.2.29). The question tests the requirement, not what actions the SRO can do and still remain within the requirement. There is a distinct difference between these two scenarios. I discussed this with another examiner to ensure that I had the appropriate perspective on this type of comment. I did not change the question. MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
21		C	2					X					Y	Y	E	G2.2.11 Use either "must" or "can" but not both. "Can" is an ability word. "Must" is a form of "may" and reflects "permission." I suggest changing "can" to "may." RFA 04/26/06
															S	I changed "must" to "required". I changed "can" to "may". MAB 05/02/2006
22		C	3										Y	Y		G2.2.23 RFA 04/26/06
															S	MAB 05/02/2006
23			2					X					Y	Y		G2.3.8 I believe this Q qualifies as C/A due to extensive analysis. Q is sat. RFA 04/26/06
															S	Change to C/A. MAB 05/02/2006
24		M	2					X		X			Y	Y	E	G2.4.38 On C and D, put the word "minimum" before "5,10 miles downwind..." Otherwise, if D was correct, C could be also. RFA 04/26/06
															S	The question is asking for what the Procedure Immediate Actions require. Therefore, the logic used in your analysis does not apply. The question does not ask for what actions would comply with the procedure. I added "as stated in" to the question to try to strengthen that the question is asking for the Immediate Actions as stated in the procedure. MAB 05/02/2006

Q#/	RANK	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
				Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
25		M	2					X		X			Y	Y	E	G2.4.6 Put "no source of feedwater is available" in as a bullet. Otherwise, it might get forgot. Should B be: To prevent automatic lifting of the PORVs"? RFA 04/26/06
															S	I moved "no source of feedwater available" to the bullets. "B" was worded as intended. MAB 05/02/2006

RON ACCEPTED RESPONSES ON SRO EXAM QUESTIONS. - 05/08/2006

Philosophical Ranking*	
	Bullet Proof
	Not So Bullet Proof
3	Meets minimum Standards

* Independent of whether or not it met the KA, mis-classified WRT RO/SRO, or required grammar or ***minor*** enhancement.

Question Status	
	Question is Sat with NO Comments
E	Editorial Changes Needed
E*	Questionable Editorial
	Question is All Hosed Up
	Questionable
	Question and stem sat - editorial elsewhere

O:\Oconee Examinations\Initial Exam 2006-301\QA\ES-401-9 MAB Responses Rev 0 .wpd

Facility: Oconee Date of Exam: June 2006 Exam Level: RO [X] SRO [X]

	Item Description	Initials a	Initials b	Initials c
1.	Clean answer sheets copied before grading	MB	N/A	✓
2.	Answer key changes and question deletions justified and documented	N/A		✓
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	MB		✓
4.	Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	MB		✓
5.	All other failing examinations checked to ensure that grades are justified	MB		✓
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	MB		✓

	Printed Name/Signature	Date
a. Grader	MARK A. BATES / Mark A. Bates	07/12/2006
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	RONALD F. ATELLO /	07/12/2006
d. NRC Supervisor (*)	James H Moorman, III /	9-14-06

(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.

Post-Examination Check Sheet		
Facility:		Date of Examination:
	Task Description	Date Complete
1.	Facility written exam comments or graded exams received and verified complete	✓ 07/05/2006
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	✓ 07/21/2006
3.	Operating tests graded by NRC examiners	✓ 07/21/2006
4.	NRC chief examiner review of operating test and written exam grading completed	✓ 07/21/2006
5.	Responsible supervisor review completed	✓ 07/21/2006
6.	Management (licensing official) review completed	✓ 07/24/2006
7.	License and denial letters mailed	✓ 08/16/2006
8.	Facility notified of results	✓ 08/16/2006
9.	Examination report issued (refer to NRC MC 0612)	✓ 08/02/2006
10.	Reference material returned after final resolution of any appeals Facility Contacted.	✓ 08/21/2006

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May 10, 2006

NRC REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
SUITE 23T85
ATLANTA, GA. 30303–8931

Re: **OCONEE NUCLEAR STATION**
Operating Exam

Dear Mr. Moorman:

We are enclosing the operating exams and quality checklists as required, for the Initial License exam scheduled for the weeks of June 19 and June 26, 2006, at the Operator Training Center, Oconee Nuclear Site. Please refer to Attachment 1 for a detailed listing of these items.

If you require any additional information, or have further questions, please feel free to contact Gabriel Washburn at (864) 885-4490, or J.R. Steely at (864) 885-3446.

Sincerely,

for NEC

Neil E. Constance Jr.,
Manager of Operator Training

nec:dtb

Enclosure

Attachment 1

- Form ES-201-2, Examination Outline Quality Checklist
- Form ES-201-3, Examination Security Agreement
- Form ES-301-1, RO Administrative Exam outline
- Form ES-301-1, SRO Administrative Exam outline
- One RO Administrative Exam
- One SRO Administrative Exam
- Form ES-301-2, RO Control Room/In-Plant Test outline
- Form ES-301-2, SRO (I) Control Room/In-Plant Test outline
- Form ES-301-2, SRO (U) Control Room/In-Plant Test outline
- One RO Control Room/In-Plant Test
- One SRO (I) Control Room/In-Plant Test
- One SRO (U) Control Room/In-Plant Test
- Form ES-301-3, Operating Test Quality Checklist
- Form ES-301-4, Simulator Scenario Quality Checklist
- Form ES-301-5, Transient and Event Checklist
- Form ES-301-6, Competencies Checklist
- Four Form ES-D-1s, Scenario outlines
- Four Form ES-D-2s, Required Operator Actions