



444 South 16th Street Mall
Omaha NE 68102-2247

May 21, 2007
LIC-07-0044

Mr. Steve Garchow
Chief Examiner
U. S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

- References:
1. Docket No. 50-285
 2. Letter from NRC (A. T. Gody) to OPPD (R. T. Ridenoure) dated January 25, 2007 (NRC-07-0007)

SUBJECT: Proposed Integrated Initial Licensed Operator Examination Outline

Mr. Garchow:

Per Reference 2, enclosed is a sealed envelope containing Omaha Public Power District's (OPPD) proposed integrated initial licensed operator examination outline for your review. The outline was developed in accordance with NUREG 1021, Revision 9, "Operator Licensing Examiner Standards."

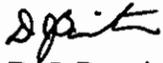
The outline is being provided in both printed and electronic formats. The enclosed CDROM contains the outline in password protected Adobe Acrobat (PDF) format.

Also enclosed are the signed Examination Outline Quality Checklist (ES-201-2) and Examination Security Agreement (ES-201-3). As additional individuals are required to participate in the examination development and validation process, they will be added to the Security Agreement.

To ensure examination security, it is requested that these materials be withheld from public disclosure until after the examinations are complete.

If you should have any questions concerning the proposed outline, please contact Mr. Dave Weaver at 402-533-6056 or Mr. Jerry Koske at 402-533-6073.

Sincerely,



D. J. Bannister

Manager – Fort Calhoun Station

Enclosures

DJB/JEK/dkg

c: Document Control Desk (w/o Enclosures)

Fort Calhoun Station

2007 NRC Hot License Exam Outline

Submitted to Mr. Steve Garchow, Chief Examiner

Scheduled Exam Dates : 8/3/07 - 8/10/07

Contents of Outline

Outline Introduction

Written Exam Outline

- RO Written Exam Sample Plan (ES-401-2 and ES-401-3 enhanced forms)
- RO - Record of Rejected K/A's (enhanced form for ES-401-4)
- SRO Written Exam Sample Plan (ES-401-2 and ES-401-3 enhanced forms)
- SRO - Record of Rejected K/A's (enhanced form for ES-401-4)

Administrative Topics Outline

- Form ES-301-1 (RO)
- Form ES-301-1 (SRO)

Walk-Through Test Outline

- RO Form ES-301-2
- SRO-I Form ES-301-2
- SRO-U Form ES-301-2

Simulator Scenario Outline

- ES-D-1 forms for all scenarios
- ES-301-5 forms
- ES-301-6 forms

Copy of Form ES 201 -3 security agreement as it exists to date

Form ES-201-2 Examination Outline Quality Checklist

Outline Development for the 2007 Fort Calhoun NRC Exam

This exam outline was developed in accordance with NUREG-1021, Rev 9.

Written Exam Outline

Fort Calhoun has developed a methodology to ensure that the selection of K/A items for the written exam is random and unbiased. The written exam outline was developed using a Microsoft Access database. All K/A items from NUREG-1122, Rev 2 are contained in a table within the database. Items which clearly are not applicable to Fort Calhoun are assigned a flag to prevent them from being sampled. Flagged items are selected using guidance provided in ES-401, attachment 2. Flagged items include the Ice Condenser System, Non-Nuclear Instrumentation and Iodine Removal System K/As, Non-Combustion Engineering vender specific EPE/APE K/As, and K/As only associated with multi-unit plants.

The sample plan is developed as follows:

- A module is run that assigns a random number to each item in the K/A catalog. This module uses a randomize routine to ensure that the pattern of random numbers is unique.
- A query is run that presents K/A items belonging to the tier and group being sampled ordered by their associated random number. Minimum and maximum numbers are assigned to topics and categories to prevent over and under sampling. Items are entered in the sample plan as ordered, subject to the pre-established minimums and maximums. If a sampled K/A item has an importance value less than 2.5 with no FCS specific priority, is not applicable to Fort Calhoun or not appropriate for the written exam, it will be tagged and included in the Record of Rejected K/A's along with the reason for rejection. This sampling process is repeated until the tier/group has the required number of items.
- This procedure is repeated for each tier/group combination.
- Additional items are selected for the SRO only questions to meet the SRO tier/group requirements. These items are also presented in order of their associated random number. An additional requirement, for this step, is that the selected K/A items must be associated with 10 CFR 55.43 items.
- The enhanced ES-401-2 and ES-401-3 forms include a more detailed listing of the selected K/A item including the full text and a cross reference to the applicable 10 CFR 55.41/43/45 items.

Operating Exam Outline

The Fort Calhoun “PRA Summary Notebook” was used as a resource to ensure that risk-significant items identified in the Fort Calhoun IPE are reflected in the exam. The following risk significant initiating events are included in the operating exams:

- Station Blackout
- Steam Generator Tube Rupture
- Small Break (PORV) LOCA

It also resulted in the following risk-significant operator actions being evaluated:

- Aligning emergency DC power to breakers.
- Makeup to Safety Injection Refueling Water Storage Tank following RAS.
- Makeup to the Emergency Feedwater Storage Tank.

All four simulator scenarios are new.

Audit Exam

There will be no duplication of questions, scenarios, system JPMs or administrative JPMs between the audit exam and the license exam.

Facility: Fort Calhoun		Date of Exam: 8 / 3/ 2007																
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.	2	2	4	N/A			3	3	N/A			4	18			6	
	2.	2	1	1	N/A			2	1	N/A			2	9			4	
	Tier Totals	4	3	5	N/A			5	4	N/A			6	27			10	
2. Plant Systems	1.	3	2	3	3	2	2	2	3	2	3	3	28			5		
	2.	1	0	1	1	1	1	1	1	1	1	10			3			
	Tier Totals	4	2	4	4	3	3	3	4	3	4	4	38			8		
3. Generic Knowledge and Abilities Categories					1		2		3		4				1	2	3	4
					3		2		2		3		10					7

Note:

- 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).
- 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.
- 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; operationally 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.
- 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.
- 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.
- Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
- * 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.
- On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) 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; if fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
- For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

PWR RO Written Exam Outline (ES-401-2)

System/Mode	System Title	K1	K2	K3	A1	A2	G	Points
EPE/APE Tier 1 / Group 1								
000008	Pressurizer Vapor Space Accident					1		1
000009	Small Break LOCA			1				1
000011	Large Break LOCA				1			1
000017	Reactor Coolant Pump Malfunctions (Loss of RC Flow)	1						1
000022	Loss of Reactor Coolant Makeup				1			1
000025	Loss of Residual Heat Removal System		1					1
000026	Loss of Component Cooling Water				1			1
000027	Pressurizer Pressure Control System Malfunction						1	1
000029	Anticipated Transient Without Scram (ATWS)			1				1
000038	Steam Generator Tube Rupture						1	1
000040	Steam Line Rupture			1				1
000055	Station Blackout						1	1
000056	Loss of Off-Site Power					1		1
000057	Loss of Vital AC Electrical Instrument Bus					1		1
000058	Loss of DC Power	1						1
000065	Loss of Instrument Air						1	1
CE-E02	Reactor Trip Recovery		1					1
CE-E06	Loss of Feedwater			1				1
		2	2	4	3	3	4	18

EPE/APE Tier 1 / Group 2								
000003	Dropped Control Rod				1			1
000005	Inoperable/Stuck Control Rod		1					1
000024	Emergency Boration	1						1
000028	Pressurizer Level Control Malfunction					1		1
000037	Steam Generator Tube Leak						1	1
000068	Control Room Evacuation			1				1
000074	Inadequate Core Cooling	1						1
CE-A13	Natural Circulation Operations						1	1
CE-A16	Excess RCS Leakage				1			1
		2	1	1	2	1	2	9

Grand Total of EPE/APE K&A Selection:	4	3	5	5	4	6	27
--	----------	----------	----------	----------	----------	----------	-----------

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
Tier	1	Group	1		
000008	Pressurizer Vapor Space Accident	AA2.19	Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident:: PZR spray valve failure, using plant parameters	3.4	43.5 / 45.13
000009	Small Break LOCA	EK3.28	Knowledge of the reasons for the following responses as the apply to the small break LOCA:: Manual ESFAS initiation requirements	4.5	41.5 / 41.10 / 45.6 / 45.13
000011	Large Break LOCA	EA1.16	Ability to operate and monitor the following as they apply to a Large Break LOCA:: Balancing of HPI loop flows	3.5*	41.7 / 45.5 / 45.6
000017	Reactor Coolant Pump Malfunctions (Loss of RC Flow)	AK1.02	Knowledge of the operational implications of the following concepts as they apply to Reactor Coolant Pump Malfunctions (Loss of RC Flow):: Consequences of an RCPS failure	3.7	41.8 / 41.10 / 45.3
000022	Loss of Reactor Coolant Makeup	AA1.01	Ability to operate and / or monitor the following as they apply to the Loss of Reactor Coolant Pump Makeup:: CVCS letdown and charging	3.4	41.7 / 45.5 / 45.6
000025	Loss of Residual Heat Removal System	AK2.03	Knowledge of the interrelations between the Loss of Residual Heat Removal System and the following:: Service water or closed cooling water pumps	2.7	41.7 / 45.7
000026	Loss of Component Cooling Water	AA1.07	Ability to operate and / or monitor the following as they apply to the Loss of Component Cooling Water:: Flow rates to the components and systems that are serviced by the CCWS; interactions among the components	2.9	41.7 / 45.5 / 45.6
000027	Pressurizer Pressure Control System Malfunction	2.4.50	: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	45.3
000029	Anticipated Transient Without Scram (ATWS)	EK3.08	Knowledge of the reasons for the following responses as the apply to the ATWS:: Closing the main steam isolation valve	3.6*	41.5 / 41.10 / 45.6 / 45.13
000038	Steam Generator Tube Rupture	2.1.23	: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	3.9	45.2 / 45.6
000040	Steam Line Rupture	AK3.02	Knowledge of the reasons for the following responses as they apply to the Steam Line Rupture:: ESFAS initiation	4.4	41.5 / 41.10 / 45.6 / 45.13

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
000055	Station Blackout	2.1.23	: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	3.9	45.2 / 45.6
000056	Loss of Off-Site Power	AA2.47	Ability to determine and interpret the following as they apply to the Loss of Offsite Power:: Proper operation of the ED/G load sequencer	3.8	43.5 / 45.13
000057	Loss of Vital AC Electrical Instrument Bus	AA2.05	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:: S/G pressure and level meters	3.5	43.5 / 45.13
000058	Loss of DC Power	AK1.01	Knowledge of the operational implications of the following concepts as they apply to Loss of DC Power:: Battery charger equipment and instrumentation	2.8	41.8 / 41.10 / 45.3
000065	Loss of Instrument Air	2.4.31	: Knowledge of annunciators alarms and indications, and use of the response instructions.	3.3	41.10 / 45.3
CE-E02	Reactor Trip Recovery	EK2.02	Knowledge of the interrelations between the (Reactor Trip Recovery) and the following:: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.	3.5	41.7 / 45.7
CE-E06	Loss of Feedwater	EK3.01	Knowledge of the reasons for the following responses as they apply to the (Loss of Feedwater): Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics.	3.2	41.5 / 41.10 / 45.6 / 45.13

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
Tier	1	Group	2		
000003	Dropped Control Rod	AA1.07	Ability to operate and / or monitor the following as they apply to the Dropped Control Rod:: In-core and ex-core instrumentation	3.8	41.7 / 45.5 / 45.6
000005	Inoperable/Stuck Control Rod	AK2.02	Knowledge of the interrelations between the Inoperable / Stuck Control Rod and the following:: Breakers, relays, disconnects, and control room switches	2.5	41.7 / 45.7
000024	Emergency Boration	AK1.01	Knowledge of the operational implications of the following concepts as they apply to Emergency Boration:: Relationship between boron addition and change in T-ave	3.4	41.8 / 41.10 / 45.3
000028	Pressurizer Level Control Malfunction	AA2.06	Ability to determine and interpret the following as they apply to the Pressurizer Level Control Malfunctions:: Letdown flow indicator	2.7	43.5 / 45.13
000037	Steam Generator Tube Leak	2.1.32	: Ability to explain and apply all system limits and precautions.	3.4	41.10 / 43.2 / 45.12
000068	Control Room Evacuation	AK3.07	Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation:: Maintenance of S/G level, using AFW flow control valves	4.0	41.5 / 41.10 / 45.6 / 45.13
000074	Inadequate Core Cooling	EK1.02	Knowledge of the operational implications of the following concepts as they apply to the Inadequate Core Cooling :: Potential consequences of uncovering the core	4.6	41.8 / 41.10 / 45.3
CE-A13	Natural Circulation Operations	2.1.27	: Knowledge of system purpose and or function.	2.8	41.7
CE-A16	Excess RCS Leakage	AA1.03	Ability to operate and / or monitor the following as they apply to the (Excess RCS Leakage): Desired operating results during abnormal and emergency situations.	3.0	41.7 / 45.5 / 45.6

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:54 AM

System/Mode	System Title	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Points
Plant System Tier 2 / Group 1													
003000	Reactor Coolant Pump System					1				1			2
004000	Chemical and Volume Control System	1					1						2
005000	Residual Heat Removal System				1				1				2
006000	Emergency Core Cooling System							1			1		2
007000	Pressurizer Relief Tank / Quench Tank System											1	1
008000	Component Cooling Water System									1			1
010000	Pressurizer Pressure Control System				1								1
012000	Reactor Protection System						1		1				2
013000	Engineered Safety Features Actuation System				1								1
022000	Containment Cooling System										1		1
026000	Containment Spray System		1										1
039000	Main and Reheat Steam System			1				1					2
059000	Main Feedwater System								1		1		2
061000	Auxiliary / Emergency Feedwater System			1									1
062000	A.C. Electrical Distribution		1										1
063000	D.C. Electrical Distribution											1	1
064000	Emergency Diesel Generators	1											1
073000	Process Radiation Monitoring System					1							1
076000	Service Water System			1									1
078000	Instrument Air System	1											1
103000	Containment System											1	1
		3	2	3	3	2	2	2	3	2	3	3	28

Plant System Tier 2 / Group 2													
001000	Control Rod Drive System					1							1
002000	Reactor Coolant System							1					1
011000	Pressurizer Level Control System	1											1
014000	Rod Position Indication System											1	1
015000	Nuclear Instrumentation System						1						1
017000	In-Core Temperature Monitor System									1			1
033000	Spent Fuel Pool Cooling System				1								1
035000	Steam Generator System								1				1
041000	Steam Dump System and Turbine Bypass Control										1		1
075000	Circulating Water System			1									1
		1		1	10								

Grand Total of Plant System K&A Selection:

4	2	4	4	3	3	3	4	3	4	4	4	38
----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	-----------

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
Tier	2	Group	1		
003000	Reactor Coolant Pump System	A3.05	Ability to monitor automatic operation of the RCPS, including:: RCP lube oil and bearing lift pumps	2.7*	41.7 / 45.5
003000	Reactor Coolant Pump System	K5.04	Knowledge of the operational implications of the following concepts as they apply to the RCPS:: Effects of RCP shutdown on secondary parameters, such as steam pressure, steam flow, and feed flow	3.2	41.5 / 45.7
004000	Chemical and Volume Control System	K1.22	Knowledge of the physical connections and/or cause-effect relationships between the CVCS and the following systems:: BWST	3.4	41.2 to 41.9 / 45.7 to 45.8
004000	Chemical and Volume Control System	K6.24	Knowledge of the effect of a loss or malfunction on the following CVCS components:: Controllers and positioners	2.5	41.7 / 45.7
005000	Residual Heat Removal System	A2.02	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:: Pressure transient protection during cold shutdown	3.5	41.5 / 43.5 / 45.3 / 45.13
005000	Residual Heat Removal System	K4.11	Knowledge of RHRS design feature(s) and/or interlock(s) which provide or the following:: Lineup for low head recirculation mode (external and internal)	3.5*	41.7
006000	Emergency Core Cooling System	A1.19	Ability to predict and/or monitor changes in parameters: Subcooling	4.0	41.5 / 45.5
006000	Emergency Core Cooling System	A4.06	Ability to manually operate and/or monitor in the control room:: ESF control panel	4.4	41.7 / 45.5 to 45.8
007000	Pressurizer Relief Tank / Quench Tank System	2.1.28	: Knowledge of the purpose and function of major system components and controls.	3.2	41.7
008000	Component Cooling Water System	A3.06	Ability to monitor automatic operation of the CCWS, including:: Typical CCW pump operating conditions, including vibration and sound levels and motor current	2.5	41.7 / 45.5
010000	Pressurizer Pressure Control System	K4.01	Knowledge of PZR PCS design feature(s) and/or interlock(s) which provide for the following:: Spray valve warm-up	2.7	41.7

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
012000	Reactor Protection System	A2.05	Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Faulty or erratic operation of detectors and function generators	3.1*	41.5 / 43.5 / 45.3 / 45.5
012000	Reactor Protection System	K6.04	Knowledge of the effect of a loss or malfunction of the following will have on the RPS:: Bypass-block circuits	3.3	41.7 / 45.7
013000	Engineered Safety Features Actuation System	K4.01	Knowledge of ESFAS design feature(s) and/or interlock(s) which provide for the following:: SIS reset	3.9	41.7
022000	Containment Cooling System	A4.01	Ability to manually operate and/or monitor in the control room:: CCS fans	3.6	41.7 / 45.5 to 45.8
026000	Containment Spray System	K2.01	Knowledge of bus power supplies to the following:: Containment spray pumps	3.4*	41.7
039000	Main and Reheat Steam System	A1.06	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including:: Main steam pressure	3.0	41.5 / 45.5
039000	Main and Reheat Steam System	K3.05	Knowledge of the effect that a loss or malfunction of the MRSS will have on the following:: RCS	3.6	41.7 / 45.6
059000	Main Feedwater System	A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the MFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Feedwater actuation of AFW system	3.4*	41.5 / 43.5 / 45.3 / 45.13
059000	Main Feedwater System	A4.08	Ability to manually operate and monitor in the control room:: Feed regulating valve controller	3.0*	41.7 / 45.5 to 45.8
061000	Auxiliary / Emergency Feedwater System	K3.01	Knowledge of the effect that a loss or malfunction of the AFW will have on the following:: RCS	4.4	41.7 / 45.6
062000	A.C. Electrical Distribution	K2.01	Knowledge of bus power supplies to the following:: Major system loads	3.3	41.7

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
063000	D.C. Electrical Distribution	2.1.32	: Ability to explain and apply all system limits and precautions.	3.4	41.10 / 43.2 / 45.12
064000	Emergency Diesel Generators	K1.03	Knowledge of the physical connections and/or cause-effect relationships between the ED/G system and the following systems:: Diesel fuel oil supply system	3.6	41.2 to 41.9 / 45.7 to 45.8
073000	Process Radiation Monitoring System	K5.03	Knowledge of the operational implications as they apply to concepts as they apply to the PRM system:: Relationship between radiation intensity and exposure limits	2.9*	41.5 / 45.7
076000	Service Water System	K3.01	Knowledge of the effect that a loss or malfunction of the SWS will have on the following:: Closed cooling water	3.4*	41.7 / 45.6
078000	Instrument Air System	K1.02	Knowledge of the physical connections and/or cause-effect relationships between the IAS and the following systems:: Service air	2.7*	41.2 to 41.9 / 45.7 to 45.8
103000	Containment System	2.4.06	: Knowledge symptom based EOP mitigation strategies.	3.1	41.10 / 43.5 / 45.13

PWR RO Written Exam Outline (ES-401-2)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
Tier	2	Group	2		
001000	Control Rod Drive System	K5.28	Knowledge of the following operational implications as they apply to the CRDS:: Boron reactivity worth vs. boron concentration, i.e., amount of boron needed (ppm) to change core reactivity to desired amount	3.5	41.5 / 45.7
002000	Reactor Coolant System	A1.08	Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RCS controls including:: RCS average temperature	3.7	41.5 / 45.7
011000	Pressurizer Level Control System	K1.02	Knowledge of the physical connections and/or cause-effect relationships between the PZR LCS and the following systems:: RCS	3.7	41.2 to 41.9 / 45.7 to 45.8
014000	Rod Position Indication System	2.4.49	: Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.0	41.10 / 43.2 / 45.6
015000	Nuclear Instrumentation System	K6.03	Knowledge of the effect of a loss or malfunction on the following will have on the NIS:: Component interconnections	2.6	41.7 / 45.7
017000	In-Core Temperature Monitor System	A3.01	Ability to monitor automatic operation of the ITM system including:: Indications of normal, natural, and interrupted circulation of RCS	3.6*	41.7 / 45.5
033000	Spent Fuel Pool Cooling System	K4.02	Knowledge of design feature(s) and/or interlock(s) which provide for the following:: Maintenance of spent fuel cleanliness	2.5	41.7
035000	Steam Generator System	A2.04	Ability to (a) predict the impacts of the following malfunctions or operations on the GS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Steam flow/feed mismatch	3.6	41.5 / 43.5 / 45.3 / 45.5
041000	Steam Dump System and Turbine Bypass Control	A4.04	Ability to manually operate and/or monitor in the control room:: Pressure mode	2.7*	41.7 / 45.5 to 45.8
075000	Circulating Water System	K3.01	Knowledge of the effect that a loss or malfunctions of the circulating water system will have on the following:: SWS	2.3	41.7 / 45.6

May 19, 2007 10:54 AM

PWR RO Written Exam Outline (ES-401-3)

System/Mode	System Title	Cat 1	Cat 2	Cat 3	Cat 4	Points
Generic Knowledge and Abilities Tier 3						
00000	Generic Knowledges and Abilities	3	2	2	3	10
		3	2	2	3	10

Grand Total of Generic K&A Selection:

3	2	2	3	10
----------	----------	----------	----------	-----------

PWR RO Written Exam Outline (ES-401-3)

May 19, 2007 10:55 AM

System/Mode	System Title	KA Number	Title	RO Value	10 CFR 55
Tier <input type="text" value="3"/>	Group <input type="text" value="4"/>				
000000	Generic Knowledges and Abilities	2.1.14	: Knowledge of system status criteria which require the notification of plant personnel.	2.5	43.5 / 45.12
000000	Generic Knowledges and Abilities	2.1.18	: Ability to make accurate, clear and concise logs, records, status boards, and reports.	2.9	45.12 / 45.13
000000	Generic Knowledges and Abilities	2.1.21	: Ability to obtain and verify controlled procedure copy.	3.1	45.10 / 45.13
000000	Generic Knowledges and Abilities	2.2.27	: Knowledge of the refueling process.	2.6	43.6 / 45.13
000000	Generic Knowledges and Abilities	2.2.30	: Knowledge of RO duties in the control room during fuel handling such as alarms from fuel handling area, communication with fuel storage facility, systems operated from the control room in support of fueling operations, and supporting instrumentation.	3.5	45.12
000000	Generic Knowledges and Abilities	2.3.02	: Knowledge of facility ALARA program.	2.5	41.12 / 43.4 / 45.9 / 45.10
000000	Generic Knowledges and Abilities	2.3.04	: Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	43.4 / 45.10
000000	Generic Knowledges and Abilities	2.4.01	: Knowledge of EOP entry conditions and immediate action steps.	4.3	41.10 / 43.5 / 45.13
000000	Generic Knowledges and Abilities	2.4.15	: Knowledge of communications procedures associated with EOP implementation.	3.0	41.10 / 45.13
000000	Generic Knowledges and Abilities	2.4.31	: Knowledge of annunciators alarms and indications, and use of the response instructions.	3.3	41.10 / 45.3

Enhanced Form ES-401-4 Record of Rejected K/As from RO Outline

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
1/1	000007 2.4.30	Knowledge of which events related to system operations/status should be reported to outside agencies.	Low RO Importance, no FCS specific priority
1/1	000017 AA1.15	Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow):High-power/low-flow reactor trip block status lights	No high-power/low flow reactor trip at FCS
1/1	000062 AA2.06	Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water:The length of time after the loss of SWS flow to a component before that component may be damaged	No guidance to determine time to damage
1/2	000033 AA2.06	Ability to determine and interpret the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation:Cause of failure of an intermediate-range channel	Low RO Importance, No FCS specific priority
1/2	000033 AK2.01	Knowledge of the interrelations between the Loss of Intermediate Range Nuclear Instrumentation and the following:Power supplies, including proper switch position	Low RO Importance, No FCS Specific Priority
1/2	000068 AK3.05	Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation:Repositioning valves to isolate and drain the AFW pump turbine and steam supply header	Not an action taken at FCS
1/2	000076 AA2.07	Ability to determine and interpret the following as they apply to the High Reactor Coolant Activity:When demineralizer resin needs to be replaced	Low RO Importance, No FCS specific priority
2/1	003000 2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	Not an RO Task. Not Linked to 10 CFR55.41

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/1	004000 K1.05	Knowledge of the physical connections and/or cause-effect relationships between the CVCS and the following systems:CRDS operation in automatic mode control	No automatic rod control at FCS
2/1	007000 2.4.06	Knowledge symptom based EOP mitigation strategies.	Will be evaluated during one of the simulator scenarios.
2/1	010000 K1.04	Knowledge of the physical connections and/or cause-effect relationships between the PZR PCS and the following systems:AFW	Low RO Importance, no FCS specific priority
2/1	012000 2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	SRO level knowledge. Not linked to 10CFR55.41
2/1	013000 2.1.14	Knowledge of system status criteria which require the notification of plant personnel.	Not an RO Task. Not linked to 10 CFR55.41
2/1	022000 K4.05	Knowledge of CCS design feature(s) and/or interlock(s) which provide for the following:Containment cooling after LOCA destroys ventilation ducts	Ducts are provided with overpressure protection devices to prevent damage
2/1	022000 K2.02	Knowledge of power supplies to the following:Chillers	No chillers at FCS
2/1	026000 K3.02	Knowledge of the effect that a loss or malfunction of the CSS will have on the following:Recirculation spray system	Not an FCS design feature
2/1	059000 K4.02	Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following:Automatic turbine/reactor trip runback	Not an FCS design feature
2/1	064000 2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	Not an RO Task. Not linked to 10 CFR55.41
2/1	076000 K1.17	Knowledge of the physical connections and/or cause- effect relationships between the SWS and the following systems:PRMS	No operational rad monitor on raw water system.

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/1	076000 K1.09	Knowledge of the physical connections and/or cause- effect relationships between the SWS and the following systems:Reactor building closed cooling water	Not an FCS design feature.
2/1	103000 A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operationsPhase A and B isolation	Not an FCS design feature
2/1	103000 A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operationsIntegrated leak rate test	Low RO Importance, no FCS specific priority.
2/2	001000 K5.51	Knowledge of the following operational implications as they apply to the CRDS:Definition of xenon oscillation	GFE Topic
2/2	001000 K5.70	Knowledge of the following operational implications as they apply to the CRDS:Method used to parallel the rod control M/G sets	No rod drive M-G sets at FCS
2/2	011000 K6.07	Knowledge of the effect of a loss or malfunction on the following will have on the PZR LCS:Correlation of demand signal indication with letdown PVC position	Low RO Importance, no FCS specific priority
2/2	034000 K5.02	Knowledge of the operational implication of the following concepts as they apply to the Fuel Handling System:Limiting of load	Low RO Importance, no FCS specific priority
2/2	071000 K6.10	Knowledge of the effect of a loss or malfunction on the Waste Gas Disposal System following will have on the :Surge and decay tanks	Low RO Importance, no FCS specific priority
2/2	071000 A4.24	Ability to manually operate and/or monitor in the control room:The double verification required before waste gas release	Not performed from the control room

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
2/2	071000 A2.06	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:Supply failure to the isolation valve	Low RO Importance, no FCS specific priority
2/2	071000 A2.01	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:Use of WGDS to prevent entry of oxygen into holdup tanks during liquid transfers	Low RO Importance, no FCS specific priority
2/2	071000 A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the Waste Gas Disposal System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:Rupture disk failures	Relief valves used instead of rupture disk.
2/2	071000 A4.16	Ability to manually operate and/or monitor in the control room:Waste gas decay tank shifts	Not performed from the control room
3/4	000000 2.1.05	Ability to locate and use procedures and directives related to shift staffing and activities.	Low RO importance. No specific FCS priority.
3/4	000000 2.2.34	Knowledge of the process for determining the internal and external effects on core reactivity.	Not an RO Task. Not linked to 10 CFR 55.41.
3/4	000000 2.2.31	Knowledge of procedures and limitations involved in initial core loading.	Low RO importance. No specific FCS priority.
3/4	000000 2.2.20	Knowledge of the process for managing troubleshooting activities.	Low RO Importance. No FCS specific priority.
3/4	000000 2.2.14	Knowledge of the process for making configuration changes.	Low RO Importance. No FCS specific priority
3/4	000000 2.2.10	Knowledge of the process for determining if the margin of safety, as defined in the basis of any technical specification is reduced by a proposed change, test or experiment.	Low RO Importance, no FCS specific priority

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
3/4	000000 2.2.08	Knowledge of the process for determining if the proposed change, test, or experiment involves an unreviewed safety question.	Low RO Importance, No FCS specific priority
3/4	000000 2.1.15	Ability to manage short-term information such as night and standing orders.	Low RO Importance. No FCS specific priority.
3/4	000000 2.1.10	Knowledge of conditions and limitations in the facility license.	Not a RO task. Not linked to 10 CFR 55.41.
3/4	000000 2.1.06	Ability to supervise and assume a management role during plant transients and upset conditions.	Low RO importance. No FCS specific priority. Will be evaluated for SROs during simulator scenarios.

Facility: Fort Calhoun		Date of Exam: 08/03/2007																	
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.				N/A					N/A				18	3	3	6		
	2.				N/A					N/A				9	2	2	4		
	Tier Totals				N/A					N/A				27	5	5	10		
2. Plant Systems	1.													28	2	3	5		
	2.													10	1	1	3		
	Tier Totals													38	4	4	8		
3. Generic Knowledge and Abilities Categories					1	2	3	4						10	1	2	3	4	7
															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; operationally 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.
 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 ratings (IRs) 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; if fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). 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, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

Tier	SROGroup	System/Mode	SystemTitle	A2	G	Row Summa
1	1	000009	Small Break LOCA	1		1
1	1	000025	Loss of Residual Heat Removal System		1	1
1	1	000038	Steam Generator Tube Rupture	1		1
1	1	000056	Loss of Off-Site Power		1	1
1	1	000065	Loss of Instrument Air	1		1
1	1	CE-E02	Reactor Trip Recovery		1	1
1	2	000003	Dropped Control Rod		1	1
1	2	000037	Steam Generator Tube Leak	1		1
1	2	000074	Inadequate Core Cooling		1	1
1	2	CE-A16	Excess RCS Leakage	1		1

PWR SRO Written Examination Outline (ES-401-2)

May 19, 2007 10:56 AM

System/Mode	System Title	KA Number	Title	SRO Value	10 CFR 55
Tier	1	Group	1		
000009	Small Break LOCA	EA2.10	Ability to determine or interpret the following as they apply to a small break LOCA:: Airborne activity	3.7	43.5 / 45.13
000025	Loss of Residual Heat Removal System	2.4.30	: Knowledge of which events related to system operations/status should be reported to outside agencies.	3.6	43.5 / 45.11
000038	Steam Generator Tube Rupture	EA2.07	Ability to determine or interpret the following as they apply to a SGTR:: Plant conditions, from survey of control room indications	4.8	43.5 / 45.13
000056	Loss of Off-Site Power	2.4.04	: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.3	41.10 / 43.2 / 45.6
000065	Loss of Instrument Air	AA2.05	Ability to determine and interpret the following as they apply to the Loss of Instrument Air:: When to commence plant shutdown if instrument air pressure is decreasing	4.1	43.5 / 45.13
CE-E02	Reactor Trip Recovery	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	43.2 / 43.3 / 45.3

PWR SRO Written Exam Outline (ES-401-2)

May 19, 2007 10:56 AM

System/Mode	System Title	KA Number	Title	SRO Value	10 CFR 55
Tier	1	Group	2		
000003	Dropped Control Rod	2.1.14	: Knowledge of system status criteria which require the notification of plant personnel.	3.3	43.5 / 45.12
000037	Steam Generator Tube Leak	AA2.13	Ability to determine and interpret the following as they apply to the Steam Generator Tube Leak:: Which S/G is leaking	4.3	43.5 / 45.13
000074	Inadequate Core Cooling	2.4.06	: Knowledge symptom based EOP mitigation strategies.	4.0	41.10 / 43.5 / 45.13
CE-A16	Excess RCS Leakage	AA2.01	Ability to determine and interpret the following as they apply to the (Excess RCS Leakage): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.5	43.5 / 45.13

Tier	SROGroup	System/Mode	SystemTitle	A2	G	K5	Row Summa
2	1	003000	Reactor Coolant Pump System		1		1
2	1	004000	Chemical and Volume Control System	1			1
2	1	012000	Reactor Protection System		1		1
2	1	061000	Auxiliary / Emergency Feedwater System	1			1
2	1	064000	Emergency Diesel Generators		1		1
2	2	033000	Spent Fuel Pool Cooling System	1			1
2	2	034000	Fuel Handling Equipment System			1	1
2	2	056000	Condensate System		1		1

PWR SRO Written Exam Outline (ES-401-2)

May 19, 2007 10:56 AM

System/Mode	System Title	KA Number	Title	SRO Value	10 CFR 55
Tier	2	Group	1		
003000	Reactor Coolant Pump System	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	43.2 / 43.3 / 45.3
004000	Chemical and Volume Control System	A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Boundary isolation valve leak	4.2	41.5 / 43.5 / 45.3 / 45.5
012000	Reactor Protection System	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	43.2 / 43.3 / 45.3
061000	Auxiliary / Emergency Feedwater System	A2.03	Ability to (a) predict the impacts of the following malfunctions or operations on the AFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Loss of dc power	3.4	41.5 / 43.5 / 45.3 / 45.13
064000	Emergency Diesel Generators	2.1.33	: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	4.0	43.2 / 43.3 / 45.3

PWR SRO Written Exam Outline (ES-401-2)

May 19, 2007 10:56 AM

System/Mode	System Title	KA Number	Title	SRO Value	10 CFR 55
Tier	2	Group	2		
033000	Spent Fuel Pool Cooling System	A2.02	Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System ; and (b) based those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Loss of SFPCS	3.0	41.5 / 43.5 / 45.3 / 45.13
034000	Fuel Handling Equipment System	K5.02	Knowledge of the operational implication of the following concepts as they apply to the Fuel Handling System:: Limiting of load	2.6	41.5 / 45.7
056000	Condensate System	2.4.04	: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.3	41.10 / 43.2 / 45.6

PWR SRO Written Exam Outline (ES-401-3)

#####

System/Mode	System Title	Cat 1	Cat 2	Cat 3	Cat 4	Points
Generic Knowledge and Abilities Tier 3						
00000	Generic Knowledges and Abilities	2	2	1	2	7
		2	2	1	2	7

Grand Total of Generic K&A Selection:

2	2	1	2	7
----------	----------	----------	----------	----------

PWR SRO Written Examination Outline (ES-401-3)

May 19, 2007 10:56 AM

System/Mode	System Title	KA Number	Title	SRO Value	10 CFR 55
Tier	3	Group	4		
000000	Generic Knowledges and Abilities	2.1.05	: Ability to locate and use procedures and directives related to shift staffing and activities.	3.4	41.10 / 43.5 / 45.12
000000	Generic Knowledges and Abilities	2.1.10	: Knowledge of conditions and limitations in the facility license.	3.9	43.1 / 45.13
000000	Generic Knowledges and Abilities	2.2.08	: Knowledge of the process for determining if the proposed change, test, or experiment involves an unreviewed safety question.	3.3	43.3 / 45.13
000000	Generic Knowledges and Abilities	2.2.14	: Knowledge of the process for making configuration changes.	3.0	43.3 / 45.13
000000	Generic Knowledges and Abilities	2.3.10	: Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.	3.3	43.4 / 45.10
000000	Generic Knowledges and Abilities	2.4.10	: Knowledge of annunciator response procedures.	3.1	41.10 / 43.5 / 45.13
000000	Generic Knowledges and Abilities	2.4.30	: Knowledge of which events related to system operations/status should be reported to outside agencies.	3.6	43.5 / 45.11

Enhanced Form ES-401-4 Record of Rejected K/As from SRO Outline

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
1/1	000009 EA2.06	Ability to determine or interpret the following as they apply to a small break LOCA:Whether PZR water inventory loss is imminent	Not addressed by 10 CFR 55.43
1/1	000009 EA2.25	Ability to determine or interpret the following as they apply to a small break LOCA:Reactor trip setpoints	Not addressed by 10 CFR 55.43
1/1	000015 2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	Not addressed by 10 CFR 55.43
1/1	000054 2.1.32	Ability to explain and apply all system limits and precautions.	Not addressed by 10 CFR 55.43
1/1	000057 AA2.06	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:AC instrument bus alarms for the inverter and alternate power source	Not addressed by 10 CFR 55.43
1/1	000057 AA2.16	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:Normal and abnormal PZR level for various modes of plant operation	Not addressed by 10 CFR 55.43
1/1	000057 AA2.17	Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:System and component status, using local or remote controls	Not addressed by 10 CFR 55.43
1/1	000065 2.2.22	Knowledge of limiting conditions for operations and safety limits.	No LCOs or safety limits associated with Instrument Air
1/2	000005 AA2.02	Ability to determine and interpret the following as they apply to the Inoperable / Stuck Control Rod:Difference between jog and run rod speeds, effect on CRDM of stuck rod	Not addressed by 10 CFR 55.43. Single speed on CRDMs.

Tier/Group	Randomly Selected K/A	Description	Reason for Rejection
1/2	000024 AA2.05	Ability to determine and interpret the following as they apply to the Emergency Boration:Amount of boron to add to achieve required SDM	Not addressed by 10 CFR 55.43 STA Task at FCS.
1/2	000024 AA2.03	Ability to determine and interpret the following as they apply to the Emergency Boration:Correlation between boric acid controller setpoint and boric acid flow	Not addressed by 10 CFR 55.43
1/2	000032 AA2.04	Ability to determine and interpret the following as they apply to the Loss of Source Range Nuclear Instrumentation:Satisfactory source-range/intermediate-range overlap	Not addressed by 10 CFR 55.43
1/2	000051 2.1.32	Ability to explain and apply all system limits and precautions.	Not addressed by 10 CFR 55.43
1/2	000076 2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	No immediate actions associated with high RCS activity
1/2	CE-A13 2.4.30	Knowledge of which events related to system operations/status should be reported to outside agencies.	No specific reporting requirements
2/2	002000 2.4.06	Knowledge symptom based EOP mitigation strategies.	Overlaps with sampled K/A 000009 A2
2/2	041000 2.2.22	Knowledge of limiting conditions for operations and safety limits.	No associated LCOs or safety limits
2/2	075000 2.4.49	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	Not addressed by 10 CFR 55.43
3/4	000000 2.1.06	Ability to supervise and assume a management role during plant transients and upset conditions.	Low RO importance. No FCS specific priority. Will be evaluated for SROs during simulator scenarios.

Facility: Fort Calhoun Examination Level: <u>RO</u> SRO		Date of Examination: 8/6/2007 Operating Test Number: _____
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M	Administrative JPM - Calculate ECC K/A 2.1.7 (RO Imp 3.7) K/A 004000 A4.02 (RO Imp 3.2)
Conduct of Operations	N	Administrative JPM - Calculate Time to empty Emergency Feedwater Storage Tank K/A 2.1.25 (RO Imp 2.8) K/A 061000 A1.04 (RO Imp 3.9)
Equipment Control	N	Administrative JPM - Use P&IDs to determine instruments affected by sealing a leak on S/G piping. K/A 2.2.24 (RO Imp 2.6)
Radiation Control	N	Frisk Packages for contamination. (with hidden source) K/A 2.3.4 (RO Imp 2.5)
Emergency Plan		
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 (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) (S)imulator	

Facility: Fort Calhoun		Date of Examination: 8/6/2007
Examination Level: RO / SRO		Operating Test Number: _____
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M	Administrative JPM - Review ECC Calculation K/A 2.1.7 (SRO Imp 4.4) K/A 004000 A4.02 (SRO Imp 3.9)
Conduct of Operations	N	Administrative JPM - Determine allowed outage time for failed CS Valve. K/A 2.1.12 (SRO Imp 4.0)
Equipment Control	M	Administrative JPM - Approve Movement of Spent Fuel Assemblies K/A 2.2.26 (SRO Imp 3.7)
Radiation Control	D	Administrative JPM - Authorize Containment Pressure Reduction K/A 2.3.6 (SRO Imp 3.1)
Emergency Plan	M	Administrative JPM - Event Classification and PAR K/A 2.4.41 (SRO Imp 4.1) K/A 2.4.44 (SRO Imp 4.0)
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 (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) (S)imulator	

Facility: Fort Calhoun		Date of Examination: 8/6/2007
Exam Level: RO		Operating Test No. _____
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. Emergency Boration from Control Room – Alternate Path K/A 004000 A4.07 (3.9/3.7)	D, S, A, L	1
b. Initiate Shutdown Cooling K/A 005000 A4.02 (3.4/3.1)	S, D, L	4P
c. Perform HPSI Pump Operability Test K/A 006000 A4.01 (4.1/3.9)	S, D	2
d. Raw Water Pipe Rupture K/A 076000 A2.01 (3.5/3.7)	S, D, A, P	4S
e. Verify Radiation Monitor operability using check source K/A 073000 A4.03 (3.1/3.2)	S, N, A	7
f. Rotate operating containment coolers K/A 022000 A4.01 (3.6/3.6)	S, M, A	5
g. Perform PORV Operability test (Faulted) K/A 010000 A4.03 (4.0/3.8)	S, D, L, A	3
h. Manually start and load a diesel generator K/A 064000 A4.06 (3.9/3.9)	S, D	6
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. Makeup to the RWST-Post RAS K/A 006000 K4.24 (2.6/3.0)	N, R, E, A, L	4P
j. Local Start of FW-54 to makeup to EFWST K/A 061000 K1.07 (3.6/3.8)	E, D	4S
k. Switch Inverter Power Supply from normal to bypass K/A 000057 AA1.01 (3.7/3.7)	M	6
<p>@ All control room (and in-plant) systems must be different and serve different safety functions; In-plant systems and functions may overlap those tested in the control room.</p>		
* 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 including 1(A)	≥ 2 / ≥ 2 / ≥ 1	
(P) revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)	
(R) CA	≥ 1 / >= 1 / ≥ 1	
(S) imulator		

Facility: Fort Calhoun		Date of Examination: 8/6/2007
Exam Level: SRO(I)		Operating Test No. _____
Control Room Systems [@] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. Emergency Boration from Control Room – Alternate Path K/A 004000 A4.07 (3.9/3.7)	D, S, A, L	1
b. Initiate Shutdown Cooling K/A 005000 A4.02 (3.4/3.1)	S, D, L	4P
c. Perform HPSI Pump Operability Test K/A 006000 A4.01 (4.1/3.9)	S, D	2
d. Raw Water Pipe Rupture K/A 076000 A2.01 (3.5/3.7)	S, D, A, P	4S
e. Verify Radiation Monitor operability using check source K/A 073000 A4.03 (3.1/3.2)	S, N, A	7
f. Rotate operating containment coolers K/A 022000 A4.01 (3.6/3.6)	S, M, A	5
g. Perform PORV Operability test (Faulted) K/A 010000 A4.03 (4.0/3.8)	S, D, L,A	3
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. Makeup to the RWST-Post RAS K/A 006000 K4.24 (2.6/3.0)	N,R,E,A,L	4P
j. Local Start of FW-54 to makeup to EFWST K/A 061000 K1.07 (3.6/3.8)	E, D	4S
k. Switch Inverter Power Supply from normal to bypass K/A 000057 AA1.01 (3.7/3.7)	M	6
<p>@ All control room (and in-plant) systems must be different and serve different safety functions; In-plant systems and functions may overlap those tested in the control room.</p>		
* 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 including 1(A)	≥2 / ≥2 / ≥1	
(P)revious 2 exams	≤3 / ≤3 / ≤2 (randomly selected)	
(R)CA	≥1 / >≥1 / ≥1	
(S)imulator		

Facility: Fort Calhoun

Date of Examination: 8/6/2007

Exam Level: SRO(U)

Operating Test No. _____

Control Room Systems[@] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System / JPM Title	Type Code*	Safety Function
e. Verify Radiation Monitor operability using check source K/A 073000 A4.03 (3.1/3.2)	S, N, A	7
f. Rotate operating containment coolers K/A 022000 A4.01 (3.6/3.6)	S, M, A	5

In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)

i. Makeup to the RWST-Post RAS K/A 006000 K4.24 (2.6/3.0)	N,R,E,A,L	4P
j. Local Start of FW-54 to makeup to EFWST K/A 061000 K1.07 (3.6/3.8)	E, D	4S
k. Switch Inverter Power Supply from normal to bypass K/A 000057 AA1.01 (3.7/3.7)	M	6

@ All control room (and in-plant) systems must be different and 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 including 1(A)	≥2 / ≥2 / ≥1
(P)revious 2 exams	≤3 / ≤3 / ≤2 (randomly selected)
(R)CA	≥1 / >≥1 / ≥1
(S)imulator	

Facility: Fort Calhoun		Scenario No: 2007-1		Op-Test No. _____	
Examiners: _____ _____			Operators: _____ _____		
Initial Conditions: 100% power operation. DG-2 OOS, Pressurizer Level Channel 101Y OOS (failed at 48%)					
Turnover: Continue full power operation					
Event No.	Malf No.	Event Type*	Event Description		
1		C	Charging pump trips – Tech spec entry		
2		I	S/G Pressure fails low		
3		C	Main Generator Voltage Regulator Fails		
4		C	Running Raw Water Pump Trips – Tech spec entry		
5		I	Pressurizer level channel 101X fails high		
6		C	CCW to RCPs isolates		
7		M	Manual Reactor Trip Required		
8		C	DC Bus #1 Fault		
9		M	Loss of 161 KV (Station Blackout – D/G-1 will not accelerate to 900 rpm, breaker will not close)		
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor					

Facility: Fort Calhoun		Scenario No: 2007-2		Op-Test No. _____
Examiners: _____ _____			Operators: _____ _____	
Initial Conditions: 100% Power, DG-2 OOS				
Turnover:				
Event No.	Malf No.	Event Type*	Event Description	
1		C	Heater Drain Pump Trips	
2		C	Safety Injection Tank Nitrogen Leak – Tech Spec Entry	
3		C	Steam Generator Tube Leak	
4		N/R	AOP-05 Power Reduction	
5		I	PR NI channel Fails – Tech Spec Entry	
6		I	S/G Level Channel fails high	
7		M	Steam Generator Tube Rupture	
8		M	Reactor Trip Required	
9		C	Condenser Steam Dump Valve Fails Open	
10		C	MSIV Does not close	
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor				

Facility: Fort Calhoun	Scenario No: 2007-3	Op-Test No. _____	
Examiners: _____ _____		Operators: _____ _____	
Initial Conditions: 100% Power, CCW Pump AC-3A OOS			
Turnover: Continue power operation			
Event No.	Malf No.	Event Type*	Event Description
1		I	PT-210 fails low
2		C	CCW Pump Trips – Tech Spec Entry
3		C	RCP Seal Fails
4		C	Fault on bus 1B4A – Tech Spec Entry
5		I	VCT Level Fails Low
6		R/N	2 nd RCP Seal fails, AOP-05 shutdown required
7		I	S/G Level transmitter fails low
8		C	Inadvertent SGIS
9		M	PORV Fails Open (No power to block valve)
10		I	PPLS Fails to actuate
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Facility: Fort Calhoun	Scenario No: 2007-4 (spare)	Op-Test No. _____	
Examiners: _____ _____ _____		Operators: _____ _____ _____	
Initial Conditions: Plant Operating at 50% power. Containment entry in progress to investigate RCS leakage.			
Turnover:			
Event No.	Malf No.	Event Type*	Event Description
1		C	Inner PAL door cannot be closed. Maintenance must defeat interlock and open the outer PAL door – Tech Spec Entry
2		I	S/G steam flow transmitter fails low.
3		C	Circulating Water Pump trips
4		I	T-hot channel fails high – Tech Spec Entry
5		I	Letdown flow instrument fails high – letdown isolation
6		C	Two RCP seals fail on same pump
7		R/N	AOP-05 emergency shutdown
8		M	Third RCP seal fails resulting in 300 gpm LOCA
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 8/6/07 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 _____. 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
Jerry Koske	Training Consultant	<i>Jerry E Koske</i>	3/24/07		
DAVID WENNEY	Supervisor	<i>David Wenney</i>	5/14/07		
BEETHIE HARRIS	SUPERVISOR - OPS TRAINING	<i>Beeth Harris</i>	5/16/07		
JIM KECK	SUPERVISOR S.M. SERVICE	<i>Jim Keck</i>	5/16/07		
JAMES MICHAEL	TRAINING CONSULTANT	<i>James B. Michael</i>	5/16/07		
MARK L. GUTIERREZ	SIM COMPUTER SPECIALIST	<i>Mark L. Gutierrez</i>	5/16/07		
Monte L. Seals	Simulator Tech	<i>Monte L. Seals</i>	5-16-07		
Dave DANKOW	Sim Computer Specialist	<i>Dave Dankow</i>	5-16-07		
MIKE KRELSKY	SIM ENGINEER	<i>Mike Krelsky</i>	5-16-07		

NOTES:

Facility: <u>Fort Calhoun</u>		Date of Examination: <u>8/6/07</u>		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	JK	JW	
	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.	JK	JW	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JK	JW	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JK	JW	
2. S I M U L A T O R	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.	JK	JW	
	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.	JK	JW	
	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.	JK	JW	
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.	JK	JW	
	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	JK	JW	
	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.	JK	JW	
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	JK	JW	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JK	JW	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JK	JW	
	d. Check for duplication and overlap among exam sections.	JK	JW	
	e. Check the entire exam for balance of coverage.	JK	JW	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JK	JW	
a. Author	<u>Jerry Koste</u> Printed Name/Signature		<u>5/18/07</u> Date	
b. Facility Reviewer (*)	<u>David Weaver</u> / <u>[Signature]</u>		<u>5/21/07</u>	
c. NRC Chief Examiner (#)	_____		_____	
d. NRC Supervisor	_____		_____	
Note: # independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.				

Facility: <u>FORT Calhoun</u>		Date of Exam: <u>8/6/07</u>		Operating Test No.:													
A P P L I C A N T	E V E N T T Y P E	Scenarios												T O T A L	M I N I M U M (*)		
		1			2			3			4				R	I	U
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
<input checked="" type="checkbox"/> RO <u>1/3</u> <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX														1	1	0
	NOR						1							1	1	1	1
	I/C		4				4							8	4	4	2
	MAJ		1				1							2	2	2	1
	TS														0	2	2
<input checked="" type="checkbox"/> RO <u>a/4</u> <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX					1								1	1	1	0
	NOR														1	1	1
	I/C			3		3								6	4	4	2
	MAJ			1		1								2	2	2	1
	TS														0	2	2
<input type="checkbox"/> RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input checked="" type="checkbox"/> <u>1/2</u>	RX					1								1	1	1	0
	NOR						1							1	1	1	1
	I/C	7				7								14	4	4	2
	MAJ	1				1								2	2	2	1
	TS	2				2								4	0	2	2
<input type="checkbox"/> RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

7 } if suggested used

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 the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: <u>FORT Calhoun</u>		Date of Exam: <u>8/6/07</u>		Operating Test No.:														
A P P L I C A N T	E V E N T T Y P E	Scenarios												T O T A L	M I N I M U M(*)			
		1			2			3			4				R	I	U	
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
<input type="checkbox"/> RO	RX								1						1	1	1	0
<input type="checkbox"/> SRO-I	NOR														1	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C	7						4			5				16	4	4	2
<input type="checkbox"/> SRO-U	MAJ	1									1				3	2	2	1
<input type="checkbox"/> SRO-U	TS	2													2	0	2	2
<input type="checkbox"/> RO	RX				1										1	1	1	0
<input type="checkbox"/> SRO-I	NOR				1									1	2	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C		4		7							3			14	4	4	2
<input type="checkbox"/> SRO-U	MAJ		1		1							1			3	2	2	1
<input type="checkbox"/> SRO-U	TS				2										2	0	2	2
<input type="checkbox"/> RO	RX					1			1						2	1	1	0
<input type="checkbox"/> SRO-I	NOR								1						1	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C			3		3			8						14	4	4	2
<input type="checkbox"/> SRO-U	MAJ			1		1			1						3	2	2	1
<input type="checkbox"/> SRO-U	TS								2						2	0	2	2
<input type="checkbox"/> RO	RX															1	1	0
<input type="checkbox"/> SRO-I	NOR															1	1	1
<input type="checkbox"/> SRO-U	I/C															4	4	2
<input type="checkbox"/> SRO-U	MAJ															2	2	1
<input type="checkbox"/> SRO-U	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 the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: <i>Fort Calhoun</i>		Date of Exam: <i>8/6/07</i>		Scenario Numbers: <i>1 2 3</i>		Operating Test No.:	
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.	<i>EK</i>					
2.	The scenarios consist mostly of related events.	<i>EK</i>					
3.	Each event description consists of <ul style="list-style-type: none"> • 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.	<i>EK</i>					
5.	The events are valid with regard to physics and thermodynamics.	<i>EK</i>					
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	<i>EK</i>					
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.	<i>EK</i>					
8.	The simulator modeling is not altered.	<i>EK</i>					
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.	<i>EK</i>					
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	<i>EK</i>					
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).	<i>EK</i>					
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	<i>EK</i>					
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes	-	-	-		
1.	Total malfunctions (5-8)	<i>8 8 9</i>					
2.	Malfunctions after EOP entry (1-2)	<i>2 2 2</i>					
3.	Abnormal events (2-4)	<i>3 2 2</i>					
4.	Major transients (1-2)	<i>2 2 1</i>					
5.	EOPs entered/requiring substantive actions (1-2)	<i>2 2 2</i>					
6.	EOP contingencies requiring substantive actions (0-2)	<i>1 1 1</i>					
7.	Critical tasks (2-3)	<i>1 1</i>					

Facility: <i>Fort Calhoun</i>		Date of Examination: <i>8/6/07</i>				Operating Test No.: <i>1</i>										
Competencies	APPLICANTS															
	RO <i>1/3</i> <input checked="" type="checkbox"/>				RO <i>2/4</i> <input checked="" type="checkbox"/>				RO <input type="checkbox"/>				RO <input type="checkbox"/>			
	SRO-I <input type="checkbox"/>				SRO-I <input type="checkbox"/>				SRO-I <input type="checkbox"/>				SRO-I <input type="checkbox"/>			
	SRO-U <input type="checkbox"/>				SRO-U <input type="checkbox"/>				SRO-U <input checked="" type="checkbox"/>				SRO-U <input type="checkbox"/>			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	<i>1,4</i>	<i>11,6</i>			<i>2,3</i>	<i>2,5</i>			<i>1,3</i>	<i>3,5</i>						
	<i>5,6</i>	<i>9,10</i>			<i>8,9</i>	<i>8</i>			<i>8,9</i>	<i>7,8</i>						
Comply With and Use Procedures (1)	<i>6,7</i>	<i>7,8</i>			<i>2,3</i>	<i>3,4</i>			<i>6,7</i>	<i>3,5</i>						
	<i>9</i>	<i>9,4</i>			<i>7,9</i>	<i>5</i>			<i>8,9</i>	<i>7,8</i>						
Operate Control Boards (2)	<i>1,5</i>	<i>1,4</i>			<i>2,3</i>	<i>4,5</i>										
	<i>6,7</i>	<i>6,9</i>			<i>7</i>	<i>8</i>										
Communicate and Interact	<i>1,5</i>	<i>1,6</i>			<i>2,3</i>	<i>4,5</i>			<i>6,7</i>	<i>3,5</i>						
	<i>6,7</i>	<i>7,9</i>			<i>7,9</i>	<i>8</i>			<i>8,9</i>	<i>7,8</i>						
Demonstrate Supervisory Ability (3)									<i>6,7</i>	<i>3,4</i>						
									<i>8,9</i>	<i>5,8</i>						
Comply With and Use Tech. Specs. (3)									<i>1,4</i>	<i>2,5</i>						
Notes:																
(1) Includes Technical Specification compliance for an RO.																
(2) Optional for an SRO-U.																
(3) Only applicable to SROs.																

Instructions:

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

Facility: <i>FORT Calhoun</i>	Date of Examination: <i>8/6/07</i>	Operating Test No.:														
Competencies	APPLICANTS															
	RO <input type="checkbox"/>	RO <input type="checkbox"/>	RO <input type="checkbox"/>	RO <input type="checkbox"/>												
	SRO-I <input checked="" type="checkbox"/> 1	SRO-I <input checked="" type="checkbox"/> 2	SRO-I <input checked="" type="checkbox"/> 3	SRO-I <input type="checkbox"/>												
	SRO-U <input type="checkbox"/>	SRO-U <input type="checkbox"/>	SRO-U <input type="checkbox"/>	SRO-U <input type="checkbox"/>												
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	<i>1,3</i> <i>8,9</i>	<i>1,6</i> <i>9,10</i>	<i>1,3</i> <i>5</i>		<i>1,4</i> <i>5,6</i>	<i>3,5</i> <i>7,8</i>	<i>4,7</i> <i>8</i>		<i>2,3</i> <i>8,9</i>	<i>2,5</i> <i>8</i>	<i>1,4</i> <i>8</i>					
Comply With and Use Procedures (1)	<i>6,7</i> <i>8,9</i>	<i>7,8</i> <i>9,4</i>	<i>5,6</i> <i>9</i>		<i>6,7</i> <i>7</i>	<i>3,5</i> <i>7,8</i>	<i>4,6</i> <i>7,9</i>		<i>2,3</i> <i>7,9</i>	<i>3,4</i> <i>5</i>	<i>4,6</i> <i>9</i>					
Operate Control Boards (2)		<i>1,4</i> <i>6,9</i>	<i>6,9</i> <i>10</i>		<i>1,5</i> <i>6,7</i>		<i>4,6</i> <i>7,8</i>		<i>2,3</i> <i>7</i>	<i>4,5</i> <i>8</i>						
Communicate and Interact	<i>6,7</i> <i>8,9</i>	<i>1,6</i> <i>7,9</i>	<i>1,2</i> <i>9,10</i>		<i>1,5</i> <i>6,7</i>	<i>3,5</i> <i>7,8</i>	<i>4,7</i> <i>8,10</i>		<i>2,3</i> <i>7,9</i>	<i>4,5</i> <i>8</i>	<i>4,6</i> <i>8,10</i>					
Demonstrate Supervisory Ability (3)	<i>6,7</i> <i>8,9</i>					<i>3,4</i> <i>5,8</i>					<i>4,6</i> <i>8,10</i>					
Comply With and Use Tech. Specs. (3)	<i>1,4</i>					<i>2</i> <i>5</i>					<i>2,4</i>					
Notes:																
(1) Includes Technical Specification compliance for an RO.																
(2) Optional for an SRO-U.																
(3) Only applicable to SROs.																

Instructions:

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