

- WRITTEN EXAM SAMPLE PLAN ONLY -

ES-201

Examination Outline Quality Checklist

Form ES-201-2

Facility: VOGTLE		Date of Examination: APRIL 2013		
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.	M	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.	M	N/A	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	M	N/A	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	M	N/A	
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.			
	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.			
	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. 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.	M	N/A	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	M	N/A	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	M	N/A	
	d. Check for duplication and overlap among exam sections.	N/A	N/A	N/A
	e. Check the entire exam for balance of coverage.	M	N/A	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	M	N/A	
a. Author: <u>MICHAEL MEEKS</u> Printed Name / Signature: <u><i>Michael Meeks</i></u> b. Facility Reviewer (*): _____ c. NRC Chief Examiner (#): _____ d. NRC Supervisor: _____		Date: <u>07/20/12</u> N/A		
Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines				

DRAFT

Facility: VOGTLE		Date of Exam: APRIL 2013																			
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	3				3	3			3	18	3	3	6					
	2	1	1	2				2	2			1	9	2	2	4					
	Tier Totals	4	4	5				5	5			4	27	5	5	10					
2. Plant Systems	1	3	2	3	3	2	3	2	3	3	2	2	28	2	3	5					
	2	1	1	1	1	1	1	0	1	1	1	1	10	1	1	3					
	Tier Totals	4	3	4	4	3	4	2	4	4	3	3	38	4	4	8					
3. Generic Knowledge and Abilities Categories		1		2		3		4		10		1		2		3		4		7	
		3		2		2		3				1		2		2		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/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401 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. Refer to Section D.1.b of ES-401 for the applicable K/As.
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.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
007EK1.02	Reactor Trip - Stabilization - Recovery / 1	3.4	3.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shutdown margin
008AG2.4.2	Pressurizer Vapor Space Accident / 3	4.5	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.
009EA1.04	Small Break LOCA / 3	3.7	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CVCS
011EK2.02	Large Break LOCA / 3	2.6	2.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pumps
015AK3.01	RCP Malfunctions / 4	2.5	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential damage from high winding and/or bearing temperatures
022AA2.01	Loss of Rx Coolant Makeup / 2	3.2	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Whether charging line leak exists
025AG2.4.21	Loss of RHR System / 4	4.0	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the parameters and logic used to assess the status of safety functions
026AA2.02	Loss of Component Cooling Water / 8	2.9	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The cause of possible CCW loss
029EK3.03	ATWS / 1	3.7	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opening BIT inlet and outlet valves
038EK1.03	Steam Gen. Tube Rupture / 3	3.9	4.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Natural circulation
054AA1.04	Loss of Main Feedwater / 4	4.4	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HPI, under total feedwater loss conditions

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
056AK3.02	Loss of Off-site Power / 6	RO	SRO	4.4	4.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actions contained in EOP for loss of offsite power
062AA1.02	Loss of Nuclear Svc Water / 4	3.2	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loads on the SWS in the control room
065AG2.4.46	Loss of Instrument Air / 8	4.2	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to verify that the alarms are consistent with the plant conditions.
077AA2.02	Generator Voltage and Electric Grid Disturbances / 6	3.5	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Voltage outside the generator capability curve
WE04EK2.1	LOCA Outside Containment / 3	3.5	3.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE05EK2.2	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.9	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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.
WE12EK1.1	Steam Line Rupture - Excessive Heat Transfer / 4	3.4	3.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components, capacity, and function of emergency systems.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003AK1.07	Dropped Control Rod / 1	3.1	3.9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effect of dropped rod on insertion limits and SDM
036AA1.04	Fuel Handling Accident / 8	3.1	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fuel handling equipment during an incident
037AA2.08	Steam Generator Tube Leak / 3	2.8	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Failure of Condensate air ejector exhaust monitor
WE02EA2.1	SI Termination / 3	3.3	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facility conditions and selection of appropriate procedures during abnormal and emergency operations.
WE03EK3.2	LOCA Cooledown - Depress. / 4	3.4	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal, abnormal and emergency operating procedures associated with (LOCA Cooledown and Depressurization).
we06EG2.4.20	Degraded Core Cooling / 4	3.8	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of operational implications of EOP warnings, cautions and notes.
WE13EA1.2	Steam Generator Over-pressure / 4	3.0	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Operating behavior characteristics of the facility.
WE14EK2.1	Loss of CTMT Integrity / 5	3.4	3.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE16EK3.2	High Containment Radiation / 9	2.9	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal, abnormal and emergency operating procedures associated with (High Containment Radiation).

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003A2.05	Reactor Coolant Pump	2.5	2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effects of VCT pressure on RCP seal leakoff flows
003K5.02	Reactor Coolant Pump	2.8	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effects of RCP coastdown on RCS parameters
004K5.27	Chemical and Volume Control	2.6	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reason for nitrogen purge of CVCS
005K2.01	Residual Heat Removal	3.0	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RHR pumps
006A3.08	Emergency Core Cooling	4.2	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Automatic transfer of ECCS flowpaths
007A3.01	Pressurizer Relief/Quench Tank	2.7	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components which discharge to the PRT
008K4.09	Component Cooling Water	2.7	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The "standby" feature for the CCW pumps
010K4.02	Pressurizer Pressure Control	3.0	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prevention of uncovering PZR heaters
012A1.01	Reactor Protection	2.9	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trip setpoint adjustment
012K6.02	Reactor Protection	2.9	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Redundant channels
013G2.1.19	Engineered Safety Features Actuation	3.9	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to use plant computer to evaluate system or component status.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
013K3.03	Engineered Safety Features Actuation	4.3	4.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Containment
013K6.01	Engineered Safety Features Actuation	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sensors and detectors
022A1.03	Containment Cooling	3.1	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Containment humidity
026A4.05	Containment Spray	3.5	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Containment spray reset switches
039A2.04	Main and Reheat Steam	3.4	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Malfunctioning steam dump
059G2.2.22	Main Feedwater	4.0	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of limiting conditions for operations and safety limits.
061K6.01	Auxiliary/Emergency Feedwater	2.5	2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controllers and positioners
062K1.02	AC Electrical Distribution	4.1	4.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ED/G
063K1.03	DC Electrical Distribution	2.9	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Battery charger and battery
064A4.05	Emergency Diesel Generator	3.1	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Transfer of ED/G control between manual and automatic
064K1.03	Emergency Diesel Generator	3.6	4.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Diesel fuel oil supply system

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
073A2.02	Process Radiation Monitoring	2.7	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detector failure
076K2.04	Service Water	2.5	2.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reactor building closed cooling water
076K3.05	Service Water	3.0	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RHR components, controls, sensors, indicators and alarms, including rad monitors
078K4.02	Instrument Air	3.2	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cross-over to other air systems
103A3.01	Containment	3.9	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Containment isolation
103K3.01	Containment	3.3	3.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of containment integrity under shutdown conditions

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
002K5.10	Reactor Coolant	3.6	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Relationship between reactor power and RCS differential temperature
011K2.02	Pressurizer Level Control	3.1	3.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PZR heaters
015K6.01	Nuclear Instrumentation	2.9	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sensors, detectors and indicators
016K3.12	Non-nuclear Instrumentation	3.4	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S/G
034A2.03	Fuel Handling Equipment	3.3	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mispositioned fuel element
035A4.05	Steam Generator	3.8	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Level Control to enhance natural circulation
071K4.05	Waste Gas Disposal	2.7	3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Point of release
072K1.04	Area Radiation Monitoring	3.3	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Control room ventilation
079G2.1.23	Station Air	4.3	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform specific system and integrated plant procedures during all modes of plant operation.
086A3.03	Fire Protection	2.9	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actuation of fire detectors

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
G2.1.15	Conduct of operations	2.7	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of administrative requirements for temporary management directives such as standing orders, night orders, Operations memos, etc.
G2.1.29	Conduct of operations	4.1	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc.
G2.1.43	Conduct of operations	4.1	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to use procedures to determine the effects on reactivity of plant changes
G2.2.42	Equipment Control	3.9	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to recognize system parameters that are entry-level conditions for Technical Specifications
G2.2.44	Equipment Control	4.2	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions
G2.3.11	Radiation Control	3.8	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to control radiation releases.
G2.3.12	Radiation Control	3.2	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiological safety principles pertaining to licensed operator duties
G2.4.27	Emergency Procedures/Plans	3.4	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of "fire in the plant" procedures.
G2.4.32	Emergency Procedures/Plans	3.6	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of operator response to loss of all annunciators.
G2.4.9	Emergency Procedures/Plans	3.8	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
008AG2.4.30	Pressurizer Vapor Space Accident / 3	2.7	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of events related to system operations/status that must be reported to internal organizations or outside agencies.
011EA2.07	Large Break LOCA / 3	3.2	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	That equipment necessary for functioning of critical pump water seals is operable
025AA2.04	Loss of RHR System / 4	3.3	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location and isolability of leaks
029EG2.4.18	ATWS / 1	3.3	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the specific bases for EOPs.
056AG2.4.45	Loss of Off-site Power / 6	4.1	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to prioritize and interpret the significance of each annunciator or alarm.
065AA2.02	Loss of Instrument Air / 8	2.4	2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Relationship of flow readings to system operation

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
RO SRO														
005AG2.1.7	Inoperable/Stuck Control Rod / 1	4.4	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior and instrument interpretation.
076AG2.2.22	High Reactor Coolant Activity / 9	4.0	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of limiting conditions for operations and safety limits.
WE03EA2.1	LOCA Cooledown - Depress. / 4	3.4	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facility conditions and selection of appropriate procedures during abnormal and emergency operations.
WE09EA2.2	Natural Circ. / 4	3.4	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
005G2.1.32	Residual Heat Removal	3.8	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to explain and apply all system limits and precautions.
008A2.02	Component Cooling Water	3.2	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High/low surge tank level
039G2.2.25	Main and Reheat Steam	3.2	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.
062G2.2.44	AC Electrical Distribution	4.2	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions
063A2.02	DC Electrical Distribution	2.3	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of ventilation during battery charging

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
015A2.04	Nuclear Instrumentation	3.3	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effects on axial flux density of control rod alignment and sequencing, xenon production and decay, and boron vs. control rod reactivity changes
034A1.02	Fuel Handling Equipment	2.9	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water level in the refueling canal
086G2.2.37	Fire Protection	3.6	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to determine operability and/or availability of safety related equipment

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
G2.1.5	Conduct of operations	2.9	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to locate and use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.
G2.2.15	Equipment Control	3.9	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to determine the expected plant configuration using design and configuration control documentation
G2.2.20	Equipment Control	2.6	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the process for managing troubleshooting activities.
G2.3.4	Radiation Control	3.2	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiation exposure limits under normal and emergency conditions
G2.3.7	Radiation Control	3.5	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to comply with radiation work permit requirements during normal or abnormal conditions
G2.4.29	Emergency Procedures/Plans	3.1	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the emergency plan.
G2.4.40	Emergency Procedures/Plans	2.7	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the SRO's responsibilities in emergency plan implementation.

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ES-301

Administrative Topics Outline

Form ES-301-1

Facility: <u>Vogtle 1 & 2</u>		Date of Examination: <u>04/15/2013</u>
Examination Level: RO <input checked="" type="checkbox"/> SRO		Operating Test Number: <u>2013-301</u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, M	<p>V-NRC-JP-14915-HL18</p> <p>Calculate Quadrant Power Tilt Ratio</p> <p>Description: With data provided, candidate will perform 14915-1, Data Sheet 7, for QPTR monitoring.</p> <p>G2.1.7 (4.4 / 4.7)</p>
Conduct of Operations	R, M	<p>V-NRC-JP-00012-HL18</p> <p>Identify On-Shift Manning Requirements for Conditions Provided</p> <p>Description: Candidate will determine if the minimum on-shift staffing requirements are met and will determine if a crew member can fulfill two specific ERO positions.</p> <p>G2.1.5 (2.9* / 3.9)</p>
Equipment Control	R, N	<p>V-NRC-JP-14825-HL18</p> <p>Evaluate Surveillance Test Data</p> <p>Description: Candidate will evaluate quarterly valve test surveillance data and determine if the required acceptance criteria are met.</p> <p>G2.2.12 (3.7 / 4.1)</p>
Radiation Control	R, D, P	<p>V-NRC-JP-00930-HL18</p> <p>Proper RWP Implementation</p> <p>Description: Candidate will determine proper protective clothing requirements, projected dose, and whether the RWP is appropriate for the job task.</p> <p>G2.3.7 (3.5 / 3.6)</p>
Emergency Procedures/Plan	N/A	N/A
<p>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.</p>		

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* 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)

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ES-301

Administrative Topics Outline

Form ES-301-1

Facility: <u>Vogtle 1 & 2</u>		Date of Examination: <u>04/15/2013</u>
Examination Level: RO SRO <input checked="" type="checkbox"/> SROU <input checked="" type="checkbox"/>		Operating Test Number: <u>2013-301</u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, M	<p>V-NRC-JP-14915-HL18</p> <p>Evaluate Quadrant Power Tilt Ratio</p> <p>Description: With data provided, candidate will perform 14915-1, Data Sheet 7, for QPTR monitoring, evaluate data, and take appropriate action.</p> <p>G2.1.7 (4.4 / 4.7)</p>
Conduct of Operations	R, M	<p>V-NRC-JP-00012-HL18</p> <p>Evaluate On-Shift Manning Requirements for Conditions Provided</p> <p>Description: Candidate will determine if the minimum on-shift staffing requirements are met and identify required actions any time minimum staffing requirements are not met.</p> <p>G2.1.5 (2.9* / 3.9)</p>
Equipment Control	R, N	<p>V-NRC-JP-14825-HL18</p> <p>Evaluate Surveillance Test Data</p> <p>Description: Candidate will evaluate quarterly valve test surveillance data, determine if the required acceptance criteria are met, and specify Technical Specification required actions.</p> <p>G2.2.12 (3.7 / 4.1)</p>
Radiation Control	R, D, P	<p>V-NRC-JP-00930-HL18</p> <p>Proper RWP Implementation</p> <p>Description: Candidate will determine proper protective clothing requirements, projected dose, and whether the RWP is appropriate for the job task.</p> <p>G2.3.7 (3.5 / 3.6)</p>

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Emergency Procedures/Plan	R, D	<p>V-NRC-JP-NMP-EP-112-HL18</p> <p>Determine Offsite Protective Action Recommendations</p> <p>Description: The candidate will determine PARs for the given emergency and complete the PAR Worksheet.</p> <p>G2.4.44 (4.4)</p>
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.		
<p>* Type Codes & Criteria:</p> <p>(C)ontrol room, (S)imulator, or Class(R)oom</p> <p>(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)</p> <p>(N)ew or (M)odified from bank (≥ 1)</p> <p>(P)revious 2 exams (≤ 1; randomly selected)</p>		

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ES-301

Control Room/In-Plant Systems Outline

Form ES-301-2

Facility: <u>Vogtle 1 & 2</u>		Date of Examination: <u>04/15/2013</u>
Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input checked="" type="checkbox"/>		Operating Test Number: <u>2013-301</u>
Control Room Systems ^o (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
<p>a. V-NRC-JP-13105-HL18: Increase Accumulator Level at Low RCS Pressure</p> <p>Description: The unit is in Mode 4 at 340 psig and stable. A leak on Accumulator #2 has been repaired, but low pressure and low level annunciators remain lit. The candidate is directed to restore Accumulator #2 level and pressure sufficiently to clear the low level and low pressure annunciators using 13105-1.</p> <p>(RO / SRO-I / SRO-U)</p> <p>006A1.13 (3.5 / 3.7)</p>	D, EN, L, S	3
<p>b. V-NRC-JP-13011-HL18: Perform an RCS Cooldown Using RHR Train A</p> <p>Description: A unit cooldown from Mode 4 to Mode 5 is in progress. RHR Train 'A' warm-up is complete. The candidate is directed to initiate full RHR Train 'A' flow and cool down the RCS to 315°F ± 5°F without exceeding 100°F in any hour.</p> <p>(RO / SRO-I / SRO-U)</p> <p>005A4.01 (3.6 / 3.4)</p>	D, L, S	4P
<p>c. V-NRC-JP-18009-HL18: Transfer Steam Dumps to Steam Pressure Mode</p> <p>Description: The reactor has been shut down due to a steam generator tube leak. The candidate will transfer steam dumps to the steam pressure mode using 18009-C, but they will not control properly and ARV usage will be required to control heat-up.</p> <p>(RO / SRO-I / SRO-U)</p> <p>039A2.04 (3.4 / 3.7)</p>	A, D, L, S	4S

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<p>d. V-NRC-JP-13009-HL18: Emergency Borate from the RWST</p> <p>Description: The candidate will be required to initiate an emergency boration in response to a ROD BANK LO-LO LIMIT alarm using 13009-1. The RWST flow path will be required for emergency boration due to equipment failures.</p> <p>(RO / SRO-I)</p> <p>024AA2.01 (3.8* / 4.1)</p>	<p>A, D, P, S</p>	<p>1</p>
<p>e. V-NRC-JP-19001-HL18: Establish Safety Grade Letdown</p> <p>Description: The unit was manually tripped due to a non-isolable instrument air break. Candidate is required to place safety grade letdown in service and establish a 40 gpm flow rate to control RCS inventory.</p> <p>(RO / SRO-I)</p> <p>004A2.11 (3.6 / 4.2)</p>	<p>D, L, P, S</p>	<p>2</p>
<p>f. V-NRC-JP-13130-HL18: Place Containment Hydrogen Monitors in Service</p> <p>Description: A LOCA has occurred and the candidate is directed to place the Containment Hydrogen Monitors in service using 13130-1. The Common Failure light will illuminate requiring the candidate to return the monitor to standby.</p> <p>(RO / SRO-I)</p> <p>028A4.03 (3.1 / 3.3)</p>	<p>A, EN, L, M, P, S</p>	<p>5</p>
<p>g. V-NRC-JP-13320-HL18: Post-Accident Cleanup of the FHB Using the Normal Exhaust Units</p> <p>Description: A spent fuel assembly was dropped in the Spent Fuel Pool. To expedite cleanup of airborne radioactivity, the candidate will be required to use 13320-C to perform post-accident clean up of the Fuel Handling Building using the normal exhaust units.</p> <p>(RO / SRO-I)</p> <p>034A2.01 (3.6 / 4.4)</p>	<p>N, S</p>	<p>8</p>

<p>h. V-NRC-JP-13830-HL18: Establish Field Excitation Using Manual Voltage Regulation for Main Generator</p> <p>Description: The unit is starting up following a refueling outage. The main turbine is at 1800 rpm and main generator / exciter preparations are complete. The candidate will use 13830-1 to establish main generator field excitation with manual voltage regulation.</p> <p>(RO)</p> <p>062A4.04 (2.6)</p>	D, S	<p><u>RO ONLY</u></p> <p>6</p>
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In-Plant Systems ^o (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
<p>i. V-NRC-JP-13903-HL18: Locally Emergency Start Diesel-Driven Fire Pump</p> <p>Description: With a diesel fire pump tagged out for repairs, a large fire caused fire header pressure to drop. The standby diesel fire pump failed to start, so the candidate will be dispatched to perform a local manual start of the standby diesel fire pump. The local pushbutton start for the first battery will not work, which will require the use of the second battery to start the engine.</p> <p>(RO / SRO-I / SRO-U)</p> <p>086A2.02 (3.0 / 3.3)</p>	A, D, E	8
<p>j. V-NRC-JP-17213-HL18: Respond to 1-RE-0018 Alarm During a Liquid Radwaste Release</p> <p>Description: During a liquid radwaste release, a high alarm is received on 1-RE-0018. The candidate will be directed to respond to the Waste Process Liquid Panel (PLPP) and take the appropriate actions per 17213-1. 1-RE-0018 will not close, so manual isolation will be required.</p> <p>(RO / SRO-I / SRO-U)</p> <p>059AA2.05 (3.6 / 3.9)</p>	A, E, M, R	9
<p>k. V-NRC-JP-18038-HL18: Start Emergency Diesel Generator From Outside the Control Room</p> <p>Description: The control room has been evacuated and control has been established at the shutdown panels. To re-energize 2AA02, the candidate will locally start 2A EDG using Attachment B of 18038-2. After starting, high jacket water temperature will require tripping the diesel locally.</p> <p>(RO / SRO-I)</p> <p>064A1.03 (3.2 / 3.3)</p>	A, E, L, N	6

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Ⓒ 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	$\leq 9 / \leq 8 / \leq 4$
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$
(EN)gineered safety feature	- / - / ≥ 1 (control room system)
(L)ow-Power / Shutdown	$\geq 1 / \geq 1 / \geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)
(R)CA	$\geq 1 / \geq 1 / \geq 1$
(S)imulator	