

Facility: VOGTLE		Date of Exam: 2011 DRAFT																
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	N/A			3	3	N/A			3	18	3	3	6	
	2	2	1	1	N/A			2	1	N/A			2	9	2	2	4	
	Tier Totals	5	4	4	N/A			5	4	N/A			5	27	5	5	10	
2. Plant Systems	1	3	2	3	3	2	3	2	3	2	3	2	28	3	2	5		
	2	1	1	1	1	1	1	0	1	1	1	1	10	2	1	3		
	Tier Totals	4	3	4	4	3	4	2	4	3	4	3	38		3	8		
3. Generic Knowledge and Abilities Categories				1		2		3		4		10		1	2	3	4	7
				2		2		3		3				2	2	2	1	

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 ATier 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 ± 4 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 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 KAs.
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	RO	SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
008AK1.01	Pressurizer Vapor Space Accident / 3	3.2	3.7	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thermodynamics and flow characteristics of open or leak- ing valves
009EG2.4.8	Small Break LOCA / 3	3.8	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of how abnormal operating procedures are used in conjunction with EOPs.
011EA1.03	Large Break LOCA / 3	4	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Securing of RCPs
022AA2.03	Loss of Rx Coolant Makeup / 2	3.1	3.6	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Failures of flow control valve or controller
025AK1.01	Loss of RHR System / 4	3.9	4.3	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of RHRS during all modes of operation
027AK2.03	Pressurizer Pressure Control System Malfunction / 3	2.6	2.8	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controllers and positioners
029EK3.02	ATWS / 1	3.1	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Starting a specific charging pump
038EK3.01	Steam Gen. Tube Rupture / 3	4.1	4.3	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equalizing pressure on primary and secondary sides of ruptured S/G
054AG2.4.49	Loss of Main Feedwater / 4	4.6	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.
055EA1.01	Station Blackout / 6	3.7	3.9	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	In-core thermocouple temperatures
056AK3.01	Loss of Off-site Power / 6	3.5	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Order and time to initiation of power for the load sequencer

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
057AA2.02	Loss of Vital AC Inst. Bus / 6	3.7	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"/>	Core flood tank pressure and level indicators
058AG2.4.49	Loss of DC Power / 6	4.6	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 without reference to procedures those actions that require immediate operation of system components and controls.
077AA2.07	Generator Voltage and Electric Grid Disturbances / 6	3.6	4.0	<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"/>	Operational status of engineered safety features
WE04EK1.1	LOCA Outside Containment / 3	3.5	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"/>	Components, capacity, and function of emergency systems.
WE05EA1.1	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	4.1	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"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE11EK2.2	Loss of Emergency Coolant Recirc. / 4	3.9	4.3	<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.
WE12EK2.1	Steam Line Rupture - Excessive Heat Transfer / 4	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.

KA	NAME / SAFETY FUNCTION:	IR	RO	SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001AG2.4.9	Continuous Rod Withdrawal / 1	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 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.
028AK1.01	Pressurizer Level Malfunction / 2	2.8	3.1	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	PZR reference leak abnormalities
033AK3.01	Loss of Intermediate Range NI / 7	3.2	3.6	<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"/>	Termination of startup following loss of intermediate-range instrumentation				
060AK2.01	Accidental Gaseous Radwaste Rel. / 9	2.6	2.9	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	ARM system, including the normal radiation-level indications and the operability status
067AA1.07	Plant Fire On-site / 8	2.9	3	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire alarm reset panel
068AK3.08	Control Room Evac. / 8	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"/>	Trip of the MFW and necessary Condensate pumps				
076AA2.03	High Reactor Coolant Activity / 9	2.5	3	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCS radioactivity level meter
WE08EA1.1	RCS Overcooling - PTS / 4	3.8	3.8	<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"/>	<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.
we09EG2.4.9	Natural Circ. / 4	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 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											
003K5.03	Reactor Coolant Pump	3.1	3.5	<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 shutdown on T-ave., including the reason for the unreliability of T-ave. in the shutdown loop
003K6.02	Reactor Coolant Pump	2.7	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"/>	RCP seals and seal water supply
004A3.06	Chemical and Volume Control	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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T-ave. and T-ref
005A1.07	Residual Heat Removal	2.5	3.1	<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"/>	Determination of test acceptability by comparison of recorded valve response times with Tech-Spec requirements
005A4.03	Residual Heat Removal	2.8	2.7	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	RHR temperature, PZR heaters and flow and nitrogen
006A1.07	Emergency Core Cooling	3.3	3.6	<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"/>	Pressure, high and low
006G2.1.30	Emergency Core Cooling	4.4	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 locate and operate components, including local controls.
007A1.03	Pressurizer Relief/Quench Tank	2.6	2.7	<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"/>	Monitoring quench tank temperature
010K6.04	Pressurizer Pressure Control	2.9	3.2	<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"/>	PRT
012A4.07	Reactor Protection	3.9	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 checked="" type="checkbox"/>	<input type="checkbox"/>	M/G set breakers
013K5.01	Engineered Safety Features Actuation	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"/>	Definitions of safety train and ESF channel

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
022A4.05	Containment Cooling	3.8	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 checked="" type="checkbox"/>	<input type="checkbox"/>	Containment readings of temperature, pressure and humidity system
022K3.02	Containment Cooling	3.0	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"/>	Containment instrumentation readings
026K3.02	Containment Spray	4.2	4.3	<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"/>	Recirculation spray system
039G2.2.39	Main and Reheat Steam	3.9	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 less than one hour technical specification action statements for systems.
059K4.18	Main Feedwater	2.8	3.0	<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"/>	Automatic feedwater reduction on plant trip
059K4.19	Main Feedwater	3.2	3.4	<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"/>	Automatic feedwater isolation of MFW
061K2.03	Auxiliary/Emergency Feedwater	4.0	3.8	<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"/>	AFW, diesel driven pump
061K6.02	Auxiliary/Emergency Feedwater	2.6	2.7	<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"/>	Pumps
062K4.02	AC Electrical Distribution	2.5	2.7	<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"/>	Circuit breaker automatic trips
063A2.01	DC Electrical Distribution	2.5	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"/>	Grounds
064G2.2.12	Emergency Diesel Generator	3.7	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 surveillance procedures.

KA	NAME / SAFETY FUNCTION:	IR	RO	SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
064K3.03	Emergency Diesel Generator	3.6	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	ED/G (manual loads)
073K1.01	Process Radiation Monitoring	3.6	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Those systems served by PRMs
073K5.02	Process Radiation Monitoring	2.5	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"/>	Radiation intensity changes with source distance				
076A3.02	Service Water	3.7	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Emergency heat loads
076K1.05	Service Water	3.8	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	D/G
103K1.03	Containment	3.1	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"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shield building vent system

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
001K2.05	Control Rod Drive	3.1	3.5	<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"/>	M/G sets
002K5.11	Reactor Coolant	4.0	4.2	<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"/>	Relationship between effects of the primary coolant system and the secondary coolant system
011K4.03	Pressurizer Level Control	2.6	2.9	<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"/>	Density compensation of PZR level
014A1.02	Rod Position Indication	3.2	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Control rod position indication on control room panels				
017K6.01	In-core Temperature Monitor	2.7	3.0	<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"/>	Sensors and detectors
029K1.02	Containment Purge	3.3	3.6	<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"/>	Containment radiation monitor
033G2.4.49	Spent Fuel Pool Cooling	4.6	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.					
035A4.06	Steam Generator	4.5	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	S/G isolation on steam leak or tube rupture/leak					
055K3.01	Condenser Air Removal	2.5	2.7	<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"/>	Main condenser
068A3.02	Liquid Radwaste	3.6	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Automatic isolation					

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
G2.1.1	Conduct of operations	3.8	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of conduct of operations requirements.								
G2.1.23	Conduct of operations	4.3	4.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform specific system and integrated plant procedures during all modes of plant operation.								
G2.2.13	Equipment Control	4.1	4.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of tagging and clearance procedures.								
G2.2.19	Equipment Control	2.3	3.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of maintenance work order requirements.								
G2.3.15	Radiation Control	2.9	3.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiation monitoring systems								
G2.3.5	Radiation Control	2.9	2.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to use radiation monitoring systems								
G2.3.7	Radiation Control	3.5	3.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to comply with radiation work permit requirements during normal or abnormal conditions								
G2.4.14	Emergency Procedures/Plans	3.8	4.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of general guidelines for EOP usage.								
G2.4.34	Emergency Procedures/Plans	4.2	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects								
G2.4.38	Emergency Procedures/Plans	2.4	4.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to take actions called for in the facility emergency plan, including supporting or acting as emergency coordinator.								

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
007EA2.02	Reactor Trip - Stabilization - Recovery / 1	4.3	4.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper actions to be taken if the automatic safety functions have not taken place					
011EA2.08	Large Break LOCA / 3	3.4	3.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conditions necessary for recovery when accident reaches stable phase					
025AA2.05	Loss of RHR System / 4	3.1	3.5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Limitations on LPI flow and temperature rates of change					
026AG2.2.44	Loss of Component Cooling Water / 8	4.2	4.4	<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						
056AG2.2.42	Loss of Off-site Power / 6	3.9	4.6	<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						
062AG2.1.20	Loss of Nuclear Svc Water / 4	4.6	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to execute procedure steps.						

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003AG2.2.22	Dropped Control Rod / 1	4.0	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of limiting conditions for operations and safety limits.						
036AA2.02	Fuel Handling Accident / 8	3.4	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occurrence of a fuel handling incident					
037AG2.4.4	Steam Generator Tube Leak / 3	4.5	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.						
068AA2.04	Control Room Evac. / 8	3.7	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S/G pressure					

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003G2.2.25	Reactor Coolant Pump	3.2	4.2	<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.						
007A2.02	Pressurizer Relief/Quench Tank	2.6	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Abnormal pressure in the PRT					
022G2.2.42	Containment Cooling	3.9	4.6	<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						
064A2.14	Emergency Diesel Generator	2.7	2.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effects (verification) of stopping ED/G under load on isolated bus					
073A2.02	Process Radiation Monitoring	2.7	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detector failure					

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
034K1.04	Fuel Handling Equipment	2.6	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NIS							
072G2.4.46	Area Radiation Monitoring	4.2	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to verify that the alarms are consistent with the plant conditions.							
086A2.02	Fire Protection	3.0	3.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Low FPS header pressure						

KA	NAME / SAFETY FUNCTION:	IR		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO												
G2.1.23	Conduct of operations	4.3	4.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform specific system and integrated plant procedures during all modes of plant operation.									
G2.1.44	Conduct of operations	3.9	3.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of RO duties in the control room during fuel handling.									
G2.2.12	Equipment Control	3.7	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of surveillance procedures.									
G2.2.44	Equipment Control	4.2	4.4	<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									
G2.3.6	Radiation Control	2.0	3.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to approve release permits									
G2.4.18	Emergency Procedures/Plans	3.3	4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the specific bases for EOPs.									
G2.4.31	Emergency Procedures/Plans	4.2	4.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of annunciators alarms, indications or response procedures									

Facility: Plant Vogtle Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>		Date of Examination: 03/14/2011 Operating Test Number: 2011-301
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R,M	Title: AFD Monitoring Description: With data provided, Candidate will perform 14915 Datasheet 6 AFD Monitoring . K/A: G2.1.37 (4.4)
Conduct of Operations	R,D,P	Title: Critical Safety Function Status Tree Evaluation Description: Students will be provided a listing of plant parameters. This will require manually evaluating each status tree to determine the challenges to each tree and identify the highest priority challenge. K/A: G2.1.7 (4.4 / 4.7)
Equipment Control	R,M	Title: Determine mode change requirements Description: Candidates will be provided a Plant initial condition listing of plant equipment out of service/degraded .Candidate must identify those items that would prevent mode change K/A: G2.2.38 (3.6 / 4.5)
Radiation Control	R,D	Title: Stay time calculation for emergency exposure to protect valuable equipment Description: Candidate s will be provided survey data and time estimates. Calculate maximum stay time so as not to exceed the Emergency Exposure Limit K/A: G2.3.7 (3.5 / 3.6)
Emergency Procedures/Plan		Title: N/A Description: K/A:
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.		
* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1 ; randomly selected)		

Facility: Plant Vogtle Date of Examination: 03-14-2011
 Examination Level: RO SRO Operating Test Number: 2011-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R,M	<p>Title: Evaluate Inoperable AFD Monitor Alarm</p> <p>Description: With data provided, Candidate select 14915 Datasheet 6 AFD Monitoring and evaluate the data and take appropriate actions.</p> <p>K/A: G2.1.37 (4.7)</p>
Conduct of Operations	R,D,P	<p>Title: Critical Safety Function Status Tree Evaluation</p> <p>Description: Candidate will be provided a listing of plant parameters. This will require manually evaluating each status tree to determine the challenges to each tree and identify the highest priority challenge.</p> <p>K/A: G2.1.7 (4.4 / 4.7)</p>
Equipment Control	R,M	<p>Title: Determine mode change requirements</p> <p>Description: Candidates will be provided a Plant initial condition listing of plant equipment out of service/degraded. Candidate must identify those items that would prevent mode change and what must be done to allow mode change</p> <p>K/A: G2.2.38 (3.6 / 4.5)</p>
Radiation Control	R,D	<p>Title: Life Saving in Emergency Conditions</p> <p>Description: During a radiological emergency, person must be rescued from a very high point source. The candidate must calculate the projected dose to the rescuer, determine who must approve this emergency exposure, and given 91301-C complete data sheet 1 for this exposure</p> <p>K/A Number: G2.3.4 (3.2 / 3.7)</p>
Emergency Procedures/Plan	R,M	<p>Title: Classify an Emergency Event</p> <p>Description: Classify an emergency with one unit in mode 5 or 6 and complete NMP-EP-110 Checklist 1..</p> <p>K/A Number: G2.4.38 (2.4 / 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.

* 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)

Facility: Plant Vogtle Exam Level (circle one): RO / SRO-I / SRO-U (see each JPM)		Date of Examination: 03/14/2011 Operating Test No.:2011-301
Control Room Systems [®] (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
<p>a. Emergency Borate due to Rods below insertion limits (RIL)</p> <p>Description: RWST flow path required due to equipment failures. This JPM has been modified to require the student to determine if rods are below RIL by responding to a rod bank lo-lo limit alarm using the Core Operating Limits Report prior to starting the emergency boration.</p> <p>(RO / SRO-I)</p> <p>K/A: 004A2.14 (3.8 / 3.9)</p>	D,A,S,P	1
<p>b. Establish Safety Grade Letdown</p> <p>Description: The plant was manually tripped due to a nonisolable instrument air break. Safety grade letdown is placed in service to control RCS inventory,</p> <p>(RO / SRO-I)</p> <p>K/A: 004A2.11 (3.6 / 4.2)</p>	D,S	2
<p>c. Depressurize RCS to Reduce Break Flow to Ruptured Steam Generator-Normal Pressurizer Spray Not Available</p> <p>Description: A SGTR has occurred .The candidate task is to "Depressurize the RCS beginning with 19030-C step 34, until one termination criterion is met". Normal spray controllers will not function. Candidate should use a PORV with complications.</p> <p>(RO / SRO-I/SRO-U)</p> <p>K/A 038EA1.04 (4.3 / 4.1)</p>	M,A,S	3
<p>d. Isolate a Faulted Steam Generator</p> <p>Description: The candidate will identify and isolate the faulted SG. When MSLI is performed all SGs are still depressurizing with indicated steam flow. This will require transition to 19121-C,"Uncontrolled Depressurization of all SGs" to perform mitigation.</p> <p>(RO / SRO-I)</p> <p>K/A: WE12EA2.2 (3.4 / 3.9)</p>	D,A,S	4

<p>e. Place Containment Hydrogen Monitors in service using 13130-1</p> <p>Description: A LOCA has occurred and the candidate is directed to place the Containment Hydrogen Monitors in service.</p> <p>(RO / SRO-I)</p> <p>K/A: 028A1.01 (3.4 / 3.8)</p>	D,S,	5
<p>f. DG Parallel Operation with voltage regulator failure</p> <p>Description: DG KVAR lowers uncontrollably after paralleling during the loading of the DG to full test load. This requires tripping the DG output breaker.</p> <p>(RO / SRO-I / SRO-U)</p> <p>K/A: 062A1.01 (3.4 / 3.8)</p>	M,A,S,P,EN	6
<p>g. Perform Power Range NI ACOT</p> <p>Description: The candidate will perform an ACOT on one power range NI channel. The High flux trip setpoint will be unsat (>109%).</p> <p>(RO / SRO-I)</p> <p>K/A: 015A3.03 (3.9 / 3.9)</p>	M,S	7
<p>h. Place CNMT Main Purge In-Service</p> <p>Description: Unit in mode 5. Student required to shutdown mini-purge system and then place main purge system in service with equipment hatch open. Main purge supply fan should not be placed in service.</p> <p>(RO)</p> <p>K/A: 029A2.03 (2.7 / 3.1)</p>	D,S,L,P	8

In-Plant Systems [@] (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
<p>i. Establish RWST Gravity Drain Through RHR Pumps</p> <p>Description: During a loss of RHR at midloop level, establish gravity drain to the hot legs per 18019-C Attachment A section C.</p> <p>(RO / SRO-I / SRO-U)</p> <p>K/A: 025G2.1.20 (4.3 / 4.2)</p>	D,A,R,L,E	4
<p>j. Response To Inability To Reset Or Block SI</p> <p>Description: During an inadvertent SI, SI train A will not reset using the Handswitches in the Main Control board. The Candidate is directed to reset train A SI using 19011-C Attachment D.</p> <p>(RO / SRO-I / SRO-U)</p> <p>K/A: 013A4.02 (4.3 / 4.4)</p>	N,C,E	2
<p>k. Locally Remove Diesel Generator From Service</p> <p>Description: A loss of 125VDC occurs while its supported DG is paralleled to the grid. The candidate must locally remove the DG from service per AOP 18034.</p> <p>(RO / SRO-I / SRO-U)</p> <p>K/A: 058G2.1.20 (4.3 / 4.2)</p>	D,L,E	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	$\leq 9 / \leq 8 / \leq 4$	
(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		