

- WRITTEN EXAM SAMPLE PLAN ONLY -

ES-201

Examination Outline Quality Checklist

Form ES-201-2

Facility: SURRY		Date of Examination: JULY 2014		
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> / <i>Michael M. Meeks</i>			Date: 10/08/2013
b. Facility Reviewer (*)	N/A			N/A
c. NRC Chief Examiner (#)	<u>KENNETH SCHAAF</u> / <i>Kenneth SchAAF</i>			10/12/2013
d. NRC Supervisor	<u>NALCOLM T. WIDMANN</u> / <i>Nalcolm T. Widmann</i>			10/08/13
Note:	# Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines			

- WRITTEN EXAM SAMPLE PLAN ONLY -

Facility: SURRY		Date of Exam:															
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	2	1	N/A			1	1	N/A			2	9	2	2	4
	Tier Totals	5	5	4	N/A			4	4	N/A			5	27	5	5	10
2. Plant Systems	1	3	2	2	3	3	3	2	3	3	2	2	28	3	2	5	
	2	1	1	1	1	1	1	1	0	1	1	1	10	<i>0.5</i>	<i>1</i>	2	3
	Tier Totals	4	3	3	4	4	4	3	3	4	3	3	38	<i>4</i>	<i>4</i>	8	
3. Generic Knowledge and Abilities Categories					1	2	3	4	10	1	2	3	4	7			
					3	2	2	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 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 ± 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	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
008AA1.06	Pressurizer Vapor Space Accident / 3	3.6	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"/>	Control of PZR level
009EK3.05	Small Break LOCA / 3	3.4	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"/>	CCWS radiation alarm
011EA2.10	Large Break LOCA / 3	4.5	4.7	<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"/>	Verification of adequate core cooling
015AK3.01	RCP Malfunctions / 4	2.5	3.1	<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"/>	Potential damage from high winding and/or bearing temperatures
022AK1.03	Loss of Rx Coolant Makeup / 2	3	3.4	<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"/>	Relationship between charging flow and PZR level
025AA1.11	Loss of RHR System / 4	2.9	3	<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"/>	Reactor building sump level indicators
026AA2.01	Loss of Component Cooling Water / 8	2.9	3.5	<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 of a leak in the CCWS
029EK2.06	ATWS / 1	2.9	3.1	<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"/>	Breakers, relays, and disconnects.
040AG2.2.3	Steam Line Rupture - Excessive Heat Transfer / 4	3.8	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"/>	(multi-unit license) Knowledge of the design, procedural and operational differences between units.
054AK3.01	Loss of Main Feedwater / 4	4.1	4.4	<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"/>	Reactor and/or turbine trip, manual and automatic

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:
 RO SRO
 056AA2.54 Loss of Off-site Power / 6 2.9 3 Breaker position (remote and local)

062AA1.01 Loss of Nuclear Svc Water / 4 3.1 3.1 Nuclear service water temperature indications

065AG2.1.32 Loss of Instrument Air / 8 3.8 4.0 Ability to explain and apply all system limits and precautions.

077AK2.01 Generator Voltage and Electric Grid Disturbances / 6 3.1 3.2 Motors

we04EG2.4.3 LOCA Outside Containment / 3 3.7 3.9 Ability to identify post-accident instrumentation.

WE05EK2.2 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4 3.9 4.2 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.

WE11EK1.3 Loss of Emergency Coolant Recirc. / 4 3.6 4.0 Annunciators and conditions indicating signals, and remedial actions associated with the (Loss of Emergency Coolant Recir).

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO
 001AG2.1.20 Continuous Rod Withdrawal / 1 4.6 4.6 Ability to execute procedure steps.

036AA1.04 Fuel Handling Accident / 8 3.1 3.7 Fuel handling equipment during an incident

037AK3.06 Steam Generator Tube Leak / 3 3.6 4.1 Normal operating precautions to preclude or minimize SGTR

051AA2.02 Loss of Condenser Vacuum / 4 3.9 4.1 Conditions requiring reactor and/or turbine trip

059AK1.01 Accidental Liquid RadWaste Rel. / 9 2.7 3.1 Types of radiation, their units of intensity and the location of the sources of radiation in a nuclear power plant

074EG2.4.21 Inad. Core Cooling / 4 4.0 4.6 Knowledge of the parameters and logic used to assess the status of safety functions

WE03EK2.1 LOCA Cooledown - Depress. / 4 3.6 4.0 Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.

WE14EK2.1 Loss of CTMT Integrity / 5 3.4 3.7 Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.

WE15EK1.2 Containment Flooding / 5 2.7 2.9 Normal, abnormal and emergency operating procedures associated with (Containment Flooding).

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003G2.4.50	Reactor Coolant Pump	4.2	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 verify system alarm setpoints and operate controls identified in the alarm response manual.
004A2.26	Chemical and Volume Control	2.8	3.0	<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"/>	Low VCT pressure
004K5.06	Chemical and Volume Control	3.0	3.3	<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"/>	Concept of boron "worth" or inverse boron "worth" (reactivity, pcm/ppm)
005K5.09	Residual Heat Removal	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"/>	Dilution and boration considerations
006K4.11	Emergency Core Cooling	3.9	4.2	<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"/>	Reset of SIS
007A1.02	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"/>	Maintaining quench tank pressure
007K5.02	Pressurizer Relief/Quench Tank	3.1	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"/>	Method of forming a steam bubble in the PZR
008K3.03	Component Cooling Water	4.1	4.2	<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"/>	RCP
010K1.06	Pressurizer Pressure Control	2.9	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"/>	CVCS
010K4.01	Pressurizer Pressure Control	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"/>	Spray valve warm-up
012K6.11	Reactor Protection	2.9	2.9	<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"/>	Trip setpoint calculators

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

064K1.03 Emergency Diesel Generator 3.6 4.0 Diesel fuel oil supply system

073A2.02 Process Radiation Monitoring 2.7 3.2 Detector failure

076K2.08 Service Water 3.1 3.3 ESF-actuated MOVs

078A4.01 Instrument Air 3.1 3.1 Pressure gauges

103A2.04 Containment 3.5 3.6 Containment evacuation (including recognition of the alarm)

103A3.01 Containment 3.9 4.2 Containment isolation

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO
 015A4.02 Nuclear Instrumentation 3.9 3.9 NIS indicators

016K1.08 Non-nuclear Instrumentation 3.4 3.4 PZR PCS

027K2.01 Containment Iodine Removal 3.1 3.4 Fans

028K5.03 Hydrogen Recombiner and Purge Control 2.9 3.6 Sources of hydrogen within containment

033K3.02 Spent Fuel Pool Cooling 2.8 3.2 Area and ventilation radiation monitoring systems

034K6.02 Fuel Handling Equipment 2.6 3.3 Radiation monitoring systems

071A3.01 Waste Gas Disposal 2.6 2.7 HRPS

072G2.1.28 Area Radiation Monitoring 4.1 4.1 Knowledge of the purpose and function of major system components and controls.

079K4.01 Station Air 2.9 3.2 Cross-connect with IAS

086A1.01 Fire Protection 2.9 3.3 Fire header pressure

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

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.
G2.1.40	Conduct of operations	2.8	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 refueling administrative requirements
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.
G2.2.13	Equipment Control	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"/>	Knowledge of tagging and clearance procedures.
G2.2.2	Equipment Control	4.6	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"/>	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.
G2.3.5	Radiation Control	2.9	2.9	<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 use radiation monitoring systems
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
G2.4.1	Emergency Procedures/Plans	4.6	4.8	<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 EOP entry conditions and immediate action steps.
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.
G2.4.4	Emergency Procedures/Plans	4.5	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 recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO
 009EA2.39 Small Break LOCA / 3 4.3 4.7 Adequate core cooling

022AA2.01 Loss of Rx Coolant Makeup / 2 3.2 3.8 Whether charging line leak exists

027AA2.10 Pressurizer Pressure Control System Malfunction / 3 3.3 3.6 PZR heater energized/de-energized condition

057AG2.1.28 Loss of Vital AC Inst. Bus / 6 4.1 4.1 Knowledge of the purpose and function of major system components and controls.

we11EG2.1.32 Loss of Emergency Coolant Recirc. / 4 3.8 4.0 Ability to explain and apply all system limits and precautions.

we12EG2.4.4 Steam Line Rupture - Excessive Heat Transfer / 4 4.5 4.7 Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

024AG2.1.23 Emergency Boration / 1 4.3 4.4 Ability to perform specific system and integrated plant procedures during all modes of plant operation.

033AG2.2.44 Loss of Intermediate Range Ni / 7 4.2 4.4 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

WE01EA2.1 Rediagnosis / 3 3.2 4 Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

WE16EA2.2 High Containment Radiation / 9 3.0 3.3 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

004G2.2.22	Chemical and Volume Control	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.
013A2.03	Engineered Safety Features Actuation	4.4	4.7	<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"/>	Rapid depressurization
059A2.01	Main Feedwater	3.4	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"/>	Feedwater actuation of AFW system
061G2.4.49	Auxiliary/Emergency Feedwater	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.
078A2.01	Instrument Air	2.4	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"/>	Air dryer and filter malfunctions

KA NAME / SAFETY FUNCTION: IR K1 K2 K3 K4 K5 K6 A1 A2 A3 A4 G TOPIC:

RO SRO

RO	SRO	Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.	Loss of condensate pumps
017G2.4.47	In-core Temperature Monitor	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 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"/>	
056A2.04	Condensate	2.6 2.8 <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 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"/>	
075G2.2.44	Circulating Water	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 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 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

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
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RO	SRO
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Code	Topic	RO	SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Description
G2.1.25	Conduct of operations	3.9	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 checked="" type="checkbox"/>	Ability to interpret reference materials such as graphs, monographs and tables which contain performance data.
G2.1.32	Conduct of operations	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 type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to explain and apply all system limits and precautions.
G2.2.13	Equipment Control	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 type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of tagging and clearance procedures.
G2.2.18	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 type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the process for managing maintenance activities during shutdown operations.
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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiological safety principles pertaining to licensed operator duties
G2.4.28	Emergency Procedures/Plans	3.2	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 type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of procedures relating to emergency response to sabotage.

Facility: <u> Surry </u>	Date of Examination: <u> 7/21/14 </u>		
Exam Level: SRO-I	Operating Test No.: <u> SR14301 </u>		
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a. Respond to Control Rod Withdrawal	M/S/A	1	
b. Respond to a Failed Low PRZR Level Channel	M/S	2	
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5	
d. Re-establish Normal Letdown Following SI	D/S/A/L	3	
e. Cross-Connect Auxiliary Feedwater from Unit 1 to Unit 2	D/S	4S	
f. Remove a Failed SR NI From Service	D/S/L	7	
g. Respond to a Low Level Transient	D/S	8	
h.			
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8	
j. Isolate Service Water to MER #3	D/A/LE	3	
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S	
<p>[@] 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.</p>			
* Type Codes	Criteria for RO / SRO-I / SRO-U		
	SROI	Actual	Criteria Met
(A)lternate path	4-6	5	YES
(D)irect from bank	≤ 8	8	YES
(E)mergency or abnormal in-plant	≥ 1	3	YES
(EN)gineered safety feature			
(L)ow -Power / Shutdown	≥ 1	6	YES
(N)ew or (M)odified from bank including 1(A)	≥ 2	2	YES
(P)revious 2 exams (randomly selected)	≤ 3	0	YES
(R)CA	≥ 1	1	YES
(S)imulator / (C)ontrol room			

Facility: <u> Surry </u>		Date of Examination: <u> 7/21/14 </u>	
Exam Level: SRO-U		Operating Test No.: <u> SR14301 </u>	
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a. Respond to Control Rod Withdrawal	M/S/A	1	
b. Respond to a Failed Low PRZR Level Channel	M/S	2	
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5	
d.			
e.			
f.			
g.			
h.			
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8	
j.			
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S	
<p>[@] 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.</p>			
* Type Codes	Criteria for RO / SRO-I / SRO-U		
	SROUI	Actual	Criteria Met
(A)lternate path	2-3	3	YES
(D)irect from bank	≤ 4	3	YES
(E)mergency or abnormal in-plant	≥ 1	2	YES
(EN)gineered safety feature	≥ 1	1	YES
(L)ow -Power / Shutdown	≥ 1	2	YES
(N)ew or (M)odified from bank including 1(A)	≥ 1	2	YES
(P)revious 2 exams (randomly selected)	≤ 2	0	YES
(R)CA	≥ 1	1	YES
(S)imulator / (C)ontrol room			

Facility: <u> Surry </u>		Date of Examination: <u> 7/21/14 </u>
Examination Level: SRO		Operating Test Number: <u> SR14301 </u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R/D	<p style="text-align: center;">Quadrant Power Tilt Ratio</p> <p>K/A: G.2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. RO: 4.4/SRO: 4.7</p>
Conduct of Operations	S/D	<p style="text-align: center;">Authorize Fuel Movement</p> <p>K/A: G2.1.40 Knowledge of refueling administrative procedures RO: 2.8 / SRO: 3.9</p>
Equipment Control	R/D	<p style="text-align: center;">Perform a review of OPT-FW-006</p> <p>K/A: 2.2.12 Knowledge of surveillance procedures. RO: 3.7 / SRO: 4.1</p>
Radiation Control	R/D	<p style="text-align: center;">Authorize Emergency Exposure</p> <p>K/A: 2.3.4. Knowledge of radiation exposure limits under normal or emergency conditions. RO: 3.2/SRO 3.7</p>
Emergency Procedures/Plan	R/N	<p style="text-align: center;">Classify and Determine PAR for General Emergency</p> <p>K/A: 2.4.41 Knowledge of the emergency action level thresholds and classifications. RO: 2.9/ SRO: 4.6</p>
<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>		
<p>* Type Codes & Criteria:</p> <p>(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)</p>		

Facility: <u> Surry </u>	Date of Examination: <u> 7/21/14 </u>
Exam Level: RO	Operating Test No.: <u> SR14301 </u>

Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Respond to Control Rod Withdrawal	M/S/A	1
b. Respond to a Failed Low PRZR Level Channel	M/S	2
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5
d. Re-establish Normal Letdown Following SI	D/S/A/L	3
e. Cross-Connect Auxiliary Feedwater from Unit 1 to Unit 2	D/S	4S
f. Remove a Failed SR NI From Service	D/S/L	7
g. Respond to a Low Level Transient	D/S	8
h. Respond to a #3 EDG Start Failure	N/A/S	6

In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8
j. Isolate Service Water to MER #3	D/A/LE	3
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S

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

* Type Codes	Criteria for RO / SRO-I / SRO-U		
	RO	Actual	Criteria Met
(A)lternate path	4-6	6	YES
(D)irect from bank	≤ 9	8	YES
(E)mergency or abnormal in-plant	≥ 1	3	YES
(EN)gineered safety feature			
(L)ow -Power/ Shutdown	≥ 1	6	YES
(N)ew or (M)odified from bank including 1(A)	≥ 2	3	YES
(P)revious 2 exams (randomly selected)	≤ 3	0	YES
(R)CA	≥ 1	1	YES
(S)imulator/ (C)ontrol room			

Facility: <u> Surry </u>		Date of Examination: <u> 7/21/14 </u>
Examination Level: RO		Operating Test Number: <u> SR14-301 </u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R/D	<p>Quadrant Power Tilt Ratio</p> <p>K/A: G.2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. RO: 4.4/SRO: 4.7</p>
Conduct of Operations		
Equipment Control	R/D	<p>Perform a review of OPT-FW-006</p> <p>K/A: 2.2.12 Knowledge of surveillance procedures. RO: 3.7 / SRO: 4.1</p>
Radiation Control	R/D	<p>Calculate Radiation Exposure when Placing Unit 1 Residual Heat Removal System in Service</p> <p>K/A: 2.3.4 Knowledge of radiation exposure limits under normal or emergency conditions. RO: 2.5 / SRO: 3.1</p>
Emergency Procedures/Plan	S/N	<p>Obtain Required Information IAW EPIP-2.01</p> <p>2.4.39 Knowledge of RO responsibilities in emergency plan implementation. RO: 3.9 / SRO: 3.8.</p>
<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>		
<p>* Type Codes & Criteria:</p> <p>(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)</p>		

Facility: <u> Surry </u>	Date of Examination: <u> 7/21/14 </u>
Exam Level: RO	Operating Test No.: <u> SR14301 </u>

Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Respond to Control Rod Withdrawal	M/S/A	1
b. Respond to a Failed Low PRZR Level Channel	M/S	2
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5
d. Re-establish Normal Letdown Following SI	D/S/A/L	3
e. Cross-Connect Auxiliary Feedwater from Unit 1 to Unit 2	D/S	4S
f. Remove a Failed SR NI From Service	D/S/L	7
g. Respond to a Low Level Transient	D/S	8
h. Respond to a #3 EDG Start Failure	N/A/S	6

In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8
j. Isolate Service Water to MER #3	D/A/LE	3
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S

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

* Type Codes	Criteria for RO / SRO-I / SRO-U		
	RO	Actual	Criteria Met
(A)lternate path	4-6	6	YES
(D)irect from bank	≤ 9	8	YES
(E)mergency or abnormal in-plant	≥ 1	3	YES
(EN)gineered safety feature			
(L)ow -Power/ Shutdown	≥ 1	6	YES
(N)ew or (M)odified from bank including 1(A)	≥ 2	3	YES
(P)revious 2 exams (randomly selected)	≤ 3	0	YES
(R)CA	≥ 1	1	YES
(S)imulator/ (C)ontrol room			

Facility: <u> Surry </u>		Date of Examination: <u> 7/21/14 </u>
Examination Level: SRO		Operating Test Number: <u> SR14301 </u>
Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R/D	<p style="text-align: center;">Quadrant Power Tilt Ratio</p> <p>K/A: G.2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation. RO: 4.4/SRO: 4.7</p>
Conduct of Operations	S/D	<p style="text-align: center;">Authorize Fuel Movement</p> <p>K/A: G2.1.40 Knowledge of refueling administrative procedures RO: 2.8 / SRO: 3.9</p>
Equipment Control	R/D	<p style="text-align: center;">Perform a review of OPT-FW-006</p> <p>K/A: 2.2.12 Knowledge of surveillance procedures. RO: 3.7 / SRO: 4.1</p>
Radiation Control	R/D	<p style="text-align: center;">Authorize Emergency Exposure</p> <p>K/A: 2.3.4. Knowledge of radiation exposure limits under normal or emergency conditions. RO: 3.2/SRO 3.7</p>
Emergency Procedures/Plan	R/N	<p style="text-align: center;">Classify and Determine PAR for General Emergency</p> <p>K/A: 2.4.41 Knowledge of the emergency action level thresholds and classifications. RO: 2.9/ SRO: 4.6</p>
<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>		
<p>* Type Codes & Criteria:</p> <p>(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)</p>		

Facility: <u> Surry </u>	Date of Examination: <u> 7/21/14 </u>		
Exam Level: SRO-I	Operating Test No.: <u> SR14301 </u>		
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a. Respond to Control Rod Withdrawal	M/S/A	1	
b. Respond to a Failed Low PRZR Level Channel	M/S	2	
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5	
d. Re-establish Normal Letdown Following SI	D/S/A/L	3	
e. Cross-Connect Auxiliary Feedwater from Unit 1 to Unit 2	D/S	4S	
f. Remove a Failed SR NI From Service	D/S/L	7	
g. Respond to a Low Level Transient	D/S	8	
h.			
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8	
j. Isolate Service Water to MER #3	D/A/LE	3	
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S	
<p>[@] 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.</p>			
* Type Codes	Criteria for RO / SRO-I / SRO-U		
	SROI	Actual	Criteria Met
(A)lternate path	4-6	5	YES
(D)irect from bank	≤ 8	8	YES
(E)mergency or abnormal in-plant	≥ 1	3	YES
(EN)gineered safety feature			
(L)ow -Power / Shutdown	≥ 1	6	YES
(N)ew or (M)odified from bank including 1(A)	≥ 2	2	YES
(P)revious 2 exams (randomly selected)	≤ 3	0	YES
(R)CA	≥ 1	1	YES
(S)imulator / (C)ontrol room			

Facility: <u> Surry </u>	Date of Examination: <u> 7/21/14 </u>		
Exam Level: SRO-U	Operating Test No.: <u> SR14301 </u>		
Control Room Systems [@] (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a. Respond to Control Rod Withdrawal	M/S/A	1	
b. Respond to a Failed Low PRZR Level Channel	M/S	2	
c. Configure Containment Spray IAW ECA-1.1	D/S/A/EN/L	5	
d.			
e.			
f.			
g.			
h.			
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Locally Transfer Individual Components to the Aux Shutdown Panel	D/L/E	8	
j.			
k. Locally Swap U-2 AFW to Fire Water	D/A/L/E	4S	
<p>[@] 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.</p>			
* Type Codes	Criteria for RO / SRO-I / SRO-U		
	SROUI	Actual	Criteria Met
(A)lternate path	2-3	3	YES
(D)irect from bank	≤ 4	3	YES
(E)mergency or abnormal in-plant	≥ 1	2	YES
(EN)gineered safety feature	≥ 1	1	YES
(L)ow -Power / Shutdown	≥ 1	2	YES
(N)ew or (M)odified from bank including 1(A)	≥ 1	2	YES
(P)revious 2 exams (randomly selected)	≤ 2	0	YES
(R)CA	≥ 1	1	YES
(S)imulator / (C)ontrol room			