

Facility: <b>VOGTLE 3</b>		Exam Date: <b>MARCH 2020</b>										
Admin JPMs	1 ADMIN Topic and K/A	2 LOD (1-5)	3 Attributes					4 Job Content		5 U/E/S	6 Explanation	
			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key			Minutia
COOL	✓	2									S	
COOZ	✓	2									S	
EC	✓	2									S	
RC	✓	2									S	
Simulator/In-Plant JPMs	1 Safety Function and K/A											
a	1	2									S	
b	2	2									S	
c	8	2									S	
d	6	2									S	
e	3	2									S	
f	5	2									S	
g	7	2									S	
h	4S	2									S	
i	7	2									S	
j	8	2									S	
k	4P	2									S	

RO











Facility: _____ Exam Date: _____										
Scenario	1 Event Totals	2 Events Unsat.	3 TS Total	4 TS Unsat.	5 CT Total	6 CT Unsat.	7 % Unsat. Scenario Elements	8 U/E/S	11 Explanation	
1	10	0	2	0	2	0	0	S		
2	11	0	2	0	3	0	0	S		
3	8	0	2	0	2	0	0	S		
4	10	0	2	0	3	0	0	S		

**Instructions for Completing This Table:**

Check or mark any item(s) requiring comment and explain the issue in the space provided.

1, 3, 5 For each simulator scenario, enter the **total** number of events (column 1), TS entries/actions (column 3), and CTs (column 5). This number should match the respective scenario from the event-based scenario tables (the sum from columns 1, 6, and 7, respectively).

2, 4, 6 For each simulator scenario, evaluate each event, TS, and CT as (S)atisfactory, (E)nhance, or (U)nsatisfactory based on the following criteria:

- a. Events. Each event is described on a Form ES-D-2, including all switch manipulations, pertinent alarms, and verifiable actions. Event actions are balanced between at-the-controls and balance-of-plant applicants during the scenario. All event-related attributes on Form ES-301-4 are met. Enter the total number of unsatisfactory events in column 2.
- b. TS. A scenario includes at least two TS entries/actions across at least two different events. TS entries and actions are detailed on Form ES-D-2. Enter the total number of unsatisfactory TS entries/actions in column 4. (ES-301, D.5d)
- c. CT. Check that a scenario includes at least two preidentified CTs. This criterion is a target quantitative attribute, not an absolute minimum requirement. Check that each CT is explicitly bounded on Form ES-D-2 with measurable performance standards (see Appendix D). Enter the total number of unsatisfactory CTs in column 6.

7 In column 7, calculate the percentage of unsatisfactory scenario elements:  $\left(\frac{2 + 4 + 6}{1 + 3 + 5}\right) 100\%$

8 If the value in column 7 is > 20%, mark the scenario as (U)nsatisfactory in column 8. If column 7 is ≤ 20%, annotate with (E)nhancement or (S)atisfactory.

9 In column 9, explain each unsatisfactory event, TS, and CT. Editorial comments can also be added here.

Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario is marked by a (S)atisfactory resolution on this form.

Site name:				Exam Date:		
OPERATING TEST TOTALS						
	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	0	0	9		
Sim./In-Plant JPMs	11	0	0	11		
Scenarios	4	0	0	4		
<b>Op. Test Totals:</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0.00</b>	

**Instructions for Completing This Table:**

Update data for this table from quality reviews and totals in the previous tables and then calculate the percentage of total items that are unsatisfactory and give an explanation in the space provided.

- Enter the total number of items submitted for the operating test in the "Total" column. For example, if nine administrative JPMs were submitted, enter "9" in the "Total" items column for administrative JPMs. For scenarios, enter the total number of simulator scenarios.
- Enter the total number of (U)nsatisfactory JPMs and scenarios from the two JPMs column 5 and simulator scenarios column 8 in the previous tables. Provide an explanation in the space provided.
- Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.
- Total each column and enter the amounts in the "Op. Test Totals" row.
- Calculate the percentage of the operating test that is (U)nsatisfactory ( $\text{Op. Test Total Unsat.} / \text{Op. Test Total}$ ) and place this value in the bolded "% Unsat." cell.
 

Refer to ES-501, E.3.a, to rate the overall operating test as follows:

  - satisfactory, if the "Op. Test Total" "% Unsat." is  $\leq 20\%$
  - unsatisfactory, if "Op. Test Total" "% Unsat." is  $> 20\%$
- Update this table and the tables above with post-exam changes if the "as-administered" operating test required content changes, including the following:
  - The JPM performance standards were incorrect.
  - The administrative JPM tasks/keys were incorrect.
  - CTs were incorrect in the scenarios (not including postscenario critical tasks defined in Appendix D).
  - The EOP strategy was incorrect in a scenario(s).
  - TS entries/actions were determined to be incorrect in a scenario(s).

Facility: Vogtle 3&4													Date of Exam: March 2020				
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 and Abnormal Plant Evolutions	1	3	3	3	N/A			3	3	N/A			3	18	3	3	6
	2	1	1	1	N/A			2	2	N/A			2	9	2	2	4
	Tier Totals	4	4	4	N/A			5	5	N/A			5	27	5	5	10
2. Plant Systems	1	3	2	3	3	3	2	2	2	3	3	2	28	2	3	5	
	2	1	0	1	1	1	1	1	1	1	1	1	10	-	1	2	3
	Tier Totals	4	2	4	4	4	3	3	3	4	4	3	38	3	5	8	
3. Generic Knowledge and Abilities Categories				1		2		3		4		10	1	2	3	4	7
				3		3		1		3			2	2	1	2	

- Note:
1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outline section (i.e., except for one category in Tier 3 of the SRO-only section, the "Tier Totals" in each K/A category shall not be less than two). (One Tier 3 radiation control K/A is allowed if it is replaced by a K/A from another Tier 3 category.)
  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 outline. Systems or evolutions that do not apply at the facility should be deleted with justification. Operationally important, site-specific systems/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401N 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-401N for the applicable K/As.
  8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' 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 above 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-401N-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43.

G\* Generic K/As

ES-401N		AP-1000® Examination Outline						Form ES-401N-2	
Emergency and Abnormal Plant Evolutions—Tier 1/Group 1 (RO/SRO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A2	G*	K/A Topic(s)	IR	#
E-0, Reactor Trip or Safeguards Actuation / 1, 2, 3, 4		R					R: EK2.06 Unavailability of either the startup feedwater pumps or Passive Residual Heat Removal System.	3.6	
ES-0.1, Reactor Trip Response / 1, 2, 3, 4			R				R: EK3.16 Energizing the source range nuclear instrumentation	3.2	
ES-1.3, ADS Stage 1–3 Actuation Response / 3				R			R: EA1.03 Diverse Actuation System	3.4	
ES-1.4, ADS Stage 4 Actuation Response / 3					R		R: EA2.05 RNS alignment	2.9	
A-313, Uncontrolled Cooldown / 4						R	R: G2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.4	
A-336, Malfunction of Protection and Safety Monitoring System / 7					S		S: AA2.02 Diverse Actuation System indications	3.7	
E-1, Loss-of-Coolant Accident / 2, 3	R						R: EK1.10 Passive Containment Cooling System	3.9	
A-342, Reactor Coolant Pump Malfunction / 1, 2, 3, 4		R					R: AK2.02 Reactor coolant pump trip in mode 3, 4, or 5	3.1	
A-337, Passive RHR Heat Exchanger Leak / 4			R				R: AK3.07 Trending Passive Residual Heat Removal System inlet pressure over time	2.6	
A-343, Loss of Normal Residual Heat Removal / 4				R			R: AA1.06 Engineered Safeguards Actuation System	4.0	
A-317, Loss of Component Cooling Water / 8						S	S: G2.2.17 Knowledge of limiting conditions for operations and safety limits.	4.7	
ES-0.2, Natural Circulation Cooldown / 4					R		R: EA2.02 Reactor Coolant System temperature, pressure, and/or pressurizer level	3.4	
FR-S.1, Response to Nuclear Power Generation / 1						R	R: G2.4.9 Knowledge of operating crew responsibilities during emergency/abnormal operations.	4.0	
E-3, Steam Generator Tube Rupture / 3					S		EA2.02 Ruptured steam generator feedflow, level, and/or pressure	3.8	
E-2, Faulted Steam Generator Isolation / 4	R						R: EK1.01 Steam Generator Blowdown System	2.9	
A-301, Rapid Power Reduction / 1		R					R: AK2.04 Failure of P-10, Power Range Neutron Flux to reset	3.3	
A-307, DAS Operations at Local Cabinets / 7							NOT SELECTED		
FR-C.1, Response to Inadequate Core Cooling / 4						S	S: G2.1.19 Ability to interpret and execute procedure steps.	4.6	
A-323, Loss of 6.9-kV, 4,160-V, or 480-V Bus Power / 6					S		S: AA2.03 Standby diesel generator load	3.4	
ES-1.1, Passive Safety System Termination / 3			R				R: EK3.11 Blocking Steamline / Feedwater Isolation Actuations and/or Safeguards Actuation below P-11, Pressurizer Pressure Below 1970 psig	3.4	
A-345, Loss of Nuclear Service Water / 4				R			R: AA1.02 Compressed and Instrument Air System	2.6	
A-329, Loss of Instrument Air / 8						S	S: G2.2.30 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.	4.4	
ECA-1.1, Loss-of-Coolant Accident Outside Containment / 3					R		R: EA2.02 Plant vent radiation	3.2	

FR-H.1, Response to Loss of Heat Sink / 4						R	R: G2.4.39 Ability to verify system alarm setpoints and operate controls identified in the Alarm Response Procedure.	4.2	
SDP-1, Response to Loss of RCS Inventory During Shutdown / 2	R						R: EK1.08 Passive Residual Heat Removal System	3.4	
SDP-2 Response to Loss of RNS During Shutdown / 4							NOT SELECTED		
K/A Category Totals:	3	3	3	3	3/3	3/3	Group Point Total:		18/6

ES-401N		AP-1000® Examination Outline Emergency and Abnormal Plant Evolutions—Tier 1/Group 2 (RO/SRO)						Form ES-401N-2	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A2	G*	K/A Topic(s)	IR	#
A-311, Rod Control System Malfunction / 1							NOT SELECTED		
A-308, Loss of Control Room AC / 8							NOT SELECTED		
A-320, Loss of Circulating Water / 8					R		R: AA1.04 Cooling tower level makeup and/or blowdown control	2.6	
A-302, Emergency Boration / 1							NOT SELECTED		
A-327, Startup Feedwater System Malfunction / 4					R		R: AA2.01 Steam generator level	2.8	
A-328, Malfunction of Feedwater Heaters and Extraction Steam / 4							NOT SELECTED		
FR-I.1 Response to High Pressurizer Level / 2							NOT SELECTED		
A-314, Fuel-Handling Incident / 8					S		S: AA2.01 Containment Bldg, fuel handling building, and/or plant vent radiation level	3.4	
A-304, Steam Generator Tube Leak / 3						R	R: G2.2.23 Knowledge of conditions and limitations in the facility license.	3.6	
A-333, Main Turbine Malfunction / 4							NOT SELECTED		
FR-Z.1, Response to High Containment Pressure / 5							NOT SELECTED		
SDP-4, Response to Rising Nuclear Flux During Shutdown / 1							NOT SELECTED		
SDP-5, Response to RCS Cold Overpressure During Shutdown / 3						S	S: G2.1.21 Ability to perform general and/or normal operating procedures during any plant condition.	4.4	
SDP-6 Response to Unexpected RCS Temperature Changes During Shutdown / 4	R						R: EK1.05 Service Water System	2.9	
A-306, Evacuation of Control Room / 8					S		S: AA2.02 Chemical and Volume Control System makeup system flows	2.9	
A-318, Condensate System Malfunctions / 4		R					R: AK2.05 Loss of cooling to gland sealing condenser	2.5	
FR-C-2, Response to Degraded Core Cooling / 4							NOT SELECTED		
FR-C.3, Response to Saturated Core Cooling / 4							NOT SELECTED		
FR-H.2, Response to Steam Generator Overpressure / 4			R				R: EK3.03 Verifying SG PORVs are not isolated	3.2	
FR-Z.2, Response to Containment Flooding / 5							NOT SELECTED		
FR-Z.3, Response to High Containment Radiation / 9							NOT SELECTED		
FR-Z.4, Response to Low Containment Pressure / 5				R			R: EA1.05 Engineering Safeguard Actuation System	2.8	
A-332, Turbine Trip Without Reactor Trip / 4					R		R: AA2.01 Reactor Coolant System temperature	3.2	
ES-1.2, Post LOCA Cooldown and Depressurization / 4							NOT SELECTED		
A-321, Loss of Data Display and Processing System / 7							NOT SELECTED		
FR-P.1, Response to Imminent Pressurized Thermal Shock Condition / 3						R	R: G2.4.16 Knowledge of the parameters and logic used to assess the status of Emergency Operating Procedures Critical Safety Functions or Shutdown Critical Safety Functions.	4.0	
A-340, Reactor Coolant Leak / 2							NOT SELECTED		

FR-I.2, Response to Low Pressurized Level / 2								NOT SELECTED		
FR-I.3, Response to Voids in Reactor Vessel / 2								NOT SELECTED		
A-326, Feedwater System Malfunctions / 4								NOT SELECTED		
A-331, Loss of Plant DC Power or Batteries / 6								NOT SELECTED		
A-348, Degraded Grid / 6							S	S: G2.4.24 Knowledge of annunciator alarms, indications, or response procedures.	4.1	
K/A Category Totals:	1	1	1	2	2/2	2/2		Group Point Total:	9/4	

ES-401N		AP-1000® Examination Outline Plant Systems—Tier 2/Group 1 (RO/SRO)											Form ES-401N-2	
System Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G*	K/A Topic(s)	IR	#
Reactor Coolant / 2, 4	R										S	R: K1.03 Component Cooling Water System  S: G2.1.17 Ability to use available indications to evaluate system or component status.	3.1  3.8	
Steam Generator / 4	R	R										R: K1.16 Steam Dump Control System  R: K2.11 Steam generator blowdown isolation valves	3.2  2.9	
Normal Residual Heat Removal / 4			R					S				R: K3.02 Passive Core Cooling System  S: A2.08 Containment isolation valves	3.6  3.9	
Passive Residual Heat Removal / 4		R		R								R: K2.01 Passive Residual Heat Removal System heat exchanger inlet isolation valves  R: K4.05 Passive Residual Heat Removal System flow control	3.2  3.6	
Passive Core Cooling / 2			R		R							R: K3.02 Normal Residual Heat Removal System  R: K5.05 Post accident containment pH control	3.2  3.4	
Component Cooling Water / 8				R		R						R: K4.05 Chemical and Volume Control System makeup pump protection  R: K6.28 Reactor coolant pump external heat exchanger tube leak	3.0  3.2	
Pressurizer Pressure Control / 3							R					R: A1.16 Pressurizer and Reactor Coolant System boron Concentration	3.3	
Automatic Depressurization / 3								R				R: A2.02 Engineered Safeguards Actuation System	4.1	
Reactor Trip System / 7									R			R: A3.02 Power Range Neutron Flux High Positive Rate Reactor Trip	4.1	
Engineered Safeguards Actuation / 2										R	S	R: A4.07 Startup Feedwater Isolation Actuation  S: G2.2.22 Ability to determine operability or availability of safety related equipment.	3.9  4.6	
Diverse Actuation / 7											R	R: G2.4.9 Knowledge of operating crew responsibilities during emergency/abnormal operations.	4.0	
Passive Containment Cooling / 5	R											R: K1.08 Fire Protection System	2.7	
Main Steam / 4					R							R: K5.03 Changing steam flow effect on reactor power	3.7	
Main and Startup Feedwater / 4			R					S				R: K3.07 Reactor Coolant System  S: A2.04 Engineered Safeguards Actuation System	3.5  3.7	
AC Electrical Distribution / 6				R								R: K4.02 Back feeding buses from the grid	3.2	

Class 1E and Non 1E DC and UPS / 6						R							R: K5.02 Loss of one or more Class 1E instrument buses	3.7	
Onsite Standby Power System / 6							R						R: K6.10 Lubrication Oil System failure	3.0	
Service Water / 4								R					R: A1.04 Service Water System cooling tower basin level	2.7	
Compressed Air / 8									R				R: A2.02 Transmission Switchyard and Offsite Power System	2.7	
Containment System / 5										R		S	R: A3.01 Containment isolation	4.1	
													S: G2.4.9 Knowledge of operating crew responsibilities during emergency/abnormal operations.	4.3	
Reactor Coolant Pump / 4										R	R		R: A3.01 Reactor Coolant Pump Trip Actuation due to Engineered Safeguards Actuation	3.6	
													R: A4.02 Reactor coolant pump shutdown	2.9	
Chemical and Volume Control / 1, 2											R	R	R: A4.09 Containment Isolation Actuation	4.0	
													R: G2.1.28 Ability to explain and apply system precautions, limitations, notes, or cautions.	3.8	
K/A Category Point Totals:	3	2	3	3	3	2	2	2/2	3	3	2/3	Group Point Total:		28/5	

ES-401N	AP-1000® Examination Outline Plant Systems—Tier 2/Group 2 (RO/SRO)											Form ES-401N-2		
System Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G*	K/A Topic(s)	IR	#
Digital Rod Control / 1												NOT SELECTED		
Pressurizer Level Control / 2								R				R: A2.06 Reactor Coolant System	3.2	
Rod Position Indication / 1											S	S: G2.2.19 Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.	4.2	
In-Core Instrument System / 7												NOT SELECTED		
Containment Air Filtration / 8									R			R: A3.02 Containment Air Filtration System Isolation Actuation	3.6	
Containment Hydrogen Control / 5										R		R: A4.01 Containment hydrogen monitor	3.6	
Main Control Room HVAC / 8											R	R: G2.1.24 Knowledge of system purpose and/or function.	3.9	
Spent Fuel Pool Cooling / 8												NOT SELECTED		
Condensate / 4	R											R: K1.11 Main and Startup Feedwater System	2.8	
Condenser Air Removal / 4							R					R: A1.01 Main condenser vacuum	3.1	
Main Turbine and Main Turbine Control / 4												NOT SELECTED		
Fuel Handling / 8												NOT SELECTED		
Gaseous Radwaste / 9								S				S: A2.10 Wetted activated carbon bed	2.6	
Radiation Monitoring / 7			R									R: K3.03 Post Accident Monitoring System	3.2	
Circulating Water / 8				R								R: K4.01 C-9, Condenser Available	3.1	
Fire Protection / 8											S	S: G2.4.7 Knowledge of how Abnormal Operating Procedures are used in conjunction with Emergency Operating Procedures.	4.5	
Steam Dump Control System / 4					R							R: K5.06 Changing steam flow effect on Reactor Coolant System temperature and/or cooldown rate	3.5	
Nuclear Instrumentation System / 7												NOT SELECTED		
Liquid Radwaste System / 9						R						R: K6.07 Waste holdup tank inputs, (such as: Containment sump, Auxiliary bldg sump, or Steam Generator blowdown)	2.6	
K/A Category Point Totals:	1	0	1	1	1	1	1	1/1	1	1	1/2	Group Point Total:	10/3	

Facility:			Date of Exam:			
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.14	Ability to use integrated control systems to operate plant systems or components.	4.0			
	2.1.38	Ability to use On-Line Power Distribution Monitoring System and/or procedures to determine the effects on reactivity of plant changes, such as reactor coolant system temperature, secondary plant, or fuel depletion.	4.1			
	2.1.19	Ability to interpret and execute procedure steps.	4.6			
	2.1.5	Ability to use procedures related to shift staffing, such as minimum crew complement, or overtime limitations.			3.9	
	2.1.13	Knowledge of administrative requirements for temporary management direction, such as standing orders, night orders, or operations memos.			3.4	
	Subtotal			3		2
2. Equipment Control	2.2.7	Knowledge of the process for conducting Infrequently Performed Tests or Evolutions.	2.9			
	2.2.10	Knowledge of the process for controlling equipment configuration or status.	3.9			
	2.2.16	Knowledge of pre- and post-maintenance operability requirements.	2.9			
	2.2.9	Knowledge of tagging and clearance procedures.			4.3	
	2.2.12	Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, and coordination with the transmission system operator.			3.8	
	Subtotal			3		2
3. Radiation Control	2.3.1	Knowledge of radiation exposure limits under normal or emergency conditions.	3.2			
	2.3.7	Knowledge of radiological safety procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, or aligning filters.			3.8	
	Subtotal			1		1
4. Emergency Procedures/Plan	2.4.15	Knowledge of the operational implications of emergency / abnormal operating procedures warnings, cautions, and notes.	3.8			
	2.4.17	Knowledge of the bases for prioritizing safety functions during abnormal / emergency operations.	3.6			
	2.4.23	Knowledge of events related to system operation/status that must be Reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.	2.7			
	2.4.7	Knowledge of how Abnormal Operating Procedures are used in conjunction with Emergency Operating Procedures.			4.5	
	2.4.34	Knowledge of emergency communications systems and techniques.			3.8	
	Subtotal			3		2
Tier 3 Point Total			10		7	



Tier / Group	Randomly Selected K/A	Reason for Rejection
<p>NOTE: The working copy of the written exam sample plan was located in the office. The office was inaccessible due to Covid 19 restrictions at the time this ADAMS package was submitted. Best efforts were made to re-create the ES-401N-4. The Final Sample Plan is represented by the combination of this form combined with the original approved sample plan.</p>		
RO 1 / 1	ES-0.1 EK3.16	K/A not changed to EA2.01. Original K/A was used, but there was a typo in the licensee's documentation.
RO 1 / 1	A-337 AK3.07	Changed to AK3.09 due to difficulty writing discriminating Q.
RO 2 / 2	WLS K6.07	K/A not changed to WLS K1.08. Original K/A was used, but there was a typo in the licensee's documentation. The two K/As were very similar.
SRO 3 / 0	G2.2.9	K/A not changed to G2.2.11. Original K/A was used, but there was a typo in the licensee's documentation.

Facility: Vogtle Unit 3		Date of Exam: 03/2020		Exam Level: RO <input checked="" type="checkbox"/>		SRO <input checked="" type="checkbox"/>	
Item Description	Initial						
	a	b*	c*#				
1. Questions and answers are technically accurate and applicable to the facility.	A	A	MB				
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available. c. Correct answer explanation and distractor analysis provided (ES-401N, D.2.g)	A	A	MB				
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401.	A	A	MB				
4. The sampling process was random and systematic. (If more than four RO or two SRO questions were repeated from the last two NRC licensing exams, consult the NRR/NRO OL program office.)	A	A	MB				
5. Question duplication from the licensee screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate.  <input checked="" type="checkbox"/> The audit exam was systematically and randomly developed, or <input type="checkbox"/> the audit exam was completed before the license exam was started, or <input type="checkbox"/> the examinations were developed independently, or <input type="checkbox"/> the licensee certifies that there is no duplication, or <input type="checkbox"/> other (explain).	A	A	MB				
6. Bank use meets limits (no more than 75% from the bank, at least 10% new, and the rest new or modified); enter the actual RO/SRO-only question distribution(s) at right	Bank	Modified	New	—	—	—	
	24 / 7	17 / 8	34 / 10	A	A	MB	
7. Between 38 and 45 questions of the questions on the RO exam and at least 13 questions of the questions on the SRO-only portion of the exam are written at the comprehension/analysis level (see ES-401N, D.2.c); enter the actual RO/SRO-only question distribution(s) at right.	Memory	C/A		—	—	—	
	37 / 11	38 / 14		A	A	MB	
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	A	A	MB				
9. Question content conforms to specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	A	A	MB				
10. Question psychometric quality and format meet the guidelines in Appendix B.	A	A	MB				
11. The exam contains the required number of one-point, multiple-choice items; the total is correct and agrees with the value on the cover sheet.	A	A	MB				
		Printed Name/Signature		Date			
a. Author	Andrew Nichols / <i>AMN</i>			02/24/2020			
b. Facility Reviewer (*)	Chuck Howard / <i>CH</i>			02/24/2020			
c. NRC Chief Examiner (#)	MARK A. BATES / <i>MB</i>			02/20/2020			
d. NRC Regional Supervisor	Eugene Guthrie / <i>EG</i>			3/9/2020			
Note:	* The facility reviewer's initials or signature are not applicable for NRC-developed examinations.						
	# Independent NRC reviewer initials items in Initial column c; chief examiner concurrence is required.						

**Vogtle-3 2020-301**

Q	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other Q – SRO K/A Only	6. B, M, N	7. U, E, S	8. Explanation
			Stern Focus	Cues / F	Cred. Dist	Partial	Job-Link	Minuta #				
<b>GENERAL</b>												
1	(-) (+)	2<LOD<5										<p>General Comment: Keep track of the (+)/(-) count on the binary question format. For purposes of communication, the questions that use the (IS)/(IS NOT) or (DOES)/(DOES NOT), etc, are sometimes referred to as questions with a binary choice. It is important to track how many of these questions are written in the affirmative and how many in the negative. The exam should be balanced. Some questions can usually be modified to make the other choice correct, if needed. This will help reduce the ability of a test taker to predict the answer by choosing the affirmative if the test favors affirmative choices. (I track this statistic with my (+) and (-) signs under the question number on the 401-9. I am not looking for a 50/50 split – I just need enough balance to not be predictable. (+): 43 41 (-): 47 23</p>
2	(+)	2<LOD<5										
3	(+) (+)	2<LOD<5					X					
<b>RO EXAM</b>												
1	(-) (+)	2<LOD<5								N	S	E-0 EK2.06 Q is satisfactory.
2	(+)	2<LOD<5								B	S	ES-0.1 EA2.01 (4893 NRC2 – ILT1-NRC) Q is satisfactory.
3	(+) (+)	2<LOD<5								N	<del>E</del> S	ES1.3 EA1.03 Partial: Can ADS Stage 1 be actuated by PMS? If so, then the Administrative allowance afforded by Conduct of Ops would allow PMS to be used, thereby alleviating the requirement or need to use DAS. An argument may exist that if PMS is used, then DAS will not be used – so “will NOT” may arguably be correct for part 1.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist.	Partial	Job-Link	Minutia	# Unit			
4 (-)	H	2<LOD<5											<p>A possible solution would be to test whether ES1.3 directs a PMS actuation of Stage 1.</p> <p><b>Comments addressed.</b></p> <p>ES-1.4 EA2.05</p> <p>Cred. Dist.: Following stage 4 actuation, it is difficult to reason why it would be a plausible misconception to believe that RNS pumps would be running and RNS-V023 would be open. Not knowing anything about system actuations or setpoints, just by knowing basic system layout and function allows one to arrive at the only probably end state for RNS.</p> <p>Cred. Dist.: Interplay between first and second parts of 'B' and 'C' appear to create a non-plausible answer choice. For instance, why would it make sense for RNS pumps to remain running with RNS-V023 closed?</p> <p>K/A: No procedure knowledge is required to answer the question. All that is needed is knowledge of ADS Stage 4 actuation (systems knowledge).</p> <p><b>Comments addressed.</b></p>
5 (+)	F	2<LOD<5									B	S	<p>A-313 G2.1.7</p> <p>Question is satisfactory.</p>
6 (-)	F	1											<p>E-1 EK1.10</p> <p>Cred. Dist.: B(2) and D(2) do not appear to be plausible. PCS termination needs these flow paths closed. The safety system has served its function and is now not needed – it only makes sense to isolate the flow path.</p> <p>Cred. Dist.: The Distractor Analysis section states that A(1) and B(1) are credible because some actuations do not have associated resets at DAS. What are some examples of the actuations that create the stated plausibility?</p> <p><b>Comments addressed.</b></p>

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit			
7	H	2<LOD<5											A-342 AK2.02  Cred. Dist.: The question asks for the FIRST action required. Why would the procedure differentiate between the two pumps in the other loop and specify that RCP 2A be started? Therefore, 'A' does not appear to be plausible. Consider making 'A' start one of the pumps in loop 2?  Cred. Dist.: Are there any verifications that are required to be performed prior to starting an RCP in another loop? If so, the stem may need to supply information for those prerequisite conditions to be evaluated.  Cred. Dist.: Restarting a pump that just malfunctioned without knowing anything about why it malfunction would not appear to be very wise. Therefore 'B' does not appear to be plausible.  <b>Comments addressed.</b>
8 (-) (+)	H	2<LOD<5	X								N	<del>E</del> S	A-337 AK3.09  Distractor Analysis 'C': The information prior to Step 15 is a CAUTION, not a NOTE.  Stem Focus: Last bullet – does the magnitude of the level error need to be specified? What is they observed an error of zero? Discuss to ensure enough info is provided.  <b>Comments addressed.</b>
9 (+)	F	2<LOD<5									N	S	A-343 AA1.06  Q is satisfactory.
10	H	2<LOD<5									M	S	ES-0.2 EA2.02  Q is satisfactory.
11 (+)	H	2<LOD<5									M	S	FR-S.1 G2.4.9

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job-Link	Minutia # Unit	Backward	Q- K/A			
(+)													Q is satisfactory.
12 (-)	H	1			X						N	U S	E-2 EK1.01 Cred. Dist.: SG 2 being faulted is not plausible with pressure rising in SG 2 and the other choice (SG 1) having pressure lowering. Comments addressed.
13 (-) (-)	H	2<LOD<5									N	S	A-301 AK2.04 (pre-review) Q appears to be satisfactory.
14 (-) (-)	H	2<LOD<5							x		N	U S	ES-1.1 EK3.11 (pre-review) K/A Match: Tier 1 for AP-1000 requires testing procedure knowledge. IAW the K/A catalog, "EK 3 Lists the actions and bases taken in the procedure." This Q can be answered using only systems knowledge. Suggestion: Suggest using an (IS) / (IS NOT) question format for SG1 SFIV CW MOV and again for CMT Outlet AOV. Essentially ask the same question, but just do a binary choice on these two items. This will alleviate the ability to use systems knowledge to eliminate all the distractors. Discuss.
15 (+) (+)	H	2<LOD<5									N	S	Revised Q is satisfactory. A-345 AA1.02 Q is satisfactory.
16 (-) (+)	H	2<LOD<5			X						M	U S	ECA-1.1 EA2.02 (pre-review) Cred. Dist.: A(1) and B(1) do not appear to be plausible. The determination of safeguards being blocked does not add much plausibility. Discuss.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit	Back ward			
													The name of VFS-RY101 in E-0 Step 29 is different than what is stated in the last bullet of the question stem. Should the stem be the same as Step 29? <b>Comments addressed.</b>
17 (+) (+)	H	2<LOD<5									N	S	FR-H.1 G2.4.39 Q is satisfactory.
18	H	2<LOD<5									N	S	SDP-1 EK1.08 Q is satisfactory.
19	F	2<LOD<5									N	<del>E</del> S	A320 AA1.04 What technical reference supports the first half answer? Discuss plausibility justification for first half to clarify my understanding. <b>Comments addressed.</b>
20	H	1			x						B	<del>U</del> S	A-327 AA2.01 (Q10 from ILT4AOP2, ID:12028) Cred. Dist.: A(1) and B(1) do not appear to be plausible. When using SFW as your feed source, it only makes sense to start the other SFW pump before looking at using the MFW pumps. If a condition was presented that would potentially impact the other SFW pump, then maybe there would be adequate plausibility, but with a simple breaker trip, the obvious choice is to start the other SFW pump. This should be coded as a Tier 1 question. <b>Comments addressed.</b>
21 (+) (+)	F	1			x						N	<del>U</del> S	A-304 G2.2.23 Cred. Dist.: C(1) and D(1) do not appear to be plausible. With an N16 Rad Mntn rising at power, "are NOT" does not contain a reasonable amount of plausibility.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist.	Partial	Job-Link	Minutia	# Unit			
22 (+)	F	2<LOD<5											Comments addressed.
23 (+)	F	1				X					N	S	SDP-6 EK1.05 Question is satisfactory. A-202 AK2.05 Cred. Dist.: C(1) and D(1) do not appear to be plausible. If the gland steam pressure continues to lower, why would it be plausible that the turbine could remain online? This could be addressed if the second part of the question was modified to ask if a turbine trip is required if pressure cannot be returned and maintained above 4.0 psig. Comments addressed.
24 (+)	F	2<LOD<5				X			X		N	U E S	FR-H.2 EK3.03 (pre-review) K/A Match: K/A requires testing the reason why SG PORVs are verified to not be isolated while in H.2. All that is needed to answer the Q is entry conditions and condenser not available. Suggestion: Provide a condition in the stem that causes the SG Relief Isolation and then test whether or not a reset is required. Then in the second part ask, once pressure reduction is in progress the intent of the step is to maintain pressure either less than 1232 psig or 1185 psig. Discuss the above suggestion. In this way, the purpose for ensuring PORV not isolated is to maintain pressure less than 1232 psig. I believe this will hit the K/A. Distractor Analysis requires some correction. Comments addressed.
25 (-)	H	2<LOD<5									B	S	FR-Z.4 EA1.05 (ILT-1 NRC Exam Q26, ATN 06.21.17) Q is satisfactory.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation		
			Stem Focus	Cues	T / F	Cred. Dist.	Partial	Job- Link	Minutia	# Unit				Back ward	Q- K/A
26 (+)	H	2<LOD<5										X	N	U S	A-307 AA2.01  Is the Distractor Analysis correct for 'A'? RCS temp goes up because of the loss of load. When you stop pulling steam with the turbine, the RCS heats up and with negative reactivity coefficients, as temp goes up, negative reactivity is added. Rods will respond to temperature and steam demand will eventually be controlled by steam dumps. Discuss.  K/A: The question does not test Tier 1 procedure knowledge. Only systems knowledge is required.  One possible fix may be to replace the first part with a question that asks if they are required by the AOP to FIRST leave rods in MANUAL or place in AUTO. To facilitate this, a condition at the beginning would need to state that rods are in MANUAL.  Comments addressed.
27 (-)	H	2<LOD<5											B	E S	FR-P.1 G2.4.16  Question is weaker than need be by giving the applicants two ways to get the correct answer on the second part. Suggest either changing pressure to 940 psig or pZR level to 12%.  Comments addressed.
28	F	2<LOD<5											B	S	RCS K1.03  Q is satisfactory.
29 (+)	H	2<LOD<5											M	S	SGS K1.16  Q is satisfactory.
30	F	2<LOD<5											N	S	SGS K2.11  Q is satisfactory
31 (-)	F	2<LOD<5											N	S	RNS K3.02

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia # Unit	Back ward	Q- K/A			
(+)													Q is satisfactory.
32	F	2<LOD<5									B	S	PXS K2.03 Q is satisfactory.
33 (+)	F	2<LOD<5								x	N	U S	PRHR K4.05 K/A: What PRHR knowledge is being tested in the question? Would it be possible to replace the PXS valve with a valve from another system and ask the same question resulting in the same answer for the same reason? In other words, is the presence of the symbols "M" and "P" the only thing being tested and knowing what these symbols mean, independent of any PRHR knowledge, will get the applicant to the correct answer? Comments addressed.
34 (+)	H	2<LOD<5									N	S	PXS K3.02 Q is satisfactory.
35 (+) (+)	F	2<LOD<5									M	S	PXS K5.05 Q is satisfactory.
36	F	2<LOD<5									B	S	CCS K4.05 Q is satisfactory.
37 (-)	H	2<LOD<5									M	S	CCS K6.28 Q is satisfactory.
38	F	2<LOD<5									N	S	PPCS A1.16 Q is satisfactory.
39 (-) (+)	F	2<LOD<5									N	S	ADS A2.02 Q is satisfactory.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia	# Unit			
40 (-)	F	2<LOD<5											RTS A3.02 Cred. Dist.: No conditions are given in the stem to create plausibility for whether a reactor trip can or cannot be blocked. Usually a trip can only be blocked when certain permissives are met. Suggest modifying the second question statement as follows: "When applicable permissives are met, power range positive flux rate reactor trip ___(2)___ be blocked. <b>Comments addressed.</b>
41	H	2<LOD<5					X				B	E	ESAS A4.07 Cred. Dist.: "A" does not appear to be plausible. If "A" was correct then SGS-V255B would always receive an actuation every time the reactor trips. <b>Comments addressed.</b>
42	F	2<LOD<5									N	S	DAS G2.4.9 Q is satisfactory.
43	F	2<LOD<5									B	S	PCS K.1.08 Q is satisfactory.
44 (+)	H	2<LOD<5									M	S	MSS K5.03 Q is satisfactory. Arguably lower cog question.
45 (+) (-)	H	1									M	U S	FWS K3.07 Cred. Dist.: more feedwater to the steam generator is going to provide more cooling, so temp will go down. I do not see any plausible misconception that temp could go up.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia	# Unit			
46	F	2<LOD<5											Cred. Dist.: when the key parameters are returned to pre-event values, I do not see a plausible misconception that power would not be at pre-event values. <b>Comments addressed.</b>
47	H	2<LOD<5											ECS K4.02 LOK: This question is likely answered at the memory level. Cred. Dist.: What buses lose power when only a turbine trip occurs? It may be plausible to choose among other somewhat credible choices for which is providing power, but complete de-energization does not appear to be plausible. <b>Comments addressed.</b>
48	F	2<LOD<5											IDS K5.02 Q is satisfactory. ZOS K6.10 Cred. Dist.: What other similar components have a trip on high air filter dP? This does not appear to contain a reasonable level of plausibility. <b>Comments addressed.</b>
49	H	2<LOD<5											SWS A1.04 Q is satisfactory.
50	H	2<LOD<5											CAS A2.02 Q is satisfactory.
51	H	2<LOD<5											CNS A3.01 Q is satisfactory.
52	H	2<LOD<5											RCP A3.01

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit	Back ward			
53 (+)	F	2<LOD<5										S	Cred. Dist.: Blue and Yellow boxes designate either VFD or 100% which are parallel paths, but the question does not provide enough information to know if one of these could possibly be correct. In other words, since there is no way for the applicant to know if one of these are closed, then they must not be the correct answer.  Comments addressed.
54	F	1			X?						B	ES	RCP A4.02  Q is satisfactory.  The question is designated as New, yet there is a question history provided, which insinuates that it is not new.  Comments addressed.
55	F	2<LOD<5										S	CVS A4.09  Cred. Dist.: Discuss which CIVs do not get a close signal on a Critical Containment Isolation Actuation initiated from DAS?  Comments addressed.
56	H	2<LOD<5										US	CVS G2.1.28  Q is satisfactory.  VFS A3.02  Cred. Dist.: Discuss which CIVs do not get a close signal on a Critical Containment Isolation Actuation initiated from DAS.  Cred. Dist.: With a LOCA, how does it make sense that purge fans would not auto stop when performing a purge?  Comments addressed.
57	N	2<LOD<5								X	H	ES	PLCS

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit			
(+)													<p>K/A: The use of procedures to correct, control or mitigate is not really being tested. What do procedures tell the operator to do if letdown does not terminate at the appropriate point? The second part potentially could be written such that level dropped by 5% after letdown started and the second part could then test whether they are required to manually terminate or not. Discuss.</p> <p><b>Comments addressed</b></p>
58	F	2<LOD<5				X?					B	<p><del>E</del> <b>S</b></p> <p>VLS A4.01</p> <p>Cred. Dist.: 1% is definitely not plausible and 4% is not much better. There may not be a corresponding reference to use a basis, but 6% and 8% would be better distractors because they are at least elevated. If someone does not know 13% is the answer, they may still pick 6% or 8%, but they will not likely ever pick 1% or 4%.</p> <p><b>Comments addressed</b></p>	
59	F	2<LOD<5									B	<p>S</p> <p>VES G2.1.24</p> <p>Question is satisfactory.</p>	
60 (-)	H	1									B	<p><del>U</del> <b>S</b></p> <p>CDS K1.11</p> <p>Cred. Dist.: From the first part, the question teaches the applicant that MFPs begin tripping at either 56.5 inches or 66.5 inches in the DST. The applicant knows that DST level is lowering at 5 inches / minute and applies the information from the first half of the question – isn't the answer clear? The distractor analysis did not convince me of the plausibility. The analysis stated that IF the question was asked at 1000:00, then the answer would be different – well, this is obvious since 90 inches provided in the stem is higher than both choices for the first part of the question. Also, the distractor analysis was confusing when it stated that the second part was plausible if the applicant did NOT recognize the staggered trip.</p>	

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit	Back ward			
61 (-) (-)	H	2<LOD<5										B	S	CMS A1.01 Q is satisfactory. <b>Comments addressed.</b>
62 (+)	H	2<LOD<5										B	<del>E</del> S	RMS K3.03 I do not see any justification for why 65 scfm is correct and why something other than that is plausible. Consider enhancing the justification. <b>Comments addressed.</b>
63 (+)	H	2<LOD<5				X						B	U S	CWS K4.01 Explain the dynamic of CWS pumps operating and cond press rising. Cred. Dist.: Interplay between first and second part - How does the status of C-9 make sense given the status of CWS Pump A in the first part of 'B' and 'C'? <b>Comments addressed.</b>
64	H	2<LOD<5				X						B	U S	SDCS K5.06 Discussed concerns with the question. <b>Comments addressed.</b>
65	F	2<LOD<5										B	S	WLS K1.08 Q is satisfactory.
66	F	2<LOD<5										N	S	G2.1.14 Q is satisfactory.
67 (-)	F	1				X						N	U S	G2.1.38

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia # Unit	Back ward	Q- K/A			
68	F	2<LOD<5			X						B	ES	<p>Cred. Dist.: None of the distractors are plausible and, as a result, the LOD is unacceptably low.</p> <p>Consider writing a QPTR question. You could test LCO 3.2.4 applicability greater than 50% as well as the 1.02 limit. This is good RO knowledge above the line in Tech Specs that would likely yield plausible distractors.</p> <p>Comments addressed.</p> <p>G2.1.19</p> <p>Cred. Dist.: "A" may not be plausible because there is clearly an OR between Trip and Verify. Suggest making this choice to be Trip ONLY.</p> <p>Cred. Dist.: "C" may not be plausible because there is clearly an OR between Perform and Align. Suggest making this choice Trip AND Align.</p> <p>The above suggestions will change the correct answer.</p> <p>LOK: Q is arguably higher LOK.</p> <p>Comments addressed.</p>
69 (+) (+)	F	2<LOD<5									B	S	<p>G2.2.7</p> <p>Q is satisfactory.</p>
70 (-) (+)	F	2<LOD<5									M	S	<p>G2.2.10 (PTN L-15-1 NRC Exam Q68)</p> <p>Q is satisfactory.</p>
71 (+) (+)	F	2<LOD<5				X					B	ES	<p>G2.2.16</p> <p>Partial: Because the NMP states "should" there arguably is a different answer when the question statement is posed as what is "required." A possible solution is to test exactly what the procedure states. I.E. NMP-OS-007-001, DOES / DOES NOT state that ..... Discuss.</p>

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia	# Unit	Back ward	Q- K/A			
72	H	2<LOD<5												S	G2.3.1 Q is satisfactory.
73	F	2<LOD<5											N	<del>E</del> S	G2.4.15 LOK: Q can be answered at the memory level by knowing the basis of the note. Comments addressed.
74	F	2<LOD<5											B	<del>E</del> S	G2.4.17 Is there a typo for the designated K/A? It appears to list FR-C.1 G2.4.36? Comments addressed.
75	F	2<LOD<5							X				B	<del>E</del> S	G2.4.23 Cred. Dist.: Any answer choice that does not contain the final power and rate do not make much sense. Consider the following: IAW AOP-101, the operator is required to inform the load dispatcher of the rate of power change and final power level as well as: A. reason and length of repair. B. reason but not the length of repair. C. length of repair, but not the reason. D. no other required information. Comments addressed.
<b>SRO EXAM</b>															
															(+) = 4 14 (-) = 4 6
76	H	2<LOD<5											B	S	A-336 AA2.02 Question is satisfactory.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit			
77 (+)	H	2<LOD<5	X										A-317 G2.2.17  Stem Focus: The second half of the question appears to be contingent on the conditions being present for 12 hours, but this is not mentioned in the stem – does it need to be? Also, the knowledge being tested appears in the Basis, but I do not see it in the actual spec – does the question need to directly ask for what the Basis says, so as to ensure a technically accurate answer? Discuss. If these issues can be worked out, then the question should be satisfactory.  <b>Comments addressed.</b>
78	H	2<LOD<5									B	S	E-3 EAA2.02  Q is satisfactory.
79 (-) (-)	F	2<LOD<5									N	?	FR-C.1 G2.1.19 (pre-review)  Partial: Steps in the RNO contain DAS actuation steps. Why would it be wrong for an applicant to not perform DAS actuation steps while in the left-hand column and then perform those steps in the RNO? Is this inconsequential nuance the only reason that 'A' would be technically incorrect? Could someone argue that they did not perform DAS actuation initially because they knew that those steps were in the RNO? Discuss to ensure my understanding is correct. I am trying to ensure we have a test item that is meaningful for determining competent from less than competent.  Suggestion: Consider going with a binary choice using options 3 and 4. This may work pending resolution to the above comment.  SRO-only: This is a marginal SRO-only question, but I am inclined to accept it if the above concern is adequately addressed. The basis for accepting it would be that the understanding of administrative requirements for which actions must be attempted prior to transitioning to the RNO,

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws				5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia #	Unit	Back ward	Q- K/A			
														contains an SRO level of procedure selection, although this is clearly a judgement call.
														Q is satisfactory.
80 (+) (-)	H	2<LOD<5										M	S	A-323 AA2.03 (Mod: ILT-1 NRC Q79) Q is satisfactory.
81	H	2<LOD<5										B	<del>E</del> S	CAS G2.2.30 SRO Only: Discuss enhancing the SRO Only justification. The NUREG SRO guidance states that RO's are required to know entry conditions to the Major EOPs and E-1 is listed as a major EOP. This question is a little different in that E-1 is entered because that is where the guidance exists to use AOP-703 in conjunction with E-1 in order to regain instrument air to containment so that safeguards can be terminated. Even though the question tests an E-1 entry on the surface, the circumstances require a procedure selection at the SRO level – the question is really testing whether ES-1.1 or E-1 contains guidance to deal with air. Comments addressed
82	H	2<LOD<5										N	<del>E</del> S	A-314 AA2.01 SRO Only: Discuss enhancing the SRO Only justification. The flow chart has a step that evaluates whether the question can be answered solely by knowing AOP entry conditions. If the justification shows that more than AOP entry conditions are required, then the question will be satisfactory. Comments addressed
83 (+)	H	2<LOD<5										N	<del>E</del> S	SDP-5 G2.1.21 (pre-review) First part of question and answers could be simplified by only asking whether they are energized or de-energized. Procedure selection being tested at SRO level.

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist	Partial	Job- Link	Minutia	# Unit			
84 (+) (+)	H	2<LOD<5											Q is satisfactory.  A-306 AK1.07 (pre-review)  SRO-only: Question just appears to test if the applicant knows a condition that requires initiating Safeguards. Question does not appear to have procedure selection.  Q is satisfactory.
85 (+) (-)	H	2<LOD<5									B	S	A-348 G2.4.24  Q is satisfactory.
86	H	2<LOD<5				X					N	E	RCS G2.1.17 (pre-review)  Cred. Dist.: Considering the RCS pressure boundary to be open with RCPs running does not seem to be plausible.  Q is satisfactory.
87	H	2<LOD<5	?							X	B	U	RNS A2.08 (Q87 from ILT 2 NRC Exam)  Discuss the validity of redacting the provided reference. Is the purpose to redact info that impacts this question or is it redacted to redact so that it does not negatively impact the integrity of another question. How does redacting the above the line information impact this question? From an operational validity perspective, the operator would never have this reference in front of them with the above the line information redacted.  SRO-only: Q can be answered by only knowing above the line TS & 1-hr actions and systems knowledge. In other words, the Q tests whether the applicant knows when the CIVs should close and whether or not there is a one hour action statement to isolate the affected flow path.  Comments addressed.
88	H	2<LOD<5									N	S	ESAS G2.2.22

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues T / F	Cred. Dist	Partial	Job- Link	Minutia # Unit	Back ward	Q- K/A			
89	F	2<LOD<5									M	S	Q is satisfactory. FWS A2.04 Q is satisfactory.
90	F	2<LOD<5									N	S	CNS G2.4.9 Q is satisfactory.
91	F	2<LOD<5									B	U S	RPIS G2.2.19 (ILT-3 NRC Exam) SRO-only: The question only requires RO systems knowledge. In other words, the first part is a power supply systems knowledge and the second part is knowing the accuracy of DRPI, which is a function of system design. The second part of the question could just as easily be written as follows: "With DRPI functioning at half-accuracy, in accordance with the design of the system, the MAXIMUM uncertainty of DRPI is (+) or (-) __ (2) __ steps. Comments addressed.
92	H	2<LOD<5									N	S	WGS A2.10 (pre-review) Q appears to be satisfactory. SRO-credit for testing when to perform a procedure for taking a system out of service. i.e. when to select a procedure. Why was "stable" changed to "rising"? Comments addressed.
93	F	2<LOD<5									N	S	FPS G2.4.7 Q is satisfactory.
94	F	2<LOD<5									B	S	G2.1.5 Q is satisfactory.

Q.	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist.	Partial	Job- Link	Minutia	# Unit			
95 (+) (+)	F	2<LOD<5									B	S	G2.1.13 Q is satisfactory.
96	F	2<LOD<5									B	U S	G2.2.9 (pre-review) SRO-only: Question does not appear to test SRO-only level knowledge of the tagging process. At most sites, reactor operators are frequently assigned to write clearance orders. Is their supporting documentation at Vogtle where you can show that this is SRO-only knowledge? Q is satisfactory. Operability is part of the design configuration following the clearance.
97 (+)	F	2<LOD<5									N	E S	G2.2.12 Discuss the impact of not redacting the reference. Can this question be reworded to eliminate a reference altogether? I.E. If the Completion Time of TRM 3.7.1 is not met, then law TR 3.0.3, a risk assessment __ (2) __ required. Should the question prefix statement state law both the TRM "and its associated basis"?
98	F	2<LOD<5									M	S	G2.3.7 Q is satisfactory. Comments addressed.
99 (+) (-)	F	2<LOD<5									M	S	G2.4.7 Q is satisfactory.
100 (+)	F	2<LOD<5		X							M	E S	G2.4.34 Cue: The first question statement should not teach the applicant that the responsibility to perform notifications is non-delegable. The question statement should be more along the lines of: "During a declared emergency, the Shift

Q	1. LOK (FH)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		6. B, M, N	7. U, E, S	8. Explanation
			Stem Focus	Cues	T / F	Cred. Dist.	Partial	Job-Link	Minutia	# Unit			
													Manager (may) / (may not) delegate to another SRO the responsibility to notify state and local agencies."
													Comments addressed.

## Vogle-3 2020-301 Operating Test Outline Comments

### **Admin JPMs**

1. A.1.a SRO: The SRO portion includes an evaluation of Unit 4 staffing. At the time of this exam, the license being applied for is only a Unit 3 license; therefore, Unit 4 evaluations are not operationally valid. As far as this exam is concerned, Unit 4 does not yet exist.
2. A.1.b SRO: Enhance the Initiating Cue to solicit the Tech Spec Required Actions. This may eliminate the need for the examiner to get the required information through questioning.
3. A.3 SRO: Discuss briefly the reason this JPM was replaced from what was submitted on Outlines.

### **Systems JPMs**

1. JPM “e”: Page 17, which is blank, and description and step STANDARD for ES-0.5, Step 5.c, is lacking. This could be that the file is not displaying correctly after being transferred. I can infer the missing information, but for clarity’s sake, we need to ensure that any missing information is viewable for the final submittal. Blank highlighted boxes appear in some other JPMs too – I’m not sure if they are supposed to be blank, or if they are not displaying correctly (I.E., Page 8 of JPM “j”, etc.).
2. JPM “g”: This JPM appears to primarily be a Safety Function 4S? Discuss why 4P was selected as the Safety Function. If 4S is more appropriate, then there will be two JPMs assigned to 4S; therefore, one would need to be changed.
3. JPM “j”: Discuss briefly the reason this JPM was replaced from what was submitted on Outlines. The Outline stated that JPM “j” was to locally open the CLP gate. The reason could be to include an additional alternate path JPM?
4. JPM “j”: Only one critical step is visible on the file that was submitted. This may be a viewability issue. Page 5 contains the only viewable critical step.
5. JPM “k”: This should be designated as (R) on Outline – just a reminder.
6. In-Plant JPMs when using classroom setting: For tallying the total number of steps, the number of steps should not include the steps to find equipment, get dosimetry, etc. These are considered as pre-requisites to performing the task. If these tasks were actually performed in the plant, the JPM material would not include these steps – but not finding the equipment would result in JPM failure. The requirements for the NUREG to have more than one critical step did not include finding the equipment as being separate steps to meet the NUREG requirements.

### **Scenarios**

1. No comments.