Draft Submittal

(Pink Paper)

DRAFT Written Exam Quality Checklist (ES-401-6)

& Written Exam Sample Plan

ST. LUCIE MARCH/APRIL 2006-301 EXAM

05000335/2006301 AND 05000389/2006301

MARCH 20 - 29, 2006 AND APRIL 6, 2006

4/24/06

Facility: St. Lucie	Date of Exam: 3/20/2006	Exam Level: RO/SRO

Item Description	Initial a	b*	c#
1. Questions and answers technically accurate and applicable to facility.	JGA		
2. a. NRC K/As referenced for all questions.	JGA		
b. Facility learning objectives referenced as available.	JGA		
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	JGA		
4. The sampling process was random and systematic. (If more than 4 RO and 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL Program Office)	JGA		
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: _____ the audit exam was systematically and randomly developed, or _____ the audit exam was completed before the license exam was started, or _____ the examinations were developed independently, or XX the licensee certifies that there is no duplication, or ___ other (explain)	JGA		

6. Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank	Modified	New	JGA		
	43 / 16	5 / 3	27/ 6			

7. Between 50 and 60 percent of the question on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right	Memory	C/A	JGA		
	30 / 4	45 / 21			

8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	JGA	
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	JGA	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	JGA	
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet.	JGA	

		Printed Name / Signature	Date
a.	Author	Joseph G. Arsenault	2/1/2006
b.	Facility Reviewer (*)		
c.	NRC Chief Examiner (#)		
d.	NRC Regional Supervisor		

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

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Facility: St. Lucie													Date of Exam				
Tier	Group	RO K/A Category Points											SRO-Only Points				
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	K	A	A2	G*	Total
1. Emergency & Abnorma Plant Evoulution	1															2	4	6
	2															2	2	4
	Tier Totals															4	6	10
2. Plant Systems	1															2	3	5
	2															2	1	3
	Tier Totals															4	4	8
3. Generic Knowledge and Abilities Category					1		2		3		4			1	2	3	4	
														2	2	1	2	7

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1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.
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. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.
4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category/tier.
6.* 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. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.
7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) 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; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A". Use duplicate pages for RO and SRO-only exams.
8. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
9. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Reactor Trip - Stabilization - Recovery / 1	0	0	0	0	0	0	007EG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
Pressurizer Vapor Space Accident / 3	0	0	0	0	0	0	008AG2.4.6	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.1	4
Small Break LOCA / 3	0	0	0	0	0	0	009EA2.04	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.8	4
Large Break LOCA / 3	0	0	0	0	0	0	011EG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
RCP Malfunctions / 4	0	0	0	0	1	0	015AA2.11	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	When to jog RCPs during ICC	3.4	3.8
Loss of Rx Coolant Makeup / 2	0	0	0	0	0	0	022AA2.04	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.9	3.8
Loss of RHR System / 4	0	0	0	0	0	0	025AA2.07	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.4	3.7
Loss of Component Cooling Water / 8	0	0	0	0	0	0	026AG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Pressurizer Pressure Control System Malfunction / 3	0	0	0	0	0	0	027AA2.15	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.7	4
ATWS / 1	0	0	0	0	1	0	029EA2.09	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Occurrence of a main turbine/reactor trip	4.4	4.5
Steam Gen. Tube Rupture / 3	0	0	0	0	0	0	038EA2.03	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	4.4	4.6
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	1	040AG2.4.6	This is a Generic, no stem statement is associated.	Knowledge symptom based EOP mitigation strategies.	3.1	4
Loss of Main Feedwater / 4	0	0	0	0	0	0	054AG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
Station Blackout / 6	0	0	0	0	0	0	055EG2.4.49	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4
Loss of Off-site Power / 6	0	0	0	0	0	0	056AA2.22	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.4	3.6
Loss of Vital AC Inst. Bus / 6	0	0	0	0	0	1	057AG2.1.33	This is a Generic, no stem statement is associated.	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4	4

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Loss of DC Power / 6	0	0	0	0	0	0	058AG2.4.30	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.2	3.6
Loss of Nuclear Svc Water / 4	0	0	0	0	0	1	062AG2.4.1	This is a Generic, no stem statement is associated.	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	3.3
Loss of Instrument Air / 8	0	0	0	0	0	1	065AG2.4.4	This is a Generic, no stem statement is associated.	Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4	4.3
Reactor Trip - Stabilization - Recovery / 1	0	0	0	0	0	0	CE02EA2.1	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.7	3.7
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	0	CE05EA2.2	Ability to determine and interpret the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.4	4.2
Loss of Main Feedwater / 4	0	0	0	0	0	0	CE06EG2.4.6	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.1	4

Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Continuous Rod Withdr	0	0	0	0	0	0	001AA2.05	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	4.4	4.6
Dropped Control Rod /	0	0	0	0	0	1	003AG2.4.49	This is a Generic, no stem statement is associated.	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4	4
Inoperable/Stuck Contr	0	0	0	0	0	1	005AG2.4.1	This is a Generic, no stem statement is associated.	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	3.3	3.3
Emergency Boration / 1	0	0	0	0	0	0	024AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.8	4.1
Pressurizer Level Malfu	0	0	0	0	0	0	028AG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4
Loss of Source Range I	0	0	0	0	0	0	032AA2.05	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.9	3.2
Loss of Intermediate Ra	0	0	0	0	1	0	033AA2.10	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Tech-Spec limits if both intermediate-range channels have failed	3.1	3.8
Fuel Handling Accident	0	0	0	0	0	0	036AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.2	3.9

Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Steam Generator Tube	0	0	0	0	0	0	037AA2.09	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.8	3.4
Loss of Condenser Vac	0	0	0	0	0	0	051AG2.4.4	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4.3
Accidental Liquid RadW	0	0	0	0	0	0	059AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.2	3.5
Accidental Gaseous Ra	0	0	0	0	1	0	060AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	The steps necessary to isolate a given radioactive-gas leak, using P&IDs	3.2	3.9
ARM System Alarms / 7	0	0	0	0	0	0	061AG2.2.25	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.5	3.7
Plant Fire On-site / 8	0	0	0	0	0	0	067AA2.04	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.1	4.3
Control Room Evac. / 8	0	0	0	0	0	0	068AG2.1.33	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4
Loss of CTMT Integrity /	0	0	0	0	0	0	069AG2.4.6	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.1	4
Inad. Core Cooling / 4	0	0	0	0	0	0	074EA2.06	Ability to determine and interpret the	K/A Randomly Rejected	4	4.6

Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
								following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)			
High Reactor Coolant A	0	0	0	0	0	0	076AA2.07	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.4	2.7
Natural Circ. / 4	0	0	0	0	0	0	CA13AA2.1	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	2.7	3.7
RCS Overcooling - PTS	0	0	0	0	0	0	CA11AG2.2.22	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.4	4.1
Functional Recovery / N	0	0	0	0	0	0	CA09AA2	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	0	0
Excessive RCS Leakag	0	0	0	0	0	0	CA16AG2.4.4	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	4	4.3

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Reactor Coolant Pump	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Effects of VCT pressure on RCP seal leakoff flows	003A2.05	2.5	2.8
Chemical and Volume Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	004A2.06	4.2	4.3
Residual Heat Removal	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	005A2.03	2.9	3.1
Emergency Core Cooling	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	006A2.03	3.3	3.7
Pressurizer Relief/Quench Tank	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	007GG2.1.2	3.0	4.0
Component Cooling Water	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	008GG2.1.33	3.4	4.0

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Pressurizer Pressure Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	010A2.02	3.9	3.9
Reactor Protection	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	012A2.02	3.6	3.9
Engineered Safety Features Actuation	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	013A2.02	4.3	4.5
Containment Cooling	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	022GG2.4.4	4.0	4.3
Ice Condenser	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	025A2.05	2.5	2.7

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Containment Spray	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	026A2.02	4.2	4.4
Main and Reheat Steam	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	039A2.04	3.4	3.7
Main Feedwater	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	059GG2.4.49	4.0	4.0
Auxiliary/Emergency Feedwater	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	061A2.04	3.1	3.4
AC Electrical Distribution	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Methods for energizing a dead bus	062A2.05	2.9	3.3
DC Electrical Distribution	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	063GG2.1.2	3.0	4.0

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Emergency Diesel Generator	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	064A2.14	2.7	2.9
Process Radiation Monitoring	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	073GG2.1.28	3.2	3.3
Service Water	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	076GG2.1.30	3.9	3.4
Instrument Air	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of system purpose and or function.	078GG2.1.27	2.8	2.9
Containment	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.	103GG2.4.50	3.3	3.3
Emergency Diesel Generator	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to explain and apply all system limits and precautions.	064GG2.1.32	3.4	3.8

Tier 2 Group 2

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Control Rod Drive	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	001GG2.1.28	3.2	3.3
Reactor Coolant	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	002GG2.4.30	2.2	3.6
Pressurizer Level Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	011A2.09	2.9	3.5
Rod Position Indication	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	014GG2.2.22	3.4	4.1
Nuclear Instrumentation	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	015GG2.4.30	2.2	3.6
Non-nuclear Instrumentation	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	016GG2.4.4	4.0	4.3
In-core Temperature Monitor	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	017GG2.2.25	2.5	3.7
Containment Iodine Removal	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	High temperature in the filter system	027A2.01	3.0	3.3

Tier 2 Group 2

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Hydrogen Recombiner and Purge Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	028A2.01	3.4	3.6
Containment Purge	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	029A2.03	2.7	3.1
Spent Fuel Pool Cooling	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	033A2.03	3.1	3.5
Fuel Handling Equipment	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	034GG2.4.49	4.0	4.0
Steam Generator	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	035A2.01	4.5	4.6
Steam Dump/Turbine Bypass Control	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use	K/A Randomly Rejected	041A2.03	2.8	3.1

Tier 2 Group 2

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
												procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)				
Main Turbine Generator	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	045A2.08	2.8	3.1
Condenser Air Removal	0	0	0	0	0	0	0	0	0	0	0	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	055GG2.1.28	3.2	3.3
Liquid Radwaste	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	068A2.02	2.7	2.8
Waste Gas Disposal	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	071A2.02	3.3	3.6
Area Radiation Monitoring	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 /	K/A Randomly Rejected	072A2.02	2.8	2.9

Tier 2 Group 2

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
												45.3 / 45.13)				
Circulating Water	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Loss of circulating water pumps	075A2.02	2.5	2.7
Station Air	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	079A2.01	2.9	3.2
Fire Protection	0	0	0	0	0	0	0	0	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	K/A Randomly Rejected	086A2.01	2.9	3.1
Condensate	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of the purpose and function of major system components and controls.	056GG2.1.28	3.2	3.3

Tier 3

Group	KA	Topic	RO	SRO
Conduct of Operations	G2.1.10	Knowledge of conditions and limitations in the facility license.	2.7	3.9
Conduct of Operations	G2.1.25	Ability to obtain and interpret station reference materials such as graphs, monographs and tal	2.8	3.1
Equipment Control	G2.2.34	Knowledge of the process for determining the internal and external effects on core reactivity.	2.8	3.2
Equipment Control	G2.2.6	Knowledge of the process for making changes in procedures as described in the safety analysi	2.3	3.3
Radiation Control	G2.3.9	Knowledge of the process for performing a containment purge.	2.5	3.4
Emergency Procedures/Plan	G2.4.47	Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appr	3.4	3.7
Emergency Procedures/Plan	G2.4.44	Knowledge of emergency plan protective action recommendations.	2.1	4

Facility: St. Lucie													Date of Exam				
Tier	Group	RO K/A Category Points											SRO-Only Points				
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	K	A	A2	G*	Total
1. Emergency & Abnorma Plant Evoulution:	1	2	3	4				4	3			2	18					
	2	2	2	0				1	2			2	9					
	Tier Totals	4	5	4				5	5			4	27					
2. Plant Systems	1	2	2	3	3	2	2	3	3	3	3	2	28					
	2	1	1	1	1	1	1	1	1	1	0	1	10					
	Tier Totals	3	3	4	4	3	3	4	4	4	3	3	38					
3. Generic Knowledge and Abilities Category					1		2		3		4			1	2	3	4	
					3		3		2		2		10					

DRAFT

1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.
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. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.
4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category/tier.
6.* 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. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.
7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) 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; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A". Use duplicate pages for RO and SRO-only exams.
8. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
9. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Reactor Trip - Stabilization - Recovery / 1	0	1	0	0	0	0	007EK2.02	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Breakers, relays and disconnects	2.6	2.8
Pressurizer Vapor Space Accident / 3	0	0	0	0	0	0	008AK2.02	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly Rejected	2.7	2.7
Small Break LOCA / 3	0	0	0	1	0	0	009EA1.09	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	RCP	3.6	3.6
Large Break LOCA / 3	0	0	0	0	0	0	011EG2.1.27	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	2.8	2.9
RCP Malfunctions / 4	0	0	0	0	0	0	015AK3.05	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	2.8	3
Loss of Rx Coolant Makeup / 2	0	0	0	0	0	1	022AG2.2.22	This is a Generic, no stem statement is associated.	Knowledge of limiting conditions for operations and safety limits.	3.4	4.1
Loss of RHR System / 4	0	1	0	0	0	0	025AK2.02	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	LPI or Decay Heat Removal/RHR pumps	3.2	3.2
Loss of Component Cooling Water / 8	0	0	0	0	1	0	026AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	The valve lineups necessary to restart the CCWS while bypassing the portion of the system causing the abnormal condition	2.6	2.9

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Pressurizer Pressure Control System Malfunction / 3	0	0	1	0	0	0	027AK3.01	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Isolation of PZR spray following loss of PZR heaters	3.5	3.8
ATWS / 1	1	0	0	0	0	0	029EK1.02	Knowledge of the operational implications of the following concepts as they apply to the EMERGENCY PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Definition of reactivity	2.6	2.8
Steam Gen. Tube Rupture / 3	0	0	0	1	0	0	038EA1.04	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	PZR spray to reduce coolant system pressure	4.3	4.1
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	0	040AK2.01	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly Rejected	2.6	2.5
Loss of Main Feedwater / 4	0	0	1	0	0	0	054AK3.04	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Actions contained in EOPs for loss of MFW	4.4	4.6
Station Blackout / 6	0	0	0	1	0	0	055EA1.05	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	Battery when approaching fully discharged	3.3	3.6
Loss of Off-site Power / 6	0	0	1	0	0	0	056AK3.02	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Actions contained in EOP for loss of offsite power	4.4	4.7

Tier 1 Group 1

Name/Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Loss of Vital AC Inst. Bus / 6	0	0	0	0	1	0	057AA2.01	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Safety injection tank pressure and level indicators	3.7	3.8
Loss of DC Power / 6	1	0	0	0	0	0	058AK1.01	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Battery charger equipment and instrumentation	2.8	3.1
Loss of Nuclear Svc Water / 4	0	0	0	0	1	0	062AA2.06	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	The length of time after the loss of SWS flow to a component before that component may be damaged	2.8	3.1
Loss of Instrument Air / 8	0	0	1	0	0	0	065AK3.08	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	Actions contained in EOP for loss of instrument air	3.7	3.9
Reactor Trip - Stabilization - Recovery / 1	0	0	0	1	0	0	CE02EA1.2	Ability to operate and / or monitor the following as they apply to (EMERGENCY PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	Operating behavior characteristics of the facility.	3.3	3.9
Steam Line Rupture - Excessive Heat Transfer / 4	0	0	0	0	0	1	CE05EG2.4.31	This is a Generic, no stem statement is associated.	Knowledge of annunciators alarms and indications and use of the response instructions.	3.3	3.4
Loss of Main Feedwater / 4	0	1	0	0	0	0	CE06EK2.2	Knowledge of the interrelations between (EMERGENCY PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Facility s heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.	3.5	4

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Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Continuous Rod Withdr	0	1	0	0	0	0	001AK2.05	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	Rod motion lights	2.9	3.1
Dropped Control Rod /	0	0	0	0	0	0	003AK2.05	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	K/A Randomly Rejected	2.5	2.8
Inoperable/Stuck Contr	1	0	0	0	0	0	005AK1.02	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	Flux tilt	3.1	3.9
Emergency Boration / 1	0	0	0	1	0	0	024AA1.26	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	Boric acid storage tank	3.3	3.3
Pressurizer Level Malfu	1	0	0	0	0	0	028AK1.01	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	PZR reference leak abnormalities	2.8	3.1
Loss of Source Range I	0	0	0	0	1	0	032AA2.05	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Nature of abnormality, from rapid survey of control room data	2.9	3.2
Loss of Intermediate Re	0	0	0	0	0	0	033AA1.03	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	3	3.2
Fuel Handling Accident	0	0	0	0	0	1	036AG2.1.33	This is a Generic, no stem statement is associated.	Ability to recognize indications for system operating parameters which are entry-level conditions for technical	3.4	4

Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
									specifications.		
Steam Generator Tube	0	0	0	0	0	0	037AK1.01	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly Rejected	2.9	3.3
Loss of Condenser Vac	0	0	0	0	0	0	051AA2.02	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	3.9	4.1
Accidental Liquid RadW	0	0	0	0	1	0	059AA2.03	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	Failure modes, their symptoms and the causes of misleading indications on a radioactive-liquid monitor	3.1	3.6
Accidental Gaseous Ra	0	0	0	0	0	0	060AA1.01	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	2.8	3
ARM System Alarms / 7	0	0	0	0	0	0	061AA1.01	Ability to operate and / or monitor the following as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.7 / 45.5 / 45.6)	K/A Randomly Rejected	3.6	3.6
Plant Fire On-site / 8	0	0	0	0	0	0	067AK1.02	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly Rejected	3.1	3.9
Control Room Evac. / 8	0	1	0	0	0	0	068AK2.07	Knowledge of the interrelations between (ABNORMAL PLANT EVOLUTION) and the following:(CFR: 41.7 / 45.7 / 45.8)	ED/G	3.3	3.4

Tier 1 Group 2

Name / Safety Function	K1	K2	K3	A1	A2	G	KA	Question Type	K/A Topic(s)	RO	SRO
Loss of CTMT Integrity /	0	0	0	0	0	0	069AK3.01	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.8	4.2
Inad. Core Cooling / 4	0	0	0	0	0	0	074EG2.4.31	This is a Generic, no stem statement is associated.	K/A Randomly Rejected	3.3	3.4
High Reactor Coolant A	0	0	0	0	0	0	076AK3.06	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.2	3.8
Natural Circ. / 4	0	0	0	0	0	1	CA13AG2.1.28	This is a Generic, no stem statement is associated.	Knowledge of the purpose and function of major system components and controls.	3.2	3.3
RCS Overcooling - PTS	0	0	0	0	0	0	CA11AK3.1	Knowledge of the reasons for the following responses as they apply to (ABNORMAL PLANT EVOLUTION):(CFR: 41.5 / 41.10 / 45.6 / 45.13)	K/A Randomly Rejected	3.2	3.5
Functional Recovery / N	0	0	0	0	0	0	CA09AA2	Ability to determine and interpret the following as they apply to ABNORMAL PLANT EVOLUTION):(CFR: 41.10 / 43.5 / 45.13)	K/A Randomly Rejected	0	0
Excessive RCS Leakag	0	0	0	0	0	0	CA16AK1.3	Knowledge of the operational implications of the following concepts as they apply to the (ABNORMAL PLANT EVOLUTION):(CFR: 41.8 to 41.10 / 45.3)	K/A Randomly Rejected	3.2	3.5

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Reactor Coolant Pump	0	0	0	0	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	RCP seals and seal water supply	003K6.02	2.7	3.1
Chemical and Volume Control	0	0	0	0	0	1	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the following will have on the (SYSTEM):(CFR: 41.7 / 45.7)	Heat exchangers and condensers	004K6.07	2.7	2.8
Residual Heat Removal	0	0	1	0	0	0	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	CSS	005K3.06	3.1	3.2
Emergency Core Cooling	0	0	0	0	1	0	0	0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	Effects of temperatures on water level indications	006K5.01	2.8	3.3
Pressurizer Relief/Quench Tank	0	0	0	0	1	0	0	0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	Method of forming a steam bubble in the PZR	007K5.02	3.1	3.4
Component Cooling Water	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to locate and operate components, including local controls.	008G2.1.30	3.9	3.4
Pressurizer Pressure Control	0	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	PRT temperature and pressure during PORV testing	010A3.01	3.0	3.2
Reactor Protection	0	0	1	0	0	0	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	ESFAS	012K3.04	3.8	4.1
Engineered Safety	0	0	0	0	0	0	0	0	0	1	0	Ability to manually operate and/or	ESFAS initiation	013A4.03	4.5	4.7

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Features Actuation												monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)				
Containment Cooling	0	0	0	0	0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Containment pressure	022A1.02	3.6	3.8
Ice Condenser	0	0	0	0	0	0	0	0	0	0	0		K/A Rejected	025K6.01	0	0
Containment Spray	0	0	0	0	0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Containment temperature	026A1.02	3.6	3.9
Main and Reheat Steam	1	0	0	0	0	0	0	0	0	0	0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	Atmospheric relief dump valves	039K1.02	3.3	3.3
Main Feedwater	0	0	0	1	0	0	0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Automatic feedwater reduction on plant trip	059K4.18	2.8	3.0
Auxiliary/Emergency Feedwater	0	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	AFW startup and flows	061A3.06	4.2	4.2
AC Electrical Distribution	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Ability to explain and apply all system limits and precautions.	062G2.1.32	3.4	3.8
DC Electrical Distribution	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b)	Grounds	063A2.01	2.5	3.2

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
												based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)				
Emergency Diesel Generator	0	1	0	0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	Fuel oil pumps	064K2.02	2.8	3.1
Process Radiation Monitoring	1	0	0	0	0	0	0	0	0	0	0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	Those systems served by PRMs	073K1.01	3.6	3.9
Service Water	0	0	0	0	0	0	1	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	Reactor and turbine building closed cooling water temperatures.	076A1.02	2.6	2.6
Instrument Air	0	1	0	0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	Emergency air compressor	078K2.02	3.3	3.5
Containment	0	0	1	0	0	0	0	0	0	0	0	Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following:(CFR: 41.7 / 45.6)	Loss of containment integrity under refueling operations.	103K3.03	3.7	4.1
Pressurizer Pressure Control	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	PORV failures	010A2.03	4.1	4.2

Tier 2 Group 1

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
DC Electrical Distribution	0	0	0	0	0	0	0	0	0	1	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	Battery voltage indicator	063A4.02	2.8	2.9
AC Electrical Distribution	0	0	0	0	0	0	0	1	0	0	0	Ability to (a) predict the impacts of the following on the (SYSTEM) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation:(CFR: 41.5 / 43.5 / 45.3 / 45.13)	Aligning standby equipment with correct emergency power source (D/G)	062A2.11	3.7	4.1
Component Cooling Water	0	0	0	0	0	0	0	0	0	1	0	Ability to manually operate and/or monitor in the control room:(CFR: 41.7 / 45.5 to 45.8)	CCW pump recirculation valve and its three-way control switch	008A4.11	3.0	2.9
Service Water	0	0	0	1	0	0	0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Automatic opening features associated with SWS isolation valves to CCW heat exchanges	076K4.03	2.9	3.4
Containment	0	0	0	1	0	0	0	0	0	0	0	Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following:(CFR: 41.7)	Containment isolation system	103K4.06	3.1	3.7
Pressurizer Relief/Quench Tank	0	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	Components which discharge to the PRT	007A3.01	2.7	2.9

Tier 2 Group 2

Name / Safety Functio	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	Question Type	K/A Topic(s)	KA	RO	SRO
Pressurizer Level Control	0	1	0	0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	PZR heaters	011K2.02	3.1	3.2
Rod Position Indication	0	0	0	0	0	0	0	0	0	0	0	Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:(CFR: 41.5 / 45.5)	K/A Randomly Rejected	014A1.01	2.9	3.1
Nuclear Instrumentation	0	0	0	0	0	0	0	0	1	0	0	Ability to monitor automatic operations of the (SYSTEM) including:(CFR: 41.7 / 45.5)	Maximum disagreement allowed between channels	015A3.04	3.3	3.5
Non-nuclear Instrumentation	0	0	0	0	1	0	0	0	0	0	0	Knowledge of the operational implications of the following concepts as they apply to the (SYSTEM):(CFR: 41.5 / 45.7)	Separation of control and protection circuits	016K5.01	2.7	2.8
In-core Temperature Monitor	0	0	0	0	0	0	0	0	0	0	0	Knowledge of electrical power supplies to the following:(CFR: 41.7)	K/A Randomly Rejected	017K2	0	0
Containment Iodine Removal	0	0	0	0	0	0	0	0	0	0	0	Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:(CFR: 41.2 to 41.9 / 45.7 to 45.8)	K/A Randomly Rejected	027K1.01	3.4	3.7
Condensate	0	0	0	0	0	0	0	0	0	0	1	This is a Generic, no stem statement is associated.	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.	056G2.2.25	2.5	3.7

Tier / Group	Randomly Selected K/A	Reason for Rejection
1 / 2	001.AK2.05	Q#19 - No rod motion lights. Replaced with AK2.06
2 / 1	061.A3.06	Q#41 - The wording in the NRC generated outline (AFW startup and flows) does not match the K/A number (061.A3.06) selected in the NRC generated outline (S/G blowdown / sampling isolation) which has a value of 2.2/2.3. Changed to 061.A3.01.
1 / 1	015.AA2.11	Q#76 Replace – This plant does not jog RCPs during inadequate core cooling due to ability to perform once-through cooling with PORVs. Replaced with AA2.08
1 / 2	033.AA2.10	Q#84 Replace – No Intermediate range NI. Replaced with AA2.06
2 / 1	008.A4.011	Q#52 – Changed to K/A A4.08 as there is no 3-way CCW recirc valve.
2 / 2	041.K4.15	Q#62 – Changed to K/A K4.17 as there is no ICS at St. Lucie.
2 / 1	056.GG2.1.28	Q#93 – Changed to K/A 056.GG2.1.34 Unable to meet SRO knowledge and 10CFR55.43 requirements with original K/A (knowledge of purpose and function of Condensate System)
1 / 1	027.AK3.01	Q#6 – Changed to K/A 027.AK3.03. Unable to meet original K/A (isolation of PZR spray following loss of heaters) Action not performed at facility.
1 / 1	057.AA2.01	Q#12 – Changed to K/A 057.AA2.15. Unable to develop discriminatory test item for original K/A (impact on Safety injection tank pressure and level indicators).
1 / 2	036.AG2.1.33	Q#24 – Reselected 036 G2.1.20. Topic provided by original outline had related material covered by questions 48, 55, and 61.
2 / 1	007.K5.02	Q#32 – Changed to K/A 007.K1.03. Unable to meet intent of original K/A. Replaced with K1 as no other K5 items met the 2.5 importance cutoff.
1 / 1	062.AG2.4.1	Q#80 – Changed to 062 AG2.4.45 Original topic was excessive overlap with other portions of exam
2 / 1	078 G2.1.27	Q#88. Impossible to develop an SRO level item from this topic. Reselected 006 A2.02.
2 / 1	103 G2.4.50	Impossible to develop an SRO level item for this topic. Reselected 103 G2.4.11.
2 / 1	007 A3.01	Excessive overlap with Questions 32, 34, and 49, relating to PORV tailpipe, Pressurizer, and/or Quench Tank operation. Reselected from all of Tier 2 Group 1. 005 K5.09 was the selected item.
1 / 1	007 EK2.02	Q#1. Topic was excessive overlap with Q#65. Reselected 007 EK2.03