Form 3.2-1 Administrative Topics Outline

Facility: VC Summer		Date of Examination: 10/30/2023
Examination Level: RO ☒ SRO ☐		Operating Test Number: _____
Administrative Topic (Step 1)	Activity and Associated K/A (Step 2)	Type Code (Step 3)
Conduct of Operations	Verification of Operator Watchstanding Certification in order to maintain an active license. 2.1.4 Knowledge of individual licensed operator responsibilities related to shift staffing, such as medical requirements, “no-solo” operation, and maintenance of active license status, 10 CFR Part 55 (RO 3.3)	R, D
Conduct of Operations	Perform boron change calculations IAW OAP-100.6. 2.1.25 Ability to interpret reference materials, such as graphs, curves, and tables (reference potential) (RO 3.9)	R, M
Equipment Control	Perform Boration system flow path verification and determine if acceptance criteria is met. 2.2.12 Knowledge of surveillance procedures. (RO 3.7)	R, D
Radiation Control	Determine worker exposure and apply administrative exposure limits. Modified from 2019 NRC A3 JPM. 2.3.12 Knowledge of radiological safety principles and 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 alignment of filters (RO 3.2)	R, M
Emergency Plan	N/A	

Instructions for completing Form 3.2-1, “Administrative Topics Outline”

1. For each license level, determine the number of administrative job performance measures (JPMs) and topic areas as follows:

Topic	Number of JPMs	
	RO*	**SRO and RO Retakes**
Conduct of Operations	1 (or 2)	2
Equipment Control	1 (or 0)	1
Radiation Control	1 (or 0)	1
Emergency Plan	1 (or 0)	1
Total	**4**	**5**

* Reactor operator (RO) applicants do not need to be evaluated on every topic (i.e., “Equipment Control,” “Radiation Control,” or “Emergency Plan” can be omitted by doubling up on “Conduct of Operations”), unless the applicant is taking only the administrative topics portion of the operating test (with a waiver or excusal of the other portions).

2. Enter the associated knowledge and abilities (K/A) statement and summarize the administrative activities for each JPM.

3. For each JPM, specify the type codes for location and source as follows:

Location:

(C)ontrol room, (S)imulator, or Class(R)oom

Source and Source Criteria:

(P)revious two NRC exams (no more than one JPM that is **randomly selected** from last two NRC exams)

(D)irect from bank (no more than three for ROs, no more than four for SROs and RO retakes)

(N)ew or Significantly (M)odified from bank (no fewer than one)

CONDUCT OF OPERATIONS (A1-a): This is a bank JPM. The candidate will be given watchstanding history which will include non-licensed operator and partial licensed watches and will be required to determine the minimum number of hours, and the latest date by which they must be stood, to maintain an active license.

K/A:	2.1.4	Knowledge of individual licensed operator responsibilities related to shift staffing, such as medical requirements, “no-solo” operation, maintenance of active license status, 10cfr55, etc. (RO 3.3)
VCS Task: 119-003-03-01		Conduct Shift and Relief Turnover

CONDUCT OF OPERATIONS (A1-b): This is a modified JPM. The JPM is modified because the curve book has changed and the values applied from the curve book result in different answers than the original JPM. The candidate will be given a set of values for core life, RCS Boron concentration and Boric Acid Tank concentrations and will be directed to complete attachment IA, Reactivity Control Parameters of OAP-100.6, CONTROL ROOM CONDUCT AND CONTROL OF SHIFT ACTIVITIES.

K/A:	2.1.25	Ability to interpret reference materials, such as graphs, curves, and tables (reference potential) (RO 3.9)
VCS Task: 004-006-01-01		Perform Boron Concentration Change Calculations

EQUIPMENT CONTROL (A2): This is a bank JPM. The candidate will review STP-104.003, BORATION SYSTEM VALVE LINEUP VERIFICATION and determine that the acceptance criteria is met. They will have to determine if they meet all the required Boration flow paths for the given plant conditions.

K/A:	2.2.12	Knowledge of surveillance procedures. (RO 3.7)
VCS Task: 004-001-02-01		Perform Boration System Flow Path Verification

RADIATION CONTROL (A3): This is a modified JPM. The JPM was modified by changing the values of the calculation and changing the fact that they do not need a dose extension. The candidate will be tasked with calculating the exposure to perform work inside the “B” RHR pump room. Based on the exposure from their work, they will need to add this to their current annual exposure and determine if a dose extension is required.

K/A:	2.3.12	Knowledge of radiological safety principles and 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 alignment of filters (RO 3.2)
VCS Task:	119-010-03-01	Apply radiation and contamination safety procedures

Form 3.2-1 Administrative Topics Outline

Facility: VC Summer		Date of Examination: 10/30/2023
Examination Level: RO ☐ SRO ☒		Operating Test Number:
Administrative Topic (Step 1)	Activity and Associated K/A (Step 2)	Type Code (Step 3)
Conduct of Operations	Determine conditions that must be corrected before starting core offload. Modified 2019 NRC A1-b. 2.1.40 Knowledge of refueling administrative requirements. (SRO 3.9)	R, M
Conduct of Operations	Review and calculate a Quadrant Power Tilt Ratio. 2.1.25 Ability to interpret reference materials, such as graphs, curves, and tables (reference potential) (SRO 4.2)	R, M
Equipment Control	Review RHR valve surveillance. 2.2.12 Knowledge of surveillance procedures. (SRO 4.1)	R, D
Radiation Control	Review a release permit prior to approval/ release. 2021 NRC A3 JPM 2.3.6 Ability to approve liquid or gaseous release permits (SRO 3.8)	R, P, D
Emergency Plan	Classify an emergency event in accordance with VCS-EPP-0001. 2.4.41 Knowledge of the emergency action level thresholds and classifications (SRO Only). (SRO 4.6)	R, N

Instructions for completing Form 3.2-1, “Administrative Topics Outline”

1. For each license level, determine the number of administrative job performance measures (JPMs) and topic areas as follows:

Topic	Number of JPMs	
	RO*	**SRO and RO Retakes**
Conduct of Operations	1 (or 2)	2
Equipment Control	1 (or 0)	1
Radiation Control	1 (or 0)	1
Emergency Plan	1 (or 0)	1
Total	**4**	**5**

* Reactor operator (RO) applicants do not need to be evaluated on every topic (i.e., “Equipment Control,” “Radiation Control,” or “Emergency Plan” can be omitted by doubling up on “Conduct of Operations”), unless the applicant is taking only the administrative topics portion of the operating test (with a waiver or excusal of the other portions).

2. Enter the associated knowledge and abilities (K/A) statement and summarize the administrative activities for each JPM.

3. For each JPM, specify the type codes for location and source as follows:

Location:

(C)ontrol room, (S)imulator, or Class(R)oom

Source and Source Criteria:

(P)revious two NRC exams (no more than one JPM that is **randomly selected** from last two NRC exams)

(D)irect from bank (no more than three for ROs, no more than four for SROs and RO retakes)

(N)ew or Significantly (M)odified from bank (no fewer than one)

CONDUCT OF OPERATIONS (A1-a): This JPM is a modified JPM from the 2019 NRC exam, JPM A1-b. The JPM is modified by changing a temperature of the CCW system and therefore changing the correct answer. The candidate will review turnover information and determine why the core offload cannot commence in accordance with V.C. Summer requirements.

K/A:	2.1.40	Knowledge of refueling administrative requirements. (SRO 3.9)
VCS Task:	341-029-03-02	SUPERVISE REFUELING OPERATIONS AS REFUELING SUPERVISOR

CONDUCT OF OPERATIONS (A1-b): This JPM is a modified JPM. The JPM is modified because the numbers in the curve book have changed. This now creates new answers based on these new values. The candidate will review STP-108.001, QUADRANT POWER TILT RATIO and determines that QPTR is out of spec and that reactor power must be reduced to either 91% or 88% depending on rounding errors.

K/A:	2.1.25	Ability to interpret reference materials, such as graphs, curves, and tables (reference potential) (SRO 4.2)
VCS Task:	015-004-02-01	PERFORM A QUADRANT POWER TILT RATIO (QPTR) CALCULATION PER STP-108.001.

EQUIPMENT CONTROL (A2): This is a bank JPM. The candidate will review an RHR pump surveillance in accordance with STP-205.004, RHR Pump and Valve Operability Test. The candidate will find errors in the conduct of the STP and its documentation, determine that the RHR pump is inoperable, and apply technical specifications.

K/A:	2.2.12	Knowledge of surveillance procedures.
VCS Task:	342-026-03-02	Review results of surveillance tests (SAP-134, GTP-301, AND GTP-302)

RADIATION CONTROL (A3): This is a bank JPM from the 2021 NRC Exam, JPM A3. The candidate will be required to review a waste gas release permit and determine if the release can commence. There are several faults that will prevent the waste gas release. Candidate will identity discrepancies and document items preventing the commencement of the release.

K/A:	2.3.6	Ability to approve release permits (SRO 3.8)
VCS Task:	341-012-03-02	Approve radioactive waste discharge/release permits (HPP-709 and HPP-710)

EMERGENCY PLAN (A4): This is a new JPM. The candidate will be given a set of conditions and they must determine the Emergency Action Level (EAL). This is a time critical JPM and they have 15 minutes to complete the EAL determination.

K/A:	2.4.41	Knowledge of the emergency action level thresholds and classifications (SRO Only). (SRO 4.6)
VCS Task:	344-063-03-02	Given several events, determine the Emergency Action level for each event per VCS-EPP-00001.

Form 3.4-1 Events and Evolutions Checklist

VC SUMMER	Date of Exam: 10-30-2023	Operating Test No.: NRC-ILO-22-01

APPLICANT		EVENT TYPE	Scenarios												TOTAL	MINIMUM (*)		
			1			2			3			4 (Spare)						
			CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
			SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO-1	RO ☒ SRO-I ☐ SRO-U ☐	RX		2											1	1	1	0
		NOR						1							1	1	1	1
		I/C		3, 4				4, 6							4	4	4	2
		MAJ		6				7							2	2	2	1
		Man. Ctrl		3				4							2	1	1	0
		TS													0	0	2	2
RO-2	RO ☒ SRO-I ☐ SRO-U ☐	RX					1								1	1	1	0
		NOR			1						1				2	1	1	1
		I/C			2, 5		3, 5				4, 5				6	4	4	2
		MAJ			6		7				6				3	2	2	1
		Man. Ctrl			5		5				5				3	1	1	0
		TS													0	0	2	2
RO-3	RO ☒ SRO-I ☐ SRO-U ☐	RX								1					1	1	1	0
		NOR			1			1							2	1	1	1
		I/C			2, 5			4, 6		2, 3					6	4	4	2
		MAJ			6			7		6					3	2	2	1
		Man. Ctrl			5			4		2					3	1	1	0
		TS													0	0	2	2
RO-4	RO ☒ SRO-I ☐ SRO-U ☐	RX		2						1					2	1	1	0
		NOR						1							1	1	1	1
		I/C		3, 4				4, 6		2, 3					6	4	4	2
		MAJ		6				7		6					3	2	2	1
		Man. Ctrl		3				4		2					3	1	1	0
		TS													0	0	2	2

Form 3.4-1 Instructions for the Events and Evolutions Checklist

1. Mark the applicant license level for each simulator operating test number.
2. For the set of scenario columns, fill in the associated event number from Form 3.3-1, “Scenario Outline,” to show the specific event types being used for the applicant while in the assigned crew position for that scenario.

* Minimums are subject to the instructions in Section C.2, “License Level Criteria.”

KEY: RX = Reactivity Manipulation; NOR = Normal Evolution; I/C = Instrument/Component Failure; MAJ = Major Transient; Man. Ctrl = Manual Control of Automatic Function; TS = Technical Specification Evaluation; RO = Reactor Operator; SRO-I or I = Instant Senior Reactor Operator; SRO-U or U = Upgrade Senior Reactor Operator; SRO = Senior Reactor Operator; ATC = At the Controls; and BOP = Balance of Plan

Form 3.4-1 Events and Evolutions Checklist

Facility: VC SUMMER	Date of Exam: 10-30-2023	Operating Test No.: NRC-ILO-22-01

APPLICANT		EVENT TYPE	Scenarios															
			1			2			3			4 (Spare)			TOTAL	MINIMUM (*)		
			CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
			SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO-5	RO ☒ SRO-I ☐ SRO-U ☐	RX					1								1	1	1	0
		NOR			1						1				2	1	1	1
		I/C			2, 5		3, 5				4, 5				6	4	4	2
		MAJ			6		7				6				3	2	2	1
		Man. Ctrl			5		5				5				3	1	1	0
		TS													0	0	2	2
SRO-U-1	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR	1												1	1	1	1
		I/C	2, 3, 4, 5												4	4	4	2
		MAJ	6												1	2	2	1
		Man. Ctrl													0	1	1	0
		TS	3, 4, 5												3	0	2	2
SRO-U-2	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR	1												1	1	1	1
		I/C	2, 3, 4, 5												4	4	4	2
		MAJ	6												1	2	2	1
		Man. Ctrl													0	1	1	0
		TS	3, 4, 5												3	0	2	2
SRO-U-3	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR				1									1	1	1	1
		I/C				3, 4, 5, 6									4	4	4	2
		MAJ				7									1	2	2	1
		Man. Ctrl													0	1	1	0
		TS				2, 3									2	0	2	2

Form 3.4-1 Instructions for the Events and Evolutions Checklist

1. Mark the applicant license level for each simulator operating test number.
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Form 3.4-1 Events and Evolutions Checklist

Facility: VC SUMMER	Date of Exam: 10-30-2023	Operating Test No.: NRC-ILO-22-01

APPLICANT		EVENT TYPE	Scenarios												TOTAL	MINIMUM (*)		
			1			2			3			4 (Spare)						
			CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
			SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
SRO-U-4	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR				1									1	1	1	1
		I/C				3, 4, 5, 6									4	4	4	2
		MAJ				7									1	2	2	1
		Man. Ctrl													0	1	1	0
		TS				2, 3									2	0	2	2
SRO-U-5	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR							1						1	1	1	1
		I/C							2, 3, 4, 5						4	4	4	2
		MAJ							6						1	2	2	1
		Man. Ctrl													0	1	1	0
		TS							2, 3						2	0	2	2
SRO-U-6	RO ☐ SRO-I ☐ SRO-U ☒	RX													0	1	1	0
		NOR							1						1	1	1	1
		I/C							2, 3, 4, 5						4	4	4	2
		MAJ							6						1	2	2	1
		Man. Ctrl													0	1	1	0
		TS							2, 3						2	0	2	2
SRO-I-1	RO ☐ SRO-I ☐ SRO-U ☒	RX					1								1	1	1	0
		NOR	1												1	1	1	1
		I/C	2, 3, 4, 5				3, 5								6	4	4	2
		MAJ	6				7								2	2	2	1
		Man. Ctrl					5								1	1	1	0
		TS	3, 4, 5												3	0	2	2

Form 3.4-1 Events and Evolutions Checklist

Form 3.4-1 Instructions for the Events and Evolutions Checklist

1. Mark the applicant license level for each simulator operating test number.
2. For the set of scenario columns, fill in the associated event number from Form 3.3-1, "Scenario Outline," to show the specific event types being used for the applicant while in the assigned crew position for that scenario.

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KEY: RX = Reactivity Manipulation; NOR = Normal Evolution; I/C = Instrument/Component Failure; MAJ = Major Transient; Man. Ctrl = Manual Control of Automatic Function; TS = Technical Specification Evaluation; RO = Reactor Operator; SRO-I or I = Instant Senior Reactor Operator; SRO-U or U = Upgrade Senior Reactor Operator; SRO = Senior Reactor Operator; ATC = At the Controls; and BOP = Balance of Plan

Facility: VC SUMMER | Date of Exam: 10-30-2023 | Operating Test No.: NRC-ILO-22-01

APPLICANT		EVENT TYPE	Scenarios												TOTAL	MINIMUM (*)		
			1			2			3			4 (Spare)						
			CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
			SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
SRO-I-2	RO ☐ SRO-I ☒ SRO-U ☐	RX		2											1	1	1	0
		NOR				1									1	1	1	1
		I/C		3, 4		3, 4, 5, 6									6	4	4	2
		MAJ		6		7									2	2	2	1
		Man. Ctrl		3											1	1	1	0
		TS				2, 3									2	0	2	2
Spare	RO ☐ SRO-I ☐ SRO-U ☒	RX														1	1	0
		NOR										1				1	1	1
		I/C										2, 3, 4, 6				4	4	2
		MAJ										7				2	2	1
		Man. Ctrl														1	1	0
		TS										2, 5				0	2	2
Spare	RO ☒ SRO-I ☐ SRO-U ☐	RX											1			1	1	0
		NOR														1	1	1
		I/C											2, 4			4	4	2
		MAJ											7			2	2	1
		Man. Ctrl											4			1	1	0
		TS														0	2	2
Spare	RO ☒ SRO-I ☐ SRO-U ☐	RX														1	1	0
		NOR												1		1	1	1
		I/C												3, 6		4	4	2
		MAJ												7		2	2	1
		Man. Ctrl												6		1	1	0
		TS														0	2	2

Form 3.4-1 Events and Evolutions Checklist

Form 3.4-1 Instructions for the Events and Evolutions Checklist

1. Mark the applicant license level for each simulator operating test number.
2. For the set of scenario columns, fill in the associated event number from Form 3.3-1, “Scenario Outline,” to show the specific event types being used for the applicant while in the assigned crew position for that scenario.

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KEY: RX = Reactivity Manipulation; NOR = Normal Evolution; I/C = Instrument/Component Failure; MAJ = Major Transient; Man. Ctrl = Manual Control of Automatic Function; TS = Technical Specification Evaluation; RO = Reactor Operator; SRO-I or I = Instant Senior Reactor Operator; SRO-U or U = Upgrade Senior Reactor Operator; SRO = Senior Reactor Operator; ATC = At the Controls; and BOP = Balance of Plan

Facility: VC Summer												**Exam Date: 10/30/2023**
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
JPM A	S	Y	2								E	Look at step 1 & 2 if they did not recognize needing to go to the RNO would that also be a critical step. I realize it is semantics if it is not recognized then they would not do the other critical steps and still fail the JPM. Need to verify that some of the other non-critical steps do not prevent the completion of the task during validation. Example: JPM step 6 if 8104 was opened then closing it for JPM step 9 would be critical so the flow path would be correct for the rest of the JPM correct? Steps are not critical as verified during onsite validation. Task Standard, you do not need each critical step listed in bullet form in the task standard. It can simply read: Candidate aligns for emergency boration in accordance with AOP-106.1, Emergency Boration, Step 4 Emergency Boration by gravity drain of the Boric Acid Tank. Need to make JPM step 16 critical as 30 gpm is the min flow per TS

Facility: VC Summer											Exam Date: 10/30/2023	
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
JPM B	**S**	**Y**	**2**								~~**E**~~ **S**	This is a simple 2 step JPM, With that we will need to see the validation of it to determine if it meets the level of difficulty required. When the booth is called you can use time compression and not wait prior to reporting the 52 psig and ready for start. Step 10 of the JPM is probably critical for the same reason as in JPM A Task Standard again does not need each critical step listed. Level of difficulty determined to be sufficient JPM was edited and JPM step 10 was not critical SAT
JPM C	**S**	**Y**	**2**						**U**		~~**U**~~ **S**	Have the spray valves fail while he is on the phone right as the AO is giving his report. This is an easy JPM (2 steps) and adding the timing element would be better. If this event were really to occur the chances of them staring directly at it are not likely. JPM step 5 evaluator note states stopping A RCP eliminates spray flow, this is not fully correct as pressure is still

Facility: VC Summer											Exam Date: 10/30/2023	
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
												lowering. JPM step 10 why is C RCP critical when the step says to stop either B or C? Since the steps are bulleted they could perform them in any order. Task standard same comment as previous. I am not telling you to change all of them just for future reference. The program office will hit them as redundant. Revisions made ant eh JPM is now sat
JPM D	**S**	**N**	**3**								**S**	I would like to talk about the cue sheet concerning the "SM says that additional drain valves are not necessary at this time. Would that be better to just have the examiner provide that when they get to the step and the JPM is over? Task Standard same as all the others. Note was explained as to why it is in the initial conditions no issues.
JPM E	**S**	**N**	**3**								**~~E~~ S**	Initiating cue states attachment 6 but its 6B Same task standard statement **Still needs updated** **Updated**
JPM F	**S**	**N**	**3**								**S**	Same task standard statement
JPM G	**S**	**Y**	**2**								**S**	Same task standard statement
JPM H	**S**	**Y**	**3**								**S**	Same task standard statement

Facility: VC Summer											Exam Date: 10/30/2023	
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
JPM I	**P**	**N**	**3**								**S**	Same Task Standard discussion
JPM J	**P**	**N**	**3**								**S**	Concern for the high dose rate area for the first valve. if the applicants have difficulty pointing out the valve, we could be receiving unnecessary dose. The picture shows a mockup of the type of valve it would be better to have an actual picture but so not do it until we have laid eyes one it and if it is similar enough in layout the provide picture will be ok. All steps using the picture it states the valve rotates clockwise (which should be closed) and when complete threaded shaft is seen. Is this meaning all threads down towards the valve or above the valve operator? Also, for administration if we have 1 or 2 copies of the pictures laminated to show the applicants that would be enough so you do not have to print 13 copies. Task Standard same as all of the rest All questions were answered during onsite validation.
JPM K	**P**	**N**	**2**								**S**	Will need to see during validation of critical steps No issues noted during validation.

Facility: VC Summer											Exam Date: 10/30/2023
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
RO A-1a	**A**	**N**	**3**								~~**E**~~ **S**	Does your requirement include being present for turnover to count as a full shift? If it does, we may need to make an adjustment in the information that we give them. Task standard change to 'must be stood no later than December 31st' **Shift Turnover Is not listed in their procedure so not an issue. Changed to the he end og December 31st**
RO A1-b	**A**	**N**	**3**								~~**E**~~ **S**	Need to evaluate the bands and ensure that if they use the top or bottom end of an acceptable band it will not put them outside another band of a critical step. For example: on the last page of the key if the applicant uses the 275 normal makeup number listed in the guide and calculates out the value your get 6.72 which is outside of the top end of the acceptable range given on the key of 6.7. Bands adjusted to ensure that error carried forward does not impact JPM grading. SAT
RO A2	**A**	**N**	**3**				**U**				~~**U**~~ **S**	There is s disconnect between the task standard and the JPM steps for example: XVD08323A-CS, BORIC ACID TANK A OUTLET ISOL VALVE should be CLOSED and XVD08323B-CS, BORIC

Facility: VC Summer											Exam Date: 10/30/2023	
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
												ACID TANK B OUTLET ISOL VALVE should be OPEN Is listed as not a critical step but the reason why the attachment is unsat is a critical aspect of the JPM. Not only does the applicant need to know if it is unsat but the correct reason why. Added wording to JPM step 6 that encompasses the comment and aligns with the task standard
RO A3	**A**	**N**	**3**		**U**						**~~E~~ S**	Does Summer have an 80% limit on allowable exposure? May need to change the cue to NRC limits vice any limit. Also do not tell the applicant where to stand. Instead tell them that they are required to remain in the pump room and minimize their exposure. This should make them decide where to stand and determine the lowest dose area to complete the task. Having the dose rate outside the bioshield higher than inside is not realistic. JPM is still telling the applicant where to stand need to fix this. Corrected
SRO A1-a	**A**	**N**	**3**								**S**	No issues noted prior to validation

Facility: VC Summer											Exam Date: 10/30/2023	
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
SRO A1-b	**A**	**N**	**3**						**U**		**~~U~~ S**	I don't like the evaluator note that says the student can get the calculation wrong but say QPTR is not met and still get credit. Since you tell them to use 4 decimal places then why is 1.04 a correct answer, that would include rounding which you said not to do. They need to know the QPTR is not met and the correct reason why. Fixed issues
SRO A2	**A**	**N**	**3**								**~~E~~ S**	The applicant knows the answer to a JPM can't be no action taken so they already know there is an error based on handout 2. Could change the way the questions are asked on this handout and it would correct this issue. Where does the answer for question 2 on this handout come from? Handout 1 doesn't have any markups except the attachments. Changes incorporated or agreed to by the chief examiner
SRO A3	**A**	**N**	**2**								**S**	No issues prior to validation.
SRO A4	**A**	**N**	**2**								**S**	The only thing I want to ensure is that it is not to simple of a classification. And we can go over that during validation. I do not have an issues with it only being the classification as long as there are enough

Facility: VC Summer												Exam Date: 10/30/2023
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
												other items that the applicant needs to consider while making the determination. Validated that there are several issues that could cause the applicant to make an incorrect classification.

Form 2.3-3 Operating Test Review Worksheet (JPMs)

Form 2.3-3 Instructions for Completing the JPM Table

1. Enter the JPM number and/or title.

2. Enter the type of JPM—(S)imulator, (P)lant, or (A)dministrative.

3. Enter (Y)es or (N)o for an Alternate Path JPM.

4. Rate the level of difficulty (LOD) of each JPM using a scale of 1–5 (easy–difficult). A JPM containing less than two critical steps, a JPM that tests solely for recall or memorization, or a JPM that involves directly looking up a single correct answer is likely LOD = 1 (too easy). Conversely, a JPM with over 30 steps or a JPM that takes more than 45 minutes to complete is likely LOD = 5 (too difficult).

5. Check the appropriate block for each JPM error type, using the following criteria:

   - LOD = 1 or 5 is unsatisfactory (U).
   - REF: The JPM lacks required references, tools, or procedures (U).
   - IC: The JPM initial conditions are missing or the JPM lacks an adequate initial cue (U).
   - CUE: The JPM lacks adequate evaluator cues to allow the applicant to complete the task, or the evaluator cues are subjective or leading (U).
   - TSK: The JPM lacks a task standard or lacks completion criteria for a task standard (U).
   - CS: The JPM contains errors in designating critical steps, or the JPM lacks an adequate performance standard for a critical step (U).
   - TL: The JPM validation times are unreasonable, or a time-critical JPM lacks a completion time (U).

6. Mark the JPM as unsatisfactory (U), satisfactory (S), or needs enhancements (E). A JPM is (U) if it has one or more (U) errors as determined in step 5. Examples of enhancements include formatting, spelling, or other minor changes.

7. Briefly describe any JPM determined to be unsatisfactory (U) or needing enhancement (E). Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a satisfactory (S) resolution on this form.

Form 2.3-3 Operating Test Review Worksheet (Scenarios)

Facility: VC SUmmer	**Scenario: 1**	**Exam Date: 10/30/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1						~~E~~ S	Need to mark up procedure for the SP to be provided
2						S	
3						S	
4					U	~~U~~ S	During validation did meet DNB spec, Need to fix the computer points to ensure they are greater than 3 degrees apart to make the procedure work properly. This also fixes the ambiguity of the TS call. Scenario modified to make sure the TS call is clear and not based on discrestion
5						s	
6						~~E~~ S	Do not allow the B SWP to start so both BS pumps are running and the RWSt lowers faster. Modified Scenario so B SWP does not start
7						S	

Facility: VC SUmmer	**Scenario: 2**	**Exam Date: 10/30/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1						S	No comments
2					U	~~U~~ S	Add note that rods will not need to be moved and TS 3.3.2 Function 9b is not applicable remove from guide. Note added and TS corrected
3						S	No comment
4						S	No Comment
5						S	No Comment
6						S	No Comment
7						S	No Comment

Facility: VC SUmmer	**Scenario: 3**	**Exam Date: 10/30/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1						S	No Comment
2						S	No Comment
3						E	Where do you align CCW to the Charging pump? Need both methods in the guide (Rack up C or make B the active train) Both methods now included in guide
4						E	Received alarm for tail line temp. this may or may not occur depending on the loss of letdown need an evaluator note stating that. Also TS 3.3.1 function 19 is only applicable if step 10 of AOP-401.10 is not performed so we need some verbiage to make sure we can grade the TS accurately. Note added and TS verbiage added
5						S	No Issues
6						S	No Comments

Facility: VC SUmmer	**Scenario: 4**	**Exam Date: 10/30/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1						S	No comments
2						S	Need to evaluate the TS after the scenario as you will be in the spec then no longer once it is isolated difficult to evaluate in real time. No real comment
3						S	No comments
4						S	No comments
5						S	No comments
6						S	No comments
7						S	No comments

Form 2.3-3 Instructions for Completing the Scenario Table

1. For each scenario, enter the scenario event names and descriptions.

2. Review the individual events contained in each scenario, and identify and mark event errors:

   - The scenario guide event description is not realistic/credible—unsatisfactory (U).

   - The scenario guide event description lacks adequate crew/operator performance standards—needs enhancement (E).

   - The scenario guide event description lacks verifiable actions for a credited normal event, reactivity event instrument/component malfunction, or technical specification (TS) event (or a combination of these) (U).

   - The scenario guide event description incorrectly designates an event as a critical task (i.e., a noncritical task labeled as critical or a critical task labeled as noncritical). This includes critical tasks that do not meet the critical task criteria (i.e., the critical task does not have a measurable performance standard) (U).

   - The scenario guide event description incorrectly designates entry into TS actions when not required or does not designate entry into TS actions when required (U).

3. Based on the outcome in step 2, mark the scenario event as unsatisfactory (U), satisfactory (S), or needs enhancements (E). An event is (U) if it has one or more (U) errors as determined in step 2. Examples of enhancements include formatting, spelling, or other minor changes.

4. Briefly describe any scenario event determined to be unsatisfactory (U) or needing enhancement (E). Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario event is marked by a satisfactory (S) resolution on this form.

Form 4.1-PWR Pressurized-Water Reactor Examination Outline

Facility: Summer														**K/A Catalog Rev. 3**		**Rev.** 0		**Date of Exam:** 10/30/2023		
Tier	Group	RO K/A Category Points												**SRO-Only Points**						
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	**A2**		**G***		**Total**		
1. Emergency and Abnormal Plant Evolutions	1	3	3	3				3	3			3	18	**3**		**3**		**6**		
	2	2	1	1				1	1			2	8	**2**		**2**		**4**		
	Tier Totals	5	4	4				4	4			5	26	**5**		**5**		**10**		
2. Plant Systems	1	3	4	2	2	3	2	3	3	2	1	3	28	**3**		**2**		**5**		
	2	0	0	1	1	1	1	1	1	1	2	0	9	**0**	**2**	**1**		**3**		
	Tier Totals	3	4	3	3	4	3	4	4	3	3	3	37	**5**		**3**		**8**		
3. Generic Knowledge and Abilities Categories	CO	EC			RC			EM					6	**CO**	**EC**	**RC**	**EM**	7		
	2	2			1			1						**2**	**2**	**1**	**2**			

4. Theory	Reactor Theory	Thermodynamics	6
	3	3	

Notes: CO = Conduct of Operations; EC = Equipment Control; RC = Radiation Control; EM = Emergency Procedures/Plan

* These systems/evolutions may be eliminated from the sample when Revision 2 of the K/A catalog is used to develop the sample plan.

** These systems/evolutions are only included as part of the sample (as applicable to the facility) when Revision 2 of the K/A catalog is used to develop the sample plan.

Emergency and Abnormal Plant Evolutions—Tier 1/Group 1 (RO/**SRO**)

Item #	E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G*	K/A Topic(s)	IR	Q#
1	(000007) (EPE 7; BW E02 & E10; CE E02) Reactor Trip, Stabilization, Recovery				X			(000007EA1.02) Ability to operate and/or monitor the following as they apply to (EPE 7) REACTOR TRIP, STABILIZATION, RECOVERY (CFR: 41.5 / 41.7 / 45.5 to 45.8): MFW system	3.3	1
2	**(000008) (APE 8) Pressurizer Vapor Space Accident**						**X**	**(000008) (APE 8) Pressurizer Vapor Space Accident (G2.1.32) CONDUCT OF OPERATIONS: Ability to explain and apply system precautions, limitations, notes, or cautions (CFR: 41.10 / 43.2 / 45.12)**	**4.0**	**76**
3	(000009) (EPE 9) Small Break LOCA	X						(000009EK1.01) Knowledge of the operational implications and/or cause and effect relationships of the following concepts as they apply to (EPE 9) SMALL-Break LOCA (CFR: 41.5 / 41.7 / 45.7 / 45.8): Natural circulation and cooling, including reflux boiling	3.8	2
4	(000011) (EPE 11) Large Break LOCA			X				(000011EK3.12) Knowledge of the reasons for the following responses and/or actions as they apply to (EPE 11) LARGE-Break LOCA (CFR: 41.5 / 41.10 / 45.6 / 45.13): Actions contained in an EOP for large-break LOCA	4.2	3
5	**(000011) (EPE 11) Large Break LOCA**					**X**		**(000011EA2.05) Ability to determine and/or interpret the following as they apply to (EPE 11) LARGE-Break LOCA (CFR: 41.10 / 43.5 / 45.13): Significance of ECCS pump operation**	**4.1**	**77**
6	(000015) (APE 15) Reactor Coolant Pump Malfunctions			X				(000015AK3.07) Knowledge of the reasons for the following responses and/or actions as they apply to (APE 15) REACTOR COOLANT Pump Malfunctions (CFR: 41.5 / 41.10 / 45.6 / 45.13): Ensuring that S/G levels are controlled properly for natural circulation enhancement	3.7	4
7	(000022) (APE 22) Loss of Reactor Coolant Makeup				X			(000022AA1.01) Ability to operate and/or monitor the following as they apply to (APE 22) LOSS OF REACTOR Coolant Makeup (CFR: 41.5 / 41.7 / 45.5 to 45.8): CVCS	3.8	5
8	(000025) (APE 25) Loss of Residual Heat Removal System			X				(000025AK3.08) Knowledge of the reasons for the following responses and/or actions as they apply to (APE 25) LOSS OF RESIDUAL Heat Removal System (CFR: 41.5 / 41.10 / 45.6 / 45.13): Verifying capability for ECCS while in RHR cooling mode	3.5	6
9	(000026) (APE 26) Loss of Component Cooling Water						X	(000026) (APE 26) Loss of Component Cooling Water (G2.1.29) CONDUCT OF OPERATIONS: Knowledge of how to conduct system lineups, such as valves, breakers, or switches (CFR: 41.10 / 45.1 / 45.12)	4.1	7
10	(000027) (APE 27) Pressurizer Pressure Control System Malfunction	X						(000027AK1.05) Knowledge of the operational implications and/or cause and effect relationships of the following concepts as they apply to (APE 27) PRESSURIZER PRESSURE Control System Malfunction (CFR: 41.5 / 41.7 / 45.7 / 45.8): TS limits for RCS pressure	4.1	8

11	**(000029) (EPE 29) Anticipated Transient Without Scram**						**X**	**(000029) (EPE 29) Anticipated Transient Without Scram (G2.4.16) EMERGENCY PROCEDURES/PLAN: Knowledge of emergency and abnormal operating procedures implementation hierarchy and coordination with other support procedures or guidelines, such as operating procedures, abnormal operating procedures, or severe accident management guidelines (CFR: 41.10 / 43.5 / 45.13)**	**4.4**	**78**
12	**(000038) (EPE 38) Steam Generator Tube Rupture**					**X**		**(000038EA2.17) Ability to determine and/or interpret the following as they apply to (EPE 38) STEAM GENERATOR Tube Rupture (CFR: 41.10 / 43.5 / 45.13): RCP restart criteria**	**3.1**	**79**
13	(000040) (APE 40; BW E05; CE E05; W E12) Steam Line Rupture – Excessive Heat Transfer	X						(000040AK1.02) Knowledge of the operational implications and/or cause and effect relationships of the following concepts as they apply to (APE 40) STEAM LINE RUPTURE (CFR: 41.5 / 41.7 / 45.7 / 45.8): Leak rate versus pressure change	3.3	9
14	(000054) (APE 54; CE E06) Loss of Main Feedwater		X					(000054AK2.02) Knowledge of the relationship between (APE 54) LOSS OF Main Feedwater and the following systems or components (CFR: 41.8 / 41.10 / 45.3): Controllers affected by loss of MFW	3.0	10
15	(000055) (EPE 55) Station Blackout		X					(000055EK2.01) Knowledge of the relationship between (EPE 55) Station Blackout and the following systems or components (CFR: 41.8 / 41.10 / 45.3): Letdown isolation, RCP seal return, PZR PORVs, or secondary PORVs (atmospheric relief valves)	3.9	11
16	(000056) (APE 56) Loss of Offsite Power		X					(000056AK2.12) Knowledge of the relationship between (APE 56) Loss of Offsite Power and the following systems or components (CFR: 41.8 / 41.10 / 45.3): RCS	3.9	12
17	(000057) (APE 57) Loss of Vital AC Instrument Bus						X	(000057) (APE 57) Loss of Vital AC Instrument Bus (G2.2.40) EQUIPMENT CONTROL: Ability to apply TS with action statements of less than or equal to 1 hour (CFR: 41.10 / 43.2 / 43.5 / 45.3)	3.4	13
18	(000058) (APE 58) Loss of DC Power				X			(000058AA1.06) Ability to operate and/or monitor the following as they apply to (APE 58) LOSS OF DC Power (CFR: 41.5 / 41.7 / 45.5 to 45.8): DC distribution system	3.7	14
19	**(000062) (APE 62) Loss of Nuclear Service Water**					**X**		**(000062AA2.05) Ability to determine and/or interpret the following as they apply to (APE 62) LOSS OF SERVICE WATER (CFR: 41.10 / 43.5 / 45.13): The normal values for the SWS-header flow rate and the flow rates to the components cooled by the SWS**	**3.0**	**80**
20	(000065) (APE 65) Loss of Instrument Air					X		(000065AA2.07) Ability to determine and/or interpret the following as they apply to (APE 65) LOSS OF Instrument Air (CFR: 41.10 / 43.5 / 45.13): Automatic IAS responses as air header pressure lowers	3.3	15
21	(000077) (APE 77) Generator Voltage and Electric Grid Disturbances					X		(000077AA2.07) Ability to determine and/or interpret the following as they apply to (APE 77) GENERATOR VOLTAGE AND ELECTRIC Grid Disturbances (CFR: 41.10 / 43.5 / 45.13): Status of ESFs	3.9	16
22	(W E04) LOCA Outside Containment					X		(WE04EA2.03) Ability to determine and/or interpret the following as they apply to (W E04) LOCA Outside Containment (CFR: 41.10 / 43.5 / 45.13): RCS pressure	3.9	17

23	**(W E11) Loss of Emergency Coolant Recirculation**						**X**	**(W E11) Loss of Emergency Coolant Recirculation (G2.1.7) CONDUCT OF OPERATION: Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation (CFR: 41.5 / 43.5 / 45.12 / 45.13)**	**4.7**	**81**
24	(BW E04; W E05) Inadequate Heat Transfer – Loss of Secondary Heat Sink						X	(BW E04; W E05) Inadequate Heat Transfer – Loss of Secondary Heat Sink (G2.2.39) EQUIPMENT CONTROL: Knowledge of less than or equal to 1 hour TS action statements (does not include action statements of 1 hour or less that follow the expiration of a completion time for a TS condition for which an action statement has already been entered) (CFR: 41.7 / 41.10 / 43.2 / 45.13)	3.9	18
K/A Category Totals:		3	3	3	3	6	6	Group Point Total:		24

ES-4.1-PWR Summer

Emergency and Abnormal Plant Evolutions—Tier 1/Group 2 (RO/**SRO**)

Item #	E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G*	K/A Topic(s)	IR	Q#
25	(000005) (APE 5) Inoperable/Stuck Control Rod			X				(000005AK3.05) Knowledge of the reasons for the following responses and/or actions as they apply to (APE 5) INOPERABLE/STUCK Control Rod (CFR: 41.5 / 41.10 / 45.6 / 45.13): Power limits on rod misalignment	3.9	19
26	**(000024) (APE 24) Emergency Boration**					**X**		**(000024AA2.09) Ability to determine and/or interpret the following as they apply to (APE 24) EMERGENCY Boration (CFR: 41.10 / 43.5 / 45.13): RWST level**	**3.3**	**82**
27	**(000028) (APE 28) Pressurizer (PZR) Level Control Malfunction**						**X**	**(000028) (APE 28) Pressurizer (PZR) Level Control Malfunction (G2.1.6) CONDUCT OF OPERATIONS: Ability to manage the control room crew during plant transients (SRO Only) (CFR: 43.5 / 45.12 / 45.13)**	**4.8**	**83**
28	(000036) (APE 36; BW/A08) Fuel-Handling Incidents	X						(000036AK1.04) Knowledge of the operational implications and/or cause and effect relationships of the following concepts as they apply to (APE 36) FUEL HANDLING INCIDENTS (CFR: 41.5 / 41.7 / 45.7 / 45.8): Refueling water level	3.6	20
29	**(000037) (APE 37) Steam Generator Tube Leak**						**X**	**(000037) (APE 37) Steam Generator Tube Leak (G2.1.8) CONDUCT OF OPERATIONS: Ability to coordinate personnel activities outside the control room (CFR: 41.10 / 43.1 / 45.5 / 45.12 / 45.13)**	**4.1**	**84**
30	(000051) (APE 51) Loss of Condenser Vacuum	X						(000051AK1.01) Knowledge of the operational implications and/or cause and effect relationships of the following concepts as they apply to (APE 51) LOSS OF Condenser Vacuum (CFR: 41.5 / 41.7 / 45.7 / 45.8): Relationship of condenser vacuum to circulating water, flow rate, and temperature	3.3	21
31	(000059) (APE 59) Accidental Liquid Radwaste Release				X			(000059AA1.05) Ability to operate and/or monitor the following as they apply to (APE 59) ACCIDENTAL LIQUID Radwaste Release (CFR: 41.5 / 41.7 / 45.5 to 45.8): S/GB	2.9	22
32	(000069) (APE 69; W E14) Loss of Containment Integrity					X		(000069AA2.03) Ability to determine and/or interpret the following as they apply to (APE 69) LOSS OF Containment Integrity (CFR: 41.10 / 43.5 / 45.13): Containment pressure	4.1	23

33	**(000076) (APE 76) High Reactor Coolant Activity**					**X**		**(000076AA2.09) Ability to determine and/or interpret the following as they apply to (APE 76) HIGH REACTOR COOLANT ACTIVITY (CFR: 41.10 / 43.5 / 45.13): Implement emergency plan for failed fuel**	**4.1**	**85**
34	(W E01 & E02) Rediagnosis & SI Termination						X	(W E01 & E02) Rediagnosis & SI Termination (G2.2.44) EQUIPMENT CONTROL: 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 (CFR: 41.10 / 43.2 / 45.13)	4.2	24
35	(W E13) Steam Generator Overpressure						X	(W E13) Steam Generator Overpressure (G2.4.17) EMERGENCY PROCEDURES/PLAN: Knowledge of emergency and abnormal operating procedures terms and definitions (CFR: 41.10 / 45.13)	3.9	25
36	(BW E09; CE A13**; W E09 & E10) Natural Circulation		X					(WE10EK2.15) Knowledge of the relationship between (W E10) NATURAL CIRCULATION WITH STEAM VOID IN VESSEL WITH/WITHOUT THE RVLIS and the following systems or components (CFR: 41.8 / 41.10 / 45.3): AFW system	3.8	26
K/A Category Totals:		2	1	1	1	3	4	Group Point Total:		12

ES-4.1-PWR Summer

Emergency and Abnormal Plant Evolutions—Tier 2/Group 1 (RO/**SRO**)

Item #	System / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G*	K/A Topic(s)	IR	Q#
37	(003) (SF4P RCP) REACTOR COOLANT PUMP SYSTEM							X					(003A1.07) Ability to predict and/or monitor changes in parameters associated with operation of the (SF4P RCP) REACTOR COOLANT PUMP SYSTEM, including (CFR: 41.5 / 45.5): RCS temperature and pressure	3.7	27
38	**(003) (SF4P RCP) REACTOR COOLANT PUMP SYSTEM**								**X**				**(003A2.04) Ability to (a) predict the impacts of the following on the (SF4P RCP) REACTOR COOLANT PUMP SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): Effects of fluctuation of VCT pressure on RCP seal injection flow**	**3.2**	**86**
39	(004) (SF1; SF2 CVCS) CHEMICAL AND VOLUME CONTROL SYSTEM											X	(004) (SF1; SF2 CVCS) CHEMICAL AND VOLUME CONTROL SYSTEM (G2.1.23) CONDUCT OF OPERATIONS: Ability to perform general and/or normal operating procedures during any plant condition (CFR: 41.10 / 45.5 / 45. 2 / 45.6)	4.3	28

40	(004) (SF1; SF2 CVCS) CHEMICAL AND VOLUME CONTROL SYSTEM		X										(004K2.02) Knowledge of electrical power supplies to the following (CFR: 41.7): (SF1; SF2 CVCS) CHEMICAL AND VOLUME CONTROL SYSTEM Pumps used to makeup to CVCS	3.0	29
41	(005) (SF4P RHR) RESIDUAL HEAT REMOVAL SYSTEM						X						(005K6.11) Knowledge of the effect of the following plant conditions, system malfunctions, or component malfunctions on the (SF4P RHR) RESIDUAL HEAT REMOVAL SYSTEM (CFR: 41.7 / 45.7): Flow control valves	3.8	30
42	**(005) (SF4P RHR) RESIDUAL HEAT REMOVAL SYSTEM**								**X**				**(005A2.01) Ability to (a) predict the impacts of the following on the (SF4P RHR) RESIDUAL HEAT REMOVAL SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): RHR instrumentation failure**	**3.6**	**87**
43	(006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM					X							(006K5.04) Knowledge of the operational implications or cause and effect relationships of the following concepts as they apply to the (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM (CFR: 41.5 / 45.3): Brittle fracture, including causes and preventive actions	3.6	31
44	**(006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM**											**X**	**(006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM (G2.1.31) CONDUCT OF OPERATIONS: Ability to locate control room switches, controls, and indications and to determine whether they correctly reflect the desired plant lineup (CFR: 41.10 / 45.12)**	**4.3**	**88**
45	(007) (SF5 PRTS) PRESSURIZER RELIEF/QUENCH TANK SYSTEM									X			(007A3.01) Ability to monitor automatic features of the (SF5 PRTS) PRESSURIZER RELIEF/QUENCH TANK SYSTEM, including (CFR: 41.7 / 45.7): Components that discharge to the PRT/quench tank	3.4	32

46	(007) (SF5 PRTS) PRESSURIZER RELIEF/QUENCH TANK SYSTEM			X									(007K3.01) Knowledge of the effect that a loss or malfunction of the (SF5 PRTS) PRESSURIZER RELIEF/QUENCH TANK SYSTEM will have on the following systems or system parameters (CFR: 41.7 / 45.4): Containment	3.4	33
47	(008) (SF8 CCW) COMPONENT COOLING WATER SYSTEM											X	(008) (SF8 CCW) COMPONENT COOLING WATER SYSTEM (G2.2.36) EQUIPMENT CONTROL: Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operation (CFR: 41.10 / 43.2 / 45.13)	3.1	34
48	(010) (SF3 PZR PCS) PRESSURIZER PRESSURE CONTROL SYSTEM								X				(010A2.07) Ability to (a) predict the impacts of the following on the (SF3 PZR PCS) PRESSURIZER PRESSURE CONTROL SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): ESFAS actuations	4.3	35
49	(010) (SF3 PZR PCS) PRESSURIZER PRESSURE CONTROL SYSTEM					X							(010K5.05) Knowledge of the operational implications or cause and effect relationships of the following concepts as they apply to the (SF3 PZR PCS) PRESSURIZER PRESSURE CONTROL SYSTEM (CFR: 41.5 / 45.3): RCS heatup and cooldown effect on pressure	3.7	36
50	(012) (SF7 RPS) REACTOR PROTECTION SYSTEM			X									(012K3.05) Knowledge of the effect that a loss or malfunction of the (SF7 RPS) REACTOR PROTECTION SYSTEM will have on the following systems or system parameters (CFR: 41.7 / 45.4): RCPS	3.5	37
51	(013) (SF2 ESFAS) ENGINEERED SAFETY FEATURES ACTUATION SYSTEM		X										(013K2.01) Knowledge of electrical power supplies to the following (CFR: 41.7): (SF2 ESFAS) ENGINEERED SAFETY FEATURES ACTUATION SYSTEM ESFAS/safeguards train power supplies	4.0	38

52	**(013) (SF2 ESFAS) ENGINEERED SAFETY FEATURES ACTUATION SYSTEM**								**X**				**(013A2.08) Ability to (a) predict the impacts of the following on the (SF2 ESFAS) ENGINEERED SAFETY FEATURES ACTUATION SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): Loss of EDG**	**4.1**	**89**
53	(022) (SF5 CCS) CONTAINMENT COOLING SYSTEM	X											(022K1.01) Knowledge of the physical connections and/or cause and effect relationships between the (SF5 CCS) CONTAINMENT COOLING SYSTEM and the following systems (CFR: 41.2 to 41.9 / 45.7 to 45.8): Cooling water system	3.6	39
54	(026) (SF5 CSS) CONTAINMENT SPRAY SYSTEM								X				(026A2.05) Ability to (a) predict the impacts of the following on the (SF5 CSS) CONTAINMENT SPRAY SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): Failure of chemical addition tanks to inject	3.0	40
55	(026) (SF5 CSS) CONTAINMENT SPRAY SYSTEM	X											(026K1.05) Knowledge of the physical connections and/or cause and effect relationships between the (SF5 CSS) CONTAINMENT SPRAY SYSTEM and the following systems (CFR: 41.2 to 41.9 / 45.7 to 45.8): ESFAS	4.1	41
56	(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM				X								(039K4.08) Knowledge of (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Interlocks on MSIVs and bypass valves	3.5	42

57	**(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM**											**X**	**(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM (G2.3.14) Radiation Control: Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities, such as analysis and interpretation of radiation and activity readings as they pertain to administrative, normal, abnormal, and emergency procedures or to analysis and interpretation of coolant activity, including comparison to emergency plan or regulatory limits (SRO Only) (CFR: 43.4 / 45.10)**	**3.8**	**90**
58	(059) (SF4S MFW) MAIN FEEDWATER SYSTEM										X		(059A4.11) Ability to manually operate and/or monitor the (SF4S MFW) MAIN FEEDWATER SYSTEM in the control room (CFR: 41.7 / 45.5 to 45.8): Recovery from automatic MFW isolation	3.6	43
59	(059) (SF4S MFW) MAIN FEEDWATER SYSTEM	X											(059K1.13) Knowledge of the physical connections and/or cause and effect relationships between the (SF4S MFW) MAIN FEEDWATER SYSTEM and the following systems (CFR: 41.2 to 41.9 / 45.7 to 45.8): S/GB system	2.9	44
60	(061) (SF4S AFW) AUXILIARY / EMERGENCY FEEDWATER SYSTEM									X			(061A3.01) Ability to monitor automatic features of the (SF4S AFW) AUXILIARY/EMERGENCY FEEDWATER SYSTEM, including (CFR: 41.7 / 45.7): AFW system automatic start	4.2	45
61	(062) (SF6 ED AC) AC ELECTRICAL DISTRIBUTION SYSTEM							X					(062A1.10) Ability to predict and/or monitor changes in parameters associated with operation of the (SF6 ED AC) AC ELECTRICAL DISTRIBUTION SYSTEM, including (CFR: 41.5 / 45.5): Lights and alarms	3.4	46
62	(063) (SF6 ED DC) DC ELECTRICAL DISTRIBUTION SYSTEM					X							(063K5.05) Knowledge of the operational implications or cause and effect relationships of the following concepts as they apply to the (SF6 ED DC) DC ELECTRICAL DISTRIBUTION SYSTEM (CFR: 41.5 / 45.3): Battery capacity as it is affected by discharge rate/individual cell voltages	3.1	47

63	(063) (SF6 ED DC) DC ELECTRICAL DISTRIBUTION SYSTEM						X						(063K6.06) Knowledge of the effect of the following plant conditions, system malfunctions, or component malfunctions on the (SF6 ED DC) DC ELECTRICAL DISTRIBUTION SYSTEM (CFR: 41.7 / 45.7): Battery	4.0	48
64	(064) (SF6 EDG) EMERGENCY DIESEL GENERATOR SYSTEM		X										(064K2.01) Knowledge of electrical power supplies to the following (CFR: 41.7): (SF6 EDG) EMERGENCY DIESEL GENERATOR SYSTEM Starting air compressor	3.0	49
65	(073) (SF7 PRM) PROCESS RADIATION MONITORING SYSTEM							X					(073A1.01) Ability to predict and/or monitor changes in parameters associated with operation of the (SF7 PRM) PROCESS RADIATION MONITORING SYSTEM, including (CFR: 41.5 / 45.5): Radiation levels	3.5	50
66	(073) (SF7 PRM) PROCESS RADIATION MONITORING SYSTEM											X	(073) (SF7 PRM) PROCESS RADIATION MONITORING SYSTEM (G2.1.45) Conduct of Operations: Ability to identify and interpret diverse indications to validate the response of another indication.	4.3	51
67	(076) (SF4S SW) SERVICE WATER SYSTEM		X										(076K2.01) Knowledge of electrical power supplies to the following (CFR: 41.7): SWS pumps (Class 1E)	3.8	52
68	(078) (SF8 IAS) INSTRUMENT AIR SYSTEM				X								(078K4.04) Knowledge of (SF8 IAS) INSTRUMENT AIR SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): IAS compressor loading/unloading/starts/trips	2.9	53
69	(103) (SF5 CNT) CONTAINMENT SYSTEM								X				(103A2.10) Ability to (a) predict the impacts of the following on the (SF5 CNT) CONTAINMENT SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): FHS malfunctions	2.6	54
K/A Category Totals:		3	4	2	2	3	2	3	6	2	1	5	Group Point Total:		33

ES-4.1-PWR Summer

Emergency and Abnormal Plant Evolutions—Tier 2/Group 2 (RO/**SRO**)

Item #	System / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G*	K/A Topic(s)	IR	Q#
70	**(001) (SF1 CRDS) CONTROL ROD DRIVE SYSTEM**								**X**				**(001A2.24) Ability to (a) predict the impacts of the following on the (SF1 CRDS) CONTROL ROD DRIVE SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): Dropped rod**	**4.1**	**91**
71	(016) (SF7 NNI) NONNUCLEAR INSTRUMENTATION SYSTEM					X							(016K5.02) Knowledge of the operational implications or cause and effect relationships of the following concepts as they apply to the (SF7 NNI) NONNUCLEAR INSTRUMENTATION SYSTEM (CFR: 41.5 / 45.3): Relationship between meter readings and actual parameter values	3.2	55
72	(017) (SF7 ITM) IN CORE TEMPERATURE MONITOR SYSTEM						X						(017K6.01) Knowledge of the effect of the following plant conditions, system malfunctions, or component malfunctions on the (SF7 ITM) IN CORE TEMPERATURE MONITOR SYSTEM (CFR: 41.7 / 45.7): Temperature measuring device (for example thermocouple)	3.2	56
73	(029) (SF8 CPS) CONTAINMENT PURGE SYSTEM										X		(029A4.05) Ability to manually operate and/or monitor the (SF8 CPS) CONTAINMENT PURGE SYSTEM in the control room (CFR: 41.7 / 45.5 to 45.8): Manual isolation of the CPS	3.1	57
74	**(033) (SF8 SFPCS) SPENT FUEL POOL COOLING SYSTEM**											**X**	**(033) (SF8 SFPCS) SPENT FUEL POOL COOLING SYSTEM (G2.1.20) CONDUCT OF OPERATIONS: Ability to interpret and execute procedure steps (CFR: 41.10 / 43.5 / 45.12)**	**4.6**	**92**

75	(035) (SF4P SG) STEAM GENERATOR SYSTEM			X									(035K3.06) Knowledge of the effect that a loss or malfunction of the (SF4P SG) STEAM GENERATOR SYSTEM will have on the following systems or system parameters (CFR: 41.7 / 45.4): S/GB system	3.0	58
76	**(055) (SF4S CARS) CONDENSER AIR REMOVAL SYSTEM**								**X**				**(055A2.02) Ability to (a) predict the impacts of the following on the (SF4S CARS) CONDENSER AIR REMOVAL SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): Loss of gland seal/gland exhaust**	**3.0**	**93**
77	(056) (SF4S CDS) CONDENSATE SYSTEM				X								(056K4.19) Knowledge of (SF4S CDS) CONDENSATE SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Setpoints and trip levels for condensate pump and booster pump operations	3.0	59
78	(068) (SF9 LRS) LIQUID RADWASTE SYSTEM										X		(068A4.02) Ability to manually operate and/or monitor the (SF9 LRS) LIQUID RADWASTE SYSTEM in the control room (CFR: 41.7 / 45.5 to 45.8): Remote radwaste release	3.1	60
79	(071) (SF9 WGS) WASTE GAS DISPOSAL SYSTEM									X			(071A3.04) Ability to monitor automatic features of the (SF9 WGS) WASTE GAS DISPOSAL SYSTEM, including (CFR: 41.7 / 45.7): Automatic isolation	3.0	61
80	(072) (SF7 ARM) AREA RADIATION MONITORING SYSTEM								X				(072A2.01) Ability to (a) predict the impacts of the following on the (SF7 ARM) AREA RADIATION MONITORING SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operations (CFR: 41.5 / 45.6): ARM component failures	3.3	62
81	(075) (SF8 CW) CIRCULATING WATER SYSTEM							X					(075A1.06) Ability to predict and/or monitor changes in parameters associated with operation of the (SF8 CW) CIRCULATING WATER SYSTEM, including (CFR: 41.5 / 45.5): Circulating water temperature (inlet and outlet)	2.6	63
K/A Category Totals:		0	0	1	1	1	1	1	3	1	2	1	Group Point Total:		12

Form 4.1-COMMON Common Examination Outline

ES-4.1-COMMON	COMMON Examination Outline (Summer)						
Facility: Summer				Date of Exam: 10/30/2023			

Generic Knowledge and Abilities Outline (Tier 3) (RO/SRO)

				RO		SRO-Only	
Category	K/A #	Topic	Item #	IR	Q#	IR	Q#
1. Conduct of Operations	**G2.1.40**	**(G2.1.40) CONDUCT OF OPERATIONS: Knowledge of refueling administrative requirements (CFR: 41.10 / 43.5 / 43.6 / 45.13)**	**82**			**3.9**	**94**
	G2.1.43	**(G2.1.43) CONDUCT OF OPERATIONS: Ability to use an online power distribution monitoring system and/or procedures to determine the effects on reactivity of plant changes, such as RCS temperature, secondary plant, or fuel depletion**	**83**			**4.3**	**95**
	G2.1.36	(G2.1.36) CONDUCT OF OPERATIONS: Knowledge of procedures and limitations involved in core alterations (CFR: 41.10 / 43.6 / 45.7)	84	3	64		
	G2.1.39	(G2.1.39) CONDUCT OF OPERATIONS: Knowledge of conservative decision-making practices (CFR: 41.10 / 43.5 / 45.12)	85	3.6	65		
	Subtotal			N/A	2	N/A	**2**
2. Equipment Control	G2.2.12	(G2.2.12) EQUIPMENT CONTROL: Knowledge of surveillance procedures (CFR: 41.10 / 43.2 / 45.13)	86	3.7	66		
	G2.2.41	(G2.2.41) EQUIPMENT CONTROL: Ability to obtain and interpret station electrical and mechanical drawings (reference potential) (CFR: 41.10 / 45.12 / 45.13)	87	3.5	67		
	G2.2.18	**(G2.2.18) EQUIPMENT CONTROL: Knowledge of the process for managing maintenance activities during shutdown operations, such as risk assessments and work prioritization (CFR: 41.10 / 43.5 / 45.13)**	**88**			**3.9**	**96**
	G2.2.22	**(G2.2.22) EQUIPMENT CONTROL: Knowledge of limiting conditions for operation and safety limits (CFR: 41.5 / 43.2 / 45.2)**	**89**			**4.7**	**97**
	Subtotal			N/A	2	N/A	**2**
3. Radiation Control	G2.3.11	(G2.3.11) RADIATION CONTROL: Ability to control radiation releases (CFR: 41.11 / 43.4 / 45.10)	90	3.8	68		
	G2.3.12	**(G2.3.12) RADIATION CONTROL: Knowledge of radiological safety principles and 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 alignment of filters (CFR: 41.12 / 43.4 / 45.9 / 45.10)**	**91**			**3.7**	**98**
	Subtotal			N/A	1	N/A	**1**
4. Emergency	G2.4.32	(G2.4.32) EMERGENCY PROCEDURES/PLAN: Knowledge of operator response to loss of annunciators (CFR: 41.10 / 43.5 / 45.13)	92	3.6	69		

Procedures / Plan	G2.4.29	**(G2.4.29) EMERGENCY PROCEDURES/PLAN: Knowledge of the emergency plan implementing procedures (CFR: 41.10 / 43.5 / 45.11)**	**93**			**4.4**	**99**
	G2.4.47	**(G2.4.47) EMERGENCY PROCEDURES/PLAN: Ability to diagnose and recognize trends in an accurate and timely manner using the appropriate control room reference material (reference potential) (CFR: 41.10 / 43.5 / 45.12)**	**94**			**4.2**	**100**
	Subtotal			N/A	1	N/A	**2**
	Tier 3 Point Total			N/A	**6**	N/A	**7**

Form 4.1-COMMON Common Examination Outline

ES-4.1-COMMON	COMMON Examination Outline (Summer)				
Facility:	Summer			Date of Exam:	10/30/2023

Theory (Tier 4) (RO)

Category	K/A #	Topic	Item #	RO IR	RO Q#
Reactor Theory	192006	(192006K1.05) FISSION PRODUCT POISONS (CFR: 41.1): Describe the following processes and state their effect on reactor operations: -- equilibrium xenon	95	3.1	70
	192007	(192007K1.05) FUEL DEPLETION AND BURNABLE POISONS (CFR: 41.1): Describe the effects of boration/dilution on reactivity during forced-flow and natural circulation conditions	96	3.2	71
	192008	(192008K1.12) REACTOR OPERATIONAL PHYSICS (CFR: 41.1): (INTERMEDIATE RANGE OPERATION) List parameters that should be monitored and controlled during the intermediate phase of startup (from criticality to the POAH)	97	3.6	72
	Subtotal			N/A	3
Thermodynamics	193003	(193003K1.24) STEAM (CFR: 41.14): Explain the usefulness of steam tables to the control room operator	98	3.1	73
	193004	(193004K1.15) THERMODYNAMIC PROCESS (CFR: 41.14): (THROTTLING AND THE THROTTLING PROCESS) Determine the exit conditions for a throttling process based on the use of steam and/or water	99	2.8	74
	193009	(193009K1.05) CORE THERMAL LIMITS (CFR: 41.14): State why thermal limits are necessary.	100	3.5	75
	Subtotal			N/A	3
	Tier 4 Point Total			N/A	**6**

Form 4.1-1 Record of Rejected Knowledge and Abilities

Refer to Examination Standard (ES)-4.2, “Developing Written Examinations,” Section B.3, for deviations from the approved written examination outline.

Tier/Group	Randomly Selected K/A	Reason for Rejection
1/1 RO Question 5	(000022) (APE 22) Loss of Reactor Coolant Makeup AA1.05	(000022AA1.05) Ability to operate and/or monitor the following as they apply to (APE 22) LOSS OF REACTOR Coolant Makeup (CFR: 41.5 / 41.7 / 45.5 to 45.8): RCP seal backpressure regulator valves K/A rejected as the randomly selected K/A does not apply for the systems and tier level for facility K/A was replaced with (000022AA1.01) Ability to operate and/or monitor the following as they apply to (APE 22) LOSS OF REACTOR Coolant Makeup (CFR: 41.5 / 41.7 / 45.5 to 45.8): CVCS
1/1 RO Question 15	(000065) (APE 65) Loss of Instrument Air AA2.07	(000065AA2.07) Ability to determine and/or interpret the following as they apply to (APE 65) LOSS OF Instrument Air (CFR: 41.10 / 43.5 / 45.13): Determination of whether backup nitrogen supply is controlling the valve position. K/A rejected as the facility does not have back up nitrogen capability new K/A selected is: 000065AA2.09) Ability to determine and/or interpret the following as they apply to (APE 65) LOSS OF Instrument Air (CFR: 41.10 / 43.5 / 45.13): Automatic IAS responses as air header pressure lowers
1/1 SRO Question 81	(W E11) Loss of Emergency Coolant Recirculation G2.1.42	(W E11) Loss of Emergency Coolant Recirculation (G2.1.42) CONDUCT OF OPERATIONS: Knowledge of new and spent fuel movement procedures (SRO Only) (CFR: 43.7 / 45.13) K/A rejected as the randomly selected generic topic is not compatible with the system selection. New generic K/A is: (W E11) Loss of Emergency Coolant Recirculation (G2.1.7) Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation (CFR: 41.5 / 43.5 / 45.12 / 45.13)
2/1 SRO Question 88	006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM G2.1.46	(006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM (G2.1.46) CONDUCT OF OPERATIONS: Ability to use integrated control systems to operate plant systems or components (CFR: 41.10 / 45.12 / 45.13) K/A rejected as the question could not be written to SRO level and all ECCS systems are manual or on off system with no integrated control system. (006) (SF2; SF3 ECCS) EMERGENCY CORE COOLING SYSTEM (G2.1.31) CONDUCT OF OPERATIONS: Ability to locate control room switches, controls, and indications and to determine whether they correctly reflect the desired plant lineup (CFR: 41.10 / 45.12)
2/1 RO Question 42	(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM K4.06	(039K4.06) Knowledge of (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Prevent reverse steam flow on steamline break K/A rejected due to inappropriate for plant design, K/A replaced with: (039K4.08) Knowledge of (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Interlocks on MSIVs and bypass valves

2/1 SRO Question 90	(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM G2.4.51	(039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM (G2.4.51) EMERGENCY PROCEDURES/PLAN: Knowledge of emergency operating procedure exit conditions (e.g., emergency condition no longer exists or severe accident guideline entry is required) (CFR: 41.10 / 43.5 /45.13) K/A rejected as no real correlation between main and reheat steam and exit conditions for E-Plan or SAMG. (039) (SF4S MSS) MAIN AND REHEAT STEAM SYSTEM (G2.3.14) Radiation Control: Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities, such as analysis and interpretation of radiation and activity readings as they pertain to administrative, normal, abnormal, and emergency procedures or to analysis and interpretation of coolant activity, including comparison to emergency plan or regulatory limits (SRO Only) (CFR: 43.4 / 45.10)
2/1 RO Question 45	(061) (SF4S AFW) AUXILIARY / EMERGENCY FEEDWATER SYSTEM A3.03	(061A3.03) Ability to monitor automatic features of the (SF4S AFW) AUXILIARY/EMERGENCY FEEDWATER SYSTEM, including (CFR: 41.7 / 45.7): Automatic AFW S/G level control K/A rejected as there is no automatic water level control for AFW at the facility. K/A replaced with: (061A3.01) Ability to monitor automatic features of the (SF4S AFW) AUXILIARY/EMERGENCY FEEDWATER SYSTEM, including (CFR: 41.7 / 45.7): AFW system automatic start
2/1 RO Question 52	(076) (SF4S SW) SERVICE WATER SYSTEM K2.07	(076K2.07) Knowledge of electrical power supplies to the following (CFR: 41.7): (SF4S SW) SERVICE WATER SYSTEM Cooling tower fans K/A rejected due to facility not having cooling towers in its design. New K/A selected is: (076K2.01) Knowledge of electrical power supplies to the following (CFR: 41.7): SWS pumps (Class 1E)
2/2 RO Question 59	(056) (SF4S CDS) CONDENSATE SYSTEM K4.24	(056K4.24) Knowledge of (SF4S CDS) CONDENSATE SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Condenser vacuum interlocks/permissives K/A rejected because of no interlocks in plant design between condenser vacuum and condensate system (056K4.19) Knowledge of (SF4S CDS) CONDENSATE SYSTEM design features and/or interlocks that provide for the following (CFR: 41.7): Setpoints and trip levels for condensate pump and booster pump operations

Form 2.3-5 Written Examination Review Worksheet Summer 2023 initial exam

Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
1	H	2												N	S	No issues with questions Tier one met as understanding that because Tavg is < 564 requires your to verify feedwater isolation signal valves that would not be required if Tavg is greater than 564.
2	H	3		X										M	~~U~~ ~~E~~ S	Change the question to Higher order when changes are made. This question meets the Tier1 criteria as it deals with the progression of an event. Leave the first half of the question as it is and modify the second half to If Steam Voiding occurs in the RCS hot legs the majority of the heat transfer will be occurring in the S/G by (Conduction or Radiation) both types of heat transfer will be occurring, but the majority will be by conduction as the tubes are wetted during the reflux boiling. This will remove the common and sight recognition of the term reflux boiling. Asking the type of heat transfer will test if the applicants understand reflux boiling or not and still meet the K/A. Changed to descriptions of the types of heat transfer and still owes a change to the" primary mode " Corrected the Primary Mode Question no sat
3	F	2												M	~~E~~/S	Meets Tier 1, The new question second half is questionable as the RWST is being lowered by the large RCS leak and LPI pumps pushing it out. The flow of a single BS pump is not near what the other is doing. Change the second have to address something that he BS system is supposed to do like lower containment pressure. 4 or 8 hours to ensure that containment pressure remains below the actuation setpoint for the BS system. Changes accepted and Question is now Sat
4	F	3												N	~~E~~ S	Meets tier 1, The 60 or 82 seems not realistic as the 82% is only dealing with a ruptured SG. I would change the question to the following Same information above the question, then :SG narrow range levels will be maintained between 60 and 65% to_____ A. Provide stable heat sink for decay heat removal B. Limit rapid changes in steam pressure to prevent safety injection actuation C. To ensure sufficient secondary inventory is available to cooldown. D. To raise the thermal center of the RCS to promote natural circulation. The justification for distractor C would be that the applicant know that they are going to cooldown and will need a enough inventory to accomplish it which is true but not the reason listed in the basis document. The justification for distractor D would be that increasing the SG level will raise the thermal center and in turn will help promote natural circulation, but it is also not the reason for the step.left second half the same and changed the numbers for the first half question Sat

Form 2.3-5 Written Examination Review Worksheet Summer 2023 initial exam

Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
5	H	2												B	~~E~~ S	Meets Tier 1 Group 1 criteria. Suggest changing the first part correct answer to just breaker trip. I think what you have may be too specific to make the wrong distractor plausible. It would still be a bank question. Question fixed Sat
6	H	3												N	~~E E~~ S	Free Review Question: Meets the tier 1 threshold by asking about a specific reason contained in a note in step 3.5. Distractors are logical and distractor analysis is sound. Action: add to the end of the stem “in accordance with GOP 6” Need to add valve names to stem still E Noun Names Added Question Sat
7	F	2		X		X								N	~~U~~ S	Question meets Tier 1 criteria as the first half of the question must be answered using information contained in the sites AOPs. The second have could be made sat if the reference is removed. Change the second half of the question to: During the initial valve line up to establish alternate cooling to the “A” charging pump (Attachment 1A) independent verification (is/is not) required. No where in the AOP is a verification required on any of the valve lineups for the initial alignment, but a verifier is required to restore the system after it is no longer needed. The question is UNSAT because given the valve line up it is a direct lookup and cues the applicant and is therefore not credible as there is nothing to indicate a CV would be required. This is also a memory item no higher level. Removed the part of IV is/is not required and described how to verify a closed valve and removed the reference Question Sat
8	F	2										X		N	~~U~~ S	K/A mismatch and Tier 1 cause this question to be unsat. Need to establish what is happening to the plant when the PZR pressure controller fails probably high and something to the effect of what AOP-401.5 would mitigate. Then the second half of the question could be if the Unit was in Mode 3 and RCS. By creating two separate questions disguised as a 2X2 you can meet both halfs of the K/A and the first half would address the tier 1 issue. Corrected SAT
9	H	3				X									~~U~~/S	Free Review Question: Meets the tier 1 threshold by asking about if secondary heat sink is required or not. Plausibility of distractors is questionable for the first half how would flow ever increase with decreasing pressure, this is against the laws of physics. The second half of the question is also subjective in when in EOP 3 is secondary heat sink not required? Action: Consider modifying the question as follows: A Steam line break has occurred on the A SG upstream of the A MSIV in containment. ECCS has actuated and containment pressure has increased to (degraded value) • Subcooling is 90

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Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
																• Total emergency feedwater flow is 200 gpm to the intact generators • Narrow range B SG level is 46% • RCS pressure is increasing • Pressurizer level is 30% rising As the A SG pressure lowers the rate of rise in containment will (increase or decrease) Conditions (do or do not) exist to reset both trains of SI in accordance with E-2 Faulted Steam Generator isolation. Question rewritten and new question is SAT
10	H	2												N	S	No Issues
11	H	2												B	S	No Issues
12	H	3												B	S	No Issues
13	H	2												N	~~E~~ S	The question may be fine I just need some training on the distribution system. Do not change it until we have a chance to talk. Reorder bullets and break out current conditions. Question Sat
14	H	3												M	S	No issues
15	F	2												M	S	No issues
16	H	4												M	~~U~~ S	A couple of issues on this question. First what exactly is the reference that you are providing? If it is the table it is a direct lookup and not acceptable the second issue is that having a choice that everything is ok is not a answer choice that the NRC deems appropriate for NRC exams. The license level is normally for SROs to determine if something is operable or not. If you feel that this is within the license level of an RO please provide Ops concurrence and ensure the RO learning objective is referenced in the question. Not a direct lookup with the table as you need to apply several aspects to determine how to use the table. Question SAT
17	F	2												B	~~E~~ S	Previous NRC question. I would go back to the original question rising RCS pressure is a good indication that the leak is isolated making the second half of the question have little discriminatory value. Only go back to the original question if it does not violate the overlap requirements for the exam Question returned to original format Sat
18	F	3												N	~~E~~ S	Suggest rewording the stem to say: • 100% power

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Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
																• A common cause failure renders all Emergency Feedwater pumps inoperable • A reactor trip now occurs • The crew has entered EOP-15, FR-H.1 Then use the rest of your question. The first distractor is so specific that I think it makes it somewhat too easy to eliminate. Suggest changing to 'stop making changes to reactor power' Changes made and Question SAT
19	F	2				X								N	~~U U~~ S	I do not believe the second half of the question is correct as when you realign the rod you will be lowering power and at 4.8% power you would be in mode 2 would 16 steps drive you back to mode 3? If it doesn't then why would you think a mode change would occur? Also this is asking very specific procedural steps that could be considered SRO level. Please let me know what you think. You could ask if the crew is required to shut down to mode 3 yes or no for the second half per the AOP. This is all directed from a caution step so not SRO level. Bank D is actually withdrawn.so power would increase possibly hitting mode1. Need to find another first half. Still Unsat Question modified to what the immediate actions are and now SAT still meets k/A in second half
20	F	3												N	S	No Issues
21	F	2												N	~~E~~ S	Bold and underline the and in the distractors C and D so we do not cue the applicants. Fixed SAT
22	H	3												N	~~E~~ S	Would RML-3 also be in alarm if RML-10 was in alarm? You could ask what valves would close based on the above indications per the automatic actions of XCP-645 4-3. if it is true that only RML-10 would be in alarm. Then you would not need to put no automatic actions occurred. Question fixed as recommended SAT
23	F	2												N	~~E~~ S	What is the basis for the -.1 psig? Is less than that due to being unanalyzed and containment integrity cannot be assured? Reference is the picture Question SAT
24	H	2												B	S	No Issues
25	H	2												N	~~E~~ S	Change the stem to lower steam pressure from the "Affected" steam generator and on the second half of the question remove the word dump and replace with lower steam generator pressure. This will eliminate the appearance of cueing. Also the learning objective has a typo CAUTION is spelled incorrectly. Change back to Dump Steam as this is what the procedure actually says. Changed information to make the question as a higher level question Changes made question Sat

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Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
26	H	3												N	S	No Issues
27	H	3												N	S	Is knowing the position of a letdown valve while starting a RCP in a solid plant too low of a level for an initial RO knowledge? Want to make sure that we are testing at the correct level. Question Sat
28	H	3												N	~~E~~ S	If 200 degrees is mode 5 why would you still be in GOP-6? Makes the plausibility questionable about the 300 degrees. Remove the GOP-6 reference form stem and I believe that it will remove the concern. Question Sat
29	F	2												N	S	No Issues
30	F	2										X		N	~~U~~ S	Question does not meet the K/A as it does not pertain to knowledge of the effect of the following plant conditions, system malfunctions, or component malfunctions. If the question was reworded such that a malfunction occurred in the flow control valves such that they were throttled to 900 gpm I might could buy that as meeting the K/A Question reworded and is now sat
31	F	2												B	~~E~~ S	Explain why the “is not” is credible? What other cool down limit is there concerning integrity? It seems to me that there are normal cooldown limits and 100/hr and without regard to cooldown limits. We just need to talk it out Removed RED form bullet and question is SAT
32	F	2												N	S	No Issues
33	F	2				X								N	~~U~~ S	I do not know how to make the distractors seem credible to me. Maybe a 2X2 asking something like “If the PRT internal pressure reaches a minimum of _____ psig the rupture disk will relieve pressure directly to _____. “ come up with 2 numbers that make sense for the first half and use containment and reactor coolant drain tank for the second half. If you can think of something better that would be great. Question was rewritten. Question Sat
34	H	4												N	~~E~~ S	I am concerned that the first half of the question is SRO level. You are asking what constitutes an operable CCW loop per the TS. This is material contained in the basis and is clearly SRO level. Modified Question SAT
35	H	3												N	~~E~~ S	On the all A2 KA’s you should attempt to write a question to both halves of the KA (predict impact and use procedures to mitigate) if you cannot write to both halves you should always write to the second half the use procedures to mitigate part. A potential fix would be if you asked something related to the procedure for one half or the other. Question Sat
36	H	2												B	S	No Issues

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
37	H	2												N	S	No Issues
38	F	2												B	S	2021 NRC Question no Issues
39	H	3												B	~~E~~ S	While the term average air temperature is used in the above the line portion of TS 3.6.1.5 there is no indication on the actual temperature gauge TI-9205 what is measuring (ie discrete point or the average) is this too far down in the weeds for the average ILT applicant? If not, I am OK with leaving it as is. Question Sat
40	F	2												M	S	No Issues
41	F	2												N	~~E~~ S	the second half of the question seems to be very similar to o question 40. Is there a different second half we could ask to minimize overlap concerns Testing different aspects of the system Question Sat
42	F	2												N	S	No Issues
43	F	2				X								N	S	Better distractor need for the first half you could use two panels in the main control room it does not seem likely that inorder to reset the feedwater isolation signal you would need to go to the cable spreading room. Actually, a good Question SAT
44	H	2												N	~~E~~/S	Free Review Question: Reference is provided by way of picture in the stem. The question should be labeled as higher order as the applicant would need to know that the Main Feed pump trip causes the EFW pumps to start and then the breakers closing is what causes the 503 valves to close. Go back to fundamental question and Question is SAT
45	F	2												B	S	No Issues
46	F	2												N	S	No Issues
47	H	2				X								N	~~U~~ S	Question is unsat due to I don't see the first half having a credible distractor. Why would anyone really think that a battery would last longer with additional loads? If you could work it out such that due to load stripping it would last longer then you would have something. New Question Sat
48	F	3												N	S	No issues
49	F	2												B	~~E~~ S	Change the order of the distractors to A same, B. 1DA2X, C. IDA2Y, D. Same, same correct answer Question Sat

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Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
50	H	2												N	S	No Issues
51	H	2												N	~~E~~ S	~~2021 NRC Exam~~, I do not believe this meets the modified criteria. You are asking the same thing in both questions just in a slightly different way. If it doesn't affect the limit of repeat questions for the past 2 exams count it as a bank if it does be need to reword to make it more modified. Changed Rad Monitor now a New Question Sat
52	F	2												B	S	No Issues
53	F	2												N	S	No Issues
54	H	2	X			X	X							N	~~U/E~~ S	Free Review Question: I do not know if being Kept in containment is correct. Are exhaust fand running to maintain the negative pressure? if so where do they discharge too. Most likely through some type of a charcoal filter to outside of containment. Also is there a definition of what "containment set" would the stem conditions be better if in the initial conditions it states that containment is set with the equipment hatch open? You need to verify this but for the distractors the release is occurring unmonitored via the equipment hatch of monitored via the vent stack. Also the question should be listed as an higher order question as the applicant would need to understand the plant line up and apply this knowledge to answer the first half of the question the second half is fundamental but as long as half of the question is higher order the questions bucketed that way. Question was modified to be more accurate as to where the gas from the damaged fuel assembly is going. Also tests the b half of the K/A by knowing what the procedure is going to need to accomplish. Licensee plans on adding Containment Closure Set to initial conditions to be more accurate with the plant conditions. Until change is made the question is now in Edit space. Ok with Change to 4th bullet
55	H	2												N	S	No Issues
56	H	3												M	S	2021 NRC Exam
57	H	3												N	~~E~~ S	Is there a specific control board we can use for a distractor? Question Sat
58	F	2												B	S	No Issues

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Q#	1. LOK (F/H)	2. LOD (1–5)	3. Psychometric Flaws					4. Job Content Flaws				5. K/A Use Flaws		6. Source (B/M/N)	7. Status (U/E/S)	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
59	F	2												N	S	No Issues
60	F	2												N	E S	Not sure I buy that it would not be monitored in the control room convince me are not blowdown releases monitored in the control room via rad monitors? I believe this would also be F not a higher level question. The building operators also have a local monitor and takes all of the local actions to control the release. SAT
61	F	2												B	S	No Issues
62	H	2				X								N	~~U~~ S	While the instrument is measuring radiations on the steam lines, I do not know of any inputs from the radiation monitors that input tp the MSIVs. That makes the first half not real credible. Could you pick a rad monitor that has automatic actions and ask if it happens or not? Rewritten and question SAT
63	H	2				X								N	~~U~~ S	Not plausible that temperature would go down after a Circ water trips. New Question SAT
64	H	2												N	~~E~~ S	Arrange answers from shortest to longest and then makes sure the correct answer is the one on the sheet. Fixed SAT
65	F	2												N	S	No Issues
66	F	2												N	S	No Issues
67	F	2												B	~~E~~ S	Change the question to not ask about a specific valve just say per the attached drawing valve XYZ would … have that same drawing and just remove the labeling for what valve it is. That way it is truly generic and cannot be construed as plant specific. As it is written an applicant may just know that once the open signal is sent the valve will continue to open and not be testing the K/A. Question SAT
68	F	2												B	~~E~~ ~~E~~ S	The second part of this question seems too easy. The plausibility's say it's a common mistake but I would like to see the validation data for this question. If the question states the monitor is inop and the picture shows the switch in bypass then logically if its fixed the switch would then be placed back in normal. The question is very plant specific and not that generic so we may need to find a more generic topic Question was rewritten and while still somewhat plant specific it radiations releases and very specific an scripted in nature and in order to meet the K/A as worded. Question was modified still somewhat plant specific but I will allow SAT
69	H	3												M	S	No Issues

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
70	H	2												**B**	~~E~~ S	Add the plant name in the stem ie Summer unit 1 conditions as follows: SAT
71	H	2												M	~~E~~/S	Free Review Question: The question is so basic it seems too easy, there are a few ways to modify the question to make it slightly better. If a boron addition is made to a shutdown reactor with RCPs in operation or the same boron addition is made to a shutdown reactor while in natural circulation 1 min after the boron addition is completed the reactor with reactor coolant pumps running will see a (larger /smaller) change in reactivity due to the boron addition alone. 1 hour after boron addition is completed the total reactivity change due to the boron addition alone would be the (same/lower) for the reactor in natural circulation Larger / Same would be correct based on loop transport time and the number of loop circulations need to have complete mixing of the boron. In FC the generic loop transport time is 2 – 5 seconds and 5 to seven loops are required to have complete mixing so one min after there would have been ~ 12 to 30 look transports and the full amount of the reactivity change would have been realized. Conversely in NC the loop transport time can be as long as 3 min so it would take much longer to see the full effect of the boron addition. You could justify the lower because in the first case the distractor smaller would be correct for the NC reactor and the applicant may believe that there would be less of an effect because of that. You would need to figure out the number of mixing cycles and loop transport times for your specific site to ensure the number work but I thin that is might be a better way to ask the question to test the fundamental K/A and tie it to your site. You also need to ensure that the stem states due to the boron addition alone otherwise they could argue negative reactive and temperature and all that kind of stuff and muck up so you cannot prove one answer or another. or While in natural circulation the loop transport time of the reactor coolant system is (2-5 sec/2-5 min). The full impact on reactivity for a boron addition will be realized in (1-2/5-7) loop transport times.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
																Question was rewritten using suggested replacement. Changed the question from bank to modified. Question SAT Ok with changes made to make the question read better and fix time issue
72	H	2												N	~~E~~ S	Could lower the power you give in the stem to something under the power range detector, this makes the knowledge bit more discriminating. This question is almost too specific for a Tier 4 question. Caution of 0.3 DPA with a positive MTC Question SAT
73	F	2	X											B	~~E~~ S	Not a true 2 X 2 question make it a straight forward question and have temperature given in the first part then use specific volume pressure enthalpy and entropy as the choices. Question Sat
74	H	2												B	~~E~~ S	Modify the question to determine the temperature, use common mistakes for determining this temperature as the distractors like saturation temp 20 psig, saturation temperature for 2200 psia, constant enthalpy to the 5 psia line and the correct answer then it would be a new question. Question Sat
75	F	2												B	~~E~~ S	Change the stem to read" V.C. Summer Reactor Thermal limits are established to _____. Question SAT changes format to shortest to longest
76	H	3												N	S	Free Review Question: Question meets the SRO level by the procedure selection and tier 1. K/A match with the caution SAT
77	H	3												N	~~E~~ S	Things that I do not know and just ask you to verify. Is the 415 ft and 25% RWST accurate? Don't want someone to come back and say that would not exist. The second question I have is by saying the first action. Would not that be to attempt to restore RHR pump? Could we change the stem to say of the following choices which action will occur first. I want to ensure we have a correct answer and the question is solid. Question SAT after revision
78	H	2												M	S	No Issues
79	H	2												N	~~E~~ S	Change the 250 to the 442 maximum pressures allowed. This would add credibility to the distractors. Fixed SAT
80	H	2												N	S	No Issues
81	H	3											X	N	~~U/E~~ S	Free Review Question: the question fails to meet the SRO level of a question the first half of the question is concerning foldout page items that are RO level of knowledge and the second half of the question while in the procedure are basically system understanding. Knowing that the charging pumps take suction from the RHR pumps while on recirc is RO level so knowing that

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
																they should be secured when RHR pumps are secured is also RO level. Question was replaced with a new question: Question looks good need to update the distractor analysis to match the new question. Edit Distractor Analysis has been updated Question SAT
82	F	2				X								N	~~U~~ S	Why is 300 degrees credible? Also, the graph you are giving them is a direct look up you can look at the side without using the graph as see at 90% 552,629 below the TS limit of 553,000. Which makes the distractor analysis not valis for the first half. There is a nots that states when less than 300 degrees adding credibility.w The graph does not tell you the min level so that is not a direct look up, SAT
83	H	2												N	S	No Issues
84	H	3												N	S	No Issues
85	H	2												B	~~E~~ S	Make distractor A for the SAE 1816 so you have a true 2X2. Make sure that the reference is a new clean EAL board for each SRO and We need to verify that no information on the EAL charts provide any information that could inform any other question. Question SAT
86	H	3										X		N	~~U/E~~ S	Free Review Question: the question does not meet the K/A, for K/A A-2s it is desirable to ask both halves of the K/A the a and b half. If unable to write a question to both halves of the K/A then the b section is what you are supposed to write the question to. Use procedures to mitigate the issue. So in this case asking what procedure would be implemented to address the issue and a procedural decision on what needs to be done beyond the overall mitigation strategy. Question was significantly revised basically a new question. Distractor analysis needs to be revised to match the updated question. Question is an Edit until distractor analysis is updated. Distractor analysis updated
87	H	3												M	S	No Issues
88	H	2												N	S	No Issues
89	H	3				X								B	~~U~~ S	All of the actions within this TS that go to cold shutdown are 6 hours to hot standby and 30 hours to cold shutdown which cues to your correct answer. The student knows you can't have more than one correct answer so they can rule all of them out. Question SAT

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
90	H	2												N	~~E/E~~ S	Free Review Question: The first half is RO knowledge but the second half is SRO level and meets the threshold. A way to make it better would be to state the setpoint was adjusted to 8.85. The basses for adjusting the setpoint is (X or Y) and leave the second half alone. Question updated to ask the basis for the 8.85 making the entire question as SRO level and provide more value. The question is good need to update the distractor analysis to move rating to SAT Question Edit Distractor analysis updated SAT
91	H	3												M	S	No Issues
92	F	2												N	S	No Issues
93	F	2											X	N	~~E~~ S	This is an RO question. The SRO is not selecting a procedure to use to correct, you stated the procedure you are in. Just using the SOP doesn't change the procedure selection since the AOP directs it. Need to provide examples of when an AOP fixes a system that was affected. IN examples provide the examples where the AOP fixes the procedure or attachments ect in the plausibility statements Will be sat when distractor analysis is updated Distractor analysis updated SAT
94	F	2												M	S	No Issues
95	H	2												N	E/E S	Free Review Question: the SRO level tie is good to make the SRO level question the second half needs to address what they will monitor in some way. Like in accordance with procedure XYZ the power reductions will be made with the Turbine and boron/rods will be used to maintain Tave Tref with in X degrees. Question is good but still need distractor analysis updated. Says at EDIT Distractor analysis updated
96	F	3												N	~~E~~ S	Make the second half of the distractors be either the Shift manager or the manager of oversight. Question Sat
97	F	3												N	~~E~~ S	Make the answer/distractors go from least to greatest i.e. 24 hours to 7 days. Question Sat
98	F	2												B	~~E~~ S	For the second distractor if the cleanup units will be in-service why is it a wrong answer? I realize you use the word required in the question but if it placed in-service because of particulate then its required by some procedure. Differentiating which procedure its required is problematic for the student. Question SAT

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job Link	Minutia	#/Units	Logic	Q–K/A	License Level			
99	F	2												N	~~E~~ S	Why is 30 minutes plausible, your plausibility statements don't discuss this. I see your supporting docs but all declarations must be completed within 15 minutes.. This question is real close to RO level as knowing the 15 minute clock and who directs is not specific to SRO. Question SAT
100	F	1											X	N	~~U~~ S	Should not need a reference for an SRO to be able to answer with the reference it is direct lookup and LOD 1 Question rewritten and is now SAT