Facility: Brunswick Date of Examination: Nov/Dec 2015
Examination Level: RO ■ ***SRO*** ■ Operating Test Number: FINAL

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations (COO-01) (RO, **then SRO**)	R, M	***Determine SRM/IRM Overlap*** 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
Conduct of Operations (COO-02) (**SRO only**)	R, D	***Determine Overtime Eligibility*** 2.1.3 Knowledge of shift or short-term relief turnover practices
Conduct of Operations (COO-03) (RO)	R, N	***Time-to-Boil Calculation*** 2.1.1 Knowledge of Conduct of Operations requirements.
Equipment Control (RO)	R, M	***Evaluate Core Spray Operability*** 2.2.37 Ability to determine operability and/or availability of safety related equipment.
Equipment Control (**SRO only**)	R, D	***Perform Safety Function Determination*** 2.2.22 Knowledge of Limiting Conditions for Operations and Safety Limits
Radiation Control (RO and **SRO**)	R, D	***Determine Stay Time in High Radiation Area*** 2.3.4 Knowledge of Radiation Exposure Limits under normal or emergency conditions.
Emergency Procedures/Plan (**SRO Only**)	R, N	**Determine a Protective Action Recommendation (PAR)** 2.4.44 Knowledge of the Emergency Plan Protective Action Recommendations.

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

Conduct of Operations (COO-01) (RO, then SRO)

Determine SRM/IRM Overlap and Tech Spec Assessment R, M

K/A 2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

This is a modified JPM that requires the Examinee to determine SRM/IRM overlap and then, for SRO only candidates, determine Technical Specification applicability. The readings were modified to make another IRM inoperable, and the SRO only portion was added, to provide a modification to the original Bank JPM.

Conduct of Operations (COO-02) (SRO only)

Evaluate Overtime Eligibility R, D

K/A 2.1.9 Ability to direct personnel activities inside the control room.

This is a Bank JPM that requires the SRO to determine overtime eligibility for several employees. Although the numbers of hours worked was not modified, the procedure governing working hours has changed to make the JPM different from the original.

Conduct of Operations (COO-03) (RO only)

Time to Boil Calculation R, N

K/A 2.1.1 Knowledge of Conduct of Operations requirements

This is a new JPM that requires the Examinee to determine the time to boil IAW 2OI-03.4.1, Reactor Operator Daily Check Sheets.

Equipment Control (RO only)

Evaluate Core Spray Operability R, D

K/A 2.2.37 Ability to determine operability and/or availability of safety related equipment.

This is a bank JPM that requires the Examinee to review Core Spray Operability test date and determine what parameters do not meet the Acceptance Criteria.

Equipment Control (SRO only)

Perform Safety Function Determination R, D

K/A 2.2.22 Knowledge of Limiting Conditions for Operations and Safety Limits

This is a bank JPM that requires SROs to perform a Safety Function Determination IAW the TRM.

Radiation Control (RO and SRO)

Determine Stay Time in High Radiation Area R, P

K/A 2.3.4 Knowledge of Radiation Exposure Limits under normal or emergency conditions.

This is a bank JPM. It requires the Examinee to determine the stay time for workers in a high radiation area, and if they have exceeded administrative dose limits.

Emergency Procedures/Plan (SRO only)

Determine Protective Action Recommendations (PAR) R, N

GEN 2.4.44 Knowledge of Emergency Plan Protective Action Recommendations

This is a new JPM that requires the SRO Examinee to determine PARs during a General Emergency and evaluate whether a KI recommendation is warranted.

Facility: Brunswick Date of Examination: NOV/DEC 2015

Exam Level: RO ■ SRO-I ■ ***SRO-U*** ■ Operating Test No.: ~~DRAFT~~ FINAL 6/22/2017

Control Room Systems* (8 for RO); (7 for SRO-I) 2 or 5 for SRO-U		
System / JPM Title	Type Code*	Safety Function
a. Initiation of SLC System with RWCU Isolation Failure	A,S,P,EN	1
b. (RO ONLY) Start RCIC with steam line failure	A.S,P,L	2
c. Test the Main Steam Isolation Valves	N,S	3
d. Shifting Stator Cooling Pumps – Pump Trip	A,S,D	4
e. Isolate Recirc Pump IAW 0AOP-14.0 with THI	N,A,S	5
f. Bus E3 Normal feeder to DG3	S,D,P	6
g. Restoration of APRM Rod Block and Scram Setpoints from Single Loop Operation to Two Loop Operation	S,D	7
h. Restart RB HVAC with Failure to Isolate	A,S,D	9
In-Plant Systems* (3 for RO); (3 for SRO-I); (3 or 3 for SRO-U)		
i. Resetting RCIC Mechanical Overspeed	D,E,R	2
j. Unloaded Maintenance Start of the Supp DG	E,D	6
k. ***Local Deluge System Manual Operation for SBGT Train***	D,R	8

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

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

a. Manual Initiation of SLC System with RWCU Isolation Failure

211000 A4.08 Ability to operate and/or monitor in the control room: System Initiation

This is a simulator alternate path JPM that will have the examinees initiating SLC. When the system is started the RWCU Outboard Isolation Valve, G31-F004 does not close and the examinee is expected to take action to close this valve. This JPM was randomly selected from the 2014 NRC exam.

b. RCIC Start Per The Hard Card – Steam line break

217000 A4.08 Ability to manually operate and/or monitor RCIC system flow

This is a simulator alternate path JPM that will require the examinee to start RCIC for injection per the Hard Card and restore RPV water level. As an alternate path the steam line breaks and RCIC does not auto isolate requiring manual isolation of RCIC. RCIC is an engineered safety feature.

c. Test the Main Steam Isolation Valves

239001 A4.01 Ability to manually operate and/or monitor the MSIVs in the Control Room

This is a new JPM that will require the examinee to perform post-maintenance testing of a MSIV.

d. Shifting Stator Cooling Pumps – Pump Trip

245000 EA.21 Ability to manually operate and/or monitor in the control room: Stator water cooling pumps

This is a banked alternate path simulator JPM that will require the examinee to swap stator cooling water pumps so that maintenance can be performed on the currently running pump. When the operating pump is secured, a malfunction on the alternate pump will require restarting the pump that was initially running.

e. Secure Recirculation Pump IAW AOP-14 - THI

295024 A4.04 Ability to operate and/or monitor the following as they apply to HIGH DRYWELL PRESSURE: Recirculation System

This is a new alternate path simulator JPM that requires the examinee to secure and isolate a Recirculation Pump due to a failing Recirc Pump seal. Indications of Thermal Hydraulic Instability will require scramming the reactor.

f. Manual Transfer of Bus E3 from the Normal Feeder to the DG3

264000 A4.04 Ability to manually operate and/or monitor in the control room: Manual start, loading, and stopping of emergency generator.

This is a banked simulator JPM that will require the examinee to perform the Control Operator actions associated with the manual transfer of E3 from the Normal Feeder to DG3 IAW 0OP-50.1, Diesel Generator Emergency Power System Operating Procedure

g. **Restoration of APRM Setpoints from Single Loop to Two Loop Operation**

201005 A1.04 Ability to predict and/or monitor changes in Scram and Rod Block trip setpoints associated with operating APRM system controls.

This is a banked JPM that will require the examinee to perform the restoration of APRM rod block and scram setpoints following return to 2-loop Recirc Pump operation.

h. **Restart RB HVAC with Failure to Isolate**

288000 A3.01 Ability to monitor Plant Ventilation System automatic isolation/initiation signals in the control room

This is a banked alternate path simulator JPM that will require the examinee to restart Reactor Building HVAC per SEP-04. After Reactor Building HVAC is restarted, high radiation levels will require the examinee to isolate the Reactor Building.

i. **Resetting RCIC Mechanical Overspeed**

295031 EA 1.05 Ability to operate and/or monitor RCIC it applies to reactor low water level

This is a banked in-plant JPM that will require the examinee to manually reset the RCIC Mechanical Overspeed Trip device. This JPM is performed in the RCA.

j. **Unloaded Maintenance Start of the Supp DG**

264000 A3.03 Ability to monitor automatic operations of the EMERGENCY GENERATORS (DIESEL/JET) including indicating lights, meters, and recorders.

This is a banked in-plant JPM that will require the examinee to simulate the actions associated with performing the field actions for starting the Supp DG, which is a recent plant modification.

k. **Local Deluge System Manual Operation for SBGT Train**

286000 A2.08 Failure of Fire Protection System to Actuate When Required

This is a banked in-plant JPM that will require the examinee to simulate manually initiating the SBGT deluge system. This JPM is performed in the RCA.

Tier / Group	Randomly Selected K/A	Reason for Rejection
T1/G1	295007G2.4.11	No High Drywell pressure AOP.
		NRC Response: T1G1 is for Emergency/Abnormal conditions. Write to APP or EOP.
T1G1	295010AK2.03	Not Mark III Containment.
		NRC Response: Change to Mark II Containment (AK2.02)
T2/G1	239002K4.04	No design for SRV even distribution. Manual action.
		NRC Response: Write to manual/procedural actions or bases for actions.
T2/G2	204000A4.04	No Control Room indication for RWCU Hx operation.
		NRC Response: Rejected, provide new K/A
		Replacement KA: A4.01 System Pumps
T1/G2 SRO	295015G2.4.2	Not SRO level.
		NRC Response: Rejected, provide new K/A
		Replacement KA: G2.4.5
T2/G1 SRO	203000G2.4.2	Not SRO level.
		NRC Response: Rejected, provide new K/A
		Replacement KA: G2.4.6

ES-401 **Written Examination Quality Checklist** **Form ES-401-6**

Facility: Brunswick (BNP) Date of Exam: 12/15/2015 Exam Level: RO ■ SRO ■

	Item Description	Initial a	Initial b*	Initial c*#
1.	Questions and answers are technically accurate and applicable to the facility.	✓	✓	BSL
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	✓	✓	BSL
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	✓	✓	BSL
4	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last two NRC licensing exams, consult the NRR/NRO OL program office).	✓	✓	BSL
5.	Question duplication from the licensee screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate __ The audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or __X__ the licensee certifies that there is no duplication; or __ other (explain)	✓	✓	BSL
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right Bank: **32/10** Modified: **3/1** New: **40/14**	✓	✓	BSL
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right. Memory: RO/SRO **32/6** C/A 57.3%: RO/SRO **43/19**	✓	✓	BSL
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	✓	✓	BSL
9.	Question content conforms to specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	✓	✓	BSL
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	✓	✓	BSL
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	✓	✓	BSL

		Printed Name / Signature	Date
a.	Author	Lou Sosler	12-9-2015
b.	Facility Reviewer (*)	Jerry Pierce	12/9/15
c.	NRC Chief Examiner (#)	BRUNO CABALLERO / Bruno Caballero	12-10-15
d.	NRC Regional Supervisor	Eugene Guthrie /	12/11/15

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

ES-401 **Written Examination Review Worksheet** **Form ES-401-9**

Brunswick 2015

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
																Draft Exam Received 9-30-2015.
																The RO exam was PRELIMINARILY determined to NOT meet the NUREG-1021 acceptability standards because of the number of unacceptable test items: • Cred Dist: #6, #10, #20, #23, #25, #27, #29, #52, #68, #73 • Q=K/A: #2, #8, #25, #28, #38, #40, #44, #45, #46, #49, #50, #54, #64, #66, #74 • LOD=1: (Repeated items from above in yellow) #8, #27, #40 Total # unacceptable RO test items: 24/75 = 32%
																The SRO exam was PRELIMINARILY determined to NOT meet the NUREG-1021 acceptability standards because of the number of unacceptable test items: • Cred Dist: #83, #85, #90, #92, #96 • Q=K/A: #93 • SRO-only: #89, #91, #94 • LOD=1 (Repeated item from above in yellow) #94 Total # of unacceptable SRO test items: 10/25 = 40%
																FINAL DETERMINATION: <u>RO EXAM (22/75 unsat = 29%)</u> • Q=K/A: Eleven • Cred Dist: Ten • Post Exam Comment: #75 deleted <u>SRO EXAM (8/25 unsat = 32%)</u> • Q=KA: Two • Cred Dist: Four • SRO-only: Two

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
																DRAFT SUBMITTAL CONTAINED: 5 test items [3 RO (Q# 2, 20, 30, 33) + 2 SRO(Q# 97, 98)] from the previous two NRC Exams (2014 & 2012) 8 test items (Q# 14, 21, 53, 62, 64, 70, 95, & 97) from the 2010-1 NRC Exam. 2 test items (Q# 33, 98) from the 2010-2 NRC Exam. 5 test items (Q# 19, 25, 57, 79, 81) from the 2008 November NRC Exam. 4 test items (Q# 8, 12, 69, 74) from the 2008 NRC April Makeup Exam

Instructions

(Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts:

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question a 1(easy) to 5 (difficult); (questions with a difficulty between 2 and 4 are acceptable)
3. Check the appropriate box if a psychometric flaw is identified:
   - "Stem Focus": The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - "Cues": The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc.).
   - "T/F": The answer choices are a collection of unrelated true/false statements.
   - "Cred. Dist": The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - "Partial": One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. Check the appropriate box if a job content error is identified:
   - "Job Link": The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - "Minutia": The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - "# / Units": The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - "Backward": The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those K/As that are *designated SRO-only* (K/A and license level mismatches are unacceptable)
6. Enter question's source: (B)ank, (M)odified, or (N)ew. Verify that (M)odified questions meet the criteria of ES-401 Section D.2.f.
7. Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
8. At a minimum, explain any "U" Status ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
1	H	2	x											N	E	T2G2: 201001 K4.03 1. Stem Focus: The initial status of the CRD system was not provided in the stem. Suggest adding a bullet that says the unit was operating at 100% power because the question choices require the applicant to compare flows before and after the LOIA. 2. 11-12-15: Licensee added Unit status and clarified that loss of air was only to the CRD Flow Control Valve. Question is SAT
2	H	2	x									x		**M**	U	T2G2: 201002 A1.04 **(2014 NRC Exam, Q#1)** 1. Q=K/A: The proposed question does not test plant specific RMCS knowledge; the proposed question can be answered solely using GFES knowledge (Refer to K/A Catalog 292008, K1.03 and K1.04). Suggest re-working the question to test the applicants' ability to predict (based on RMCS switch positions-RONOR or single notch out) Rod Block Monitor power indications/set points or APRM/LPRM indications (as to hit the K/A statement "overall reactor power" piece) are expected to respond when a centrally located rod is moved. 2. Stem Focus: The 2nd sentence in the stem should be relocated to the top of the question since it is the initial plant condition. 3. 11-17-15: Revised question to test how many RMCS switches needed to accomplish continuous rod withdrawal from 12 → 48 and which SRM would see the change. Question is SAT.

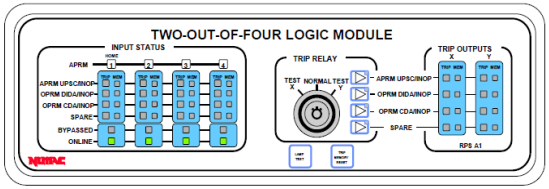
Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
3	F	2		x			x							N	E	T2G2: 201003 A2.01 1. The distracter analysis indicated that this K/A number was A1.01; however, A1.01 does not appear on the sample plan. This may be a typographical error and the actual number is A2.01. 2. Partial: Adjusting drive water header ΔP after a rod has been determined to be STUCK (only performed for control rods difficult to move) may not be procedurally driven. 0AOP-02.0, Control Rod Malfunction/Misposition, Section 4.2.9.a, states that if a single rod is unable to be moved (stuck), then check CRD DCVs for plugging and check individual HCU power & control logic. Consequently, there may be no technically correct answer to the second portion of the question because the stem says the rod is STUCK, i.e., immovable. On the other hand, if we simply changed the first sentence to say that the rod is at position 24 and is "difficult to move", then the plausibility of the 1st part of Choices C/D would suffer (not be plausible). 3. Cue: The word "raised" in the 2nd fill-in-the-blank statement is not necessary to elicit the correct response. Instead, use the phrase "is required to be adjusted." 4. 11-17-15: Revised to test rod-difficult-to-move situation (versus stuck) and changed 2nd part to test whether LCO 3.1.1, SDM, was/ was not met. Question is SAT
4	F	2	x											B	E	T2G1: 203000 A4.06 1. Stem Focus: Add an initial condition stating that RHR auto-initiated and is no longer needed for water level control. 2. Stem Focus: Add the OP-17 Section being performed to the stem question, that is, Section 7.1, Shutdown-Auto or Manual LPCI Mode. 3. Stem Focus: The word "correct" is never necessary in the stem question. Consider adding the word "required." 4. 11-12-15: Licensee incorporated comments. Question is SAT

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
5	H	3	x							x				N	E	T2G2: 204000 A4.01 1. #/units: The noun names for each of the stem indications should be identical to the label on the control board. For example, the RWCU system flow should be called RWCU Pump Flow, etc. 2. Stem Focus: The 1st sentence in the stem is vague with respect to a "reject flow path." This has a cryptic meaning that could be misinterpreted. Suggest clarifying which RWCU Reject Valves (numbers) are open, etc. 3. Stem Focus: Suggest replacing the word "identifies" in the steam question with "predicts." 4. 11-17-15: No changes necessary after licensee explanation; Question is SAT.
6	F	2				x								B	U	T2G1: 205000 K3.02 1. Cred Dist: The 2nd part of Choices A/C (ensures forced circulation) is not plausible because raising RPV level does not ever provide Forced circulation. The stem does not include any info related to how many loops of RHR were initially operating, whether a recirc pump is still operating, what caused the loss of SDC'g, current recirc loop flows, jet pump flows, and/or current RPV level. The reason "to ensure forced circulation" is also not plausible because there's nothing in the stem that could be misconstrued by the applicants to point to forced circulation. This plausibility issue also applies to RO Q#10. 2. 11-17-15: Licensee re-worked question to test minimum required level and whether recirc loop suction temperatures are / are not allowed to be used for temperature monitoring. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
7	H	2	x				x							B	E	T2G1: 205000 K5.03 1. Partial: Choice B is also correct because the steam leak (depending on the size) may still cause the cool down rate to get bigger. 2. Partial: Choice C may not be correct because decay heat removal is still occurring via the steam leak and Core Spray injection. 3. The knowledge being tested (SW Booster Pumps trip on LOCA signal) appears to overlap with the knowledge required to answer Q#19. 4. Stem Focus: The first sentence in the stem should provide the Section title/number of OP-17 that was used to place RHR Loop A in service so that the applicants will know the required starting alignment. 5. Stem Focus: The word “identifies” in the stem question may be more appropriately “predicts.” 6. 11-17-15: Licensee incorporated comments and specified Loop A decay heat removal aspect (vs the generic decay heat removal aspect). Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
8	H	1	x				x					x		B	~~U~~ S	T2G1: 206000 G2.2.36 (**2008 NRC April Makeup Exam, Q#?)** 1. Q=K/A: The proposed question does not test the applicants' ability to analyze any maintenance activity. The generic portion of this K/A is appropriate for SRO applicants to assess whether a maintenance activity's duration would exceed 50% of the total allowed LCO outage time, which typically requires higher management approvals. [For example: if work is scheduled for > 50% of the LCO Action Statement time, then refer to procedure AD-WC-ALL-0410, Work Activity Integrated Risk Management, for Complex/Critical Plan requirements.] If a RO question cannot be written for this K/A, then we can swap out the K/A. Discuss with Chief Examiner. 2. LOD=1: It appears that, given the provided reference, the applicant only has to compare numbers in a table to the allowable, alert, and required action values in the same table. This provides no discriminatory value. 3. Partial: Since Choices B, C, & D provide the reasons for why the acceptance criteria is not met, there may be no correct answer. In other words, Acceptance Criteria 6.1.1 states that the pump discharge pressure must be ≥ 1110 psig; in this question, the pump's discharge pressure was only 335 psig. 4. Stem Focus: The turbine speed value provided in the stem doesn't match the turbine speed value listed in the table. 5. Which exam was this bank question drawn from? 6. 11-12-15: K/A replaced with G.2.44 on 10-26-15; Replacement question graded as SAT. The original determination of unsat was credited back to the licensee.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
9	H	2	x				x							N	E	T2G1: 209001 A3.03 1. Partial: Because the stem doesn't specify that at least 10 seconds has elapsed, there may be multiple correct answers for the 1st part of the question. Suggest adding the phrase "*after these conditions remain in effect for 1 minute*" to the end of the stem question. 2. Stem Focus: The stem doesn't include whether the plant was initially operating at 100% power or whether it was initially in Mode 3. Also, the first sentence says a line rupture has occurred; suggest clarifying as a steam line break and saying that the reactor was initially in Mode 3. 3. Stem Focus: Suggest the word "predicts" instead of "identifies" in the stem question. 4. 11-17-15: Comments incorporated as appropriate; Question is SAT.
10	F	2	x			x								B	U	T2G1: 211000 G2.4.09 1. Cred Dist: The 2nd part of Choices B/D (raising level increases FORCED circ) is not plausible because raising RPV level doesn't ever raise FORCED circulation. See further explanation in RO Q#6 discussion above. 2. Stem Focus: Re-word the stem question as "*WOOTF completes both statements in accordance with 0OI-37.5, ATWS Procedure Basis Document?*" This makes the question more precise since 2EOP-01-ATWS, ATWS Control Procedure, does not directly answer the fill-in-the-blank statements. 3. 11-17-15: Changed wording of 2nd fill-in-the-blank statement to test whether raising level is / is not required. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
11	H	2		x		x				x				N	E/U	T2G1: 212000 K1.03 1. Verify that none of the simulator scenario events involve a Critical Self Test Fault 2. Cred Dist: The plausibility of the 1st part of Choices A/B (Critical Self Test Fault) is border line since the picture provided in the stem does not contain anything that could be misconstrued as a fault; the picture includes two APRMs – one healthy and one tripped. Suggest adding something to the stem to enhance plausibility. 3. Cues: The 1st fill-in-the-blank statement should be revised (to eliminate possibility of cues with the words "indications and alarms", and to streamline) as: *A ____(1)_____ exists.* 4. #/units: The phrase "show a trip" in the 2nd fill-in-the-blank statement is slang; re-word to refer to the exact light(s) being referred to on the voter:  5. 11-17-15: Replaced "critical self test fault" with "recirc pump trip." Question is SAT
12	F	2					x							B	E	T2G2: 215002 K2.03 (**2008 NRC April Makeup Exam, Q#2**) 1. Partial: Choice B is also correct because the 120 VAC UPS System supplies power to the APRM/RBM recorders on P603. If the intent was to use the acronym "NUMAC" to refer to the back panel chassis, then add the back panel number/designation to eliminate Choice B as a correct answer. 2. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
13	F	2	x			x	x							B	E	T2G1: 215003 K2.01 1. Partial: There is no correct answer. The SRM (*IRM)* <u>*detector*</u> is a fission chamber that has an applied voltage to the electrode of approximately 600 (<u>*100*</u>) volts. Since the stem question asks for the power supply to the IRM detectors, there is no choice that matches 100 volts. 2. Cred Dist: Choice "D" is not plausible because it is vague with respect to what "emergency power" means. Suggest providing a panel number, changing to RPS, etc. 3. Stem Focus: The previous question (Q#12) did not provide voltages with UPS or DC choices; this question should be consist with Q#12. 4. 11-17-15: Comments incorporated; Question is SAT.
14	H	2		x		x				x				**M**	E	T2G1: 215004 K5.01 **(2010-1 NRC Exam, Q13; 2014 NRC Exam, Q#15)** 1. Cred Dist: Choice B (IRM E range up) is not plausible because its current reading is only 12/125. 2. Cred Dist: The plausibility of Choice D (range F up to 3) is borderline because IRM F is only reading 55; consider raising IRM F reading to match IRM B. 3. Cue: The stem does not include IRM positions. 4. #/units: The 2nd sentence in the stem is not specific; add the word "withdrawal" to clarify what type of rod block has occurred. Also add to stem question. 5. 11-17-15: Significantly modified the question by changing the SRM positions/readings; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
15	H	2		x		x								N	E	T2G1: 215005 K1.10 1. Cred Dist: Choice D is not plausible because: • the stem asks for the effect on RMCS – "No Rod Block" is not an effect; • there is no other choice on the exam that uses the words "neither" and "nor." (The words should be APRM 1 & 2 are OPERABLE.); and • Choice D is the only choice that is not "like the others." 2. Cue: The phrase "..with the Reactor Mode Switch in Run" in the second sentence is not necessary to elicit the correct response. 3. 11-12-15: Licensee used the term "if any" in the stem to correct the 1st and 3rd bullets listed above. Other comments incorporated. Question is SAT.
16	~~2~~ H		x				x	x						N	E	T2G1: 217000 K6.01 1. Job-Link and/or Partial: The word "operable" is normally reserved for SRO Tech Spec questions; this could technically make none of the choices correct. Replace with "available" to ensure that Choice B remains correct. 2. Stem Focus: The words "the" and "will" in the stem question are not necessary. Suggest replacing the word "the" with "two." 3. LOK: Let's discuss if this question may be used as a Fundamental (Lower) Cog item. 4. 11-12-15: Comments incorporated; question now listed as higher cog. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
17	~~?~~ H	2	x									x		**M**	E	T2G1: 218000 A3.03 (**2014 NRC Exam, Q#20**) 1. Q=K/A: The "automatic" piece of ADS seems to be missing. The first portion of the 2nd fill-in-the-blank makes the question into a leaking SRV or manual operation of an SRV type question; "when the alarm clears" implies the SRV has been reseated or manually closed. The K/A is AUTOMATIC Depressurization System. A better way to hit the K/A may be to test the applicants' ability to recognize which acoustical monitors will show noise when an automatic ADS actuation occurs. 2. Stem Focus: The stem question may be better worded as "*WOOTF completes both statements concerning A-03 (1-10) Safety/Relief Valve Open?*" 3. Stem Focus: The word "effected" in the 2nd fill-in-the-blank statement should be "affected." 4. Stem Focus: The phrase "high temperature on recorder" can be deleted from Choices C/D. 5. LOK: Let's discuss if the proposed test item is a Fundamental (Lower) Cog item vs. Higher Cog item; seems memory related. 6. 11-17-15: Comments incorporated, exam item is higher cog; Question is SAT.
18	F	2	x											B	E	T2G1: 218000 K2.01 1. Stem Focus: The stem question should refer to both fill-in-the-blank statements; "*WOOTF completes both statements concerning..*" 2. 11-12-15: Comment incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
19	H	2	x											B	E	T2G2: 219000 G2.2.37 (**2008 NRC November Exam, Q#17** 1. The knowledge being tested (SW Booster Pumps trip on LOCA signal) appears to overlap with the knowledge required to answer Q#7. 2. Stem Focus: In the stem, include the section #/title of the procedure that was used to place Torus Cooling in service. This is important to ensure that the switch alignments are known by the applicants; LOCA override switch not in override, etc. 3. Stem Focus: The term "maximized" may be confusing; just say that F048B is fully closed. 4. 11-17-15: Revised question to test the torus cooling topic (flow requirement and isolation logic on hx bypass valve). Comments incorporated; Question is SAT.
20	H	2	x			x								N	U	T2G1: 223002 A2.09 1. Cred Dist: The 1st part of Choices A/B is not plausible because a single instrument failure never causes an actuation to occur, regardless of what mode the plant is in. This was the basis for surveillance testing. 2. Stem Focus: The 1st and 2nd fill-in-the-blank statements should be consistent; one statement refers to MSIVs whereas the other says "Group 1 Isolation." 3. Stem Focus: The 1st and 2nd parts of the question appear disjointed; MSIVs don't auto-close but 2nd half of question asks what if they do. 4. 11-17-15: Revised question to test how many steam lines are required to sense high steam flow on Unit 2 only, when in the startup mode. Question is SAT

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
21	H	2	x				x			x				B	E	T2G1: 223002 A4.05 (**2010-1 NRC Exam, Q#20**) 1. Stem Focus: The first sentence can be streamlined as "*Reactor Recirc Pumps have auto-tripped due to low reactor water level.*" 2. Verify that the 1st sentence does not provide a cue to any other test items. 3. Stem Focus and/or Partial: To ensure that Choice C is not correct, provide a timeline in the stem and then ask the applicants for the status at a time five minutes afterwards. The phrase "in five minutes" may not be clear. 4. #/units: The stem refers to the "Group 3 Isolation Status Box on ERFIS." The stem should refer to the specific title/screen display number, for example, Display 340 GRP ISOL STATUS or Plant Status Matrix. Provide copy of ERFIS/SPDS screen being referred to. 5. 11-12-15: Comments incorporated; Question is SAT.
22	F	2										x		N	E/U	T2G2: 233000 K2.02 Fuel Pool Cooling and Cleanup (233000) (Tough K/A) **K2. Knowledge of electrical power supplies to the following:** (CFR: 41.7) K2.01 Fuel pool cooling pumps ..... 2.1* 2.2* K2.02 RHR pumps ..... 2.8* 2.9* 1. Q=K/A: The link between the RHR Pump power supply and Fuel Pool Cooling does not exist in the proposed question because the stem question specifically asks for the power supply to the 1B RHR Pump. (If you cover up the first sentence, then you can still answer the question correctly.) A more appropriate way to test the K/A might be to test the applicants knowledge of which busses are required for the Fuel Pool Cooling Assist Mode. This way, the applicant has to know that only the B Loop RHR Pumps are available for FPC's Assist. 2. The knowledge being tested in this question is the same knowledge being tested in Q#32 (power supply to RHR pumps) 3. 11-17-15: Question revised to incorporate comments; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
23	F	2				x						x		B	U	T2G1: 239002 K4.04 1. Cred Dist: Choice A (each other) is not plausible because other SRVs are also adjacent one another, not just SRVs K & L. Additionally, the font size for Choice A appears smaller than the other words in the question. 2. Cred Dist: Choices C/D (pump suctions) are not plausible because they each specify the names of systems; if the vicinity of the pump suction were the concern, it would be true for RHR and HPCI/RCIC, not just one or the other. Suggest combining these Choices to say ECCS Pump Suctions. 3. Q=K/A: The proposed test item seems to test the EOP procedure; what design feature or interlock is being tested? There may be other Tier 2 knowledge to test, such as T-quencher construction, including submergence level, hole locations, etc. 4. 11-17-15: Question revised to test elevation that SRVs discharge and the design feature that provides for even heat distribution; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
24	F	2	x				x							B	E	T2G2: 241000 K6.10 1. Partial: An applicant can successfully argue there is no correct answer because the extent of the initial turbine bypass valve failure mode is undefined. Because there was an initial failure mode, this means that the valves may or may not auto-close when vacuum lowers or that the bypass valve jack may or may not runback. The stem question asks the applicants to predict how the bypass valves/jack will respond, but it's impossible to predict because the whole system initially failed to work correctly. 2. Stem Focus: The 2nd sentence should say that the *crew* adjusted the jack to 20% open. This ensures the applicants know that the jack didn't position itself, due to the undefined failure mechanism. 3. Stem Focus: The 2nd fill-in-the-blank statement is vague; is it referring to the meter position signal? Or is it referring to bypass valve position? Suggest re-working the question to test the applicants' knowledge of whether the turbine bypass valve system is or is not operating correctly, when given plant conditions and control board indications. For example, instead of telling them that the bypass valves failed to open, re-work the question so the applicants somehow have to diagnose the failure. Alternatively, another idea may be to provide the bypass valve initial status, and then provide a condenser vacuum value and test the applicants' knowledge of how the auto-valve closure affects the startup or plant recovery. 4. 11-17-15: Licensee's proposed fix still contained flaw (correct answer was always true, regardless of a malfunction). Question revised to test whether a loss of UPS would/ would not cause a scram, including the reason or plant effect. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
25	H	2				x						x		**M**	U	T2G2: 256000 A3.07 (**2008 NRC November Exam, Q#25**) 1. Cred Dist: The 2nd part of Choices A/C (feedwater temperature rises) is not plausible because the 2nd fill-in-the-blank statement tells the applicant that heat is directed away from the reactor. Anytime heat is directed away from the reactor, the final feed water temperature lowers. (less efficiency) 2. Q=K/A: The proposed test item may not be testing the applicants' ability to monitor automatic feed water heater level control. The applicant does not have to know anything about auto-level control response to answer the question. One suggestion is to replace this question with one that tests the applicants' ability to determine when the MRV valves will auto-open, or when the high level dump valves will auto-open. 3. 11-17-15: Licensee's proposed fix still contained two non-plausible distracters (high level causes moisture removal valves to close). Question revised to test how non-return valves respond at 45% power when high feedwater level condition occurred, including where the feedwater heater drainage is then routed. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
26	H	2	x			x		x						B	E/U	T2G1: 259002 A2.06 (**2004 NRC Exam, Q?**) 1. Cred Dist and/or Cue: The picture of 2-RFA-SI-7325 tells the applicant that the actual speed (following the alarm) remains at 5203 rpm. Therefore, the 1st part of the answer can only be "remain at current speed." Suggest removing the picture of 2-RFA-SI-7325 from the stem. 2. Job-Link: The link to AOP-23 to satisfy the A2 K/A part may not be operationally valid. 0AOP-23, Step 10, says: 10. **IF** RFPT A(B) speed is being controlled with the Lower/Raise speed control switch located on Panel XU-1, **AND** return to DFCS control is desired, **THEN transfer** the Woodward 5009A(B) to DFCS control in accordance with 1OP-32(2OP-32), Condensate and Feedwater System Operating Procedure, using the section for one RFPT M/A transfer station initially in manual. ☐ The stem did not say that the operator was initially controlling level with the XU-1 switch; in reality, the feed pump will "lock up" at the last speed and no level adjustment will be required, as the other feed pump auto-adjusts, if necessary. The guidance in Step 10 to return to DFCS control is NOT desired because the reason for the speed control signal failure has not yet been determined. Therefore, linking the 2nd fill-in-the-blank statement to 0AOP-23 may not be valid. What will the operator do if the alarm was valid and the feed pump locked up, as designed? Will he leave the feed pump alone? Or will he lower power, remove the feed pump from service? Or will he perform an infrequent section of OP-32? These are the items that should be tested to meet the 2nd part of the A2 K/A statement. 3. Stem Focus: If the pictures in the stem were to remain, they should be positioned as they would appear on the control board, from left to right. P603 before XU-1. 4. 11-17-15: Picture of 2-RFA-SI-7325 removed; refined the 2nd part of all choices. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
27	F	1				x	x							N	U	T2G1: 261000 K3.04 1. Cred Dist: Choices B/D (manual operator actions necessary) are not plausible because: • the stem says both SBGT fans are broke, no amount of manual operator actions to dampers will work if neither fan is available; and • the wording of the stem question asks for the effect on HPCI, whereas Choices B/D don't represent an "effect" on HPCI. Suggest writing a question to test the applicants' knowledge of which alarm is expected when SGBT is unavailable and HPCI auto-starts. There may be several good distracters (UA-3, 3-5; A1, 5-2; A2, 4-7; or other better ones.) and the correct answer might be UA-3, 2-7. 2. LOD=1: This question will provide no discriminatory value on the exam. 3. Partial: An applicant can argue that Choice A is not correct because the stem asks for effect *on HPCI operation*; HPCI operation is unaffected. (Airborne activity is affected.) 4. NRC wrote replacement question to test high airborne activity as effect on HPCI if SBGT is unavailable. Question was accepted, SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
28	H	2	x									x		B	~~U~~ S	T2G1: 262001 A1.05 1. Verify that none of the simulator scenarios involve a main generator backup lockout relay trip. 2. Q=K/A: The proposed test item does not involve manually operating the AC Electrical Distribution controls. The proposed question tests automatic breaker operation. (See K/A A3.02) 3. Stem Focus: The event (turbine/generator trip "trips" the backup lockout relay) is too vague as to what occurred. Does the stem event mean that the main generator PCBs failed to initially open following a fault? [SD-27, pg 31,see below] If the stem event means that the PCBs failed to initially auto-open following a generator fault, then revise to say that the main generator PCBs failed to initially auto-trip following a fault, and provide the UA-13 alarm windows/names (above) in the stem. This makes the event more precise. We need to walk thru the proposed event and ensure that there is a correct answer. Generator relaying is divided into three relay groups. a) Primary relaying (86GP) (Figure 27-18) acts on signals which sense parameters that indicate a direct hazard to the generator. b) Differential relaying (86G) (Figure 27-19) monitors for a phase-to-phase overcurrent fault. c) Backup relaying (86GB) (Figure 27-20) indicates that a fault that should have been protected by primary or differential relaying has degraded to a more serious fault. **11. Relay BFB - Breaker Failure Backup (86GB)** This relay is activated when either of the PCBs fail to trip on a fault. The companion breaker and those breakers connected to the same bus as the failed breaker will trip. Trips Backup Lockout Relays 86GB1-1, 86GB2-1 UA-13 4-7 GEN PCB A FAILED TO TRIP UA-13 4-8 GEN PCB B FAILED TO TRIP 4. Ensure no overlap with SRO Q#84. 5. 11-17-15: Changed question to test how 230 KV Bus 2B and SAT was affected with a fault on Whiteville line. K/A was predict OR monitor changes; original question would also have been acceptable. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
29	H	2	x	x		x								B	U	T2G1: 262002 A2.01 1. Cred Dist: The 1st part of Choices C/D is not plausible because the 1st fill-in-the-blank statement is asking about the INPUT breaker. It's not plausible that the input breaker will trip based on the *output* voltage is low; the input breaker will trip when the input voltage is low. The 1st part of Choices C/D deals with the output breaker (CB-102). 2. Cue: The 1st fill-in-the-blank refers to the DC *input* breaker (CB-101) and the correct answer is the *INPUT* voltage. 3. Cred Dist: The 2nd part of Choices B/D (transfer UPS AC loads to an alternate source) is not plausible because the stem says there is a Station Blackout. There is no alternate source of AC power. 4. Stem Focus: The first sentence says "during station blackout conditions." The stem should be specific and say "During a station blackout" because the word "conditions" is subjective. 5. Cue: The second sentence is not necessary to elicit the correct response. The applicant must assume no operator action has been taken. 6. Stem Focus: The 2nd fill-in-the-blank statement is vague with respect to "SBO procedures." Include procedure name/number in the stem. 7. Stem Focus: Include the breaker numbers somewhere in the stem, so we can be precise during any post-exam appeals. 8. 11-17-15: Licensee explained plausibility of the 1st part of the question. Second part of the question repaired by testing how MCC-1CA was required to be re-energized in the SBO procedure network. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
30	H	2				x		x		x		x		B	E	T2G1: 262002 A3.01 (**2014 NRC Exam, Q#32**) 1. Q=K/A and/or Job-Link: Did the loads *automatically* transfer to the "hard" alternate source? Or where the loads *manually* aligned to the "hard" alternate source IAW OP-52.1, Section 8.2? If this was a manual transfer event, then how is the K/A being met? Suggest providing the "before" indications in the stem, for the primary & standby inverters (UPS loads still aligned to the primary inverter), and then test the applicants' ability to predict what lights will be lit if a fault occurred on the primary inverter. 2. Cred Dist: Choice A (loads de-energized) is not plausible because the stem says that the "load on inverter" light is ON and the "Load on Alternate" light is ON. Choice A is the only listed choice that says the UPS loads are de-energized. 3. #/units: Suggest also including the name of the alternate power supply in Choice D. 4. #/units: Suggest including the unid # of the UPS load panel in the stem question to be specific. 5. 11-17-15: Incorporated comments and slightly modified question by changing the choices. Question is SAT.
31	F	2	x											**M**	E	T2G1: 263000 A1.01 (**2012 NRC Exam, Q#29**) Note to NRC examiners: ES-401, Section D.2.f (pg 8 of 50): Changing the conditions in the stem such that one of the three distracters in the original question becomes the correct answer would also be considered a significant modification. 1. Stem Focus: Suggest clarifying and streamlining the 2nd fill-in-the-blank statement as: *"Each division of the 125/250 VDC Station batteries are capable of supplying 150 amps for ___(2)____ hours."* 2. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
32	~~?~~ H	2										x		N	E	T2G1: 264000 K3.03 1. Q=K/A: Ideally, the K3 K/A shouldn't be like a K2 statement. The knowledge being tested in this question is the same knowledge being tested in Q#22 (power supply to RHR pumps). Suggest picking another bank test item that tests the applicants' knowledge of how the loss of an EDG, and the associated E-Bus, affects E-7 or E-8 loads, etc. Or how the loss of an EDG affects some plant control function. 2. LOK: It appears that this question is a straight power supply fundamental (lower cog) question; let's discuss. 3. 11-17-15: Licensee explained basis for higher cog; Question revised to test down the 480 v level vs 4KV level. Question is SAT
33	L	2					x							B	E	T2G1: 264000 K5.05 (**2012 NRC Exam, Q#30**) 1. Partial: Choice C can be successfully argued as correct because the reference material states that the EDG *may or may not* tie on at an elevated frequency, which is dependent on the amount of EDG load prior to the load transfer. This area is too gray for an NRC exam. Suggest replacing the 2nd part of the question. 2. This question must be identified as "Bank" because it is the same test item as Q#30 on the 2012 NRC Exam. 3. 11-17-15: Licensee clarified that initial loading value in the stem dictated the frequency the EDG would tie on at; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
34	~~?~~ H	2	x				x							B	E	T2G2: 271000 K1.03 1. Partial: Choice A is also correct because the stem does not specify the position of AOG-CS-3161 (AOG Sys Vlv Cont Sel Sw). It is not wrong to assume that AOG-CS-3161 is in the CENT position, because the stem says that the AOG system is being placed in service. AOG-CS-3161 is located on Control Room Panel XU-80, and determines the controlling station for operation of the AOG system isolation valves. When positioned to CENT, the valves are controlled from their respective control switches located on Control Room Panel XU-80; if LOCAL is selected, the valves are controlled from their respective control switches on Local Panel H1E (H2E). 2. Stem Focus: Include the procedure section name/number, which is being used to place AOG in service, in the stem of the question. Also, clarify in the stem whether the local control switch in the CLOSED position was an operator error.\ 3. LOK: It appears this question is a higher cog question; let's discuss. 4. 11-17-15: Comments incorporated; question listed as higher cog. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
35	F	2	x					x						N	E	T2G2: 290002 K5.05 1. Job-Link: The 2nd portion of the question tests the Tech Spec 3.4.9 ***Bases***. The 1st part of the question is fine for an RO; however, the answer to the 2nd part of the question is not located in 1OP-02, Reactor Recirculation System. The 1st part of the question hits the K/A just fine at the RO level; the 2nd part of the question tests Tech Spec Bases knowledge, which is beyond the RO level. The 2nd part of the question is subject to appeal during the post-exam appeal process. 2. Stem Focus: What Plant Mode? Is this the first Recirc Pump being started or is there one already running? The procedure section name/number that's being used to start the Recirc pump is missing from the first sentence. 3. Stem Focus: The stem question should include the phrase "in accordance with…" 4. Stem Focus: The 2nd fill-in-the-blank statement is plural; should be worded as "*This temperature difference limit prevents ____(2)___ .*" 5. 11-17-15: Question revised to test max temp difference when starting 2nd recirc pump and the time requirement for determining temp difference; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
36	F	2	x	x			x							N	E	T2G2: 290003 K3.02 1. The distracter analysis lists this question as K5.05 even though the sample plan lists it as K3.02 2. Cue: The 4th sentence in the stem is not necessary to elicit the correct response. The applicants should know whether the HVAC equipment is or is not available when only DG4 is available. 3. Partial: If DG4 will allow some CR HVAC equipment to operate, then opening the control room panel doors is not required. Why does the stem say that DG4 is available? 4. Stem Focus: The stem question does not specify which SBO procedure contains the 30 minute guidance. It appears that SBO-02, Blacked Out Unit Initial Actions, contains the 30 minute time requirement guidance. 5. Stem Focus: Choice B should be clarified as Cooldown the reactor to 150-300 psig. 6. Stem Focus: Choice C should be clarified as Open Reactor Building 20' elevation personnel airlock doors and 167' elevation roof hatch. 7. 11-17-15: Question revised to eliminate cue and solely test an action required to be performed within 30 minutes, which satisfies K/A. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
37	H	2	x	x		x	x							B	E/U	T1G1: 295001 AK1.04 Note to Examiners: The various current versions of the Power-to-Flow (P-T-F) Map are contained in the Core Operating Limits Report (COLR). 1. Cred Dist: Choice A (Region B requires manual scram) is not plausible because <u>all</u> of the figures provided to the applicant are clearly labeled as "Region B: Immediate Exit." 2. Cred Dist: The plausibility of the 1st part of Choices C/D is questionable since the stem clearly states that OPRMs are INOPERABLE. None of the OPRM INOP P-T-F Maps include a "Scram Avoidance Region." If the stem required the applicants' to deduce whether the OPRMs were / were not operable, then this part of Choices C/D would be plausible. According to the distracter analysis, you intend on providing FOUR versions of the P-t-F Map. This is unnecessary because the stem tells the applicants that the OPRMs are INOPERABLE. Instead of providing four versions of the P-T-F map, only provide Figure 2: OPRM INOP, 2 Loop Operation, and Figure 4: OPRM INOP, 1 Loop Operation. This will test the applicants' knowledge of whether to use the correct version of the P-T-F map. 3. Cue: To test the applicants' ability to use the P-T-F map, include Recirc Loop Flows and Core Thermal Power values in the stem. 4. Stem Focus: The phrase "in accordance with 0AOP-4.0, Low Core Flow" is missing from the end of the stem question. 5. Partial: The intersection point of core flow and reactor power seemed to be right on a line; it was hard to read. 6. 11-17-15: Four Choices changed to test which map version was required and the current operating point. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
38	H	3					x					x		N	U	T1G1: 295003 G2.4.50 1. Q=K/A: The Partial/Complete Loss of AC Power topic is not being tested; instead, the proposed question tests the 700000 Generator Voltage & Electric Grid Disturbances Topic. Suggest writing a question related to AOP-36.1 for this 295003 Topic. 2. This question overlaps Q#65 (same knowledge of Gen Under Freq Relay alarm). Both questions should not be used because they're too closely related. Suggest using this question for Q#65. 3. Partial: To avoid an applicant from arguing there is no correct answer to the 2nd part of the question, revise the 2nd fill-in-the-blank statement to say: "*Given the conditions listed above, at 12:20:00, the operator is required to ____(2)____, IAW 0AOP-22.0, Grid Instability*." 4. Partial: To avoid an applicant from arguing there is no correct answer to the 1st part of the question, revise the 1st fill-in-the-blank statement to say: "*Of the times listed above, UA-06 (1-2) Gen Under Freq Relay will first be alarming at ___(1)___ .*" 5. 11-17-15: Licensee replaced question that tests that the total feedwater flow logic is powered from E7; and which pushbuttons the abnormal procedure requires. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
39	H	~~2~~ 3	x						x					B	E	T1G1: 295004 AK3.02 1. 0AI-115, 125/250 VDC System Ground Correction Guidelines, was not included on any of the references disk. Please provide this procedure. 2. LOD: The level of difficulty was not assessed because of questions on which references are being provided to the applicants. Is Table 1, Guidelines for Determining Which Bus is Grounded, also being provided to the applicants? Why is Page 2 of Attachment 2 being provided to the applicants? 3. Minutia: The 2nd part of the question tests minutia; suggest re-working the question to test the applicants' knowledge of the resistance cut-off value threshold (25 kΩ), and which bus has the ground. 4. Stem Focus: The 2nd fill-in-the-blank statement should be worded as "*The basis for isolation of this ground, IAW 0AI-115, is to prevent inadvertent ___(2)___* . 5. 11-17-15: No reference being provided to the applicants for this test item. The 2nd part of the question was revised to test the applicants' knowledge of the resistance range value that required ground hunting. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
40	H	1				x						x		N	U	T1G1: 295005 AA1.07 1. Q=K/A: The Tier 1 emergency/abnormal *evolution* aspect of this K/A is not being met. The question can be answered solely based on Tier 2 plant systems knowledge of breaker indications provided in the stem. Suggest replacing the question with one that tests the required operator actions in accordance with an AOP or EOP. 2. LOD=1: This question will provide no discriminatory value because the stem indications for Bus 2C/2D indicate that 2C feeder breaker to E4 is OPEN and 2D feeder breaker to E3 is CLOSED; therefore, E4 is energized from EDG and E3 is energized from Offsite. 3. Cred Dist: If I didn't know anything, I could look at the diagram and see that the top row of lights was different than the bottom row of lights. Therefore, I could throw away any of the answer choices that said both busses were being fed from the same source, …and it would be correct. 4. Ensure no overlap with RO Q#28 and SRO Q#84. 5. Question revised to test where E1 was energized from and whether entry to AOP-36.1 was / was not required. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
41	H	2					x							N	E	T1G1: 295006 AA2.02 1. Partial: The 2nd fill-in-the-blank statement is worded such that either answer is correct; reactor power is not provided in the stem so how can the fill-in-the-blank statement be answered? The 2nd fill-in-the-blank statement should refer to a Step in a Procedure and then ask the applicant to determine whether the Step can be met when a loss of UPS exists. 2. Stem Focus: The lead-in phrase on the 1st fill-in-the-blank statement seems to be a misapplication of OI-37.5. OI-37.5 does not specifically say that reactor power can be determined below 2% during a loss of UPS. OI-37.5 refers to the 2% APRM downscale set point for all ATWS events, not just loss of UPS ATWS events. OI-37.3, Reactor Scram Basis Document, says that the ATWS procedure must be entered following a loss of UPS because rod positions are unknown. Just because OI-37.5 refers to the 2% set point, doesn't justify citing it in the 1st fill-in-the-blank statement. Suggest re-working the question to place the applicant at a specific EOP/RSP procedure step or override, and then test their ability to answer the step based on how the loss of UPS will affect rod position availability. Alternatively, test the applicants' knowledge of the RSP or ATWS procedure litmus tests involving rod position, etc. 3. 11-17-15: Comments incorporated; the licensee clarified that APRM DNSCLE annunciator procedure said that 2.4 on 0/125 scale was 1.92% power. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
42	F	2	x				x							B	E	T1G2: 295007 G2.4.11 1. Stem Focus: The 2nd fill-in-the-blank statement ends with the words "this step." Where is the step? Suggest incorporating the Step number in the stem of the question (before the fill-in-the-blank statements). 2. Partial: The 1st fill-in-the-blank statement does not match RVCP Step RC/P-3 because the fill-in-the-blank statement includes ADS. An applicant can successfully argue that there is no technically correct answer to the 1st fill-in-the-blank statement. (We may need to use this test question to remedy the deficiencies in Q#54.) 3. 11-17-15: Question revised to test the applicants' knowledge of how many SRVs opened and the EOP strategy associated with high pressure during an ATWS for tripping vs not-tripping the recirc pumps. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
43	F	2	x				x					x		B	E/U	T1G2: 295008 AK1.02 1. Q=K/A: Try to hit the emergency/abnormal evolution (operator action) aspect of this Tier 1 K/A. (It may be difficult for this K/A) The proposed test item doesn't test anything pertaining to a required operator action during a high water level abnormal/emergency evolution. 2. Stem Focus: The last phrase in the stem question seems to be a misapplication of APP-A07 (2-2) because this procedure never speaks about low reactor pressure transients causing high reactor water level conditions. 3. Partial: An applicant can argue that there is no correct answer to the 1st part of the fill-in-the-blank statement because there are numerous ways to achieve a high reactor pressure transient where opening SRVs causes level to swell. Suggest the following: *WOOTF completes both statements pertaining to high reactor water level conditions?* *In accordance with the immediate operator actions in AOP-23.0, CFW System Failure, IF reactor vessel level approaches _____, THEN trip on feed pump.* *Main Steam line damage can occur if reactor water level reaches _____. or* *High Reactor water level can cause _____.* 4. 11-17-15: Licensee re-worked question; however, new version included cue to high water level. Cue removed: question now tests when one feed pump is required to be manually tripped and basis. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
44	F	2										x		B	U	T1G2: 295010 AK2.02 1. Q=K/A: Both parts of the question are related to Tier 2 systems knowledge only. The proposed question does not test the Tier 1 emergency/abnormal evolution aspect (operator action). The K/A refers to the HIGH DRYWELL PRESSURE *evolution,* which can be an AOP, Primary Containment Control, etc. For example, Step PC/P-6 requires initiating torus sprays before torus pressure reaches 11.5 psig. This is associated with the drywell/torus differential pressure aspect of the abnormal/emergency evolution at Step PC/P-6. 2. 11-17-15: Licensee re-worked 2nd part of the question to test whether torus or drywell sprays were required. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
45	F	2		x						x		x		N	U	T1G2: 295014 AA2.04 1. Q=K/A: The proposed test item does not test the Tier 1 aspect (emergency/abnormal evolutions). The 1st portion of the question tests whether the gain adjustment factors are conservative or not conservative, which apply at all modes of operation and have nothing to do with a loss of feed water heating event. The 2nd portion of the question solely tests GFES knowledge (no plant specific knowledge being tested, See K/A Catalog Section 293009, K/As K1.19, K1.43, etc.) of bases for CPR thermal limit (transients). Suggest writing a question that tests some operator required action for thermal limit violations when one of the following inadvertent reactivity event abnormal operating procedures is being implemented: AOP-3.0, Positive Reactivity Addition AOP-2.0, Control Rod Misposition 2. Cue: The first sentence in the stem says that something wrong happened (loss of feed water heating) which tells the applicants that the APRM GAFs must be unsat. (correct answer.) The last portion of the first stem sentence is not necessary to elicit the correct response. 3. #/units: The terminology associated with GAFs is conservative/non-conservative. GAFs do not have anything to do with inadvertent reactivity addition events because they are already set before the event. 4. 11-17-15: Licensee revised 2nd part of question to test applicants' knowledge of the basis behind the columns listed on 2OP-32, Attachment 4, Final FW Temp Vs. Power. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
46	F	2										x		?	U	T1G1: 295016 AK2.01 1. Q=K/A: The proposed test item solely tests the applicants' knowledge of which systems are installed on the remote shutdown panel (SRVs & RCIC). HPCI and Bypass Valves aren't ever used in AOP-32. The proposed test item does not test any aspect of AOP-32 knowledge, even though this is a Tier 1 emergency/abnormal evolution K/A. 2. The distracter analysis/pedigree did not indicate whether this proposed test item was new, bank, or modified. 3. 11-17-15: Licensee reworked 1st part of question to test applicants' knowledge of the AOP-32 IOAs. Licensee explained that AOP-32 also includes actions associated with HPCI, but not associated with controlling level.
47	F	2	x	x										N	E	T1G2: 295017 AK1.03 1. Stem Focus: The wording of the 1st fill-in-the-blank statement is a sentence fragment. 2. Stem Focus: The stem does not indicate that PEP-2.6.21, Emergency Communicator, is being performed. The offsite dose calculation piece mentioned in the stem may be irrelevant. 3. Cue: The stem mentions that a ground release from the reactor building has occurred, which is not necessary to elicit the correct response. The Lower wind speed and direction is required to be used anytime WebEOC is unavailable and a hard copy ENF form is being completed. 4. Stem Focus: There is a period after the degree symbol. Suggest re-wording the fill-in-the-blank statements as: *The wind direction provided means that the wind is blowing ___(1)____ the degree of direction.* *When completing a hard copy of the ENF, _____(2)___ wind speed and direction should be used, in accordance with Attachment 3, Guidance for Completion of ENF.* 5. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
48	H	2	x				x							N	E	T1G1: 295018 AK3.02 1. Verify no scenario event involves a trip of trip of a TBCCW Pump. 2. Partial: Choice D is also correct because stem does not include a timeline; therefore, an applicant can successfully argue that 4 minutes has elapsed and a total loss of TBCCW is indicated (system pressure < 42 psig with all available pumps operating and no expectations that normal cooling can be quickly re-established). Since the stem says that TBCCW pressure is 38 psig and stable, and since 2C is aligned to Unit 1 (cannot be quickly re-established), THEN inserting a manual scram is appropriate after 4 minutes. Suggest incorporating a timeline in the stem and re-word the 1st fill-in-the-blank statement to ask about a specific point in time. 3. Stem Focus: The TBCCW Discharge Pressure value (38 psig) should be relocated to the bottom of stem conditions since the intent is that this is the pressure AFTER the standby pump auto-started. What is the current pressure? 4. 11-17-15: Licensee re-worked question to include a timeline; comments incorporated. Question is SAT.
49	H	2										x		B	U	T1G1: 295019 AA1.04 1. Q=K/A: The stem of the question asks the applicants which automatic action is required to be verified. The Tier 1 (abnormal evolution) aspect is not being met because the question does not test any emergency/abnormal operator action or AOP-20 knowledge. *The correct answer is an automatic system response*. Since instrument air header pressure has lowered to 101 psig, then service air header pressure is below 105 psig, which is the auto-close set point for PV-706-1 and -2. Suggest testing one of the manual actions listed in the distracter analysis. 2. 11-17-15: Licensee re-worked question to make the choices all manual actions. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
50	H	2										x		B	U	T1G2: 295020 AK3.02 (**2007 NRC Exam, Q#?**) 1. Q=K/A: The proposed question does not test an inadvertent containment *Isolation*. Often, exam writers hit this K/A by writing questions that deal with a RPS MG set trip (or some power interruption event) and the corresponding drywell pressure response, including any AOP required actions. 2. The font size of the choices does not match the font size of the stem or any of the other exam items. 3. Wrote question to test loss of RPS MG set affect on drywell pressure. Question is SAT.
51	H	3	x	x										N	E	T1G1: 295021 AK3.02 1. Cue: The 2nd portion of Choices B/D cues the applicant to the correct choice for the 1st portion of the question. The "reason" portion of the question may not be needed to hit the K/A since the "reason" for choosing the 2A CRD Pump is power availability. However, if you want to keep a 2 x 2 format, consider testing the applicants' knowledge of WHY a Shutdown Cooling flow path cannot be re-established. (Which valve cannot be re-opened following a LOOP valve auto-closure without DG4). 2. Stem Focus: Suggest modifying the 1st fill-in-the-blank statement as: *An allowable method for feed & bleed operation IAW AOP-15 is ____.* Replace Core Spray Loop 2B (in Choices C/D) with an EOP, diesel backed procedure such as SLC with demin water or LPCI SBO operation. This will better test the applicants' knowledge of AOP-15. 3. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
52	H	2				x								~~?~~ N	U	T1G1: 295023 AA2.01 (~~**2014 NRC Exam, Q#?**~~) 1. The distracter analysis indicated this was a 2014 NRC Exam test item; however, I could not find this question on the 2014 NRC Exam. Which question was it? 2. Cred Dist: Choice A (verify auto action occurs) is not plausible because the stem asks for an immediate operator action (IOA). All IOAs are things that the operator must do; verifying an auto-action occurs is never an IOA. 3. Cred Dist: Choice B (notify RP) is not plausible because there are no IOAs associated with notifications. Suggest replacing Choice A with Isolate Reactor Building Ventilation. (steal this piece from Choice D) Suggest replacing Choice B with Enter EOP-04, RRCP 4. 11-17-15: Licensee incorporated comments; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
53	H	2	x			x	x					x		~~B~~ **M**	E	T1G1: 295024 G2.4.50 (**2010-1 NRC Exam, Q#51**) 1. Cred Dist and/or Partial: Choice A (no action required) is not plausible because the stem asks for the minimum actions to start HPCI. Does Choice A imply that HPCI is already running? If so, then this is not plausible because the first sentence in the stem says that HPCI is tripped. The word "allow" in the stem question is vague. On the other hand, why is Choice A incorrect? There is no operator action required to ***ALLOW*** HPCI injection since HPCI will re-start itself when level reaches a subsequent LL2 condition. Suggest changing the word "allow" to "commence." 2. Stem Focus: The word "manually" in Choice B/D is not necessary. 3. Q=K/A: The Tier 1 aspect (abnormal evolution) aspect is questionable since the question does not test any emergency/abnormal procedure knowledge or required operator actions associated with mitigating a High Drywell Pressure condition. The proposed test item seems to solely test the Tier 2 aspect of HPCI system operation. However, since HPCI does mitigate a high drywell pressure condition, the K/A match could be a "glancing blow." Suggest adding "..in accordance with A-01 (3-1) to the stem question to remedy. 4. 11-17-15: Revised question to 2 x 2 format to test required operator action to commence HPCI injection and whether PCCP is / is NOT required to be entered, based on alarm indications. Question is SAT.
54	H	2										x		**M**	U	T1G1: 295025 EK2.05 (**2014 NRC Exam, Q#87**) 1. Q=K/A: The proposed test item does not test the High Reactor Pressure ***evolution*** (such as an AOP, APP, or EOP required operator action). The proposed test items only tests the Tier 2 knowledge associated with SRV lift set points. The original version of this test item hit the Tier 1 aspect because it tested RVCP knowledge. Consider replacing this question with Q#42 to satisfy this K/A. 2. 11-17-15: Rewrote question to test Step RC/P-3 and whether opening sequence was/ was not required to be adhered to. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
55	H	2					x							B	E	T1G1: 295026 EK1.02 1. Partial: Choice A is also correct because the basis for 110°F is to preserve the heat capacity of the torus if an emergency depressurization is eventually required. 2. Licensee tightened wording of question; SAT
56	F	2	x	x										B	E	T1G1: 295028 EK1.01 1. Cue: The reference being provided in Q#58 will cue the applicants to the correct answer for this question. Let's discuss. 2. Stem Focus: Add the phrase "..in accordance with 0EOP-01-UG, User's Guide" to the end of the stem question. This needed for two reasons: 1) To ensure Choice C is totally incorrect and 2) to reinforce the Tier 1 tie. 3. Stem Focus: The word "indications" in the fill-in-the-blank statement may be better as "indicators." 4. Stem Focus: Capitalize the word "least" to ensure the applicants do not make a mistake in reading the fill-in-the-blank statement. 5. 11-17-15: The licensee decided to use Q#58 to satisfy this K/A and will write a new question for the Q#58 K/A. This question is SAT.
57	H	3		x										B	E	T1G1: 295030 EK1.02 (**2008 NRC November Exam, Q#7**) 1. Cue: The last bullet in the stem lists *individual* RHR Pump flows even though this indication is not available in the control room. The control panel indication only provides Loop 1 and Loop 2 flows. The last bullet in the stem should reflect only the information that would be available to the applicant in the control room. Suggest changing the last bullet to 10,000 gpm loop flow. 2. 11-17-15: Comment incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
58	H	2		x										B	E	T1G1: 295031 G2.2.37 (**2001 NRC Exam**) 1. The reference being provided to the applicants is listed as User's Guide Attachment 6 on the distracter analysis even though Attachment 6 is Primary Containment Pressure Limit A. Based on the references packet, the applicants will receive 0EOP-01-UG, User's Guide, Caution 1 (Is this Attachment 31?) and Attachments 18 – 22. It appears that the updated UG Attachments were not used in the distracter analysis. We will need to evaluate acceptability of this question after references identified. 2. Cue: The reference being provided in this question will cue the applicants to the answer for Q#56. Let's discuss exactly what will be provided to the applicants. 3. 11-17-15: Licensee will write new question to satisfy this K/A. New question SAT.
59	H	3	x				x							B	E	T1G1: 295037 EK3.07 (**2001 NRC Exam, Q#?**) 1. Stem Focus: The initial reactor power (100%) should be included in the stem to ensure that the loss of the DC Swbd will cause a reactor trip. (Inboard MSIVs close). 2. Partial: The wording of Choice C is exactly the same wording as the stem procedure LEP-02: Alternate Control Rod Insertion. Therefore, an applicant can argue that Choice C is also correct. Recommend changing Choice C to "Alternate Rod Insertion (ARI)" 3. Partial: To ensure no more than one correct answer, re-word the stem question as: "*Given these conditions, WOOTF identifies a successful method of inserting control rod in accordance with Scram Immediate Actions and/or LEP-02, Alternate Control Rod Insertion?*" 4. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
60	H	3	x					x						N	E	T1G1: 295038 EA2.02 1. Job-Link: Provide RO task and learning objective for this test item. 2. The reference field on the distracter analysis indicated "none" even though the stem indicates a reference will be provided. 3. Stem Focus: Add the following information to the stem of the question to ensure the context of the question is communicated, and to support the RO Job-Link aspect: *A site area emergency has been declared on Unit 2.* *Until the dose projection team arrives, the control room crew is performing PEP-03.6.1, Release Estimates Based Upon Stack/Vent Readings.* 4. 11-17-15: Operations Representative (Jerry Pierce) and Initial Ops Training Supervisor (Jim Barry) stated that this question is valid for ROs; reference lesson plan LOI-CLS-LP-301-A, Objective #6. Also lists the RO tasks. Comments incorporated; Question is SAT.
61	F	2												B	S	T2G1: 300000 K2.01
62	F	2												B	S	T2G1: 400000 K4.01 (**2010-1 NRC Exam, Q#63**)

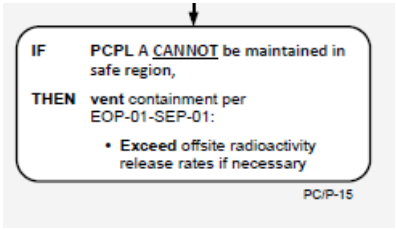
Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
63	H	2	x											B	E	T1G2: 500000 EA1.02 Note to NRC Examiners: The proposed test item tests the Inadvertent Containment Isolation EVOLUTION topic (295020); however, the proposed K/A match for the High Containment Hydrogen Concentration topic (500000) topic may still acceptable because: • there are no 295020 K/As related to hydrogen/oxygen instrumentation • the only time that the CAM overrides are operated is in the EOP space (OP-24, Attachment 7 & 8, 4409 (4410) Startup in the EOPs), thus the Tier 1 aspect is being met. Q#73 can be used to satisfy this K/A, if desired. 1. Stem Focus: The term "overrides" is slang; suggest revising the 2nd fill-in-the-blank statement as follows: *IF CAC-AT-4409, Division I Hydrogen/Oxygen Monitor, is required to be placed in service in accordance with OP-24, Attachment 7, CAC-AT-4409 Startup In The EOPS - 2OP-24, THEN it _____(2)_____ be unisolated using CAC-CS-2986 (CAM Div I Isol Ovrd).* Rewording the 2nd fill-in-the-blank this way also makes the Tier 1 aspect more obvious to reviewers. 2. LOK: It appears that the proposed test item is a Higher Cog question; let's discuss. 3. 11-17-15: First part of question reworked to ensure Tier 1 aspect was being tested; need to re-visit whether this is higher vs lower cog since the question has been revised since initial comments. Question is SAT.
64	F	2										x		B	U	T1G1: 600000 AK2.01 (~~2010-1 NRC Exam, Q#64~~) 1. Q=K/A: The proposed test item does not test the Tier 1 aspect of the Plant Fire on Site EVOLUTION. Suggest writing a test item that pertains to PFP-14 or ASSD procedures. 2. 11-17-15: Licensee replaced with another bank question. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
65	F	2												N	E	T1G1: 700000 AA1.02 1. This question overlaps Q#38 (same knowledge of Gen Under Freq Relay alarm). Both questions should not be used because they're too closely related. Consider using Q#38 to use for this topic. 2. Q=K/A: Because this is the plant specific portion of the written exam, for the first part of the question, revise the choices to include the turbine/generator control switches that will be operated (and a plausible distracter that will not be operated) to "raise unit generation." 3. 11-17-15: Licensee replaced this question with Q#38; Question is SAT.
66	F	4										x		B	U	T3: G2.1.30 1. Q=K/A: The proposed test item does not test a generic plant-wide topic that pertains to locating/operating components. Instead, the proposed test item only tests a specific (Tier 2) system control switch location. NUREG-1021, ES-401, Section D.2.a (pg 6 of 50) states: *Ensure that the questions selected for Tier 3 maintain their focus on plant-wide generic knowledge and abilities and do not become an extension of Tier 2, "Plant Systems."* Suggest writing a question related to Conduct of Ops requirements for locating/operating a valve that is missing its tag, or label. 2. 11-17-15: Licensee wrote new question to test Conduct of Ops requirement for manipulating a valve with no lablel; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
67	F	3					x							B	E	T3: G2.1.42 1. Partial: Choice B (200 cps) is also correct because the first bullet in FH-11, Item 24 says that an SRM reading by a factor of TWO upon insertion of any single bundle requires suspension of fuel movement. Furthermore, the phrase "additional multiple bundles" is confusing and can be subject to partially correct answers. To avoid any partially correct scenarios, suggest the following: *WOOTF completes the statement in accordance with FH-11, Refueling?* *Suspension of fuel movement and notification of the Reactor Engineer is required if a SRM rises by a factor of _____ relative to the SRM baseline count rate.* 2. 11-17-15: Comments incorporated; Question is SAT.
68	F	2				x								N	U	T3: G2.4.17 1. Cred Dist: The 2nd part of Choices B/D (ECCS high head will be available following ED) is not plausible because there are no high head ECCS pumps that will be available after Emergency Depressurization. 2. Stem Focus: The stem should include the name/number of the procedure that contains the correct answer. Suggest the following: WOOTF completes the following definition in accordance with 0EOP-01, User's Guide? **Minimum Number of SRVS Required for Emergency Depressurization:** The number of SRVs ___ which correspond to a minimum steam cooling pressure sufficiently low that _____. A. (five); the ECCS with the lowest head will be capable of making up the SRV steam flow. B. (five); the clad temperature will not exceed 1800 °F. C. (seven) D. (seven) 3. 11-17-15: Licensee replaced 2nd part of question with clad temperature not exceeding 1800 deg; comments incorporated. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
69	F	~~4~~ 2	x											B	E/U	T3: G2.4.42 (**2008 NRC April Makeup Exam, Q#?**) 1. LOD=1: The knowledge being tested is general employee knowledge; the proposed test item should test some aspect of the emergency response facilities at the licensed operator level. Consider revising the question to test where off-duty licensed operators should report (if this is defined in the procedures). 2. Stem Focus: Add the phrase "in accordance with 0ERP-Radiological Emergency Response Plan" to the stem question. 3. Stem Focus: The 1st fill-in-the-blank statement should be streamlined and reworded as: "The facility that has the primary function to facilitate in-plant repairs is the ____." (The word "facilitate" better matches the description listed in PEP-02.6.12, Activation and Operation of the OSC.) 4. Stem Focus: The 2nd part of Choices B/D ("Simulator Area") is not defined. Instead, change this to the official name of the Training Building. Is the name "Operations Training Building?" 5. 11-17-15: Licensee disagreed with LOD = 1; accepted question. Question is SAT.
70	F	2												B	S	T3: G2.2.25 (**2010-1 NRC Exam, Q#70**)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
71	~~?~~ F	2										x		B	E/U	T3: G2.2.40 1. Q=K/A: The proposed test item is very close to a plant-wide generic concept; however, it is written to test the specific RCIC LCO. To better meet the NUREG-1021, ES-401, Section D.2.a (pg 6 of 50) requirement: Suggest testing a RO generic ability that could be used with any Tech Spec. For example, Replace the acronym "RCIC" and "High Pressure Coolant Injection System" with "XYZ" and "Redundant System", respectively in the following example test item: *Given the following LCO excerpt:* CONDITION / REQUIRED ACTION / COMPLETION TIME A. RCIC System inoperable. — A.1 Verify by administrative means High Pressure Coolant Injection System is OPERABLE. — Immediately *WOOTF completes both statements IAW Tech Specs?* *Anytime the phrase "by administrative means" is used in Tech Specs, this means that _____.* *Anytime an immediate completion time is required means that that _____.* [For the 1st fill-in-the-blank, consider using the exact wording for administrative means from the Tech Spec Bases and use a plausible distracter.] [For the 2nd fill-in-the-blank, consider using the exact wording as listed in Tech Specs and a plausible distracter." IMMEDIATE COMPLETION TIME — When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner. 2. 11-17-15: Comment incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
72	F	2	x											B	E	T3: G2.2.43 1. Stem Focus: Add the phrase "in accordance with 0OI-01.01, BNP Conduct of Operations Supplement" to the end of the stem question. 2. Stem Focus: Re-word the choices as follows (to clarify and/or add plausibility) *A. Has its annunciator card removed* *B. Is lit because its associated equipment is under clearance* *C. Is a nuisance alarm* *D. Has one of more of its inputs disable.* 3. 11-17-15: Comments incorporated; Question is SAT.
73	H	3				x								B	U	T3: G2.3.11 1. Cred Dist: The 1st part of Choices C/D (vent irrespective) is not plausible because the stem does not include any information about containment pressure that could be misconstrued to mean that PCPL-A is approaching its limit or has been exceeded.  Suggest including a relatively high primary containment pressure value in the stem. 2. Stem Focus: For the 2nd fill-in-the-blank statement, include a phrase "in accordance with procedure xyz." 3. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
74	F	2				x						x		B	~~U~~ S	T3: G2.3.15 (**2008 NRC April Makeup Exam, Q#?**) 1. Q=K/A: The proposed test item does not test a generic plant-wide topic that pertains all radiation monitoring systems, etc. Instead, the proposed question only tests the Drywell High Range Area Rad Monitors. NUREG-1021, ES-401, Section D.2.a (pg 6 of 50) states: *Ensure that the questions selected for Tier 3 maintain their focus on plant-wide generic knowledge and abilities and do not become an extension of Tier 2, "Plant Systems."* Try to test a generic application of the K/A as it applies to all area rad monitors (ARMs). Are there any Conduct of Ops requirements for resetting ARMs? Are there any Conduct of Ops guidelines for removing radiation monitoring systems from service? 2. Cred Dist: Choice A is not plausible because none of the AOPs have "entry conditions." AOPs only include symptoms; the operating crew must use judgement when entering AOPs. 3. Cred Dist: Choice B is not plausible because the term "detection" is not equivalent to the term "high range." 4. Question credited back to licensee; SAT.
75	F	1.1												**M**	~~E/U~~ U	T3: G2.3.07 (**2012 NRC Exam, Q#73**) 1. LOD=1.1: The knowledge being tested is general employee knowledge; the proposed test item should test at the licensed operator level in some way. 2. Post Exam Comment: Licensee wrote new question; however, post exam comment required new question to be deleted from exam based on stem not containing enough information.
SRO PORTION BEGINS HERE																

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
76	H		x					x						B	E	T2G1: 203000 G2.4.6 (**2010-2 NRC Exam, Q#76**) 1. Job-Link: LEP-01 has changed since this question was last used; the 2nd part of Choices A/C have incorrect LEP-01 section name/numbers. Consider modifying the question to test the applicants' knowledge of the content of the following (new) LEP-01 sections as follows: *The CRS is required to direct ___(2)___ IAW RVCP.* ***[Section 2.3, RHR B Injection** vs Section 2.4, Demin Water Injection]* • Section 2.3, RHR B Injection: (allows demin,service, or fire water injection – doesn't need a B Loop RHR Pump running) • Section 2.4, Demin Water Injection: (not performed on RHR Loop B – only utilized on RHR Loop A) 2. Stem Focus: For the last bullet in the stem, provide an actual steady level value instead of the term "2/3 Core Height." This adds will add additional (needed!) plausibility to the 1st part of the question. 3. Stem Focus: For the 1st fill-in-the-blank statement: • add "2A" after the word "Pump." • delete the phrase "outside its NPSH limit." • change the word "authorized" to "allowed." • The phrase "in accordance with..OI-37.4" may not be necessary. See below: ***Continued operation of RHR Pump 2A __(1)___ allowed at this time.*** 4. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
77	F	2		x										B	E	T2G1: 209001 A2.07 (**2008 NRC November Exam, Q#78**) 1. Cue: The wording of the 1st fill-in-the-blank statement cues the applicant that the answer is operable. In other words, the grammar doesn't apply to the incorrect choice, *Due to the tripped room cooler breaker, Core Spray Loop A is operable*. Re-word the 1st fill-in-the-blank statement, and choices as: *Given this condition, Core Spray Loop A _____. (remains operable vs **is inoperable**.)* 2. Cue: The first part of the second sentence in the stem is not necessary. Delete "*During performance of 0PT-07.2.4A, Core Spray Loop A Operability.*.". This may cue the applicant that the loop is already inoperable (which happens to be the right answer to the 1st part of the question). 3. LOK: This appears to be a Fundamental Knowledge item; let's discuss. 4. 11-17-15: Comments incorporated; still need to resolve whether fundamental or higher cog. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
78	H	1.5	x											N	E/U	T2G1: 212000 A2.06 1. Ensure none of the scenarios have an initial condition where one APRM is bypassed and a subsequent failure of another APRM as a SRO Tech Spec call. 2. LOD=1: The SRO portion of the proposed test item will provide no discriminatory value on the exam because the reference provided to the applicants says that the 6 hour requirement is directly excluded by a NOTE. This essentially makes the question a direct lookup. For the 2nd part of the question, suggest testing the applicants' knowledge *HOW* Action A.1 is required to be accomplished. That is, test the applicants' knowledge of OI-18 requirements for placing a channel vs trip system in the tripped condition. 3. Stem Focus: Is the 1st fill-in-the-blank talking about a half scram? If so, then the 1st fill-in-the-blank statement should be re-worded as: *A half-scram __(1)____ exist.* (does vs **does not** exist) 4. Stem Focus: The plant mode is missing from the stem. 5. 11-12-15: K/A replaced on 10-26-15 with A2.05 (Nuc Boiler Instrumentation). Replacement question graded separately.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
79	H	2	x				x	x						N	E	T2G2: 215001 A2.07 1. The distracter analysis indicated that no reference was being provided to the applicants even though the stem indicates that a reference will be provided to the applicants. Based on the reference list packet provided with the exam, Tech Spec 3.6.1.3, PCIVs is being provided to the applicants. Update the distracter analysis reference field. 2. Partial: The question involves a malfunction of the TIP Group 2 auto-withdrawal. The stem does NOT indicate that the TIP Ball Valve and Shear Valve Assembly is broken. Based on TRM Appendix D, Table 3.6.1.3-2, Power Operated and Automatic PCIVs, (page D-17), the TIP Ball Valve and Shear Valve are required to be operable; is the automatic withdrawal circuitry required to be Operable? To avoid this gray area, suggest reworking the question to clarify that the TIP Ball Valve and/or Shear Valve is inoperable. This could still satisfy the intent of the K/A (Failure to retract during accident conditions). 3. Partial: The Answer indicates that Action Statement C.1 and C.2 are the required Tech Specs; however, TRM Appendix D, Table 3.6.1.3-2 (Page D-17) indicates that only Tech Spec Actions A & B are applicable to the TIP Ball Valve and Shear Valve Assembly. 4. Job-Link: Applying Tech Specs during an emergency event is not operationally valid. Suggest re-working the question to test the SRO applicants' ability to apply Tech Specs once the retract feature (or Ball Valve/Shear Valve Assembly) is discovered to be inoperable *while the unit is still operating*. This is more operationally valid. 5. Stem Focus: The 2nd fill-in-the-blank statement is vague because of the phrase "..and the system fails." The failure is not clear. 6. Comments addressed; revised Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
80	H	2	x									x		N	E/U	T1G1: 217000 G2.4.47 1. Q=K/A: The SRO portion of the question is the 2nd part; however, the 2nd part does not deal with the RCIC K/A. The 2nd part of the question solely tests the basis for suppression pool water level. Suggest re-working the question as follows: *Due to an undetected valve misalignment, the CST is draining to the suppression pool.* • *CST Level is lowering at 1 ft/min* • *Torus Level is rising at 1"/min* *[PROVIDE THE STEM PICTURES HERE]* *WOOTF completes both statements:* *The RCIC System will auto-swap in _____ .* *When the auto-swap occurs, RCIC _____ . [will remain operable vs will be inoperable.]* This will test the SRO applicants' knowledge that in order for RCIC to remain operable when its suction is aligned to the suppression pool, the suppression pool water level must also be operable. 2. Stem Focus: The term "auto" should be inserted before the word "swap" in the 1st fill-in-the-blank statement. 3. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
81	H	2										x		**M**	E/U	T2G2: 219000 G2.1.25 (**2010-1 NRC Exam, Q#88**) 1. Q=K/A: The SRO portion of the question is the 2nd part; however, the 2nd part does not have to do anything with the Torus/Suppression Pool Cooling Mode topic. Suggest revising the 2nd part of the question to test something related to the suppression pool cooling topic. This could be procedure selection related to the required procedure(s) for RHR/LPCI Torus Cooling…or whether or not ED is required based solely on the torus temperature. IF the generic portion of the K/A is too difficult to hit at the SRO level, then we may need to change out the K/A. Alternatively, another question related to Tech Specs for Suppression Pool Cooling may be an option; the generic portion of the K/A could be interpreted to mean that Tech Specs Tables are a reference material. 2. 11-17-15: Comments incorporated; Question is SAT.
82	H	2					x							N	E	T2G1: 261000 A2.05 1. Partial: There is no correct answer because on December 15 @ 12:30 when the 2A SBGT fails, Condition B (Two SGT subsystems inoperable in MODE 1, 2, or 3) is required to be entered, which requires MODE 3 by December 16 @ 00:30. The choices beyond December 16 are not operationally valid. 2. 11-17-15: Licensee explained that the question is testing completion extension time; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
83	?	3				x								N	U	1. Cred Dist: The 1st part of Choices A/B (30°F/hr) is not plausible because nothing in the stem can be misconstrued as meaning a hydro is in progress. This portion of the question will add no discriminatory value. 2. Cred Dist: The 2nd part of Choices A/C (8 hour report) is not plausible because the 2nd part of Choices B/D is "all-encompassing" (Safety Significance Concern). Violation of the cooldown rate limit is always a safety significance concern; therefore, an applicant can eliminate any knowledge of reportability based solely on conservative decision making. For example, *Unit 1 plant conditions:* • *Mode and Reactor Pressure* • *Cooldown in progress in accordance with xyz* • *The crew identified that the Tech Spec 3.4.9, RCS Pressure and Temperature (P/T) Limits were exceeded due to a 120°F cooldown rate.* • *The applicable Tech Spec Action Statements were entered and the required actions have been completed. The crew is continuing with the plant cooldown.* *WOOTF identifies the most restrictive (soonest) NRC reportability requirement for the excessive cooldown rate?* 3. A copy of NUREG 1022, Rev. 3 is maintained in the Control Room area and inventoried as part of 0OI-29, Operations Internal Audits. Consider also providing this reference to the applicants. 4. LOK: This question appears to be higher cog; let's discuss. 5. 11-17-15: Licensee reworked both parts of question; 2nd part now tests whether cooldown violation requires immediate notification in accordance with 10 CFR 50.72. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
84	H	2	x				x							N	E	T1G1: 295003 AA2.04 1. Partial: The DG3 is "running." Does this mean it is tied to E3? If not, then Choice A is also correct. 2. Stem Focus: The 1st fill-in-the-blank statement implies that the SAT lockout caused the "electrical transient." Suggest: *Based on this breaker alignment, a _____ lockout occurred. (SAT vs Main Generator)* 3. Partial: In accordance with 0AOP-36.1, Step 4.a, an operator is required to be dispatched to DG4 with 0OP-39. Therefore, an applicant can successfully argue that Choice A is also correct. Also, an applicant could correctly eliminate OP-39 merely based on normal vs abnormal operating conditions, and he/she would be correct. Suggest keeping the 1st part of the question and revising the 2nd part of the question as follows: *In accordance with 0AOP-36.1, UAT back feed in accordance with 2OP-50 ____ allowed to be performed.* [**is** vs is not] 4. Stem Focus: The first two sentences can be streamlined as follows: *Unit Two was operating at 100% power when an electrical fault caused a reactor scram. During the scram response, the crew observed…* 5. Verify this question does not overlap knowledge with RO Q#40 and Q#28. 6. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
85	H	2				x								N	~~U~~ S	T1G2: 295015 G2.4.5 1. Cred Dist: The 1st part of Choices C/D (stay in Rx Scram Procedure) is not plausible because reactor water level is unknown. Staying in the RSP when level is unknown is not plausible because this situation is beyond the scope of AOPs, and requires EOP entry. 2. The stem says the reactor has JUST scrammed and reactor water level is unknown with drywell pressure 1.3 psig. Reactor water level being unknown is not realistic if the reactor scram just occurred. What is the premise of why reactor water level can't be determined? 3. 11-17-15: Licensee provided examples of when it was required to remain in the Rx Scram Procedure; therefore, 1st part of Choices C/D are plausible. Still need to add the word "the" in the 2nd part of Choices B/D. Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
86	H	2	x	x			x							N	E	T1G1: 295016 G2.1.7 (E-PLAN CLASSIFICATION) 1. Partial: Choice A is also correct because the determination of whether or not control is established at the remote shutdown panel w/i 15 minutes is based on SEC judgment. The SEC is expected to make a reasonable, informed judgment within the site specific time for transfer that the licensee has control of the plant from the remote shutdown panel. There is nothing in the stem to indicate that RSDP control CANNOT be established. See PEP-2.2.1, Page 163 of 275. 2. Partial: The wording at time 08:20 ("Fire is reported to be") will create doubt as to when the fire was actually extinguished. Suggest saying that "The fire is extinguished." 3. Cue: The words at time 08:20 ("visible damage") exactly match the EAL Chart Block HA2.1. Suggest saying that the fire destroyed one of the rows of batteries in the Div I 125/250VDC Battery Bank. 4. Cue: The words at time 08:00 ("Control Building") exactly match the Table H-1 on the EAL Chart. Suggest saying that the fire is in the RPS MG set room. 5. Stem Focus: The wording of the 1st fill-in-the-blank statement should be "Decay heat is approximately ___(1)___ ." The phrase reactor thermal power makes it sound like the reactor is still running. 6. 11-17-15: Added initial condition that RCIC was out of service and time (greater than 15 minutes) that SEC and RSDP operator arrived at RSDP. Other comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
87	H	3	x					x		x				B	E/U	T1G1: 295018 G2.1.23 (**2010-2 NRC Exam, Q#93**) 1. Cred Dist: The 2nd part of Choices A/C (30 minutes) is not plausible because of the references being provided to the applicant. For example, if the applicant incorrectly uses the provided Attachment 6: CAC-TR-778 temperature is provided as 347°F at the 88 ft elevation; therefore, the applicant cannot ever arrive at Table 1 (30 minutes). On the other hand, if the applicant correctly uses the provided Attachment 5: CAC-TR-4426 temperature is provided as 347°F at the 23 ft elevation; therefore, the applicant cannot ever arrive at Table 1 (30 minutes). Because the references are provided, 30 minutes is not plausible. 2. Job-Link: It is not operationally valid for the 88 ft and 23 ft elevations to be the same temperature. Suggest raising the 88 ft elevation temperature value. 3. #/units: The temperature points provided in the stem should match the procedure descriptions of these values: • CAC-TR-4426 Peak temperature below 75 ft: XXX°F @ 23 ft elevation. • CAC-TR-778 Peak temperature for points 1, 3, & 4: XXX°F @ 88 ft elevation. 4. Stem Focus: Streamline the first sentence in the stem as: The crew is performing 1OP-21, Section 6.3.7, Restarting RBCCW Pump in RBCCW Mode with High Drywell Temperature. The following conditions exist: 5. Stem Focus: The stem question does not need to include the phrase “below for RBCCW pump restart..”. 6. Stem Focus: Reword the 1st fill-in-the-blank statement as “The procedure that is required to be used is 1OP-21, Attachment _____.”

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
88	H	2	x	x										N	E	T1G1: 295021 AA2.06 (E-PLAN CLASSIFICATION) 1. Cue: The "RCS Temperature" value should be provided as what the control room would see. (There is no meter labeled "RCS Temperature.") Provide all the values that the control room would have available such as RHR HX Outlet Temperature, RHR Hx Inlet Temperature, RWCU Bottom Head Drain Temperature, etc. Include the UNID#'s for each of these values. Several instruments are capable of providing indication of RCS temperature with respect to the Tech Spec cold shutdown temperature limit (212°F). These include: • Recirculation Suction Temperatures read on B32-TR-R650 located on panel P603 (if recirculation loop is in operation) • RHR HX 2A(B) Inlet Temperature as read on E41-TR-R605 Point 1(2), on Panel H12- P614 (RHR HX in service) • RHR HX 2A(B) Outlet Temperature as read on E41-TR-R605 Point 3(4), on Panel H12-P614 (RHR HX **not** in service) The RCS Temperature, as provided, is not operationally valid and cues the applicant to the correct answer. 2. Stem Focus: The initial plant conditions are missing the status of RHR. 3. Stem Focus: In the second paragraph, the term "all DGs"; suggest including the number "4." 4. Stem Focus: In the initial plant conditions, include a bullet that the RCS is intact. This will add plausibility to the Unusual Event choice based on EAL Table C-3. 5. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
89	H	2											x	N	U	T1G2: 295022 AA2.01 1. SRO-only: The 2nd part of the question does not test at the SRO license level because ROs are also required to know the accumulator cut-off pressure for operability for the following reasons: Tech Spec 3.1.5, Control Rod Scram Accumulators includes the accumulator pressure surveillance requirement, *which is applicable to ≤ 1 hour action statements included in this TS*: SURVEILLANCE REQUIREMENTS SURVEILLANCE / FREQUENCY SR 3.1.5.1 Verify each control rod scram accumulator pressure is ≥ 940 psig. / 7 days The A-07, 6-1, CRD Accumulator Lo Press alarm, is received at 955 psig (945 to 965) and the operator rounds (2OI- 03.4.2, Unit 2 Reactor Building Auxiliary Operator Daily Check Sheets) check HCU Accumulator pressure is greater than 980 psig. 2. LOK: It appears the proposed question is a Fundamental knowledge level question; let's discuss. 3. NRC wrote question to test "how" rod is required to be disabled per TS 3.1.5; question accepted – SAT.

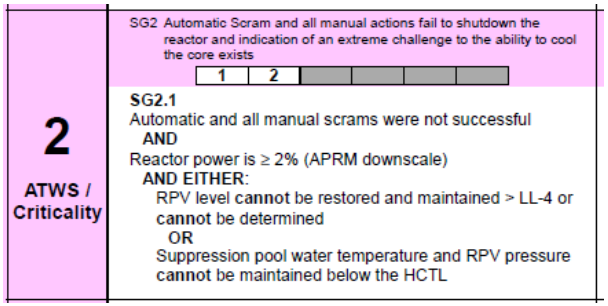
Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
90	H	2		x		x								N	U	T1G1: 295023 G2.4.11 1. Cred Dist: The 2nd part of Choices A/C (don't enter RRCP) is not plausible because a fuel bundle was dropped, the stem provides rad monitor alarms, and the Turbine Vent Rad Level is at the ALERT E-Plan threshold. 2. The operational validity of the Turbine Vent Rad Level rising when a fuel bundle was dropped in the Reactor Building seems questionable. How does this occur? 3. Cue: If it's operationally valid that the turbine building would be affected by a dropped fuel bundle, then the current Turbine Building Vent Rad release value should be provided in the stem instead of telling the applicants that it is at the Alert Level. This is more operationally valid. Suggest keeping the 1st portion of the question and re-working the second portion of the question to test whether AD-EP-ALL-0202, Emergency Response Offsite Dose Assessment, *is or is not* required to be implemented at this time. 4. NRC wrote question to test Spent Fuel Pool level leg in Secondary Containment Control Procedure; question accepted – SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
91	H	3											x	N	~~U~~	T1G1: 295025 EA2.05 1. SRO-only: The proposed question does is not tied to one of the 7 topics in 10CFR55.43(b). The distracter analysis indicated that the question was tied to 10CFR55.43(b)(5) [Procedure Selection]; however, there is no procedure selection in the question. The only potential SRO knowledge being tested is the bases RVCP Step RC/P-3. EOP Bases knowledge is not one of the 7 topics in 10CFR55.43(b). Suggestion: This Tier 1 K/A seems to lend itself to the RC/P leg of RVCP; perhaps the procedure selection piece could be accomplished for the Table P-1, Alternate RPV Pressure Control Systems. Alternatively, consider the following event: The crew is rapidly reducing power on Unit 1 (fewer bypass valves than Unit 2) to remove the turbine from service and the crew trips the turbine at about 28% power. The A5, 3-5 annunciator alarms REACTOR VESS HI PRESS. There may be some way to test the SRO applicants' knowledge of the limited bypass valve capacity on Unit 1 to handle 28% power, including selecting the required procedure if the reactor high pressure trip set point was not reached and all four bypass valves are wide open. ENP-24 vs RSP? [procedure selection]. Nevertheless, if it is not possible to write a SRO question for the Decay Heat Generation piece of the K/A, then we can change the K/A. 2. 11-17-15: Changed K/A to 295031 EA2.04. Original unsat grade credited back.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
92	H	2				x								**M**	U	T1G2: 295034 EA2.02 (**2010-2 NRC Exam, Q#91**) 1. Cred Dist: The 1st part of Choices C/D is not plausible because at 100% power, the RHR HXs are not in service. Moreover, even if the RHR Hx was in service torus cooling, its water leak is not as high temperature as a RWCU line leak, which means no steam from RHR Hx leak. Suggestion: Keep the annunciators provided in the stem and *TELL* the applicants that a RWCU line break has occurred in the Triangle Room. Test the SRO applicants knowledge of which ARM Channels are located closest to the RWCU Triangle Room [**Rx Bldg 50' ARM Channels 24** vs Rx Bldg 80' ARM Channel 30].

N Core Spray	N Core Spray Room	15
S Core Spray	S Core Spray Room	16
N RHR	N RHR Room	17
S RHR	S RHR Room	18
HPCI	HPCI Room	N/A
Rx Bldg 20' Elevation	Rx Bldg North Across From Tip Room	19
	Drywell Entrance	20
	Decon Room	22
	Railroad Doors	23
Rx Bldg 50' Elevation	Sample Station	24
	[Unit 2 Only] Rx Bldg NE Air Lock	25
	[Unit 1 Only] Rx Bldg SE Air Lock	
Rx Bldg 80' Elevation	Spent Fuel Cooling System	30
Rx Bldg 117' Elevation	North Of Fuel Storage Pool	27
	Between Rx & Fuel Pool	28
	Cask Wash Area	29

Keep the 2nd portion of the proposed test item, because this is the SRO portion that hits the K/A. "Cause of radiation levels" is being interpreted in the context of notification requirements.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
93	H	3										x		N	U	T1G1: 295037 EA2.07 (E-PLAN CLASSIFICATION) 1. Q=K/A: The K/A requires testing the applicants ability to determine/interpret containment conditions/isolations *as it applies to the ATWS Evolution*. The proposed test item presents two unrelated events: ATWS and HPCI steam line break, among several other unrelated equipment malfunctions. There is no relationship between these events, other than having to search the E-plan for the highest required classification. The SAE classification has nothing to do with the ATWS event. If you choose to keep an E-plan classification for this K/A, then the question should test the applicants' ability to determine when a GE exists (due to an ATWS), because this is the only E-Plan ATWS threshold that includes the K/A containment aspect:  **2** **ATWS / Criticality** SG2 Automatic Scram and all manual actions fail to shutdown the reactor and indication of an extreme challenge to the ability to cool the core exists 1 2 **SG2.1** Automatic and all manual scrams were not successful **AND** Reactor power is ≥ 2% (APRM downscale) **AND EITHER**: RPV level **cannot** be restored and maintained > LL-4 or **cannot** be determined **OR** Suppression pool water temperature and RPV pressure **cannot** be maintained below the HCTL Since there are already two SRO test items that deal with an E-Plan classification, and another test item for HCTL, suggest replacing this question with one that tests the SRO applicants' ability to select procedures based on the ATWS EOP and PCCP. 2. 11-17-15: Licensee wrote new question; new question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
94	F	1				x						x	x	B	U	T3: G2.1.26 1. SRO-only: Typically, the Tier 3 administrative controls aspect of SRO questions is the approval authority required to waive, etc. The proposed question only tests knowledge that an RO would be required to know, because it does not test the required approvals to waive independent verification. 2. LOD=1: This question does not test at the license level because the obvious choice is "D" since dry air on the Earth contains, 20.95% oxygen. This test item will provide no discriminatory value. 3. Q=K/A: The link to Industrial Safety Procedures is weak because OPS-NGGC-1301, Verification Practices, is a Conduct of Ops topic. 4. Cred Dist: Choice C (valve is too high off the floor) is not plausible because the stem says the valve is accessible via an installed ladder. Safety belts allow reaching the valve. 5. Stem Focus: The last line in the stem should be moved to the top of the question; where it is located now appears to only apply to the ladder. 6. NRC wrote question to test requirements for drywell entry; question accepted, SAT.
95	F	2	x											B	E	T3: G2.1.42 (**2010-1 NRC Exam, Q#95**) 1. Stem Focus: Suggest the following changes to streamline, to be consistent with RO Q#67, and to eliminate "teaching" in the stem: *Core reload is in progress during a refueling outage.* *It is desired to perform single rod withdrawals during the core reload sequence.* *WOOTF completes the statement regarding how a neutronic bridge is required to be established, in accordance with 0FH-11, Refueling?* *Four fuel bundles are first loaded around _____, then fuel is loaded in all fuel cells in a line between _____ .* 2. 11-17-15: Comments incorporated; Question is SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
96	F	2				x								B	U	T3: G2.2.17 (Browns Ferry) 1. Cred Dist: The 2nd part of Choices A/C (unanticipated work is called "critical activity") is not plausible because the common definition of "emergent" can also be applied to work added after the schedule was frozen. The stem does not include anything that could be misconstrued as a substantial challenge to Nuclear, Operational, Industrial, Radiological, or Environmental Risk (defined in AD-WC-ALL-0410). An applicant who did not know anything about work management process can correctly exclude the 2nd part of Choices A/C based solely on the definition of "emergent." 2. Changed 2nd part to test whether scope change request is required for FIN work added; SAT. 3. Post Exam Comment: licensee had post exam comment on this question as not job duty of SRO.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
97	H	2	x			x						x		B	U	T3: G2.2.22 (**2010-1 NRC Exam, Q#97** 1. Q=K/A: The proposed test item does not test a generic Tech Spec Rule that could apply to more than one LCO. Instead, the proposed question only tests specifics associated with LCO 3.4.1, Recirc Loops Operating. NUREG-1021, ES-401, Section D.2.a (pg 6 of 50) states: *Ensure that the questions selected for Tier 3 maintain their focus on plant-wide generic knowledge and abilities and do not become an extension of Tier 2, "Plant Systems."* Typically, for this Tier 3 K/A, we try to test the applicants' knowledge of the Tech Spec Rules found in Tech Spec Section 1, Use and Application, or Section 3, LCO Applicability. For example, the question might involve a specific system LCO, where the equipment out of service exceeded any allowances described in the LCO. Thus, in this case, LCO 3.0.3 is required. A question of this sort may present a timeline and test the applicants' knowledge of when hot/cold shutdown must be entered for LCO 3.0.3. This is an example of how a "generic LCO concept" can be tested at a system level. Of course, there is nothing wrong with simply testing the information in Tech Spec Section 1 or 3 by itself either. 2. Cred Dist: The 2nd part of Choices B/D (higher flow loop considered not running) is not plausible because the loop with the higher flow is running a lot better than the loop with the lower flow. An applicant with no knowledge of the Tech Spec Bases can guess the correct answer for the 2nd part of the question solely based on conservatism and logic. 3. Stem Focus: The 2nd fill-in-the-blank statement should include a phrase "..in accordance with the Tech Spec BASES." 4. 11-17-15: Changed to test the generic 3.0.4 mode change requirement w/ ADS valve surveillance. SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
98	H	2	x			x							x	B	E/U	T3: G2.3.6 (**2012 NRC Exam, Q#98**) 1. SRO-only: The following system precaution and limitation (RO knowledge) is listed in 0OP-6.4, P&L # 3.4: 4. A release may continue if Liquid Radwaste Effluent Flow Measurement Device, G16-FIT-N057 is INOPERABLE, in accordance with ODCM, Off-Site Dose Calculation Manual, 7.3.1 Required Compensatory Measure C1, provided the flow rate is estimated at least once every 4 hours during actual releases. Tank level indicators or pump performance curves may be used to estimate flow. □ Since ROs are responsible for aligning releases, and because the test question doesn't involve any ODCM action statement determination, the link to SRO is weak. Additionally, the plausibility of the 2nd part of Choices B/D is border line because releases can always occur when instrumentation is broken. Since this question was used on one of the last two NRC exams, suggest modifying the 2nd fill-in-the-blank statement. 2. Stem Focus: to ensure no misunderstanding, underline and capitalize the word "any" in the first fill-in-the-blank statement. 3. Stem Focus: the dotted lines in the stem are not needed. 4. NRC wrote question to test whether release can continue if CWP swapping occurs and authorization requirements; accepted, SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
99	F	2					x							B	E	T3: G2.4.37 (**2014 NRC Exam, Q#97**) 1. Partial: An applicant can argue that none of the answers to the 2nd part of the question are correct because the Emergency Exposure Authorization Form requires the Radiological Controls Director's (RCD) recommendation signature and the Site Emergency Coordinator's (SEC) approval signature. The word "authorize" is not included on the form. 2. Since this question was used on the most recent NRC exam, it can be easily modified to test the SRO applicants' knowledge of the PEP-03.7.6 emergency exposure guidelines. One example of how to modify the question is: *A General Emergency has been declared. An auxiliary operator is needed to enter the reactor building to perform emergency actions to protect valuable property. It is estimated that the operator will receive 7.5 rem TEDE.* *WOOTF completes both statements in accordance with PEP-03.7.6, Emergency Exposure Controls?* *The estimated dose __(1)__ exceed the emergency exposure guidelines. [will vs **will not**]* *On Attachment 1, Emergency Exposure Authorization For, the ___(2)___ must sign in the approval blank.* [RCD vs **SEC**]
100	H	2												B	E	T3: G2.4.46 1. Partial: Choice D is also correct because the stem says that drywell pressure is slowly rising; therefore, it is reasonable to expect that 1.7 psig will be reached. Suggest the following to remedy: *Due to a loss of drywell cooling on Unit 1, drywell pressure has risen to 1.5 psig.* *WOOTF completes both statements?* *Annunciator A-03 (4-9) RHR High Drywell Press __(1)___ alarming. [is vs **is not**]* *The CRS will direct venting IAW ____(2)___.*