

Tier / Group	Randomly Selected K/A	Reason for Rejection
ES-401-1 - Tier 1/Grp 1	295007 High Reactor Pressure / 3 A2.2 Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE : (CFR: 41.10 / 43.5 / 45.13) Reactor Power	This K/A was the same as 295025 High Reactor Pressure / 3 A2.2, which was already selected. Selected 295007 A2.1 instead.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
1	H	2				X						x		U	Bank. Distractors A and B are NOT plausible that total core flow would rise when MG Set A is tripped. <u>RESOLUTION</u> : Rewrote distractors A and B.
2	H	3				X						x		E	Bank. 1) Distractor A is NOT plausible that the EDG 14 would shutdown during an emergency start condition. Suggest replacing distractor A with the same items as distractor B, except state the EDG would be in the "Droop" mode. 2) Add to distractor B that the EDG would be in the isochronous mode (please verify that this is correct, otherwise make the new distractor A the correct answer). <u>RESOLUTION</u> : Changed both distractors as suggested.
3	F	3										x		S	Bank.
4	F	2				X						x		E	New. Distractor D is NOT plausible that the generator trip is to protect against excessive pressure in the main transformer. <u>RESOLUTION</u> : Rewrote distractor D.
5	H	2										x		S	Bank.

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
 - The answer choices are a collection of unrelated true/false statements.
 - One or more distractors is not credible.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
 - 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).
 - 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).
 - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
- Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Note: First 20 in RO and first 10 in SRO for initial review. However, all questions were reviewed in detail. Due to noted quality of exam material 100% received independent review.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q= K/A	SRO Only		
6	F	2				X						x		E	New. Distractor C is NOT plausible that control of the Main Turbine would be available from the dedicated Shutdown Panel. Also, distractor C is NOT plausible because the question stem asks about the purpose of tripping the Main Turbine and distractor C discusses control of the Main Turbine. <u>RESOLUTION:</u> Rewrote distractor C.
7	H	3										x		S	Bank.
8	F	2										x		S	Bank.
9	H	2										x		S	Bank.
10	H	1				X						x		U	Bank. 1) Question ≠ K/A. The K/A is related to <u>area</u> radiation levels during a refueling accident, but the question is related to automatic actions on high radiation levels during a refueling accident. 2) LOD =1. 3) Distractors A and B are NOT plausible that the MSIVs would close or the EDGs would start on a high radiation level in the fuel pool building. <u>RESOLUTION:</u> Rewrote question and distractors to apply correct K/A.
11	F	2										x		S	New.
12	H	3	X						X			x		U	Bank. Depending on how bad the SRV is leaking through, there could be NO correct answer. The leak could be small and tailpipe temperature could stabilize at 100 to 200 degF This question could be classified to be at the Higher cognitive level instead of at the Fundamental level, since one needs to interpret tailpipe temperature for a leaking SRV (from the steam tables) and also determine which SRV annunciator/light would be lit The steam tables should be available as a reference to answer this question. <u>RESOLUTION:</u> Steam tables will be available as a reference during the written exam. Noted pressure condition in stem & changed temp to better meet steam tables. Clarified stem of question.
13	F	2				X						x		E	Modified. 1) Based on the information provided with the Question 13 Details on the Previous Stem, this question should be categorized as a New question instead of a Bank question. 2) Distractor D is NOT plausible that turbine control valve closure would cause the reactor scram, since the question stem states that the turbine control valves have failed open. <u>RESOLUTION:</u> Rewrote distractor D. Accept as modified.
14	F	2										x		S	New.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
15	H	1										x		U	Bank. First look did not know that a table would be provided. Given the table with the instructions on how to use the table the question is a direct look up. Remove the table descriptions, i.e., notes & cautions or otherwise delete the question. <u>RESOLUTION:</u> Removed the table descriptions to allow use of the table.
16	F	2				X						x		U	New. Distractors A and B are NOT plausible that either RCIC or HPCI would automatically switch suction to the torus on low torus level. <u>RESOLUTION:</u> Distractors A and B show corrected on complete exam file (dated 9/7/04). However, the copy w/ ref did not update distractor B. Licensee informed to ensure ref copy updated.
17	H	3										x		S	Bank.
18	F	2										x		E	Bank. The Question #18 Details worksheet lists the K/A as 295037 K3.01. This should be 295037 K2.04. <u>RESOLUTION:</u> Noted & corrected.
19	F	2										x		S	Bank.
20	F	2										x		S	New.
21	H	2				X						x		U	Bank. Distractors B and C are NOT plausible that an RHR pump would autostart on an RHR system overpressure condition and the resultant signal generated. <u>RESOLUTION:</u> Distractors B and C rewritten.
22	H	3										x		S	Bank.
23	H	2										x		E	Bank. This question should be classified to be at the Higher cognitive level instead of at the Fundamental level, since one needs to review two parameters (i.e., RPV level and Recirc Pumps tripped) in order to determine which RPV level instrument provides the most accurate level reading. In addition, it appears similar to question # 15 on level instrument accuracy. Is this testing the same knowledge? <u>RESOLUTION:</u> Not necessarily. The table in #15 does not apply to this question. The applicant must know the calibration requirements of each instrument and how the operation of the recirc pumps affect the instruments. Question is acceptable.
24	F	2										x		U	Bank. Question ≠ K/A. The K/A is related to determining suppression pool temperature as it applies to High Suppression Pool Temperature, whereas the question is related to determining suppression pool temperature as it applies to Low Suppression Pool Level condition. <u>RESOLUTION:</u> Question rewritten to match K/A.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
25	F	2				X						x		E	Bank. Distractor D is NOT plausible that operation of the SGTS is to ensure the secondary containment is maintained at a positive pressure. <u>RESOLUTION</u> : Distractor D rewritten.
26	H	2				X						x		E	Bank. Distractor A is NOT plausible that the emergency intake dampers would close on a high radiation signal. <u>RESOLUTION</u> : Stem and distractors rewritten.
27	F	3										x		S	New.
28	H	2										x		S	Bank.
29	F	2										x		S	Bank.
30	H	3				X						x		E	Bank. Distractor D is NOT plausible that the HPCI pump would trip on high flow. <u>RESOLUTION</u> : Distractor D rewritten.
31	H	2										x		S	New.
32	H	3	X									x		E	Bank. In the question stem, delete mention of "RPV power" and just say that the rods are full in. <u>RESOLUTION</u> : Added 0% on the power info with rods full in.
33	H	2	X									x		E	Bank. To provide emphasis on what the question is, fully capitalize the word "next" in the question stem. <u>RESOLUTION</u> : Emphasis added.
34	F	2										x		S	New.
35	H	2										x		S	New.
36	F	3										x		S	Bank.
37	F	3										x		S	Bank.
38	F	3										x		S	Bank.
39	H	2				X						x		E	New. Distractor D is NOT plausible that a failure of the RCIC inverter will have NO effect on RCIC. <u>RESOLUTION</u> : Distractor D rewritten.
40	H	2										x		S	Bank.
41	H	2										x		S	Bank.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
42	F	2				X						x		E	Bank. Distractor C is NOT plausible that the SRVs selected for use would be based on average torus temperature, since torus temperature indication would NOT provide a relative location/or any other discrimination for selection of the SRVs. <u>RESOLUTION:</u> Distractor C rewritten.
43	H	1										x		U	New. 1) LOD = 1. Can easily determine that distractors A, B, and C are NOT correct, since none of these would cause RPV level to be rising. 2) Add the word "exist" to the question stem: "The following conditions exist ...". 3) In the question stem, add the word "and" as follows: "RPV water level is 200 inches and slowly rising". <u>RESOLUTION:</u> Stem and distractors rewritten to incorporate suggested changes.
44	H	2	X			X						x		U	New. 1) Distractors B and C are NOT plausible that the FWCS would lower the speed of the Reactor Feed Pump Turbine(s) on a feed line break. 2) Suggest changing the second part of distractor B to: "... and raise the speed of both Reactor Feed Pump Turbines." 3) Suggest changing the second part of distractor C to: "... and raise the speed of the A Reactor Feed Pump Turbine." 4) In the question stem, state that all plant systems are in their normal lineup, since this would imply that both Reactor Feed Pump Turbines are in AUTO control. <u>RESOLUTION:</u> Distractors B and C rewritten.
45	F	3										x		S	Bank.
46	H	3										x		E	Bank. In the question stem, delete "Reactor Power" and just say that all rods are fully inserted. <u>RESOLUTION:</u> Decided to insert 0% for power info and all rods fully in.
47	H	2										x		S	New.
48	F	3				X						x		E	Bank. 1) Distractor B is NOT plausible that the governor valves would receive power from the Reactor Protection System. 2) Typo: In distractor A, change "Uninterruptible" to "Uninterruptible". <u>RESOLUTION:</u> Stem and distractors rewritten to ask response on UPS deenergization.
49	F	3										x		S	Bank.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
50	H	1				X						x		U	Bank. 1) Distractor B is NOT plausible that the EDGs would NOT eventually autostart with continued increasing drywell pressure and continued decreasing Reactor water level. 2) Distractor D is NOT plausible that the loads would be stripped and NOT sequence back on without a loss of offsite power (i.e., would have NO loading of the bus if offsite power was available). <u>RESOLUTION</u> : Question replaced with new question.
51	H	3										x		S	New.
52	H	2		X								x		E	New. In the question stem change "was" to "is" (i.e., "The plant is operating ..."), so as to NOT possibly imply that the plant would then be shutdown by the inadvertent transfer of MPU-3. <u>RESOLUTION</u> : Suggested change incorporated.
53	H	3										x		E	Bank. To ensure the applicants fully understand the question, fully capitalize the word "sequence" in the question stem. <u>RESOLUTION</u> : Emphasis added.
54	H	1				X						x		U	Bank. LOD = 1. Distractor A is the only plausible answer. <u>RESOLUTION</u> : Replaced question with new question.
55	H	2										x		S	Bank.
56	F	2										x		S	Bank.
57	H	3										x		S	Bank.
58	H	3				X						x		E	Bank. Distractor D is NOT plausible that RHR Pump A would trip during the event. <u>RESOLUTION</u> : Distractor D rewritten. With ref copy OK, but the given exam copy was not yet changed. Informed licensee to update.
59	F	2										x		E	Bank. Editorial: In distractor D, correct the spelling of the word "maintainted". <u>RESOLUTION</u> : Typo corrected.
60	F	1				X						x		E	New. Distractor C is NOT plausible that a loss of main steam to the West MSR would result in a loss of <u>all</u> steam to the LP turbines and reactor scram. <u>RESOLUTION</u> : Distractor C rewritten.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
61	H	2	X			X						x		E	Bank. 1) Add to question stem that all systems are in their normal lineup. 2) Distractor C is NOT plausible that RPV level would be steady following a Reactor Feed Pump trip. <u>RESOLUTION</u> : Distractor C rewritten.
62	H	3										x		S	New.
63	H	1				X						x		U	New. LOD = 1, since even without knowing the details concerning the logic for MSIV closure on high radiation, the applicants should know that NO single failure would prevent the RPS from functioning properly. Thus, distractors A, B, and C are NOT plausible. <u>RESOLUTION</u> : Replaced Question and K/A with new question on fire protection.
64	H	3										x		S	New.
65	F	3										x		S	Bank.
66	F	2										x		S	Bank.
67	H	2				X						x		E	Bank. Distractor B is NOT plausible that one should lower "B" MG set speed, since B Recirc System flow is less than A Recirc System flow. <u>RESOLUTION</u> : Distractor B rewritten along with only minor editorial changes.
68	F	1										x		U	Bank. LOD = 1, since distractor D is obviously a correct answer. <u>RESOLUTION</u> : Question replaced with new question.
69	F	2										x		S	Bank.
70	F	2										x		E	Bank. 1) In the question stem, change the last few words to "..., as the Reactor Operator you IMMEDIATELY:" 2) Re-word distractor A to: "direct the refuel floor to evacuate", since the RO is in the Control Room and does NOT evacuate the refuel floor. <u>RESOLUTION</u> : Suggested changes incorporated.
71	F	3										x		S	Bank.
72	F	3				X						x		E	Bank. Distractor D is NOT plausible because it is a subset of distractor A (i.e., if distractor A were correct, then distractor D would also be correct). <u>RESOLUTION</u> : Distractors C and D rewritten to include the word "Only" at the beginning of each.
73	F	3										x		S	New.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
74	F	2										x		S	New.
75	H	3										x		S	Bank.
76	H	3										x	X	E	New. The correct answer (distractor C) is associated with actions required in an <u>administrative</u> Conduct of Operations type procedure MOP 04. This answer could be misleading, since the other 3 distractors are associated with actions in AOPs. One would expect that an AOP would be effect and the operator would be following the applicable AOP. <u>RESOLUTION</u> : Distractor C rewritten and other minor editorial changes to the stem.
77	H	3										x	X	U	Bank. This question does NOT meet any of the criteria in 10CFR55.43(b) to be classified as an SRO level question. It is more of a system knowledge (RO level) type question. <u>RESOLUTION</u> : Question replaced with new question.
78	H	3										x	X	S	New.
79	H	3										x	X	E	Bank. Need to see the Bank question to verify that this question is modified. <u>RESOLUTION</u> : Modified to bank.
80	H	2				X						x	X	U	New. 1) This question is similar to Question 13 of RO exam. Replace question. 2) Distractor D is NOT plausible that the Turbine Control Valves are part of RPS. <u>RESOLUTION</u> : Question replaced.
81	H	3										x	X	U	Bank. LOD =1, given only one curve. Give more curves and more parameters to look at. NOTE: A curve is supplied with the question as a reference. <u>RESOLUTION</u> : Question rewritten to ask for Torus water temp. and only the original curve will be provided. Required appropriate reading of temp & press to interpret the curve. Raised level of discrimination. Also, the correct answer choice (B) was incorrectly noted as 1170 deg F. It should read 170 deg F. In addition, stem needed to ask for the minimum temp for emergency depressurization. Licensee informed to ensure update info.
82	H	3										x	X	S	New.
83	F	1										x	X	U	New. LOD = 1, since distractor C is obviously the correct answer. <u>RESOLUTION</u> : Question replaced.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
84	F	2										x	X	E	Bank. Editorial: In the question stem, change "returns" to "return" in the sentence associated with the APRMs. <u>RESOLUTION</u> : Typo corrected.
85	H	2										x	X	S	Modified.
86	H	2										x	X	S	Bank.
87	H	3										x	X	S	New.
88	H	3										x	X	S	New.
89	H	1										x	X	U	New. LOD = 1 with the distractors provided. <u>RESOLUTION</u> : Stem changed to specify CS Pump 'A' failing the surveillance. Distractors B and C rewritten.
90	F	2										x	X	S	Bank.
91	H	3										x	X	S	Modified.
92	F	2				X						x	X	E	Bank. 1) Distractor C is NOT plausible that the RBM would be associated with a failure to scram. Suggest deleting the words "should there be a failure to scram". 2) Editorial: In distractor C, change "a anticipated transient" to "an anticipated transient". 3) Change distractor D to state: "The RBM is designed ..." to be similar to the other distractors. <u>RESOLUTION</u> : Distractor C rewritten. "The RBM is designed ..." moved to stem.
93	H	2										x	X	S	Bank.
94	F	2										x	X	S	Bank.
95	F	2										x	X	S	Bank.
96	F	2										x	X	S	Bank.
97	F	3										x	X	S	New.
98	F	2				X						x	X	E	New. Distractor D is NOT plausible that the bases for the 22 feet of water level over irradiated fuel is to slow a dropped load before it damages fuel assemblies in the RPV. <u>RESOLUTION</u> : Distractor D rewritten.
99	H	2										x	X	S	Bank.
100	H	2										x	X	S	Modified.

Facility: Fermi 2		Date of Exam: 09/13/04																			
Tier	Group	RO K/A Category Points												SRO-Only Points							
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	K	A	A 2	G *	Total			
1. Emergency & Abnormal Plant Evolutions	1	3	4	3				4	4			2	20	N/A	N/A	N/A	N/A	N/A			
	2	0	2	2				2	1			0	7	N/A	N/A	N/A	N/A	N/A			
	Tier Totals	3	6	5				6	5			2	27	N/A	N/A	N/A	N/A	N/A			
2. Plant Systems	1	3	2	3	3	2	2	2	2	3	2	2	26	N/A	N/A	N/A	N/A	N/A			
	2	2	0	1	2	2	1	1	1	1	1	0	12	N/A	N/A	N/A	N/A	N/A			
	Tier Totals	5	2	4	5	4	3	3	3	4	3	2	38	N/A	N/A	N/A	N/A	N/A			
3. Generic Knowledge and Abilities Categories				1		2		3		4		10	1		2		3		4		N/A
				3		2		2		3			N/A		N/A		N/A		N/A		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO Outline(i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.</p> <p>2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final exam must total 75 points and the SRO-only exam must total 25 points.</p> <p>3. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. The SRO K/As must also be linked to 10CFR 55.43 or an SRO-level Learning objective.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals for each system and category. Enter the group and tier totals for each category in the table above; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A." Use duplicate pages for RO and SRO-only exams.</p> <p>8. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.</p> <p>9. Refer to ES-401, Attachment 2 for guidance regarding the elimination of inappropriate K/A statements.</p>																					

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO)						Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4 (#1)					6		Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : (CFR: 41.10 / 43.5 / 45.13) Nuclear boiler instrumentation	3.2	1
295003 Partial or Complete Loss of AC / 6 (#2)		2					Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF A.C. POWER and the following: (CFR: 41.7 / 45.8) Emergency generators	4.1	2
295004 Partial or Total Loss of DC Pwr / 6 (#3)		1					Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF D.C. POWER and the following: (CFR: 41.7 / 45.8) Battery charger	3.1	3
295005 Main Turbine Generator Trip / 3 (#4)			4				Knowledge of the reasons for the following responses as they apply to MAIN TURBINE GENERATOR TRIP: (CFR: 41.5 / 45.6) Main generator trip	3.2	4
295006 SCRAM / 1 (#5)				4			Ability to operate and/or monitor the following as they apply to SCRAM : (CFR: 41.7 / 45.6) Recirculation system	3.1	5
295016 Control Room Abandonment / 7 (#6)			2				Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT : (CFR: 41.5 / 45.6) Turbine trip	3.7	6
295018 Partial or Total Loss of CCW / 8 (#7)	1						Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : (CFR: 41.8 to 41.10) Effects on component/system operations	3.5	7
295019 Partial or Total Loss of Inst. Air / 8 (#8)						*	2.1.27 Knowledge of system purpose and or function.	2.8	8
295021 Loss of Shutdown Cooling / 4 (#9)				1			Ability to operate and/or monitor the following as they apply to LOSS OF SHUTDOWN COOLING : (CFR: 41.7 / 45.6) Reactor water cleanup system	3.4	9
295023 Refueling Acc Cooling Mode / 8 (#10)					1		Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : (CFR: 41.10 / 43.5 / 45.13) Area radiation levels	3.2	10
295024 High Drywell Pressure / 5 (#11)	1						Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL PRESSURE : (CFR: 41.8 to 41.10) Drywell integrity:	4.1	11
295025 High Reactor Pressure / 3 (#12)				3			Ability to operate and/or monitor the following as they apply to HIGH REACTOR PRESSURE: (CFR: 41.7 / 45.6) Safety/relief valves:	4.4	12

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO)						Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
(#13)					2		Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE: (CFR: 41.10 / 43.5 / 45.13) Reactor power	4.2	13
295026 Suppression Pool High Water Temp. / 5 (#14)						*	2.4.18 Knowledge of the specific bases for EOPs. (CFR: 41.10 / 45.13)	2.7	14
295028 High Drywell Temperature / 5 (#15)	1						Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL TEMPERATURE : (CFR: 41.8 to 41.10) Reactor water level measurement	3.5	15
295030 Low Suppression Pool Wtr Lvl / 5 (#16)					1		Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : (CFR: 41.10 / 43.5 / 45.13) Suppression pool level	4.1	16
295031 Reactor Low Water Level / 2 (#17)		8					Knowledge of the interrelations between REACTOR LOW WATER LEVEL and the following: (CFR: 41.7 / 45.8) Automatic depressurization system	4.2	17
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1 (#18)		4					Knowledge of the interrelations between SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN and the following: (CFR: 41.7 / 45.8) SBLC system	4.4	18
295038 High Off-site Release Rate / 9 (#19)			1				Knowledge of the reasons for the following responses as they apply to HIGH OFF-SITE RELEASE RATE: (CFR: 41.5 / 45.6) Implementation of site emergency plan	3.6	19
600000 Plant Fire On Site / 8 (#20)				5			Ability to operate and / or monitor the following as they apply to PLANT FIRE ON SITE: Plant and control room ventilation systems	3.0	20
K/A Category Totals:	3	4	3	4	4	2	Group Point Total:		20

ES-401		BWR Examination Outline						Form ES-401-1	
Emergency and Abnormal Plant Evolutions – Tier 1/Group 2 (RO)									
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic	IR	#
295002 Loss of Main Condenser Vac / 3							Not randomly selected		
295007 High Reactor Pressure / 3 (#21)		6					Knowledge of the interrelations between HIGH REACTOR PRESSURE and the following: (CFR: 41.7 / 45.8) PCIS/NSSSS:	3.5	21
295008 High Reactor Water Level / 2 (#22)				4			Ability to operate and/or monitor the following as they apply to HIGH REACTOR WATER LEVEL : (CFR: 41.7 / 45.6) HPCI	3.5	22
295009 Low Reactor Water Level / 2 (#23)		1					Knowledge of the interrelations between LOW REACTOR WATER LEVEL and the following: (CFR: 41.7 / 45.8) Reactor water level indication	3.9	23
295010 High Drywell Pressure / 5							Not randomly selected		
295011 High Containment Temperature / 5							Not randomly selected		
295012 High Drywell Temperature / 5							Not randomly selected		
295013 High Suppression Pool Temp. / 5 (#24)					1		Ability to determine and/or interpret the following as they apply to HIGH SUPPRESSION POOL TEMPERATURE : (CFR: 41.10 / 43.5 / 45.13) Suppression pool temperature	3.8	24
295014 Inadvertent Reactivity Addition / 1							Not randomly selected		
295015 Incomplete SCRAM / 1							Not randomly selected		
295017 High Off-site Release Rate / 9 (#25)			2				Knowledge of the reasons for the following responses as they apply to HIGH OFF-SITE RELEASE RATE : (CFR: 41.5 / 45.6) Plant ventilation	3.3	25
295020 Inadvertent Cont. Isolation / 5 & 7							Not randomly selected		
295022 Loss of CRD Pumps / 1							Not randomly selected		
295029 High Suppression Pool Wtr Lvl / 5							Not randomly selected		
295032 High Secondary Containment Area Temperature / 5							Not randomly selected		
295033 High Secondary Containment Area Radiation Levels / 9 (#26)				8			Ability to operate and/or monitor the following as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS : (CFR: 41.7 / 45.6) Control room ventilation:	3.6	26
295034 Secondary Containment Ventilation High Radiation / 9							Not randomly selected		
295035 Secondary Containment High Differential Pressure / 5							Not randomly selected		
295036 Secondary Containment High Sump/Area Water Level / 5							Not randomly selected		
500000 High CNTMT Hydrogen Conc. / 5 (#27)			4				Knowledge of the reasons for the following responses as they apply to HIGH PRIMARY CONTAINMENT HYDROGEN CONCENTRATIONS: (CFR: 41.5 / 45.6) Emergency depressurization	3.1	27
K/A Category Totals:	0	2	2	2	1	0	Group Point Total:		7

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)										Form ES-401-1		
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
203000 RHR/LPCI: Injection Mode (#28)							1					Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) controls including: (CFR: 41.5 / 45.5) Reactor water level	4.2	28
205000 Shutdown Cooling (#29)					3							Knowledge of the operational implications of the following concepts as they apply to SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) : (CFR: 41.5 / 45.3) Heat removal mechanisms	2.8	29
206000 HPC (#30)			1									Knowledge of the effect that a loss or malfunction of the HIGH PRESSURE COOLANT INJECTION SYSTEM will have on following: (CFR: 41.7 / 45.4) Reactor water level control:	4.0	30
(#31)									5			Ability to monitor automatic operations of the HIGH PRESSURE COOLANT INJECTION SYSTEM including: (CFR: 41.7 / 45.7) Reactor water level:	4.3	31
209001 LPCS (#32)								1				Ability to (a) predict the impacts of the following on the LOW PRESSURE CORE SPRAY SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) Pump trips01+	3.4	32
211000 SLC (#33)										8		Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) System initiation:	4.2	33
212000 RPS (#34)	13											Knowledge of the physical connections and/or cause effect relationships between REACTOR PROTECTION SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Containment pressure	3.5	34
(#35)				9								Knowledge of REACTOR PROTECTION SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Control rod insertion following RPS system electrical failure	3.8	35
215003 IRM (#36)											*	2.2.2 Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels. (CFR: 45.2)	4.0	36
215004 Source Range Monitor (#37)						2						Knowledge of the effect that a loss or malfunction of the following will have on the SOURCE RANGE MONITOR (SRH) SYSTEM : (CFR: 41.7 / 45.7) 24/48 volt D.C. power	3.1	37
215005 APRM / LPRM (#38)		2										Knowledge of electrical power supplies to the following: (CFR: 41.7) APRM channels	2.6	38

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)											Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
217000 RCIC (#39)								10				Ability to (a) predict the impacts of the following on the REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) Turbine control system failures	3.1	39
218000 ADS (#40)					1							Knowledge of the operational implications of the following concepts as they apply to AUTOMATIC DEPRESSURIZATION SYSTEM : (CFR: 41.5 / 45.3) ADS logic operation	3.8	40
223002 PCIS/Nuclear Steam Supply Shutoff (#41)							2					Ability to predict and/or monitor changes in parameters associated with operating the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF controls including: (CFR: 41.5 / 45.5) Valve closures	3.7	41
239002 SRVs (#42)				4								Knowledge of RELIEF/SAFETY VALVES design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Ensures even distribution of heat load to suppression pool, and adequate steam condensing	3.4	42
259002 Reactor Water Level Control (#43) (#44)	6											Knowledge of the physical connections and/or cause effect relationships between REACTOR WATER LEVEL CONTROL SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Plant air systems	3.0	43
									4			Ability to monitor automatic operations of the REACTOR WATER LEVEL CONTROL SYSTEM including: (CFR: 41.7 / 45.7) Changes in reactor feedwater flow	3.2	44
261000 SGTS (#45)			2									Knowledge of the effect that a loss or malfunction of the STANDBY GAS TREATMENT SYSTEM will have on following: (CFR: 41.7 /45.6) Off-site release rate	3.6	45
262001 AC Electrical Distribution (#46) (#47)			4									Knowledge of the effect that a loss or malfunction of the A.C. ELECTRICAL DISTRIBUTION will have on following: (CFR: 41.7 / 45.4) Uninterruptible power supply	3.1	46
											*	2.4.11 Knowledge of abnormal condition procedures. (CFR: 41.10 / 43.5 / 45.13)	3.4	47
262002 UPS (AC/DC) (#48)	5											Knowledge of the physical connections and/or cause effect relationships between UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Reactor/turbine pressure control system control unit:	2.7	48

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 1 (RO)											Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
263000 DC Electrical Distribution (#49)				1								Knowledge of D.C. ELECTRICAL DISTRIBUTION design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Manual/ automatic transfers of control:	3.1	49
264000 EDGs (#50)									5			Ability to monitor automatic operations of the EMERGENCY GENERATORS (DIESEL/JET) including: (CFR: 41.7 / 45.7) Load shedding and sequencing	3.4	50
300000 Instrument Air (#51)		1										Knowledge of electrical power supplies to the following: (CFR: 41.7) Instrument air compressor	2.8	51
(#52)						7						Knowledge of the effect that a loss or malfunction of the following will have on the INSTRUMENT AIR SYSTEM: (CFR: 41.7 / 45.7) Valves	2.5	52
400000 Component Cooling Water (#53)										1		Ability to manually operate and / or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) CCW indications and control	3.1	53
K/A Category Totals:	3	2	3	3	2	2	2	2	3	2	2	Group Point Total:		26

ES-401													BWR Examination Outline													Form ES-401-1	
Emergency and Abnormal Plant Evolutions – Tier 2/Group 2 (RO)																											
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#													
201001 CRD Hydraulic (#54)								1				Ability to (a) predict the impacts of the following on the CONTROL ROD DRIVE HYDRAULIC SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR: 41.5 / 45.6) Pumps trips	3.2	54													
201002 RMCS												Not randomly selected															
201003 Control Rod and Drive Mechanism (#55)										2		Ability to manually operate and/or monitor in the control room: (CFR: 41.7 / 45.5 to 45.8) CRD mechanism position:	3.5	55													
201006 RWM												Not randomly selected															
202001 Recirculation (#56)	12											Knowledge of the physical connections and/or cause effect relationships between RECIRCULATION SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Recirculation system motor-generator sets:	3.6	56													
202002 Recirculation Flow Control												Not randomly selected															
204000 RWCU												Not randomly selected															
214000 RPIS (#57)				1								Knowledge of ROD POSITION INFORMATION SYSTEM design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) Reed switch locations	3.0	57													
215001 Traversing In-core Probe												Not randomly selected															
215002 RBM												Not randomly selected															
216000 Nuclear Boiler Inst.												Not randomly selected															
219000 RHR/LPCI: Torus/Pool Cooling Mode (#58)							2					Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE controls including: (CFR: 41.5 / 45.5) System flow	3.5	58													
223001 Primary CTMT and Aux.												Not randomly selected															
226001 RHR/LPCI: CTMT Spray Mode (#59)					6							Knowledge of the operational implications of the following concepts as they apply to RHR/LPCI: CONTAINMENT SPRAY SYSTEM MODE :(CFR: 41.5 / 45.3) Vacuum breaker operation	2.6	59													
230000 RHR/LPCI: Torus/Pool Spray Mode												Not randomly selected															
233000 Fuel Pool Cooling and Cleanup												Not randomly selected															
234000 Fuel Handling Equipment												Not randomly selected															

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions – Tier 2/Group 2 (RO)											Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic	IR	#
239001 Main and Reheat Steam (#60)	5											Knowledge of the physical connections and/or cause effect relationships between MAIN AND REHEAT STEAM SYSTEM and the following: (CFR: 41.2 to 41.9 / 45.7 to 45.8) Moisture separator reheaters:	2.8	60
239003 MSIV Leakage Control												Not randomly selected		
241000 Reactor/Turbine Pressure Regulator												Not randomly selected		
245000 Main Turbine Gen. and Auxiliaries												Not randomly selected		
256000 Reactor Condensate												Not randomly selected		
259001 Reactor Feedwater (#61)			1									Knowledge of the effect that a loss or malfunction of the REACTOR FEEDWATER SYSTEM will have on following: (CFR: 41.7 / 45.4) Reactor water level	3.9	61
268000 Radwaste												Not randomly selected		
271000 Offgas (#62)						4						Knowledge of the effect that a loss or malfunction of the following will have on the OFFGAS SYSTEM : (CFR: 41.7 / 45.7) Dilution steam	2.8	62
272000 Radiation Monitoring (#63)									9			Ability to monitor automatic operations of the RADIATION MONITORING SYSTEM including: (CFR: 41.7 / 45.7) Containment isolation indications	3.6	63
286000 Fire Protection												Not randomly selected		
288000 Plant Ventilation												Not randomly selected		
290001 Secondary CTMT												Not randomly selected		
290003 Control Room HVAC (#64)				1								Knowledge of CONTROL ROOM HVAC design feature(s) and/or interlocks which provide for the following: (CFR: 41.7) System initiations/reconfiguration:	3.1	64
290002 Reactor Vessel Internals (#65)					3							Knowledge of the operational implications of the following concepts as they apply to REACTOR VESSEL INTERNALS : (CFR: 41.5 / 45.3) Burnable poisons	2.7	65
K/A Category Totals:	2	0	1	2	2	1	1	1	1	1	0	Group Point Total:		12

NRC EXAM 2003

RO Retake Written Exam Questions

RO #	Exam Bank #	Exam	Cog Level	Direct Bank	Mod Bank	New
1	EQ-OP-315-0121-000-B003-001	RO	2	X		
2	EQ-OP-315-0165-000-C014-002	RO	2	X		
3	EQ-OP-315-0164-000-A021-001	RO	1	X		
4	EQ-OP-315-0155-000-A010-001	RO	1			X
5	EQ-OP-315-0104-000-B004-003	RO	2	X		
6	EQ-OP-315-0099-000-A012-001	RO	1			X
7	EQ-OP-315-0167-000-B003-002	RO	2	X		
8	EQ-OP-315-0171-000-A008-001	RO	1	X		
9	EQ-OP-802-2001-000-R008-003	RO	2	X		
10	EQ-OP-802-2001-000-R006-004	RO	2	X		
11	EQ-OP-802-3002-000-0006-033	RO	1			X
12	EQ-OP-315-0105-000-B004-001	RO	1	X		
13	EQ-OP-315-0127-000-A018-005	RO	1	X		
14	EQ-OP-802-2001-000-R008-003	RO	1			X
15	EQ-OP-802-3002-000-0005-006	RO	2	X		
16	EQ-OP-315-0139-000-B003-002	RO	1			X
17	EQ-OP-315-0142-000-A021-003	RO	3	X		
18	EQ-OP-802-3002-000-0008-011	RO	1	X		
19	EQ-OP-832-0001-000-0005-004	RO	1	X		
20	EQ-OP-315-0172-000-C001-001	RO	1			X
21	EQ-OP-315-0141-000-A015-001	RO	2	X		
22	EQ-OP-315-0139-000-C001-001	RO	2	X		
23	EQ-OP-315-0121-000-A012-001	RO	1	X		
24	EQ-OP-802-3002-000-0004-022	RO	1	X		
25	EQ-OP-802-3005-000-0010-0010	RO	1	X		
26	EQ-OP-315-0173-000-B003-001	RO	2	X		
27	EQ-OP-802-3004-000-0013-004	RO	1			X
28	EQ-OP-315-0141-000-A021-011	RO	2	X		
29	EQ-OP-315-0141-000-A013-001	RO	1	X		
30	EQ-OP-315-0139-000-A021-004	RO	2	X		
31	EQ-OP-315-0139-000-A021-003	RO	2			X
32	EQ-OP-315-0140-000-C005-001	RO	2	X		
33	EQ-OP-315-0114-000-A021-001	RO	2	X		
34	EQ-OP-315-0127-000-A002-001	RO	1			X
35	EQ-OP-315-0139-000-A021-004	RO	2			X
36	EQ-OP-315-0123-000-A011-001	RO	1	X		
37	EQ-OP-315-0122-000-A013-002	RO	1	X		
38	EQ-OP-315-0024-000-A013-001	RO	1	X		
39	EQ-OP-315-0127-000-A002-001	RO	2			X
40	EQ-OP-315-0142-000-A021-004	RO	3	X		
41	EQ-OP-315-0105-000-B003-002	RO	2	X		
42	EQ-OP-315-0005-000-C005-001	RO	1	X		
43	EQ-OP-315-0171-000-C005-002	RO	2			X
44	EQ-OP-315-0146-000-A015-004	RO	2			X
45	EQ-OP-315-0120-000-B006-001	RO	1	X		
46	EQ-OP-315-0162-000-A006-001	RO	2	X		
47	EQ-OP-802-2003-000-S002-001	RO	2			X
48	EQ-OP-315-0145-000-B007-001	RO	1	X		
49	EQ-OP-315-0164-000-C002-001	RO	1	X		

NRC EXAM 2003

RO Retake Written Exam Questions

RO #	Exam Bank #	Exam	Cog Level	Direct Bank	Mod Bank	New
50	EQ-OP-315-0165-000-A021-004	RO	2	X		
51	EQ-OP-315-0171-000-A014-001	RO	2			X
52	EQ-OP-315-0171-000-A016-001	RO	2			X
53	EQ-OP-315-0167-000-B003-003	RO	2	X		
54	EQ-OP-802-2001-000-R003-002	RO	3	X		
55	EQ-OP-315-0109-000-C011-002	RO	2	X		
56	EQ-OP-315-0104-000-A013-002	RO	1	X		
57	EQ-OP-315-0111-000-A013-002	RO	2	X		
58	EQ-OP-315-0141-000-A021-009	RO	2	X		
59	EQ-OP-315-0116-000-A021-002	RO	1	X		
60	EQ-OP-315-0105-000-A021-003	RO	1			X
61	EQ-OP-315-0107-000-B007-002	RO	2	X		
62	EQ-OP-315-0135-000-A021-001	RO	2			X
63	EQ-OP-315-0105-000-A021-005	RO	2			X
64	EQ-OP-315-0173-000-B001-001	RO	2			X
65	EQ-OP-315-0103-000-A007-002	RO	1	X		
66	EQ-OP-213-0041-000-B001-006	RO	1	X		
67	EQ-OP-315-0104-000-C011-001	RO	2	X		
68	EQ-OP-315-0133-000-A001-001	RO	1	X		
69	EQ-OP-802-4101-000-0022-008	RO	1	X		
70	EQ-OP-315-0190-000-C005-004	RO	1	X		
71	EQ-OP-802-4101-000-0022-007	RO	1	X		
72	EQ-OP-508-0001-000-A013-004	RO	1	X		
73	EQ-OP-802-2001-000-R009-001	RO	1			X
74	EQ-OP-802-4101-000-0028-006	RO	1			X
75	EQ-OP-802-2004-000-0001-008	RO	2	X		

Questions **75**

Direct Bank **53**

Modified Bank **0**

New **22**

Cognitive Level 1 **49%**

Cognitive Level 2 and 3 **51%**

Question #1 Details

EQ-OP-315-0121-000-B003-001

2004 ILO NRC Exam

Question Text

The plant is operating at 53% power.
Preparations have been made to transition to single loop operations.

Conditions are as follows:

A MG set speed.....30%

B MG set speed.....73%

Total Core flow.....57%

Which of the following describes how total core flow indication will respond when the A MG set is tripped?

Total core flow indication will:

Response A

Rise due to less backpressure on Recirc Pump B

Indication will not rise. Back pressure may change but is not why the indication changes.

Response B

Rise due to flow through loop A being subtracted from loop B

Indication will not rise, although loop A is subtracted from loop B.

Response C - Correct Answer

Lower due to flow through loop A being subtracted from loop B

Reference [1](#)

Response D

Lower due to less backpressure on Recirc Pump B

Indication will lower. Back pressure may change but is not why the indication changes.

Author: BOLLINGER

Keywords: RRS

Not Archived

Date Last Used:

2004 NRC RO Question

Time: 0

Question ID: 35292

Points: 1

Parent ID: 0

Difficulty: 2

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295001	A2.06	3.2	3.3

☒ RO
☒ SRO
☐ STAC
☐ STAI
☐ LOR
☐ NOC
☐ INO

☒ ILO
☐ ESP
☐ Part A
☐ Part B
☐ Open Ref.
☒ Close Ref.
☐ Static

References:

[ST-OP-315-0021](#)

Question #2 Details**EQ-OP-315-0165-000-C014-002****2004 RO NRC Exam****Question Text**

Emergency Diesel Generator (EDG) 14 is paralleled to EDG Bus 14EA and is loaded to 1800kW. A lightning strike causes a loss of off-site power.

Which of the following describes the EDG System response?

Response A

EDG 14 output breaker will trip, EDG 14 will shut down.

Although the output breaker will trip, the EDG will not shut down.

Response B - Correct Answer

EDG 14 output breaker will trip, Load Shed will occur, and then EDG 14 output breaker will reclose.

Reference: 1

Response C

EDG 14 output breaker will remain closed, EDG 14 will shutdown, and then restart in isochronous mode.

The EDG will remain running, and output breaker trips. The EDG will be in isochronous, but does not restart.

Response D

EDG 14 output breaker will remain closed, EDG 14 will continue running and the governor will shift to isochronous mode.

Output breaker opens, other parts are correct.

Author: BOLLINGER

Date Last Used:

Time: 3

Points: 1

Difficulty: 2

Keywords: 120/345 kV
SWITCHYARDS EDG
2004 NRC RO Question

Not Archived

Question ID: 35250

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295003	K2.02	4.1	4.2
264000	K1.01	3.8	4.1
264000	A2.07	3.5	3.7

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0065](#)

RO Question #3 Details

EQ-OP-315-0164-000-A021-001

2004 ILO NRC Exam

Question Text

The reactor has scrammed.
A Loss of Offsite Power has occurred.
Only EDGs 13 & 14 have started and loaded.
No other operator actions have occurred.

What is the source of power to the station DC loads?

Response A

Div 1 DC loads - supplied by the Div 1 Batteries
Div 2 DC loads - supplied by the Div 2 Battery Chargers
Battery Chargers do not get reenergized by the Load Sequencer. Div 2 EDGs starting make this choice plausible if this not known.

Response B

Div 1 DC loads - supplied by the Div 2 Battery Chargers
Div 2 DC loads - supplied by the Div 2 Battery Chargers
Battery Chargers do not get reenergized by the Load Sequencer. Div 2 EDGs starting and not knowing the DC system lineup make this choice plausible.

Response C

Div 1 DC loads - supplied by the Div 1 Battery Chargers
Div 2 DC loads - supplied by the Div 2 Batteries
Battery Chargers do not get reenergized by the Load Sequencer. Not knowing the DC system lineup or EDG lineup make this choice plausible.

Response D - Correct Answer

Div 1 DC loads - supplied by the Div 1 Batteries
Div 2 DC loads - supplied by the Div 2 Batteries
Battery Chargers do not get reenergized by the Load Sequencer. References: [1](#), [2](#), [3](#)

Author: BOLLINGER

Keywords: 2004 NRC RO Question

Not Archived

Date Last Used:

Time: 0

Points: 1

Difficulty: 1

Question ID: 35295

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295004	K2.01	3.1	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0064](#)

[20.300.OFFSITE Step AP](#)

[20.300.OFFSITE Bases](#)

RO Question #4 Details

EQ-OP-315-0055-000-A010-001

2004 ILO NRC Exam

Question Text

While operating at 100% power, the Generator Field Breaker 41Cs on COP H11-P804 opens, causing a generator trip.

The generator trip occurred to protect against which ONE of the following?

Response A

Phase to phase faults in the stator windings.

Basis for the generator differential trip, not the loss of excitation trip.

Response B

Phase to ground faults in the main transformer.

Basis for transformer over excitation trip

Response C - Correct Answer

Excessive current in the generator rotor.

Reference [1](#), [2](#)

Response D

Excessive pressure in the main transformer.

Basis for transformer over pressure trip.

Author: BOLLINGER
Date Last Used:
Time: 5
Points: 1
Difficulty: 1

Keywords: TURBINE STEAM
RPS
2004 NRC RO Question

Not Archived

Question ID: 35284
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295005	K3.04	3.2	3.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[23.118 Step 3.11](#)

[ST-OP-315-0055](#)

Question #5 Details

EQ-OP-315-0104-000-B004-003

2004 ILO NRC Exam

Question Text

Following a Reactor Scram from full power total feedwater flow is 15%. The Operator checks the speed of the Recirculation Pumps.

What should the Recirculation Pumps speed be?

Response A - Correct Answer

30%

References [1](#), [2](#)

Response B

37%

Close to Limiter #2/3

Response C

40%

Limiter #2/3, doesn't meet conditions for the limiter.

Response D

75%

Limiter #4, doesn't meet conditions for the limiter.

Author: BOLLINGER
Date Last Used:

Keywords:

Not Archived

Question ID: 35285

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295006	AK3.06	3.2	3.3
295006	A1.04	3.1	3.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0004](#)

Question #6 Details

EQ-OP-315-0099-000-A012-001

2004 ILO NRC Exam

Question Text

The Control Room (CR) has become uninhabitable. As a result, the plant has entered 20.000.19, Shutdown From Outside the Control Room. In accordance with the procedure, the Main Turbine has been tripped before exiting the Control Room.

What is the purpose of tripping the Main Turbine?

Response A

Prevent MSIV isolation from low pressure.

Nothing states there would be lowering pressure. Preferred if MSIVs open to maintain pressure with bypass valves.

Response B - Correct Answer

Allow bypass valves to control pressure and heat rejection.

This is preferred, but SRV's can do the same. Reference [ST-OP-315-0099 \(1\), \(2\), 20.000.19](#)

Response C

Allow control of the Main Turbine from the dedicated Shutdown Panel.

There is no control of the turbine from the Panel.

Response D

Prevent a high RPV level trip of the Main Turbine.

The SULCV should be maintaining level if the RFP are running, nonetheless, this is not the reason.

Author: BOLLINGER

Keywords: DEDICATED S/D

Not Archived

Date Last Used:

Time: 3

Points: 1

Difficulty: 1

Question ID: 35445

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295016	K3.02	3.7	3.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.000.19](#)

[ST-OP-315-0099](#)

Question #7 Details

EQ-OP-315-0167-000-B003-002

2004 ILO NRC Exam

Question Text

With the plant operating at full power, P4400-F603B, Div 2 EECW Supply Iso Vlv has failed closed.

Which **ONE** of the following must be taken to ensure cooling to the CRD pumps?

Response A

- Verify auto start of Div 2 EECW and EESW pumps

Not completely correct. The pumps auto start, but further actions must be taken to ensure cooling to CRD pumps.

Response B - Correct Answer

- Verify auto start of Div 2 EECW and EESW pumps
- Depress Div. 2 EECW Iso Reset Switch
- Open P4400-F604, Div 2 EECW to CRD Sply Iso Vlv

Closing P4400-F603B causes an auto start of EECW/EESW. References: [ST-OP-315-0067\(1\)](#), [\(2\)](#)

Response C

- Close P4400-F601B, Div 2 EECW Return Iso Vlv
- Start Div. 2 EECW and EESW pumps
- Open P4400-F604, Div 2 EECW to CRD SPLY Iso Vlv

F601B will auto close, Div.2 EECW and EESW auto start.

Response D

- Place Div 2 EECW Iso Override Sw keylock switch in MANUAL OVERRD
- Depress Div 2 EECW Iso reset Switch
- Open P4400-F604, Div EECW to CRD Sply Iso Vlv

Placing Div 2 EECW Iso Override Sw keylock switch in MANUAL OVERRD prevents all operation of EECW and EESW.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 2

Keywords: 2004 NRC RO Question

Not Archived

Question ID: 35313

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295018	K3.07	3.1	3.2
295018	K1.01	3.5	3.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0067](#)

Question #8 Details

EQ-OP-315-0171-000-A008-001

2004 ILO NRC Exam

Question Text

Which one of the following describes the operation and function of P50-F402, Station Air to Instrument Air Isolation Valve, during a loss of air event?

Response A - Correct Answer

Closes to isolate the safety related control air from the station air supply

The P50-F402 closes when station air drops to 72psig. Reference [ST-OP-315-0071](#)

Response B

Closes to separate the two divisions of NIAS, from each other, to ensure redundancy.

P50-F440 and P50-F440 close to isolate NIAS, P50-F402.

Response C

Opens to crosstie the Interruptible Air Supply to allow the Station Air Compressors to supply Division 2 NIAS.

The valve does not open, P50-F403 crossties Div 2 NIAS to IAS.

Response D

Opens to allow the safety related Control Air Compressors to supply each division of NIAS.

The valve does not open, P50-F440 and P50-F440 actually close to isolate NIAS.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 35317
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295019	K3.03	3.2	3.2
295019	2.1.27	2.8	2.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0071](#)

Question #9 Details

EQ-OP-802-2001-000-R008-003

2004 ILO NRC Exam

Question Text

The plant is in extended maintenance shutdown in Mode 4 when a loss of shutdown cooling occurs. Shutdown cooling cannot be immediately restored to either loop of RHR. The North Reactor Recirc pump is running.

Which ONE of the following is an allowable option for alternate shutdown cooling under these conditions?

Response A - Correct Answer

RWCU Blowdown to the Main Condenser, makeup with a SBFW pump.

Reference : [23.800.04 Page 7](#)

Response B

Maximizing FPCCU flow and RBCCW Flow to the FPCCU Heat Exchangers.

RPV is not connected with the Fuel Pool.

Response C

Bleed Steam via SRVs when pressure reaches 100 psig, makeup with Core Spray.

Only done when Recirc pumps are not available.

Response D

Bleed Steam via Bypass Valves when pressure reaches 50 psig, makeup with SBFW.

Not an acceptable method per procedure.

Author: BOLLINGER

Keywords:

Not Archived

Date Last Used:

Time: 3

Points: 1

Difficulty: 2

Question ID:

Parent ID:

Child ID:

KA System	KA Number	RO Value	SRO Value
295021	A1.01	3.4	3.4

☒ RO
☒ SRO
☐ STAC
☐ STAI
☐ LOR
☐ NOC
☐ INO

☒ ILO
☐ ESP
☐ Part A
☐ Part B
☐ Open Ref.
☒ Close Ref.
☐ Static

References:

[20.800.04](#)

Question #10 Details

EQ-OP-802-2001-000-R006-004

2004 ILO NRC Exam

Question Text

An irradiated fuel bundle is being removed from the core. An adjacent bundle has been lifted along with the selected bundle. When noticed, fuel movement is stopped, and the non-selected bundle falls back into the core.

Bubbles come to the pool surface, and the local Continuous Air Monitor (CAM) alarms.

The Control Room has the following alarms:

16D1, Refueling Floor High Radiation

3D41, Fuel Pool Ventilation Exhaust Rad Monitor Upscale Trip

What other actions would occur?

Response A

MSIVs close.

MSIVs should already be closed based on these conditions.

Response B

Emergency Diesel Generators start.

Doesn't meet the conditions for emergency start.

Response C

CCHVAC System shifts to PURGE mode.

CCHVAC shifts to RECIRC mode.

Response D - Correct Answer

Primary Containment Purge / Vent valves close.

Fuel Pool Exhaust Rad monitor will cause a secondary containment isolation. Reference: 1, 2

Author: BOLLINGER

Keywords:

Not Archived

Date Last Used:

Time: 0

Points: 1

Difficulty: 2

Question ID: 35409

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295023	A2.01	3.6	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0048](#)

Question #11 Details

EQ-OP-802-3002-000-0006-033

2004 ILO NRC Exam

Question Text

Drywell sprays are initiated within the safe region of the Drywell Spray Initiation Limit Curve to preclude?

Response A - Correct Answer

Primary containment failure due to differential pressure.

The negative pressure capability could be challenged. Reference: [ST-OP-802-3002](#)

Response B

Excess hydrogen generation due to atomization of cooling water.

Although the cooling water is assumed to vaporized instantly, there is no hydrogen generation.

Response C

An uncontrolled rise in drywell pressure due to the flashing of steam of the drywell spray water.

There could be an uncontrolled drop in pressure vs. rise in pressure.

Response D

An uncontrolled pressure drop due to the displacement of Nitrogen from the drywell to the Torus.

Although there could be an uncontrolled pressure drop due to the deinerting of the drywell, the flow path is from the torus to the drywell.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: 2004 NRC RO Question

Not Archived

Question ID: 35381
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295024	K1.01	4.1	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3002](#)

Question #12 Details

EQ-OP-315-0105-000-B004-001

2004 ILO NRC Exam

Question Text

A pressure transient has occurred with reactor pressure exceeding the reactor scram setpoint and initiating a reactor scram.

Which of the following describes the expected indications if this transient resulted in a leaking SRV?

Response A

SRV Tailpipe temperature approximately 200°F; red SRV OPEN light ON.

Temperature alarm limit is 225°F, SRV OPEN light ON is for the SRV pushbutton.

Response B

SRV Tailpipe temperature approximately 200°F; SRV OPEN Annunciator 1D61 ON.

Temperature alarm limit is 225°F, SRV OPEN Annunciator 1D61 ON is correct.

Response C

SRV Tailpipe temperature approximately 225°F; red SRV OPEN light ON.

Temperature alarm limit is correct, SRV OPEN light ON is for the SRV pushbutton.

Response D - Correct Answer

SRV Tailpipe temperature 225°F; SRV OPEN Annunciator 1D61 ON.

Temperature alarm limit is correct, causes Annunciator 1D61. Reference: [ST-OP-315-0005\(1\) \(2\)](#)

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: 2004 NRC RO Question

Not Archived

Question ID: 35335

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295025	K1.03	3.6	3.8
295025	A1.03	4.4	4.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ARP 1D61](#)

[ST-OP-315-0005](#)

Question #13 Details

EQ-OP-315-0127-000-A018-005

2004 ILO NRC Exam

Question Text

The plant is operating at 100% power.

A failure of the governor/pressure regulator occurs which causes the turbine control valves to fully open.

Which one of the following RPS functions will scram the reactor?

Previous Stem: A failure of the governor/pressure regulator occurs which causes the turbine control valves to slowly close without a corresponding opening of the bypass valves.

Which one of the following RPS functions will scram the reactor to limit cladding temperatures?

Response A- Correct Answer

Main Steam Isolation Valve Closure

Provided to limit the amount of fission product release. Reference: [ST-OP-315-0027](#)

Response B

APRM flux - Upscale

The setpoints are selected to provide adequate margin for the Safety Limits. Reference:

Response C

Low RPV water level

The reactor vessel water level trip setpoint was chosen far enough below the normal operating level to avoid spurious trips but high enough above the fuel to assure that there is adequate protection for the fuel and pressure limits.

Response D

Turbine Control Valve Closure

The turbine control valve fast closure trip anticipates the pressure, neutron flux, and heat flux increase that could result from fast closure of the turbine control valves due to load rejection with or without coincident failure of the turbine bypass valves.

Author: BOLLINGER

Keywords: RPS

Not Archived

Date Last Used:

Time: 3

Points: 1

Difficulty: 1

Question ID: 35370

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
212000	2.1.27	2.8	2.9
295025	A2.02	4.2	

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0027](#)

Question #14 Details

EQ-OP-802-3002-000-0006-032

2004 ILO NRC Exam

Question Text

During an ATWS, boron injection must be started before torus water temperature reaches a certain limit.

What is the reason for injecting before this temperature?

Response A - Correct Answer

Ensure the reactor is shutdown before exceeding the torus water temperature upper limit.

**Preclude exceeding the Heat Capacity Limit, which would require emergency depressurization.
Reference: 1**

Response B

Prevent opening torus to drywell vacuum breakers.

Higher temperature in the torus could cause the breakers to open, but it's not the reason boron is injected.

Response C

Allow continued RCIC operation.

Although torus temperature can limit RCIC operation, it's not the specific reason boron is injected.

Response D

Ensure adequate NPSH for LPCI.

Although there is a limit for NPSH, it's not related to SLC injection.

Author: BOLLINGER
Date Last Used:

Keywords: EOP TWT

Not Archived

Time: 3
Points: 1
Difficulty: 1

Question ID: 35371
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295026	2.4.18	2.7	3.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

29.100.01 Sh 6
ST-OP-802-3002

Question #15 Details

CAUTIONS



RPV water level indications are affected by instrument run temperatures and RPV pressure:

1. If the temperature near any instrument run is above the RPV Saturation Temperature, the instrument may be unreliable due to boiling in the run.
2. Each instrument in the following table may be used to determine RPV water level only when the instrument reads above the Minimum Indicated Level or the temperatures near all the instrument reference leg vertical runs are below the Maximum Run Temperature

INSTRUMENT	RANGE(IN.)	MAXIMUM REACTOR BUILDING RUN TEMPERATURE (°F)	MINIMUM INDICATED LEVEL(IN.)
Core Level Detector (B21-N085A)	-150 to 50	327	-142
Core Level Detector (B21-N085B)	-150 to 50	309	-134
Narrow Range Level Detectors (B21-N080A,B) (B21-N095A,C) (C32-N004A,C)	160 to 220	103	169
Narrow Range Level Detectors (B21-N080C,D) (B21-N095B,D) (C32-N004B,D)	160 to 220	273	165

3. Each instrument in the following table may be used to determine RPV water level only when the instrument reads above the minimum indicated level associated with the highest temperature near an instrument reference leg vertical run:

- A. Wide range level detectors (10 to 220 IN.)
(B21-N081A,B)
(B21-N091A,C)

HIGHEST REACTOR BUILDING RUN TEMPERATURE (°F) BETWEEN LOW	HIGH	MINIMUM INDICATED LEVEL(IN.)
-	80	10
80	150	15
150	250	26
250	350	40

- B. Wide range level detectors (10 to 220 IN.)
(B21-N081C,D)
(B21-N091B,D)

HIGHEST REACTOR BUILDING RUN TEMPERATURE (°F) BETWEEN LOW	HIGH	MINIMUM INDICATED LEVEL(IN.)
-	167	10
167	250	20
250	350	36

- C. Flood up level detector (160 to 560 IN.)
(B21-N027)

HIGHEST DRYWELL RUN TEMPERATURE (°F) BETWEEN LOW	HIGH	MINIMUM INDICATED LEVEL(IN.)
-	150	175
150	250	190
250	350	210
350	450	237
450	550	274

Question Text

A LOCA has occurred outside of the primary containment. Plant conditions are as follows:

Reactor Building Temperature (near all instrument runs) - 220°F and stable.
Reactor Pressure - 250 psig and stable.
Drywell Temperature - 155°F and stable.

Assuming the indicated level on each of the below instruments is 163 inches, which level instrument may be used for trending indication?

Response A

Flood Up

Minimum indicated level is 190 inches between 150 and 250°F

Response B

Narrow Range

Maximum RB run temperature of 103 °F

Response C - Correct Answer

Wide Range

See [Reference 29.100.01 Sheet 6 Caution 3.A](#)

Response D

Core Level

Maximum upper range is 50 inches.

Author: BOLLINGER
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: 2004 NRC RO Question

Not Archived

Question ID: 35417
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295028	K1.01	3.5	3.7

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[29-100-01 SH 6](#)

Question #16 Details

EQ-OP-315-0139-000-B003-002

2004 ILO NRC Exam

Question Text

Due to a valving error the torus water level has decreased to the EOP entry point. What is this level, and what automatic action is expected to occur at this point?

Response A

This level is + 2 inches. RCIC suction will shift to the torus.

The level is wrong and RCIC switches from the CST to the Torus based on CST level, not Torus level.

Response B

This level is + 2 inches. HPCI suction will shift to the torus.

The level is wrong and HPCI switches from the CST to the Torus based on CST level, not Torus level.

Response C - Correct Answer

This level is - 2.0 inches. The Torus Water Management System (TWMS) pumps will trip.

Level is correct but action is wrong.

Response D

This level is - 2.0 inches. The Torus Water Management System (TWMS) torus suction valves will close.

Reference [ST-OP-315-0069 \(1\), \(2\)](#)

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 35375

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295030	A2.1	4.1	4.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0069](#)
[7D71](#)

Question #17 Details

EQ-OP-315-0142-000-A021-003

2004 ILO NRC Exam

Question Text

While the plant was operating in the RUN mode, a LOCA and Loss of Offsite Power occurred and the following conditions exist :

RPV water level.....+ 76 inches (lowering 4 inches/min)

DW pressure.....17.5 psig (slowly rising)

EDGs.....No. 14 ONLY running supplying associated ESF Bus

Given the above parameters and assuming no operator action involving ADS, identify which of the following describe the expected response of the ADS System.

If the low pressure ECCS Systems function as designed, ADS will begin depressurizing the plant:

Response A - Correct Answer

in approximately 13 minutes.

High DW pressure and L1 after 11 minutes plus 105 minutes ~ 13 minutes.

Reference:[ST-OP-315-0042 Figure 4](#)

Response B

in approximately 20 minutes.

Could be thought correct if the 7 minute wait on RPV level less than Level 1 is mistaken.

Response C

105 seconds following EDG 11 restart.

The logic has to satisfy high DW pressure AND L1 or L1 greater than 7 minutes, then 105 sec timer, then satisfy pumps running portion of logic.

Response D

525 seconds following EDG 12 restart.

The logic has to satisfy high DW pressure AND L1 or L1 greater than 7 minutes, then 105 sec timer, then satisfy pumps running portion of logic. 7 minutes and 105 seconds = 525 seconds.

Author: BOLLINGER

Keywords: ADS

Not Archived

Date Last Used:

2004 NRC RO Question

Time: 4

Question ID: 35376

Points: 1

Parent ID: 0

Difficulty: 3

Child ID: 0

KA System	KA Number	RO Value	SRO Value
218000	K5.01	3.8	3.8
218000	2.1.28	3.2	3.3
295031	K2.08	4.2	4.3

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

23.201

[LP-OP-315-0142](#)

Question #18 Details

EQ-OP-802-3002-000-0008-011

2004 ILO NRC Exam

Question Text

The plant has experienced an ATWS and SLC has been injected.

Which of the following items is assumed in determining the Hot Shutdown Boron Weight?

Response A

RPV voids are at maximum.

No voids are assumed

Response B

No Xenon is present in the core.

No practical for after a power change.

Response C - Correct Answer

RPV water level is at the high level trip setpoint.

Reference: [ST-OP-8002-3002](#)

Response D

RWCU is in normal operation.

Would be isolated when SLC is initiated.

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: EOP RPV Power
EOP Alt Boron Inj
ATWS
SLC

Not Archived

Question ID: 35475
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295037	K3.01	4.4	4.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

Question #19 Details

EQ-OP-832-0001-000-0005-004

2004 ILO NRC Exam

Question Text

An accident has happened at Fermi 2 that causes the Shift Manager to declare an UNUSUAL EVENT.

A short time later, radiation levels at the site boundary reach 11 mr/hr, and the Shift Manager declares an ALERT.

Which ONE of the following describes what happens at an ALERT that did not happen at UNUSUAL EVENT?

Response A

Radiological Emergency and Personnel Monitoring Teams are activated.

Also done at an UNUSUAL EVENT

Response B

Offsite Protective Action Recommendations (PARS) are calculated.

Emergency Plan provides for protection of all members of the public

Response C

Joint Public Information Center (JPIC) is activated.

Done at Site Area Emergency.

Response D - Correct Answer

Assembly and accountability is ordered in the Protected Area.

Reference : [EP-103 Page 6](#)

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: 2004 NRC RO Question

Not Archived

Question ID: 35394
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295038	K3.01	3.6	4.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[EP-103](#)

Question #20 Details

EQ-OP-315-0172-000-C001-001

2004 ILO NRC Exam

Question Text

A fire has occurred in the plant. A smoke damper has isolated a HVAC system due to a suppression system initiation.

What must be done to re-open the smoke damper?

The damper is....

Response A

reset locally, then opened.

Actually reset from the Control Room.

Response B

reset locally, opens automatically.

Actually reset from the Control Room, no automatic opening.

Response C

disassembled and the fusible link replaced.

This would be correct for a fire damper, not a smoke damper.

Response D - Correct Answer

reset from the Control Room, then opened.

Reference: [ST-OP-315-0072](#)

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: FIRE PROT/DET
2004 NRC RO Question

Not Archived

Question ID: 35378
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
600000	A1.05	3.0	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0072](#)

Question #21 Details

EQ-OP-315-0141-000-A015-001

2004 ILO NRC Exam

Question Text

The plant is in Mode 3 with RHR Div 1 in Shutdown Cooling operation.
RHR pump A is running.
Annunciator 1D33, RHR System Overpressure, is received.

Which one of the following describes the plant response to this condition?

Response A

Group 1 isolation and RHR pump A trip.
Group 1 is MSIV isolation, RHR pump A trip is correct.

Response B

Group 2 isolation and RHR pump B auto start.
Group 2 is reactor water sample isolation, there is no auto start of the RHR pump on overpressure.

Response C

Group 3 isolation and RHR pump B auto start.
Group 3 is an RHR isolation, there is no auto start of the RHR pump on overpressure.

Response D - Correct Answer

Group 4 isolation and RHR pump A trip.
Group 4 isolation is based on overpressure, pump trips due to low suction pressure. Reference: [ST-OP-315-0048](#), [ST-OP-315-0041](#).

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: RHR - SDC
PCIS
2004 NRC RO Question

Not Archived

Question ID: 35379
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295007	K2.06	3.5	3.7

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

ST-OP-315-0041
ST-OP-315-0048

Question #22 Details

EQ-OP-315-0139-000-C001-001

2004 ILO NRC Exam

Question Text

HPCI and RCIC have automatically started following a loss of feedwater.

RPV level increases to 220 inches, and a short time later HPCI turbine speed is 0 RPM.

As RPV level begins to decrease below 160 inches the CRS directs HPCI to be restarted.

What action is taken to restart HPCI?

Response A

Open E4150-F001 turbine steam supply isolation valve.

The trip logic is automatically reset at Level 2, won't be able to open this valve.

Response B

Open E4150-F003 HPCI steam supply outboard isolation valve.

The trip logic is automatically reset at Level 2, won't be able to open this valve.

Response C

Depress the HPCI initiation signal reset pushbutton and start the aux oil pump.

There is no initiation signal present, so resetting will have no effect.

Response D - Correct Answer

Depress the reactor high water level signal reset pushbutton.

The trip logic is automatically reset at Level 2, to restart before Level 2, the trip signal must be reset. Reference: [ST-OP-315-0039](#), [23.202 page 35](#).

Author: BOLLINGER

Keywords: HPCI

Not Archived

Date Last Used:

2004 NRC RO Question

Time: 0

Question ID: 35380

Points: 1

Parent ID: 0

Difficulty: 2

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295008	A1.04	3.5	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[23.202](#)

[ST-OP-315-0039](#)

Question #23 Details

EQ-OP-315-0121-000-A012-001

2004 ILO NRC Exam

Question Text

A plant transient has occurred. Plant conditions are :

Mode 3

RPV level is 170"

RPV pressure is 950 psig.

Recirc Pumps A & B have tripped.

Which RPV level instrument would provide the most accurate level reading at this time based on its calibration conditions?

Response A

Narrow Range

Calibrated for best indication with jet pumps running.

Response B - Correct Answer

Wide Range

Reference: [ST-OP-315-0021](#)

Response C

Floodup

Calibrated for 0 Psig, 120°F, with no jet flow.

Response D

Core Level

Outside the calibrated level band of 150 to 50 inches.

Author: BOLLINGER

Keywords: RPV INST

Not Archived

Date Last Used:

Time: 0

Points: 1

Difficulty: 1

Question ID: 35453

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295009	K2.01	3.9	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References

[ST-OP-315-0021](#)

Question #24 Details

EQ-OP-802-3002-000-0004-022

2004 ILO NRC Exam

Question Text

During a lowering torus water level event, what is the significance of torus water level dropping below -11"?

Response A

Below -11" torus water level, operation of LPCI, CS, HPCI, or RCIC must be evaluated due to exceeding pump NPSH or vortex limits.

HPCI and RCIC do not have vortex limits, LPCI and CS vortex limits are about -90 inches.

Response B

Below -11" torus water level, torus water temperatures must be obtained from the T23-R800, Suppression Chamber Bulk Water Temperature recorder, on the H11-P601 panel.

All of the thermocouples providing input to this recorder are uncovered and will indicate air temperature at this level.

Response C - Correct Answer

Below -11" torus water level, torus water temperatures must be obtained from the T50-R800A/B, Primary Containment Air and Water Temperature recorders, on the H11-P601 / P602 panels.

Reference: [ST-OP-802-3002](#)

Response D

Below -11" torus water level, the Primary Containment Control EOPs (Sheet 2) must be entered.

EOPs are entered at -2 inches, not -11 inches.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 35385
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295013	A2.01	3.8	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3002](#)

Question #25 Details

EQ-OP-802-3005-000-0010-0010

2004 ILO NRC Exam

Question Text

The first override statement in the Secondary Containment EOP states that if RB HVAC or fuel pool vent exhaust radiation levels exceeds certain limits, then the operator shall confirm isolation of RB HVAC and initiation of SGTS.

Which of the following best describes why the above must be confirmed or manually initiated?

Response A

Confirming isolation of RBHVAC subsequent to receipt of a high radiation signal terminates any further release of radioactivity to the Reactor Building from this system.

RBHVAC actually exhausts air from the Reactor Building, not the other way around.

Response B - Correct Answer

SGTS is the normal mechanism employed under post-transient conditions to maintain Reactor Building Pressure negative with respect to the atmosphere.

Reference: [ST-OP-8002-3005](#)

Response C

Exhaust from SGTS is processed and directed to an elevated release point before being discharged to the Reactor Building.

Exhaust from the SGTS is discharged to atmosphere.

Response D

Operation of SGTS will ensure that the Secondary Containment is maintained at a positive pressure.

SGTS designed to maintain negative pressure in the Reactor Building.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords:

Archived

Question ID: 28725
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295017	K3.02	3.3	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3005](#)

Question #26 Details

EQ-OP-315-0173-000-B003-001

2004 ILO NRC Exam

Question Text

The plant is operating at 100% power when the following alarms occur:

3D32, Div I/II RB Vent Exh Radn Monitor Upscale

3D36, Div I/II RB Vent Exh Radn Monitor Upscale Trip

How should the Control Center Heating, Ventilation and Air Conditioning (CCHVAC) System Respond?

Response A

The Emergency Intake Control dampers close.

Emergency dampers open.

Response B - Correct Answer

The Normal Intake and Exhaust Dampers close.

Reference [ST-OP-315-0027](#)

Response C

The Return Dampers close and the Recirculation Filter Train starts.

Return fans stay open, but the filter train starts.

Response D

The Return fans start drawing air through the Emergency Make-up filter.

The fans in the emergency makeup filter train draw air through the filter.

Author: BOLLINGER

Keywords:

Not Archived

Date Last Used:

Time: 5

Points: 1

Difficulty: 2

Question ID: 35387

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295033	A1.08	3.6	3.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[LP-OP-315-0173](#)

[3D36](#)

Question #27 Details

EQ-OP-802-3004-000-0013-004

2004 ILO NRC Exam

Question Text

The plant has experienced a transient that requires emergency depressurization due to high drywell hydrogen and oxygen levels.

Why would the crew perform this emergency depressurization?

Response A - Correct Answer

Burning of these gasses may damage equipment important to the safe shutdown of the plant.

Reference: [ST-OP-802-3002](#)

Response B

Hydrogen and oxygen concentrations can be prevented from exceeding explosive limits.
The ED happens at explosive limits, so the limits have been exceeded.

Response C

Hydrogen and oxygen concentrations are outside the limits for safe operation of the recombiners.

Although this is true for the recombiners, it's not true for the reason for ED.

Response D

Spraying the drywell is ineffective at these levels of hydrogen and oxygen.

Spraying is not ineffective, has nothing to do with ED.

Author: BOLLINGER
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 35224
Parent ID: 34091
Child ID: 0

KA System	KA Number	RO Value	SRO Value
500000	K3.04	3.1	3.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3002](#)

Question #28 Details

EQ-OP-315-0141-000-A021-011

2004 ILO NRC Exam

Question Text

The plant has experienced a LOCA with the following conditions:

EDG.....13 not running
RPV Level1.....25 inches
RPV Pressure.....425 psig
Drywell Pressure.....2.5 psig
Torus Water Temperature.....128°F
A Reactor Recirc MG set.....tripped
B Reactor Recirc MG set.....tripped

B3105-F031A, Recirc Loop A discharge isolation valve, is shut.

What is the current status of the RHR system?

Response A

RHR pumps A, C & D are running, injecting into Loop A

No injection until about 300 psig, there's been no LOOP, so EDG 13 not running doesn't matter.

Response B

All RHR pumps are running, injecting into Loop A

All pumps are running, but no injection because of the RPV pressure.

Response C

RHR pumps A, C & D are running and not injecting

All pumps are running, since there's been no LOOP

Response D - Correct Answer

All RHR pumps are running and not injecting

Reference: [ST-OP-315-0041](#)

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 2

Keywords:

Not Archived

Question ID: 35443
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
203000	A1.01	4.2	4.3

References:

[ST-OP-315-0041](#)

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

Question #29 Details**EQ-OP-315-0141-000-A013-001****2004 RO NRC Exam****Question Text**

The General Operating Procedure for reactor shutdown and cooldown directs the operator to raise RPV water level to above 220" prior to entering Shutdown Cooling (SDC).

What is the reason for raising water level above the normal level?

Response A

Ensures adequate NPSH for RHR pumps.

Incorrect because NPSH for RHR pumps is a function of Torus Temp and RPV level.

Response B

Satisfies the interlock required for opening RHR SDC valves.

Incorrect because RHR SDC valve interlock is >L3.

Response C

Provides additional inventory for RHR system warmup in preparation for SDC.

Incorrect because 220" has nothing to do with inventory for piping warmup

Response D - Correct Answer

Provides adequate natural circulation to minimize temperature stratification during SDC.

Reference: [22.000.04 Reactor shutdown procedure, page 37, ST-OP-315-0141](#)

Author: CADDEN
Date Last Used: 10/23/2000
Time: 3
Points: 1
Difficulty: 1

Keywords: RHR - SDC
2004 NRC RO Question

Not Archived**Question ID:** 35386**Parent ID:** 0**Child ID:** 0

KA System	KA Number	RO Value	SRO Value
295009	K1.05	3.3	3.4
205000	K5.03	2.8	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[22.000.04 Reactor shutdown procedure, page 37](#)
[ST-OP-315-0141](#)

Question #30 Details

EQ-OP-315-0139-000-A021-004

2004 ILO NRC Exam

Question Text

During an AUTOMATIC initiation of HPCI, the HPCI Pump flow is 5200 GPM. Five minutes later the E4150-F012 Pump Min Flow Valve fails open.

The HPCI system will respond by:

Response A - Correct Answer

Raising HPCI turbine speed.

Reference: [ST-OP-315-0039](#)

Response B

Lowering HPCI turbine speed.

The HPCI controller is attempting to maintain 5200 gpm going to the RPV, so speed will not be lowered.

Response C

Indicated HPCI flow rising above 5200 GPM.

Indicated flow will stay at 5200 gpm, since the controller senses flow going to the vessel.

Response D

Tripping HPCI at a flow in excess of 5200 GPM.

There is no high flow trip of HPCI.

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: HPCI

Not Archived

Question ID: 30766
Parent ID: 29955
Child ID: 0

KA System	KA Number	RO Value	SRO Value
206000	K3.01	4.0	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0039](#)

Question #31 Details**EQ-OP-315-0139-000-A021-003****2004 RO NRC Exam****Question Text**

High Pressure Coolant Injection (HPCI) has automatically initiated with the following indications:

Reactor water level.....+40" on WR level instrument
HPCI Barometric condenser condensate pump.....running
HPCI Barometric condenser vacuum pump.....running
HPCI Auxiliary Oil pump.....not running
HPCI flow.....5,000 gpm

RPV level subsequently drops to +20 inches on WR level indication. How should HPCI respond?

Response A

HPCI auxiliary oil pump will auto start

Incorrect because the aux oil pump is not required while HPCI is at rated speed

Response B

HPCI flow will increase to 5,200 gpm

Incorrect because the flow controller has not been changed

Response C - Correct Answer

HPCI Barometric condenser condensate pump will trip

Reference: [ST-OP-315-0039](#)

Response D

HPCI will continue to operate in it's current configuration

Incorrect because the barometric condenser condensate and vacuum pumps trip at 31" RPV level

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: HPCI
LOCA
2004 NRC RO Question

Not Archived

Question ID: 35384
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
206000	K5.02	2.8	2.9
206000	A3.05	4.3	4.3

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0039](#)

Question #32 Details
EQ-OP-315-0140-000-C005-001

2004 RO NRC Exam

Question Text

During operation at 100% power a LOCA occurs and the following conditions exist :

RPV power..... rods full in
RPV pressure..... 100 psig
RPV water level.....+ 25 inches (slowly rising)
RHR System.....both divisions injecting to RPV
Core Spray System.....both divisions injecting to RPV

An electrical fault in Core Spray Pump B motor windings causes the pump breaker to trip on overcurrent relays.

Given the above conditions, identify which one of the following actions are required by the operating crew.

Response A

Throttle closed E2150-F005A to avoid pump runout on pump A.

Incorrect because no Division one pumps tripped

Response B - Correct Answer

Throttle closed E2150-F005B to avoid pump runout on pump D.

Reference: [23.203, precautions and limitations](#)

Response C

Throttle open E2150-F005A to maintain division one flow ≥ 3175 gpm.

Incorrect because Division one flow should not have changed

Response D

Throttle open E2150-F005B to maintain division two flow ≥ 3175 gpm.

Incorrect because Division two flow can not achieve >3175 gpm with only one pump

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: CSS
2004 NRC RO Question

Not Archived

Question ID: 35383
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
209001	A2.01	3.4	3.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[23.203, precautions and limitations](#)
[ST-OP-3115-0140](#)

Question #33 Details

EQ-OP-315-0114-000-A021-001

2004 ILO NRC Exam

Question Text

SLC injection becomes necessary. The Operator places the initiation switch to PUMP A and the following occurs:

Squib continuity lights go out.
SLC Ignition Continuity Loss annunciator alarms.
SLC Pump A fails to start.

The operator places the initiation switch to PUMP B and SLC Pump B starts. Which one of the following actions should be taken next?

Response A

Attempt to start SLC Pump A a second time.

If the B pump is running, there is no need to start the A pump.

Response B

Direct an Operator to isolate SLC Pump A.

There is no need to isolate the pump if Pump B is running with no indication of a leak.

Response C

Determine if the B explosive valve fired.

The only indication is the loss of continuity, then other indications such as power, tank level.

Response D - Correct Answer

Check for indications of SLC flow to the RPV.

Reference [ST-OP-315-0014 \(1\), \(2\)](#)

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: SLC

Not Archived

Question ID: 35465
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
211000	A1.02	3.8	3.9
211000	A4.08	4.2	4.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0014](#)

Question #34 Details**EQ-OP-315-0127-000-A002-001****2004 RO NRC Exam****Question Text**

Which one of the following statements describes the basis for automatic scrams associated with High Containment Pressure?

Response A

to limit the fission product release from the fuel into containment

Incorrect because this is the basis for the Hi Main Steam Line Radiation Scram

Response B

to counteract the pressure increase by rapidly reducing core power

Incorrect because this is the basis for the Hi RPV Pressure Scram

Response C

to anticipate the rise in containment pressure and prevent exceeding the containment design pressure

Incorrect because the Hi DW pressure scram is not based on containment pressure limits

Response D - Correct Answer

to minimize the possibility of fuel damage and to reduce the amount of energy being added to the coolant and the containment

Reference: [ST-OP-315-0127](#)

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: RPS
CONTAINMENT
2004 NRC RO Question

Not Archived

Question ID: 35382
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
212000	K1.13	3.5	3.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0127](#)

Question #35 Details**EQ-OP-315-0127-000-A018-006****2004 RO NRC Exam****Question Text**

The plant was operating at 65% power when RPS Motor Generator Set "A" tripped. Shortly after, a plant transient caused RPV level to drop to 165".

How will the RPS system respond to this event?

Response A - Correct Answer

Full Reactor Scram

Reference: [ST-OP-315-0027\(1\)](#), [\(2\)](#)

Response B

Half Scram on RPS A

Incorrect because RPS will get ½ Scram on A due to loss of power, and a full scram when level goes <L3.

Response C

Half Scram RPS B

Incorrect because RPS will get ½ Scram on A due to loss of power, and a full scram when level goes <L3.

Response D

No SCRAM will occur

Incorrect because RPS will get ½ Scram on A due to loss of power, and a full scram when level goes <L3.

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: RPS
2004 NRC RO Question

Not Archived

Question ID: 35374
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
212000	K4.09	3.8	3.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:[ST-OP-315-0027](#)

Question #36 Details
EQ-OP-315-0123-000-A011-001

2004 RO NRC Exam

Question Text

The RETRACT PERMIT light for IRM G is **NOT** lit. Which of the following describes the effect on IRM G?

Response A

IRM will NOT retract.

Incorrect because the IRM will retract

Response B - Correct Answer

The IRM can be retracted. Retracting it will cause a Rod Block.

Reference: [ST-OP-315-0023](#)

Response C

The IRM can be retracted ONLY if IRM G is on Range 1. Retracting it will cause a Rod Block

Incorrect because the IRM will retract on all ranges

Response D

The IRM can be retracted ONLY if IRM G is on Range 1. Retracting it will NOT cause a Rod Block.

Incorrect because the IRM will retract on all ranges and will cause a rod block

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: IRM
2004 NRC RO Question

Not Archived

Question ID: 35372
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
215003	K4.05	2.9	3.0
Generic	2.2.2	4.0	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0023](#)

Question #37 Details
EQ-OP-315-0122-000-A013-002

2004 RO NRC Exam

Question Text

The plant was operating at 60% power when a loss of 24/48 VDC power occurred? How will this loss impact the plant?

Response A

Main Turbine Trip

Incorrect because MT trip logic powered from BOP battery

Response B

Loss of HPCI logic

Incorrect because HPCI logic powered from ESF battery

Response C - Correct Answer

Loss of SRMs and IRMs

Reference: [ST-OP-315-0022](#)

Response D

Loss of Feedwater Level Control

Incorrect because FW Level Control powered from UPS A

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: DC ELEC
2004 NRC RO Question
SRM

Not Archived

Question ID: 35369
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
215004	K6.02	3.1	3.3

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0064](#)
[ST-OP-315-0022](#)

Question #38 Details

EQ-OP-315-0024-000-A013-001

2004 RO NRC Exam

Question Text

The power supply for the APRMs is which one of the following?

Response A

H11-P908A & B, 120 VAC instrument and control power.

Response B

R3100S009A & B (UPS) Circuit 9.

Response C

2PA-1 and 2PB-1 via static inverters.

Response D - Correct Answer

C71-P001A & B via QLVPS.

Reference: [ST OP-315-0024-001 \(Table 2, PRNM Power Supplies\)](#)

This is a power supply question. The distractors are just wrong.

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: PRNM
APRM/OPRM

Not Archived

Question ID: 33478
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
215005	K2.02	2.6	2.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST OP-315-0024-001 \(Table 2, PRNM Power Supplies\)](#)

Question #39 with Details
EQ-OP-315-0143-000-A016-001

2004 RO NRC Exam

Question Text

The plant experienced a LOCA. RCIC is running and discharging to the RPV when 1D60, RCIC INVERTER FAILURE, alarms.

Which one of the following would describe (1) the impact on RCIC and (2) what actions should be taken?

Response A

- 1) Loss of indication on E51-R613, RCIC Pump Flow Indicator.
- 2) Manually control discharge flow using E51-F013, RCIC Pump Inboard Isolation Valve.

Incorrect because the correct action is to trip RCIC per ARP 1D60

Response B

- 1) Loss of indication on E51-K615, RCIC Discharge Flow Controller.
- 2) Manually control discharge flow using E51-F045, RCIC Turbine Steam Inlet Valve.

Incorrect because the correct action is to trip RCIC per ARP 1D60

Response C - Correct Answer

- 1) Loss of indication on E51-K615, RCIC Discharge Flow Controller.
- 2) Manually trip the RCIC turbine and supply the RPV with an alternate source.

Reference: 1D60

Response D

- 1) No impact.
- 2) Monitor RPV level.

Incorrect because there will be loss of indications and power to the flow controller

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: RCIC
_RO retake 2001

Not Archived

Question ID: 35389
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
217000	A2.10	3.1	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0043](#)
[1D60](#)

Question #40 Details

EQ-OP-315-0142-000-A021-004

2004 RO NRC Exam

Question Text

A LOCA concurrent with a loss of offsite power has occurred and the following conditions exist :

RPV water level.....42 inches (slowly lowering)
RPV pressure.....670 psig
Drywell pressure.....2.5 psig (rising)
EDGs 11 and 12..... failed to start
EDGs 13 and 14.....tripped (will not restart)

Given the above conditions and assuming no ADS related operator actions are taken, how will the ADS system respond?

When the RPV water level drops below RPV Level-1, the 105-second timer will:

Response A

Start, time out, then ADS will initiate.

Incorrect because the system does not meet the Low Pressure ECCS pump running permissive

Response B - Correct Answer

Start and time out but ADS will not initiate.

Correct because it will start due to the Hi DW and L1 signals, but not initiate because the low-pressure ECCS pump permissive will not be met (ADS Logic)

Response C

NOT start and ADS will NOT initiate.

Incorrect because it will start based on L1 and Hi DW signals

Response D

Start after the 7 minute timer times out, then ADS will initiate.

Incorrect because the system does not meet the Low Pressure ECCS pump running permissive

Author: BOLLINGER
Date Last Used: 2
Time: 3
Points: 1
Difficulty: 3

Keywords: ADS
_RO retake 2001

Not Archived

Question ID: 34823
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
218000	K5.01	3.8	3.8
218000	K3.02	4.5	4.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input type="checkbox"/> <input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0042](#)

Question #41 details

EQ-OP-315-0105-000-B003-002

2004 RO NRC Exam

Question Text

How are open MSIVs affected when NSSS Isolation logic channels B and D trip, assuming logic channels A and C are NOT tripped?

Response A

Inboard MSIVs, F022A-D close

Response B

All MSIVs close

Response C

Outboard MSIVs, F028A-D close

Response D - Correct Answer

All MSIVs remain open

Reference: [23.601](#), Enclosure G

The justification for this answer is that MSIV isolation logic requires a “one out two, taken twice” logic to actuate. Since only division 2 logic is tripped, no isolation signal will be sent. The logic is half cocked.

Author: BOLLINGER

Keywords: NUC BLR

Not Archived

Date Last Used:

Time: 3

Points: 1

Difficulty: 2

Question ID: 25517

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
223002	A1.02	3.7	3.7

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

ST-OP-315-0005-001

[23.601](#)

Question #42 Details

EQ-OP-315-0005-000-C005-001

Question Text

When controlling pressure using SRVs, it is expected SRVs for use will be selected based on the:

Response A

SRV pressure setpoint

Incorrect because only SRVs A and G have pressure control setpoints, otherwise they have safety pressure limits

Response B - Correct Answer

SRV position on the matrix

Reference: [23.201, Precautions and Limitations](#)

Response C

indicated average torus temperature

Incorrect because you can not determine torus water temperature at the discharge of the individual SRVs

Response D

Main Steam Line to which they are attached

Incorrect because it does not matter where the steam comes from.

Author: BOLLINGER
Date Last Used:
Time: 1
Points: 1
Difficulty: 1

Keywords: SRVs

Not Archived

Question ID: 30075
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
239002	K4.04	3.4	3.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[23.201, Precautions and Limitations](#)

Question #43 Details
EQ-OP-315-0171-000-C005-002

2004 RO NRC Exam

Question Text

The following conditions during a plant startup :

Reactor power is 15%

RPV water level is 200 inches slowly rising

The following annunciators are in alarm:

7D54 Interruptible Control Air Header Pressure Low

7D55 Interruptible Control Air Isolation Valve Closed

7D69 Station Air Compressor Auto Start

Based on the above conditions, what has happened and how is the plant responding?

Response A

Loss of Div II NIAS which has caused the Reactor Feed Pump Minimum Flow Valves to start opening.

Incorrect because the indications do not show Div II NIAS as being lost

Response B

Loss of Div I NIAS which has caused the Reactor Feed Pump Seal Water Valves to start closing.

Incorrect because the indications do not show Div I NIAS as being lost

Response C

Loss of Station Air which has caused the Reactor Feed Pump Discharge Valves to start closing.

Incorrect because the indications do not show Station Air as being lost (Station Air hdr press low)

Response D - Correct Answer

Loss of IAS which has caused the Startup Level Control Valve to start opening.

Reference: [ST-OP-315-0071, 20.129.01, Page 2](#)

Author: CADDEN
Date Last Used: 8/7/2000
Time: 0
Points: 1
Difficulty: 2

Keywords: COMPRESSED AIR
2004 NRC RO Question

Not Archived

Question ID: 35363
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
259002	K1.06	3.0	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0071](#)
[20.129.01, Page 2](#)

Question #44 Details

EQ-OP-315-0146-000-A015-004

2004 ILO NRC Exam

Question Text

The plant is operating at 100% power with the Feedwater Control System (FWCS) in 3 element control.

Which **ONE** of the following describes the response of the FWCS to a feed line rupture in the A feedwater line?

FWCS will....

Response A - Correct Answer

shift to single element control and raise the speed of both Reactor Feed Pump Turbines.

Digital Control System will sense a greater than 0.5 mlbm/hr difference and shift to single element. Because RPV level is going down, FWCS will attempt to raise the speed of the pumps.

Response B

stay in 3 element control and lower the speed of the A Reactor Feed Pump Turbine.

Digital Control System will sense a greater than 0.5 mlbm/hr difference and shift to single element. Because RPV level is going down, FWCS will attempt to raise the speed of both pumps.

Response C

shift to single element control and lower the speed of both Reactor Feed Pump Turbines.

Digital Control System will sense a greater than 0.5 mlbm/hr difference and shift to single element. Because RPV level is going down, FWCS will attempt to raise, not lower, the speed of the pumps.

Response D

stay in 3 element control and raise the speed of the A Reactor Feed Pump Turbine.

Digital Control System will sense a greater than 0.5 mlbm/hr difference and shift to single element. Because RPV level is going down, FWCS will attempt to raise the speed of both pumps.

Author: BOLLINGER

Date Last Used:

Time: 3

Points: 1

Difficulty: 2

Keywords: FEEDWATER CTRL
FEEDWATER

Not Archived

Question ID: 35441

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
259002	K6.05	3.5	3.5
259002	A3.04	3.2	3.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0064](#)

Question #45 Details**EQ-OP-315-0120-000-B006-001****2004 RO NRC Exam****Question Text**

Following a Loss of Coolant Accident, the Standby Gas Treatment System has been in service for several hours venting the drywell and torus IAW 29.ESP.07, Primary Containment Venting. Chemistry reports that stack release rates have begun to rise. Which of the following situations could explain the rise in release rates?

Response A

SGTS total flow decrease to 2500 scfm

Incorrect because less flow would not, by itself, cause release rates to rise.

Response B

After Heater air temperature increase to 200°F

Incorrect because the After Heater range is from 150-225°F.

Response C - Correct Answer

Charcoal Adsorber temperature increase to 290°F.

Reference: [ST-OP-315-0020](#)

Response D

Moisture Separator differential pressure decrease to 0.4 inches water.

Incorrect because the Moisture Separator range is from 0-1 inches of water.

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: SGTS
2004 NRC RO Question

Not Archived

Question ID: 35362
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
261000	K1.07	3.1	3.2
261000	K3.02	3.6	3.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0020](#)

Question #46 Details
EQ-OP-315-0162-000-A006-001

2004 RO NRC Exam

Question Text

While the reactor was operating in the RUN mode a loss of offsite power occurred and the following conditions now exist:

Reactor power.....all rods fully inserted
EDGs 11, 12 & 13.....failed to initiate
EDG 14.....operating and carrying its ESF Bus
480V AC Bus 72R.....energized

What is the current status of the UPS system?

Response A

Loads on Unit B are supplied from the UPS battery though the Inverter.

Incorrect because Loads are not being supplied from the battery

Response B - Correct Answer

Loads on Unit A are supplied from the Unit B Rectifier through the Unit A Inverter.

Reference: [ST-OP-315-0062-001\(1\), \(2\), Figure 2](#)

Response C

Loads on Unit A are supplied from its Alternate Source through the Static Transfer Switch.

Incorrect because Loads are not being supplied from the Alternate source

Response D

Loads on Unit B are supplied from its Alternate Source through the Static Transfer Switch.

Incorrect because Unit B Loads are being supplied from the Normal source

Author: CADDEN
Date Last Used: 9/3/1997
Time: 1
Points: 1
Difficulty: 2

Keywords: UPS
2004 NRC RO Question

Not Archived

Question ID: 35359
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
262002	K4.02	3.1	3.4
262001	K3.04	3.1	3.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0062-001](#), Figure 2

Question #47 Details
EQ-OP-802-2003-000-S002-001

2004 RO NRC Exam

Question Text

The plant was operating at 25% power when Bus 65G was lost due to an electrical fault. What action(s) is/are the Operating Crew required by AOP to perform immediately:

Response A - Correct Answer

Place the Reactor Mode Switch to SHUTDOWN.

Reference: [20.138.01, Rev. 35 \(Immediate Actions\)](#)

Response B

Verify there are no thermal hydraulic instability oscillations.

Incorrect because the Immediate Action is to place the mode switch in S/D due to loss of both Recirc Pumps

Response C

Insert the Cram control rods and monitor for reactor core thermal hydraulic instabilities.

Incorrect because the Immediate Action is to place the mode switch in S/D due to loss of both Recirc Pumps

Response D

Raise reactor water level to raise natural circulation rate and commence inserting control rods.

Incorrect because the Immediate Action is to place the mode switch in S/D due to loss of both Recirc Pumps

Author: CADDEN
Date Last Used:
Time: 1
Points: 1
Difficulty: 2

Keywords: AOP
RRS
2004 NRC RO Question

Not Archived

Question ID: 35360
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.4.11	3.4	3.6
Generic	2.4.49	4.0	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[20.138.01, Rev. 35 \(Immediate Actions\)](#)

Question #48 with Details

EQ-OP-315-0145-000-B007-001

2004 RO NRC Exam

Question Text

Where do the Governor Control Cubicles in the H11-P633 Panel receive their power from?

Response A - Correct Answer

Uninterruptible Power Supply

Reference: [ST-OP-315-0062](#)

Response B

Reactor Protection System

Incorrect

Response C

120VAC Instrument & Control

Incorrect

Response D

DC Distribution

Incorrect

Author: CADDEN
Date Last Used:
Time: 1
Points: 1
Difficulty: 1

Keywords: AOP
RRS
2004 NRC RO Question

Not Archived

Question ID: 35360
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
262002	K1.05	2.7	

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0062](#)

Question #49 Details
EQ-OP-315-0164-000-C002-001

2004 ILO NRC Exam

Question Text

What is the impact of a Loss of Division II ESF 130V/260V Battery on bus 72CF?

Response A

Bus 72 CF will deenergize

72CF is an AC bus. It will not deenergize.

Response B

There will be NO impact on bus 72CF

72CF will lose automatic throwover capability.

Response C - Correct Answer

Automatic throwover capability for 72CF will be lost

Reference: [AOP 20.300.260ESF, Page 6](#)

Response D

Bus 72CF will automatically transfer to its alternate power supply

Automatic throwover capability for 72CF will be lost

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: DC ELEC
2004 NRC RO Question

Not Archived

Question ID: 35345
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
	G2.4.11	3.4	3.6
263000	K4.01	3.1	3.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[AOP 20.300.260ESF](#)

Question #50 Details
EQ-OP-315-0165-000-A021-004

2004 ILO NRC Exam

Question Text

The following conditions exist:

Reactor power.....98%
Drywell Pressure.....1.1 psig, raising slowly
Reactor water level.....185 inches, lowering slowly

All other systems are functioning as designed.

If the pressure and level trends continue, what can the operator expect to happen to the Emergency Diesel Generators (EDG), and what action should be taken?

Response A

EDG will auto start, EDG output breaker will close, and loads will be sequenced onto the EDG.

Dispatch operator to verify proper operation of the EDG.

Loads won't sequence without a loss of power

Response B

EDG will not auto start.

Dispatch operator to start the EDG.

EDG will auto start.

Response C - Correct Answer

EDG will auto start.

Run the EDG loaded for at least 1 hour before stopping.

Reference: ST-OP-315-0065, 23.307 Precaution 3.7

Response D

EDG auto starts, load sequencer strips loads.

Dispatch operator to verify proper operation of the EDG.

Loads won't sequence without a loss of power

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Cognitive Level: 2

Keywords: EDG

Not Archived

Question ID: 34766
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
264000	A3.05	3.4	3.5

References:

[ST-OP-315-0065](#)
[23.307](#)

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

Question #51 with Details
EQ-OP-315-0171-000-A014-001

2004 RO NRC Exam

Question Text

The plant is operating at 100% power with the following auxiliary equipment lineup:

West Station Air Compressor running; Center in AUTO
South Reactor Feedwater Pump Turbine East Lube Oil Pump running; West in AUTO
North Reactor Feedwater Pump Turbine West Lube Oil Pump running; East in AUTO
North Main Turbine Lube Oil Pump running; South in AUTO
South and Center TBCCW pumps running

Bus 64A is lost due to an internal electrical fault. What is your response to this event?

Response A

Perform a rapid power reduction

Incorrect because Loss of 64A says put the mode switch in Shutdown

Response B

Start both SBFW pumps and inject at 1200 gpm

Incorrect because the RFPT Emergency LO Pumps are sufficient to supply the RFPTs, therefore RFPs will not trip.

Response C

Verify the North TBCCW pump has started automatically

Incorrect because 64A is the power supply to N. TBCCW pump

Response D - Correct Answer

Verify the Center Station Air Compressor has automatically started

Reference: [ST-OP-315-0171-001](#), [20.300.64A Page 5](#)

Author: CADDEN
Date Last Used:
Time: 5
Points: 1
Difficulty: 2

Keywords: 4160/480 ELEC
COMPRESSED AIR
2004 NRC RO Question

Not Archived

Question ID: 35341
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
300000	K2.01	2.8	2.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.300.64A](#)
[ST-OP-315-0171-001](#)

Question #52 with Details
EQ-OP-315-0171-000-A016-001

2004 RO NRC Exam

Question Text

The plant was operating at 85% power when maintenance activities resulted in an inadvertent transfer of MPU-3. Which of the following is the expected plant response with no operator action?

Response A - Correct Answer

Outboard MSIVs will go shut

Reference: [20.129.01 Page 2 and 8](#)

Response B

TBCCW TCV will remain in its current position

Incorrect because the valve will fail OPEN

Response C

Condensate Polishing Demineralizers effluent valves will go full open

Incorrect because the valve is supplied by Station Air

Response D

LP Hood Spray pressure and temperature control valves will go shut

Incorrect because the valves will fail OPEN

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: COMPRESSED AIR
2004 NRC RO Question

Not Archived

Question ID: 35340
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
300000	K6.07	2.5	2.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.129.01 Page 2 and 8](#)

Question #53 Details

EQ-OP-315-0167-000-B003-003

2004 RO NRC Exam

Question Text

Concerning the RBCCW/EECW System, which ONE of the following describes the sequence of events that will occur when there is a Loss of Off-Site Power (LOP)?

Response A - Correct Answer

White Emergency Mode Light comes on, EDG Output Breakers close, Supply and Return Header Isolation Valves close, EECW Pumps start.

Reference: ST-OP-315-0067-001, (2)

Response B

RBCCW Pumps trip, EDG Output Breakers close, EECW Make-Up Tank Isolation Valves close, EECW Pumps start.

Incorrect because the EECW Make-up tank isolation valve OPENS

Response C

White Emergency Mode Light comes on, EECW Make-Up Tank Isolation Valves open, EDG Output Breakers close, EECW Pumps start.

Incorrect because the EDG output breakers close before the make-up tank isolation opens

Response D

RBCCW Pumps trip, Supply and Return Header Isolation Valves close, EDG Output Breakers close, EECW Pumps start.

Incorrect because the EDG output breakers close before the Supply and Return Isolation valves close

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 2

Keywords: RBCCW/EECW

Not Archived

Question ID: 34534
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
400000	A4.01	3.1	3.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0067-001](#)

Question #54 Details

EQ-OP-802-2001-000-R003-002

2004 RO NRC Exam

Question Text

The reactor is operating at 100% power when the following conditions exist :

Annunciator 3D5, CRD Charging H₂O Pressure Low.....activated
Annunciator 3D10, CRD Accumulator Trouble.....activated
E41-R609, HPCI Pump Suction Pressure Indicator.....20 psig
C11-PDIS-N002, CRD Drive Water Filter Differential Pressure.....0 psig
C11-R603, Cooling Water to reactor Differential Pressure Indicator.....0 psid
C11-R800, CRD Hydraulic Flow Ind.....1 gpm

Which of the following is the reason annunciators 3D5 and 3D10 are activated?

Response A - Correct Answer

The operating CRD pump has tripped.

Reference: [ST-OP-315-0010-001](#)

Response B

The in-service CRD flow control valve has failed closed.

Incorrect because the flow control valves have a mechanical block to allow 15 gpm flow when they are shut, therefore flow could not be 1 gpm.

Response C

C11-F034, Charging Header Isolation Valve, has been closed.

Incorrect because the drive water filters is upstream of this valve, therefore the Drive water filter D/P can not be 0 if it is shut.

Response D

C11-F003, CRD Drive/Cooling Water PCV, has been closed.

Incorrect because the drive water connection is upstream of this valve, therefore the Drive water filter D/P can not be 0 if it is shut.

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 3

Keywords: CRDH
AOP
LOR 00-04

Archived

Question ID: 32645
Parent ID: 30789
Child ID: 0

KA System	KA Number	RO Value	SRO Value
201001	A2.01	3.2	3.3

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

20.106.01
[ST-OP-315-0010-001](#)

Question #55 Details
EQ-OP-315-0109-000-C011-002

2004 RO NRC Exam

Question Text

During a plant startup, Control Rod 26-35 was withdrawn to position 48. During the coupling check:

Position indication was lost

3D76 CONTROL ROD OVERTRAVEL alarmed

3D80 CONTROL ROD DRIFT alarmed

(1) What is the status of Control Rod 26-35 and (2) what procedure should the Control Room Staff enter and execute?

Response A

(1) stuck

(2) AOP 20.106.05 STUCK CONTROL ROD

Incorrect because these are indications of an uncoupled control rod

Response B

(1) uncoupled

(2) AOP 20.106.1 CRD HYDRAULIC SYSTEM FAILURE.

Incorrect because the crew should enter 20.106.02

Response C - Correct Answer

(1) uncoupled

(2) AOP 20.106.02 UNCOUPLED/DROPPED CONTROL ROD (FROM REACTOR CORE)

Reference: [20.106.02, page 7](#)

Response D

(1) stuck

(2) SOP 23.106 CONTROL ROD DRIVE HYDRAULIC SYSTEM, difficult rod movement section.

Incorrect because these are indications of an uncoupled control rod

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: CRDM
2004 NRC RO Question

Not Archived

Question ID: 35339
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
201003	A2.02	3.7	3.8
201003	A4.02	3.5	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[20.106.02, page 7](#)

Question #56 Details

EQ-OP-315-0104-000-A013-002

2004 RO NRC Exam

Question Text

The "A" Reactor Recirc Pump has been given a signal to increase speed. What is occurring in the fluid drive coupling?

The scoop tube positioner is changing position to _____ the amount of oil in the working circuit of the coupler thus _____ the coupling between the Reactor Recirc Motor and Generator.

Response A

reduce, reducing

Incorrect because this will be the case when lower speed is desired

Response B

reduce, increasing

Incorrect because less oil in the working speed will lower the coupling

Response C

increase, reducing

Incorrect because increasing the amount of oil will increase the coupling

Response D - Correct Answer

increase, increasing

Reference: [ST-OP-315-0004-001](#)

Author: PRE-EXISTING
Date Last Used: 3/16/2001
Time: 2
Points: 1
Difficulty: 1

Keywords: RRS

Not Archived

Question ID: 33031
Parent ID: 25453
Child ID: 0

KA System	KA Number	RO Value	SRO Value
202001	K1.12	3.6	3.6

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0004-001](#)

Question #57 with Details
EQ-OP-315-0111-000-A013-002

2004 RO NRC Exam

Question Text

A reactor startup is in progress with the following conditions:

Rod Select Power Switch.....ON
Select button for rod 26-31.....ON
3D80, Control Rod Drift.....ON

What is the cause of the Control Rod Drift Alarm?

Rod 26-31 at position.....

Response A - Correct Answer

35 with the Rod Control Movement Switch in OFF

Reference: [ST-OP-315-011](#)

Response B

35 with the Rod Control Movement Switch in OUT NOTCH

Incorrect because RMCS still thinks the rod is moving

Response C

34 with the Rod Control Movement Switch in OFF

there will be no rod drift if the rod settles on an even position

Response D

34 with the Rod Control Movement Switch in OUT NOTCH

Incorrect because RMCS still thinks the rod is moving and there will be no rod drift if the rod settles on an even position

Author: BOLLINGER
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords:

Not Archived

Question ID: 35393
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
214000	K4.01	3.0	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-011](#)

Question Text

Division 1 of RHR was operating in torus cooling mode with "A" RHR pump in service to support an upcoming HPCI surveillance. The plant experienced a seismic event, which resulted in a failure to SCRAM and a LOCA. The following conditions exist:

RPV Level.....-2" on Core Level

Reactor Power.....0%

RPV Pressure.....650 psig

Drywell Pressure..... 12 psig

Torus Pressure.....10.2 psig

- (1) How would RHR respond to this event, and
- (2) What minimum operator action is necessary to realign RHR Pump "A" back to torus cooling?

Response A

- (1) Division 1 RHR will continue to operate in Torus Cooling.
- (2) No action required.

Incorrect because RHR Torus cooling will isolate on Hi Drywell Pressure and L1

Response B

- (1) E11-F024A, Div 1 RHR Torus Clg Iso.and E11-F028A, Div 1 RHR Torus Iso Vlv. will automatically close.
- (2) Place Containment Spray Mode Select switch in MANUAL, and reopen the E11-F024A and E11-F028A valves.

Incorrect because must use 2/3 Core Height Override due to Level <0"

Response C - Correct Answer

- (1) E11-F024A, Div 1 RHR Torus Clg Iso. and E11-F028A, Div 1 RHR Torus Iso Vlv. will automatically close.
- (2) Place Containment Spray Mode Select switch in MANUAL and Containment Spray 2/3 Core Height Override keylock switch in MANUAL OVERRIDE and reopen the E11-F024A and E11-F028A valves.

Reference: [ST-OP-315-0041\(1\)](#). (2); [23.205, page 103](#)

Response D

- (1) E11-F024A, Div 1 RHR Torus Clg Iso.and E11-F028A, Div 1 RHR Torus Iso Vlv. will automatically close and RHR pump "A" will trip.
- (2) Place Containment Spray Mode Select switch in MANUAL, restart RHR Pump "A" and reopen the E11-F024A and E11-F028A valves.

Incorrect because RHR Pump "A" will not trip.

Author: CADDEN
Date Last Used:
Time: 5
Points: 1
Difficulty: 2

Keywords: RHR - TOR CLNG
 RHR - LPCI
 RHR - GENERAL
 2004 NRC RO Question

Not Archived

Question ID: 35338
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
219000	A4.06	3.9	3.7
219000	A1.02	3.5	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[23.205, page 103](#)
[ST-OP-315-0041](#)

Question #59 Details**EQ-OP-315-0116-000-A021-002****2004 RO NRC Exam****Question Text**

During a Design Bases Loss of Coolant Accident the Drywell Spray Mode of RHR is initiated. How will the Containment System respond?

Response A - Correct Answer

Suppression Chamber to Drywell Vacuum Breakers will open to ensure Drywell to Torus d/p is maintained within limits.

Reference: [ST-OP-315-0016\(1\)](#), [\(2\)](#)

Response B

Suppression Chamber to Drywell Vacuum Breakers will open to ensure Drywell pressure is maintained lower than Torus pressure.

The vacuum breakers prevent damage to the containment from d/p. DW pressure is usually higher than torus pressure.

Response C

Reactor Building to Suppression Chamber Vacuum Breakers will open to ensure Reactor Building to Torus d/p is maintained within limits.

The RB Vacuum breakers are for inadvertent initiation of Torus Sprays.

Response D

Reactor Building to Suppression Chamber Vacuum Breakers will open to ensure Torus pressure is maintained higher Reactor Building Pressure.

Right reason, but wrong cause. RB Vacuum breakers not for DW sprays after a DBA LOCA.

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: CONTAINMENT

Not Archived

Question ID: 35337
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
226001	A1.01	3.6	3.8
226001	K5.06	2.6	2.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0016](#)

Question #60 Details**EQ-OP-315-0105-000-A021-003****2004 RO NRC Exam****Question Text**

The plant was operating at 85% power when Main Steam was lost to the West Moisture Separator Reheater. Which of the following describes the effect of this loss?

Loss of Main Steam to the Moisture Separator Reheater would cause the:

Response A

HP Turbine to experience a significant increase in windage losses and become less efficient

The HP turbine is upstream of the MSR, therefore there is no effect.

Response B - Correct Answer

LP Turbines to experience more damage to the first stage blading and to become less efficient

Reference: [ST-OP-315-0005](#)

Response C

LP Turbines to lose all their steam flow and scram the Rx on closure of the LP Stop and Intercept valves

The LP turbines will not lose all of their steam flow and the Rx will not scram.

Response D

HP Turbine to pick up more load and therefore the thrust on the HP Turbine would be above its Maximum Normal Range.

The HP turbine is upstream of the MSR, therefore there is no effect.

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: NUC BLR
2004 NRC RO Question

Not Archived

Question ID: 35336
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
239001	K1.05	2.8	2.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0005](#)

Question #61 Details
EQ-OP-315-0107-000-B007-002

2004 RO NRC Exam

Question Text

The plant was operating at 100% power when the South RFP tripped.
Which of the following describes the expected plant response?
(Assume no operator action).

Response A - Correct Answer

RPV level - Lowers, then stabilizes
Recirc speed - Lowers
Rx Power - Lowers

Reference: [ST-OP-315-007](#)

Response B

RPV level - Lowers
Recirc speed - Lowers
Rx Power - 0% (SCRAM)

Incorrect because the Reactor will not SCRAM on Level 3

Response C

RPV level - Steady
Recirc speed - Raises
Rx Power - Steady

Incorrect because the Level will go down and the Recirc pumps will run back on limiter #4

Response D

RPV level - Lowers, then stabilizes
Recirc speed - Steady
Rx Power - Lowers

Incorrect because Recirc pumps will run back on limiter #4

Author: CADDEN
Date Last Used:

Keywords: RX FEEDWATER

Not Archived

Time: 3
Points: 1
Difficulty: 2

Question ID: 35334
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
259001	K3.01	3.9	3.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-007](#)

Question #62 Details**EQ-OP-315-0135-000-A021-001****2004 RO NRC Exam****Question Text**

The plant is operating at 75% power. The Dilution Steam controller for the operating off-gas train fails and admits 100% dilution steam to the 18" manifold.
Select from below the expected off-gas system response:

Response A

Total off-gas flow will decrease

Incorrect because total off gas flow will increase due to increased steam supply

Response B

Hydrogen concentration will increase

Incorrect because hydrogen concentration will decrease due to increased steam supply
(recombining of O₂/H₂ into water vapor)

Response C

Off-gas after cooler temperature will increase

Incorrect because after cooler will decrease due to lowered recombiner outlet temperature

Response D - Correct Answer

Thermal recombiner outlet temperature will decrease

Reference: [ST-OP-315-0035-001](#)

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: OFF GAS

Not Archived

Question ID: 35333
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
271000	K6.04	2.8	2.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0035-001](#)

Question #63 with Details
EQ-OP-315-0105-000-A021-005

2004 RO NRC Exam

Question Text

The 'A' Main Steam Line Rad Monitor has failed downscale.
A gross fuel failure occurs at 85% power. All other Main Steam Line rad monitors detect the fuel failure and trip.
How do the MSIVs and RPS respond?

Response A

Inboard MSIVs close
Half Scram

Incorrect because MSIVs will go closed and a full scram will be initiated

Response B

Outboard MSIVs close
Half Scram

Incorrect because MSIVs will go closed and a full scram will be initiated

Response C

MSIVs remain open
Full Scram

Incorrect because MSIVs will go closed

Response D - Correct Answer

All MSIVs close
Full Scram

Reference: ST-OP-315-0005-001, 23.601 (page 46) (Correct because logic says 1 out of 2 taken twice)

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: NUC BLR
2004 NRC RO Question

Not Archived

Question ID: 35419
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
272000	A3.09	3.6	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0005-001](#)

Question #64 Details**EQ-OP-315-0173-000-B001-001****2004 RO NRC Exam****Question Text**

Division I CCHVAC was operating in Purge mode due to a fire in the Relay Room. Annunciator 3D35, DIV I/II FP VENT EXH RADN MONITOR UPSCALE TRIP, alarms due to high radiation in the Fuel Pool exhaust. What will happen to the CCHVAC configuration?

Div I CCHVAC will:

Response A

continue to operate in Purge mode.

Incorrect because recirculation mode overrides all other modes.

Response B - Correct Answer

transfer from Purge mode to Recirculation mode.

Reference: [ST-OP-315-0073-001 \(1\), \(2\), ARP 3D35](#)

Response C

trip and will have to be started manually in Recirculation mode.

Incorrect because CCHVAC will automatically shift to recirculation mode

Response D

trip and Div II CCHVAC will start and operate in Recirculation mode.

Incorrect because CCHVAC will automatically shift to recirculation mode

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: CCHVAC
2004 NRC RO Question

Not Archived

Question ID: 35326
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
290003	K4.01	3.1	3.2

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0073-001](#)
[ARP 3D35](#)

Question #65 Details**EQ-OP-315-0103-000-A007-002****2004 RO NRC Exam****Question Text**

Which of the following are two advantages of loading burnable poisons into the fuel?

Response A

Radial power shaping and allow lower power fuel bundles to be used.

Incorrect because water rods help with radial power shaping. [Reference](#)

Response B

Longer control rod life and smoother reactivity control.

Incorrect. This is a description of using a control cell core [Reference](#)

Response C - Correct Answer

Longer fuel cycles and axial power shaping.

Reference: [ST-OP-315-0003-001](#)

Response D

Wider margin to thermal limits and allow lower power fuel bundles to be used.

Incorrect. This is a description of using a ring of fire. [Reference](#)

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: CORE & FUEL
2004 NRC RO Question

Not Archived

Question ID: 35324
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
234000	G2.1.28	3.2	3.3
290002	K5.03	2.7	3.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0003](#)

Question #66 Details

EQ-OP-213-0041-000-B001-006

2004 RO NRC Exam

Question Text

In accordance with MOP09, "Locked Valve", a _____ padlock should be used on a locked closed position valve.

Response A

Red

Incorrect because red is open

Response B

Green

Incorrect because green is not used for padlock locked valves

Response C

red with black dot

Incorrect because red with black dot is throttled

Response D - Correct Answer

no color identification

Reference: [MOP09, section 3.8](#)

Author: BOLLINGER
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: ADMIN

Archived

Question ID: 32576
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.1.1	3.7	3.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP09](#)

Question #67 Details

EQ-OP-315-0104-000-C011-001

2004 RO NRC Exam

Question Text

The plant was operating at 95% power when the following indications were observed:

Generator megawatt output - 1095MWe, lowering slowly

Reactor power - 88%, lowering slowly

RPV level - 197 inches, steady

RPV pressure - 1015 psig, lowering slowly

Total core flow lowered and stabilized at 83 Mlbm/hr

A Recirc System:

recirc loop flow - 55000 gpm

jet pump loop flow - 22 Mlbm/hr

B Recirc System:

recirc loop flow - 40000 gpm

jet pump loop flow - 61 Mlbm/hr

Based on the given conditions what action should be taken?

Response A

Place the mode switch in shutdown and enter 20.000.21 Reactor Scram

Incorrect because indications are of a jet pump failure. You would commence a plant shutdown, not scram.

Response B

Lower 'B' MG set speed to match recirc flows

Incorrect because these are the actions for uncontrolled recirc flow change.

Response C

Enter 20.138.03, Uncontrolled Recirc Flow Change

Incorrect because there is no indication that RRS MG speed has changed.

Response D - Correct Answer

Enter 20.138.02, Jet Pump Failure

Reference: [20.138.02, page 5](#)

Author: DOUCET
Date Last Used: 8/27/2002
Time: 2
Points: 1
Difficulty: 3

Keywords: RRS
_RO retake 2001

Not Archived

Question ID: 34691
Parent ID: 33560
Child ID: 0

KA System	KA Number	RO Value	SRO Value
generic	2.1.7	3.7	4.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

ST-OP-315-0004-001
[20.138.02](#)

Question #68 Details**EQ-OP-315-0133-000-A001-001****2004 RO NRC Exam****Question Text**

Which one of the following describes the purpose of the Circulating Water system?

Response A

Deaerates the water in the Cooling Towers.

Incorrect because deaeration is not a function of Circ Water.

Response B

Transfers heat to the atmosphere via the CW Reservoir.

Incorrect because transfers heat via the cooling towers.

Response C

Heats the water in the cooling towers to prevent marine growth.

Incorrect because marine growth is prevented using chemical treatment.

Response D - Correct Answer

Removes heat rejected to the Condenser from the Low Pressure Turbines.

Reference: [ST-OP-315-0033-001](#)

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: CIRC WATER

Not Archived

Question ID: 35395
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.1.27	2.8	2.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0033-001](#)

Question #69 Details

EQ-OP-802-4101-000-0022-008

2004 RO NRC Exam

Question Text

Which one of the following is required when a non-visible break must be used to disconnect a piece of equipment from its power supply?

Response A

Independent verification of the caution tag.

Incorrect because you would not use a caution tag for personal protection.

Response B

An approved grounding device installed on the load side.

Incorrect because you may or may not use a grounding device, depending on the load.

Response C - Correct Answer

An approved blocking device and a method for determining that power is removed.

Reference: MOP12, section 3.2.11

Response D

A safety observer is stationed for all work performed on the equipment.

Incorrect because the work will be considered deenergized, therefore no safety observer required. Also, safety observers may be used at the Operating Authorities discretion.

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: ADMIN

Not Archived

Question ID: 34573

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.2.13	3.6	3.8

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP12](#)

Question #70 Details

EQ-OP-315-0190-000-C005-004

2004 RO NRC Exam

Question Text

Refueling is in progress. As a once burned fuel bundle is being placed in the core SRM counts on one of the 2 operable SRM detectors begin increasing with a steady positive period. In accordance with procedure MOP13, Refueling Operations, you IMMEDIATELY:

Response A

evacuate the refuel floor.

Incorrect because you would evacuate based on hi monitored radiation levels

Response B - Correct Answer

direct the refuel floor to stop fuel movement.

Reference: MOP13, section 3.3

Response C

inform the refuel floor to remove the fuel bundle and try again.

Incorrect because the RO would not direct the refuel floor to do anything. SRO job.

Response D

declare the improperly responding SRM INOP and insert all insertable control rods within 1 hour

Incorrect because MOP13 states you should believe all instrument indications (section 3.3.1)

Author: BARRETT
Date Last Used: 2/7/2000
Time: 0
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 34502
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.2.30	3.5	3.3
295023	K1.03	3.7	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP13, Conduct of Refueling and Core Alterations](#)

Question #71 Details

EQ-OP-802-4101-000-0022-007

2004 ILO NRC Exam

Question Text

An operator is conducting a normal day to day rounds inspection of equipment which is located in a high radiation area. In accordance with MOP04, Shift Operations, and MRP05 , ALARA/RWPs, the operator must:

Response A

preplan the inspection during turnover.

Not in accordance with the references

Response B - Correct Answer

conduct the inspection from the barrier to the area.

Reference : [MRP05](#), [MOP4](#)

Response C

obtain Radiation Protection supervisor approval.

Not in accordance with the references

Response D

enter the area with a hand held monitoring device.

Not in accordance with the references

Author: BOLLINGER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords: ADMIN

Not Archived

Question ID: 35422
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.3.2	2.5	2.9

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP4](#)
[MRP05](#)

Question #72 Details**EQ-OP-508-0001-000-A013-004****2004 RO NRC Exam****Question Text**

A fully qualified Radiation Worker was escorting a male visitor with no previous exposure through the Reactor Building when they inadvertently walked through a high radiation area. Assuming no previous exposure, RP personnel read the dosimeters for the individuals and calculated that they received the following radiation exposure:

Chest	800 mrem
Hands	1060 mrem
Eye Lens	510 mrem
Internal	550 mrem

Which, if any, exposure limit has been exceeded?

Response A

Both exceeded Federal TEDE limits.

Incorrect because the fully qualified Radiation Worker did not exceed Federal TEDE limits

Response B

Both exceeded Fermi administrative TEDE limits.

Incorrect because the fully qualified Radiation Worker did not exceed Fermi TEDE limits

Response C - Correct Answer

The male visitor exceeded the federal TEDE limit

Reference: [ST-GN-508](#)

Response D

The fully qualified Radiation Worker exceeded the federal TEDE limit

Incorrect because the fully qualified Radiation Worker did not exceed Federal TEDE limits

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: 2004 NRC SRO Question
ADMIN

Not Archived**Question ID:** 35322**Parent ID:** 0**Child ID:** 0

KA System	KA Number	RO Value	SRO Value
generic	2.3.4	2.5	3.1

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

10 CFR 20

[ST-GN-508](#)

Question #73 Details
EQ-OP-802-2001-000-R009-001

2004 RO NRC Exam

Question Text

When does ODE-03, Communications, allow relaxing of the 3-way communications requirement?

Response A

When communicating face-to-face during peer checks

Incorrect because 3-way communications are expected to be used during peer checks.

Response B

When transferring information important to plant safety to the CRS.

Incorrect because 3-way communications are expected to be used when transferring plant information.

Response C - Correct Answer

During transients when the CRS requests frequent updates of a certain parameter.

Reference: [ODE-03, Communications, page 2](#)

Response D

During testing evolutions between the Control Room Operator and the technician in the field.

Incorrect because 3-way communications are expected to be used during testing and maintenance activities.

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: 2004 NRC SRO Question
ADMIN
Human Performance

Not Archived

Question ID: 35319
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.4.15	3.0	3.5

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input checked="" type="checkbox"/> NOC	<input type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ODE-03, Communications](#)
[MOP03](#)

Question #74 Details**EQ-OP-802-4101-000-0028-006****2004 RO NRC Exam****Question Text**

In accordance with MOP10, "Fire Brigade", which one of the following individuals could be assigned to the fire brigade with the plant operating in mode one?

Assume each individual has met the physical and training requirements.

Response A

Reactor Operator - assigned as Safe Shutdown

Incorrect because required to be available for Safe Shutdown

Response B

Radwaste Operator -assigned as shift communicator

Incorrect because required to be available to act as shift communicator

Response C

Senior Reactor Operator - assigned as the shift manager

Incorrect because required to be available to act as Shift Manager

Response D - Correct Answer

Nuclear Operator - assigned as Turbine Building Rounds

Reference: [MOP 10, section 3.1](#)

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: FIRE PROT/DET
2004 NRC RO Question

Not Archived

Question ID: 35318
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
286000	2.4.26	2.9	3.3
Generic	2.4.25	2.9	3.4

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP10](#)

EQ-OP-802-2004-000-0001-008**Question Text**

During a reactor startup the following conditions exist :

RPV Pressure.....680 psig

RPV water level.....193 inches

RWCU System.....in Blowdown Mode

If the operating CRD Pump trips followed by Annunciator 3D10,CRD ACCUMULATOR TROUBLE (in alarm for one withdrawn rod), the Operating Crew is required by AOP to

immediately:

Response A

Start the standby CRD pump.

Incorrect because pressure is <900 psig and 3D10 in alarm for a withdrawn control rod

Response B - Correct Answer

Place the Reactor Mode Switch to SHUTDOWN.

Reference: [20.106.01, \(Immediate Actions\)](#)

Response C

Have a Nuclear Operator check the local alarm panel.

Incorrect because the reactor must be scrammed and then a lot of alarms will come in on the local control panel.

Response D

Monitor for the second control rod DRIFT alarm to activate, then manually scram the reactor.

Incorrect because this is the immediate actions for Control Rod drift. There are no drifting control rods given in the stem.

Author: BOLLINGER
Date Last Used:
Time: 1
Points: 1
Difficulty: 1

Keywords: AOP
CRDH
LOR 00-04

Archived

Question ID: 30908
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.4.11	3.4	3.6
Generic	2.4.49	4.0	4.0

<input checked="" type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.106.01, \(Immediate Actions\)](#)

Question #1 Details
EQ-OP-802-2001-000-S001-001

2004 SRO NRC Exam

Question Text

A Loss of Power Event has occurred. The CRNSO reports the following:

- 345KV mat power indicating lights.....off
- EDG 13.....NOT running
- EDG 14.....carrying 65F Bus
- 65E, 72E, 13EC, and 72EC.....off
- E6 and E8 breakers.....tripped

What actions should be directed?

Response A

Start CTG 11-1 in accordance with 23.324.

Incorrect because CTG 11-1 is not required for operation with a loss of 345Kv.

Response B

Perform Rapid Power Reduction in accordance with 23.623.

Incorrect because Loss of 345Kv Immediate Actions direct placing mode switch in Shutdown.

Response C - Correct Answer

Investigate cause of Bus Failure in accordance with MOP 04.

Reference: 1

Response D

Perform Emergency Diesel Generator Failure in accordance with 20.307.01.

Incorrect because EDG13 is not supposed to start with bus 65E locked out.

Author: CADDEN
Date Last Used:
Time: 4
Points: 1
Difficulty: 2

Keywords: 4160/480V ELEC
AOP
EDG
2004 NRC SRO Question

Not Archived

Question ID: 35280
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value	<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
295003	AA2.01	3.4	3.7	<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
295003	AA2.04		3.7	<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
				<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
				<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
				<input type="checkbox"/> NOC	<input type="checkbox"/> Close Ref.
				<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.300.65E](#)
[MOP04](#)
[20.307.01](#)

Question #2 with Details
EQ-OP-802-2001-000-S001-002

2004 ILO NRC Exam

Question Text

The reactor is shutdown due to a lockout on bus 72F during an earthquake. All systems operated normally during the shutdown.

An aftershock occurs which trips all remaining RBCCW pumps. Considering all remaining systems operate normally, which one of the following actions must be directed in accordance with plant procedures?

Response A - Correct Answer

Trip the south recirc MG set

Reference: 20.127.01, override statement. There will be no cooling to Div II DW penetrations due to the loss of 72F (resulted in loss of Div II EECW)

Response B

Trip the north recirc MG set

Incorrect because the North recirc MG will still be cooled by Div I EECW

Response C

Take local manual control of the south recirc MG

Incorrect because the South recirc MG will have to be tripped. Plausible distractor because Scoop tube is powered by 72F, which is lost.

Response D

Take local manual control of the north recirc MG

Incorrect because the North recirc MG will still have power to its scoop tube.

Author: CADDEN
Date Last Used:
Time: 4
Points: 1
Difficulty: 2

Keywords: RBCCW/EECW

Not Archived

Question ID: 35473
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
400000	K1.02	3.2	3.4
295018	A2.04		2.9

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0067-001](#)
[20.127.01](#)

Question #3 Details

EQ-OP-315-0141-000-C005-002

2004 SRO NRC Exam

Question Text

The plant is in mode 4 with Shutdown Cooling in operation. Plant conditions are as follows:

- E1150-F008, SDC Outboard Iso. vlv is shut
- E1150-F009, SDC Inboard Iso. vlv is shut
- RPV Level is 184 inches
- RPV Pressure is 95 psig

Based on the information above, what action would the SRO direct and why?

Response A

Condition C of 20.205.01, Loss of SDC for level, to mitigate a Loss of Coolant Accident.

Incorrect because Level isolation is <173.4"

Response B

Condition C of 20.205.01, Loss of SDC for level, to prevent temperature stratification.

Incorrect because Level isolation is <173.4"

Response C

Condition D of 20.205.01, Loss of SDC for pressure, to maintain adequate NPSH to operating RHR pumps.

Incorrect because the pressure isolation is based on high pressure, not low pressure.

Response D - Correct Answer

Condition D of 20.205.01, Loss of SDC for pressure, to prevent over-pressurization of SDC piping.

Reference: [ST-OP-315-0041-001](#)

Author: CADDEN
Date Last Used:

Time: 0

Points: 1

Difficulty: 3

Keywords: RHR - SDC
2004 NRC SRO Question

Not Archived

Question ID: 35281

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295021	A2.06		3.3

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[20.205.01, Loss of Shutdown Cooling](#)

[23.205, RHR System](#)

[ST-OP-315-0041-001](#)

Question #4 Details**EQ-OP-802-3004-000-0109-010****2004 SRO NRC Exam****Question Text**

A major plant transient has occurred causing the following plant conditions:

- Drywell pressure is 8 psig and rising slowly
- Torus pressure is 7.5 psig and rising slowly
- Drywell temperature is 153°F and rising slowly
- Torus temperature is 102°F and rising slowly
- Torus water level is 18 inches

Based on the information above, which of the following would be the next action to take, AND what is the basis for taking this action?

Response A - Correct Answer

Initiate Torus sprays to prevent "chugging".

Reference: ST-OP-802-3004-001, EOP Primary Containment Control

Response B

Initiate Primary Containment Vent to prevent "chugging".

The stated conditions do not warrant venting the containment

Response C

Initiate Torus sprays to decrease the percentage of non-condensibles in the Drywell.

The Torus Spray Initiation Pressure is defined to be the lowest torus pressure which can occur when 95% of the non-condensibles in the drywell have been transferred to the airspace of the torus.

Response D

Initiate Primary Containment Vent to decrease the percentage of non-condensibles in the Drywell.

The stated conditions do not warrant venting the containment

Author: CADDEN
Date Last Used:

Time: 0

Points: 1

Difficulty: 2

Keywords: 2004 NRC SRO Question
EOP PCP

Not Archived

Question ID: 35282

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
295024	A2.01		4.4

☐ RO☒ ILO☒ SRO☐ ESP☐ STAC☐ Part A☐ STAI☐ Part B☐ LOR☐ Open Ref.☐ NOC☐ Close Ref.☐ INO☐ Static**References:**

[ST-OP-802-3004-001, EOP Primary Containment Control](#)
[29.100.01, Sh 2](#)

Question #5 with Details
EQ-OP-315-0127-000-0009-005

2004 SRO NRC Exam

Question Text

The plant is operating at 100% power.

A failure of the governor/pressure regulator system causes the turbine control valves to slowly close without a corresponding opening of the bypass valves.

(1) Which RPS function will scram the reactor and (2) what is the basis for that trip?

Response A - Correct Answer

(1) APRM flux - Upscale (2) to prevent fuel damage or excessive reactor pressure.

Reference: [ITS Bases](#)

Response B

(1) Main Steam Isolation Valve Closure (2) to anticipate the complete loss of the normal heat sink

Incorrect because MSIVs will not go closed in this situation. [Reference for basis](#)

Response C

(1) Low RPV water level (2) to substantially reduce the heat generated in the fuel from fission.

Incorrect because a RPV L3 Scram will not occur prior to the APRM trip. [Reference for basis](#)

Response D

(1) Turbine Control Valve Closure (2) to anticipate the transient that will result from full valve closure.

Incorrect because the trip function is for Turbine Stop Valves. [Reference for basis.](#)

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: RPS
2004 NRC SRO Question

Not Archived

Question ID: 35283
Parent ID: 0
Child ID: 0

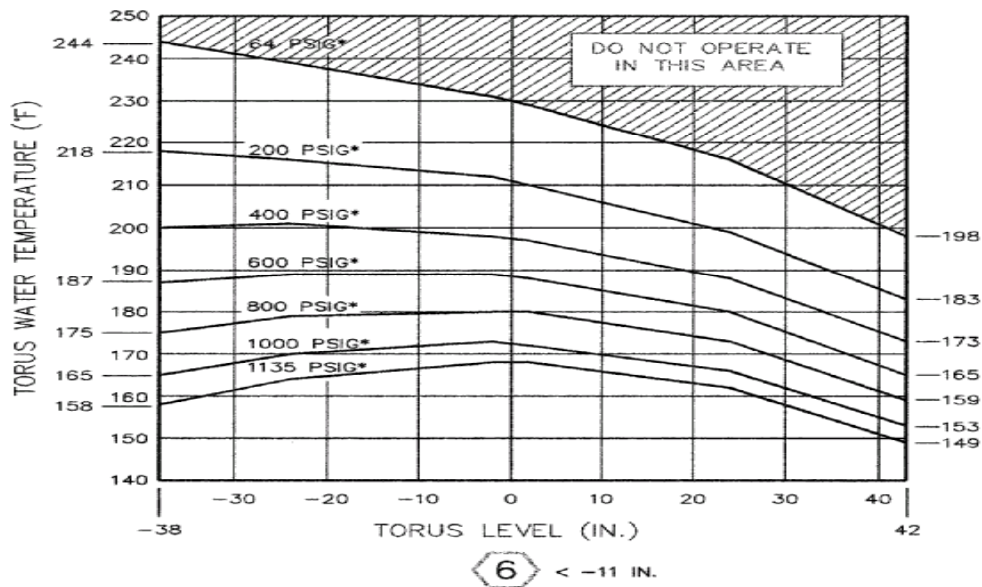
KA System	KA Number	RO Value	SRO Value
295025	A2.02		4.2

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0027](#)
[ITS bases](#)

Question Text

A plant transient has occurred which has resulted in the following conditions:



- Torus level is -20 inches and lowering
- Torus temperature is 174°F and steady

(1) Given these conditions, what is the maximum RPV pressure allowed without Emergency Depressurizing?

(2) The basis for maintaining RPV pressure below this limit is to ensure that a Blowdown will not result in exceeding the.....

Response A - Correct Answer

(1) 800 psig (2) Torus design temperature

Reference: [ST-OP-802-3002-001](#)

Response B

(1) 1000 psig (2) Torus design temperature

Incorrect because you must use the next highest pressure CURVE

Response C

(1) 800 psig (2) Drywell design temperature

Incorrect because the limit is based on Torus temperature

Response D

(1) 1000 psig (2) Drywell design temperature

Incorrect because you must use the next highest pressure CURVE

Date Last Used:

2004 NRC SRO Question

Time: 0

Question ID: 35286

Points: 1

Parent ID: 0

Difficulty: 2

Child ID: 0

KA System

KA Number

RO Value

SRO Value

295030

A2.03

3.9

☐ RO

☒ ILO

☒ SRO

☐ ESP

☐ STAC

☐ Part A

☐ STAI

☐ Part B

☐ LOR

☐ Open Ref.

☐ NOC

☒ Close Ref.

☐ INO

☐ Static

References:

[29.100.01 Sh 6](#)

[ST-OP-802-3002-001](#)

Question #7 Details**EQ-OP-802-3003-000-0019-011****2004 ILO NRC Exam****Question Text**

A valid Reactor Scram signal was received and the rods failed to insert. The following are the current plant conditions:

- Reactor Power is 9%
- Torus temperature is 102°F and slowly rising
- Drywell pressure is 0.75 psig and slowly rising
- Reactor water level is 45 inches on the Wide Range level indicator
- Standby Liquid Control has been started and is injecting to the RPV
- SRVs are controlling RPV pressure
- Terminate and Prevent for level has been performed

What level band should be directed **per the EOPs**, AND what is the basis for the bands upper limit?

Response A

-28 to 50 inches. Sufficiently preheats incoming feedwater

50 inches does not sufficiently preheat feedwater.

Response B

-28 to 50 inches. Suppresses Reactor power to the lowest practical level

T&P for level, not power because still <BIIT.

Response C - Correct Answer

-28 to 114 inches. Sufficiently preheats incoming feedwater

Reference: [ST-OP-802-3003](#)

Response D

-28 to 114 inches. Suppresses Reactor power to the lowest practical level

114 inches does not suppress reactor power

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: ATWS
EOP RPV Level
2004 NRC SRO Question

Not Archived**Question ID:** 35287**Parent ID:** 0**Child ID:** 0

KA System	KA Number	RO Value	SRO Value
generic	2.1.6		4.3

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3003](#)

Question Text

A severe plant transient has occurred, resulting in RPV water level remaining below TAF for several minutes. A release is in progress with D1 & D2 CHRRMS indicating 20,000 R/hr.

No emergency operating facilities have been activated. Which of the following SM responsibilities are listed in the correct order of performance?

Response A

Determine offsite protective action recommendations, complete emergency notifications to the NRC, complete emergency notifications to offsite authorities, and classify the event.

Incorrect because an event must be classified before a PAR is determined to be required.

Response B

Classify the event, complete emergency notifications to offsite authorities, complete emergency notifications to the NRC, determine offsite protective action recommendations.

Incorrect because a PAR, if required, must be formulated before notification of Offsite Authorities.

Response C - Correct Answer

Classify the event, determine offsite protective action recommendations, complete emergency notifications to offsite authorities, complete emergency notifications to the NRC.

An event must be classified to determine if a PAR is required. Notifications are completed in accordance with the specified time limits.

Response D

Determine offsite protective action recommendations, classify the event, complete emergency notifications to the NRC, and complete emergency notifications to offsite authorities.

Incorrect because an event must be classified before a PAR is determined to be required.

Author: BARKER
Date Last Used:
Time: 3
Points: 1
Difficulty: 1

Keywords:

Not Archived

Question ID: 35442
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295038	K2.05		4.7

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[EP-290 Emergency Notifications](#)
[EP-105 General Emergency, Attachment 1 Checklist](#)

Question #9 Details**EQ-OP-315-0127-000-A007-001****2004 SRO NRC Exam****Question Text**

While the reactor is operating in normal two-loop operation at 85% power and 80% flow, a Main Steam Isolation Valve disc becomes separated from the stem and rapidly shuts. During the transient the following indications are observed:

- APRMs spike to 113.5% and returns to 100%
- Reactor Pressure spikes to 1120 psig and returns to 1000 psig
- Reactor water level lowers to 182" and returns to 216 inches

What Technical Specification allowable value has been exceeded?

Response A

Reactor water level

Not > Safety system setting per [ITS](#)

Response B

ARPM fixed neutron flux

Not > Safety system setting per [ITS](#)

Response C - Correct Answer

Reactor steam dome pressure

Reference: [ITS 3.3.1.1](#)

Response D

ARPM simulated thermal power

Not > Safety system setting per [ITS](#)

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: 2004 NRC SRO Question
TECH SPECS

Not Archived

Question ID: 35289
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295007	A2.01		4.1

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ITS 3.3.1.1](#)

Question #10 Details
EQ-OP-802-3004-000-0004-005

2004 SRO NRC Exam

Question Text

The plant was operating at 100% when, due to an operator error, the Drywell (DW) Fan Master CMC switch for Division 1 DW Cooling fans was placed in All Stop.

The following conditions exist:

- Alarm 8D41 "Div 1 High Drywell Temperature".....lit
- Alarm 17D41 "Div 2 High Drywell Temperature".....lit
- Confirmed Average Drywell Temperature.....149°F
- Drywell Pressure.....0.68 psig

What actions should the CRS direct?

Response A - Correct Answer

Enter 29.100.01 Sheet 2, Primary Containment Control, and operate all available DW cooling

Reference: [29.100.01 Sheet 2](#), [ST-OP-802-3004-001](#), [ST-OP-802-3004-001\(2\)](#)

Response B

Enter 29.100.01 Sheet 2, Primary Containment Control, and shutdown Reactor Recirc pumps

Incorrect because this step is taken when DW pressure is >1.68 psig

Response C

Place RBCCW supplemental cooling in service per 23.127.01, and monitor DW temperature and pressure

Incorrect because this action is directed by ARPs. The conditions listed are EOP entry conditions.

Response D

Lower DW pressure per 23.406, Primary Containment Nitrogen Inerting and Purge, and monitor DW temperature and pressure

Incorrect because DW pressure is still within allowable limits

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: DW COOLING
2004 NRC SRO Question

Not Archived

Question ID: 35290
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295010	A2.06	3.6	3.6
295010	K3.02	3.4	3.4
2.1.6		2.1	4.3

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-802-3004-001](#)
[29.100.01 Sheet 2](#)

Question #11 with Details
EQ-OP-802-3004-000-0009-025

2004 SRO NRC Exam

Question Text

The CRS is evaluating the need for drywell sprays during implementation of the EOPs. Which one of the following states the significance of reaching +50 inches Torus water level?

Response A

Torus level increasing to this point following the LOCA will compress the non-condensables exhausted from the drywell to the torus, resulting in opening the vacuum breakers.

Incorrect because torus water level is >vacuum breakers, so they will not open

Response B

Torus venting cannot be performed above this level if it becomes necessary to vent the Primary Containment.

Incorrect because Torus Venting limit is >570 ft in containment, which is Top of Torus area.

Response C - Correct Answer

Vacuum Breakers will be covered with water and unable to relieve torus pressure to the drywell.

Reference: [29.100.01, sheet 2, ST-OP-802-3004-0001](#)

Response D

Above this level there is insufficient free volume to accommodate the non-condensable gases driven into the torus by the LOCA.

Incorrect because no steps in the Torus Water Level EOP is based on Non-condensable gases.

Author: CADDEN
Date Last Used: 10/22/1999
Time: 0
Points: 1
Difficulty: 2

Keywords: 2004 NRC SRO Question
EOP TWL

Not Archived

Question ID: 35291
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295029	A2.01		3.9

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[29.100.01, sheet 2](#)
[ST-OP-802-3004-0001](#)

Question #12 with Details
EQ-OP-802-3004-000-0009-026

2004 SRO NRC Exam

Question Text

The reactor was operating at 100 % power when a LOCA occurred which caused RPV water level to initially lower below TAF. RPV water level has been raised above TAF and the following conditions exist :

RPV pressure.....600 psig
RPV water level.....+ 5 inches (slowly rising)
Drywell pressure.....7 psig (slowly rising)
Drywell temperature.....185°F (rising)
Torus H₂ concentration.....6.5 %
Torus O₂ concentration.....6 %
RHR System.....In Torus Cooling/Torus Sprays on Division one
Rx is Shutdown.....all rods are inserted

Given the above parameters, select which of the following actions the CRS would direct the operating crew to execute:

Response A

Initiate Drywell sprays.

Can not initiate Drywell sprays until >9 psig in the Torus per PCP-6

Response B - Correct Answer

Emergency depressurize the RPV.

Reference: [29.100.01 SH 4, Rev. 7 \(CC\)](#)

Response C

Place the Thermal Recombiners in service.

Can not place thermal recombiners in service with H₂ concentration >6%

Response D

Vent the drywell irrespective of radioactivity release rate.

No Drywell O₂/H₂ parameters given, therefore no basis to vent the drywell

Author: CADDEN
Date Last Used:
Time: 5
Points: 1
Difficulty: 3

Keywords: EOP PC H₂/O₂
2004 NRC SRO Question

Not Archived

Question ID: 35294
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
500000	A2.04		3.3

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[29.100.01 SH 4, Rev. 7 \(CC\)](#)

Question #13 with Details
EQ-OP-315-0141-000-A021-010

2004 SRO NRC Exam

Question Text

The plant was operating at 65% power. A seismic event occurred which resulted in a loss of offsite power and a feedwater rupture outside of containment.

The following conditions exist:

EDGs 11 and 12 are tripped.

EDGs 13 and 14 are running loaded.

RPV Level 155"

RPV pressure 650 psig

(1) What RHR piping system flowpaths are available for use and (2) what is the earliest you can direct opening the RHR LPCI injection valve to mitigate the loss of coolant event?

Response A - Correct Answer

(1) Both Divisions for LPCI injection mode. Only Division 2 for Torus Cooling/Spray and DW Spray

(2) 461 psig

Reference: [ST-OP-315-0141, 23.205 \(page 202\)](#)

Response B

(1) Only Division 2 for LPCI injection mode. Both Divisions for Torus Cooling/Spray and DW Spray

(2) 461 psig

Incorrect because Division 1 Torus cooling/spray and DW spray valves have no power.

Response C

(1) Both Divisions for LPCI injection mode. Only Division 2 for Torus Cooling/Spray and DW Spray

(2) 295 psig

Incorrect because 461 psig is the injection valve permissive pressure

Response D

(1) Only Division 2 for LPCI injection mode. Both Divisions for Torus Cooling/Spray and DW Spray

(2) 295 psig

Incorrect because 461 psig is the injection valve permissive pressure

Author: CADDEN

Keywords: RHR - LPCI

Not Archived

Date Last Used:

2004 NRC SRO Question

Time: 2

Question ID: 35412

Points: 1

Parent ID: 0

Difficulty: 3

Child ID: 0

KA System	KA Number	RO Value	SRO Value
203000	A2.04	3.5	3.6

☐ RO
☒ SRO
☐ STAC
☐ STAI
☐ LOR
☐ NOC
☐ INO

☒ ILO
☐ ESP
☐ Part A
☐ Part B
☐ Open Ref.
☒ Close Ref.
☐ Static

References:

[ST-OP-315-0141](#)
[23.205](#)

Question #14 with Details
EQ-OP-315-0140-000-C013-001

2004 SRO NRC Exam

Question Text

The plant is operating at 28% power during a startup. Division one (1) Core Spray is declared inoperable due to failing Surveillance Requirement 3.5.1.8, Core Spray flow test.

Which one of the following components if subsequently declared inoperable would cause the most limiting condition in accordance with technical specifications with Division one (1) Core Spray already out of service?

Response A - Correct Answer

Core Spray - Pump B

Reference: [Tech Specs](#)

Response B

Any one (1) ADS Valve

Incorrect because would be [72 hour action statement](#). ADS would be limiting if HPCI were inop.

Response C

Reactor Core Isolation Cooling (RCIC)

Incorrect because RCIC is not a limiting factor for Core Spray tech specs.

Response D

High Pressure Coolant Injection (HPCI)

Incorrect because would be [72 hour action statement](#). HPCI would be limiting if ADS were inop.

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 2

Keywords: HPCI
RCIC
TECH SPECS

Not Archived

Question ID: 35406
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
209001	2.1.12		4.0

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[Tech Specs](#)

Question #15 with Details
EQ-OP-802-3003-000-0002-012

2004 SRO NRC Exam

Question Text

While performing RPV Control - ATWS, step FSL-2 directs automatic initiation of ADS to be inhibited.

Which of the following best describes why this action is directed?

Response A

The conditions assumed in the design of the ADS actuation logic could not exist if the RPV is experiencing an ATWS.

Incorrect since ADS logic design has nothing to do with ATWS and the conditions could exist during an ATWS.

Response B - Correct Answer

Rapid and uncontrolled injection of relatively cold, unborated water would dilute in-core boron concentration.

Reference: [ST-OP-802-3003-001](#)

Response C

ADS actuation with the RPV in an ATWS condition imposes a severe mechanical transient on the SRV tailpipes which could lead to primary containment failure.

Although ADS actuation does impose severe mechanical stress, that is not the basis for FSL-2.

Response D

ADS actuation with the RPV at pressure imposes a severe thermal transient on the drywell and may significantly complicate efforts to maintain drywell temperature as specified.

The thermal transient will be felt on the Torus. Also, this is not the basis for FSL-2.

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: ATWS
ADS
2004 NRC SRO Question

Not Archived

Question ID: 35297

Parent ID: 0

Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.4.7		3.8

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-802-3003-001](#)

Question #16 with Details
EQ-OP-802-3003-000-0111-001

2004 SRO NRC Exam

Question Text

The plant was operating at 100% power when a LOCA occurred. The following plant conditions exist:

RPV pressure.....900 psig

RPV level.....155 inches and lowering

Heater Feed Pumps.....tripped

The STA reports that the leak is 2.6 million Lbm/hr. In accordance with RPV Control EOP table 1, What is the **MINIMUM** combination of available systems the CRS should direct be used to maintain RPV water level? (8 lbm/gal)

Response A

HPCI

Incorrect since $(2.6 \text{ Mlbm/hr at } 1 \text{ lbm/hr} = 8 \text{ gpm, } \Rightarrow 2.6 \times 10^6 / (8 \times 60) = 5,416.7 \text{ gpm. The design flowrate of HPCI is } 5000 \text{ gpm}$

Response B - Correct Answer

HPCI and RCIC

Correct since need 5,416.7 gpm. HPCI (5,000 gpm) + RCIC (650 gpm) = 5,650 gpm

Response C

HPCI, RCIC and one SBFW pump

Incorrect since question asks MINIMUM combination and SBFW is not needed.

Response D

HPCI, RCIC and both SBFW pumps

Incorrect since question asks MINIMUM combination and SBFW is not needed.

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 2

Keywords: LOCA
EOP RPV Level
2004 NRC SRO Question

Not Archived
Question ID: 35298
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
259002	2.4.48		3.8

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3003-001](#)
[ST-OP-315-0039-001](#), [ST-OP-315-0043](#), [ST-OP-315-0018](#)
[29.100.01, Sheet 1, Table 1](#)

Question #17 with Details
EQ-OP-315-0124-000-A002-001

2004 SRO NRC Exam

Question Text

Which of the following best describes the basis for the Limiting Condition of Operation (LCO) for the Rod Block Monitor (RBM)?

Response A - Correct Answer

The RBM is designed to automatically prevent fuel damage in the event of erroneous rod withdrawal from locations of high power density during high power operation.

Reference: [Technical Specifications](#)

Response B

The RBM is designed to provide automatic supervision to assure that out-of -sequence rods will not be withdrawn or inserted to limit the effects of a rod drop accident.

Incorrect since this is the function of the Rod Worth Minimizer

Response C

The RBM is designed to enforce a control rod pattern which will limit fuel temperature should there be a failure to scram during a anticipated plant transient.

Incorrect since RBM does not enforce control rod patterns

Response D

The RBM setpoints are designed to provide adequate margin for the Safety Limits and yet allow operating margin that reduces the possibility of unnecessary shutdown.

Incorrect because this answer references the setpoints, not the LCO for the RBM.

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: RBM
2004 NRC SRO Question

Not Archived

Question ID: 35299
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
215002	2.2.25		3.7

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[Technical Specifications](#)
[ST-OP-315-0124-001](#)

Question #18 with Details
EQ-OP-315-0190-000-A017-002

2004 SRO NRC Exam

Question Text

The plant is in a refueling outage with the mode switch in REFUEL and all rods inserted. The refuel crew has used the grapple to pick up a fuel bundle. They start to move towards the core when the control room operator withdraws a rod.

What is the expected response when the bridge reaches the core?

Response A - Correct Answer

stop and a hoist block will be generated

Reference: [ST-OP-315-0190-001\(1\)](#), [ST-OP-315-0190-001 \(2\)](#)

Response B

stop and the hoist will remain operable

Incorrect because a hoist block is generated

Response C

continue moving and a hoist block will be generated

Incorrect because the bridge will stop moving

Response D

continue moving and the hoist will remain operable

Incorrect because a hoist block is generated

Author: CADDEN
Date Last Used: 2/7/2000
Time: 0
Points: 1
Difficulty: 2

Keywords:

Not Archived

Question ID: 35300
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
234000	2.2.27	2.6	3.5

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

Technical Specification Basis 3.9.1-1
[ST-OP-315-0190-001](#)

Question #19 with Details
EQ-OP-315-0141-000-A021-008

2004 SRO NRC Exam

Question Text

Two minutes after a small steam leak develops inside the drywell, the following conditions exist:

- Drywell pressure.....3.0 psig.
- Reactor pressure.....750 psig and lowering.
- RPV level.....170 inches and rising.
- HX A Bypass Cont E11-F048A.....white Sealed In light
- E11-F015A, E11-F017A.....white Close light
- HX B Bypass Cont E11-F048B.....white Sealed In light

Based on these conditions, which loop is selected for injection, and which Division of RHR should be used for Primary Containment (PC) control?

Response A

“A” loop selected for injection, Division 1 RHR for PC control.

Incorrect since B Loop selected for injection (15A and 17A are closed)

Response B - Correct Answer

“B” loop selected for injection, Division 1 RHR for PC control.

Reference: [ST-OP-315-041-001](#), also the Non-selected loop is used for PC control

Response C

“A” loop selected for injection, Division 2 RHR for PC control.

Incorrect since B Loop selected for injection (15A and 17A are closed)

Response D

“B” loop selected for injection, Division 2 RHR for PC control.

Incorrect since the Non-selected loop is used for PC Control.

Author: CADDEN
Date Last Used: 5/16/2002
Time: 5
Points: 1
Difficulty: 1

Keywords: RHR - LPCI

Not Archived

Question ID: 34591
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.1.7	3.7	4.4
203000	A3.06	3.7	3.6
203000	K4.01	4.2	4.2

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-041-001](#)
[23.205](#)
23.601

Question #20 with Details
EQ-OP-804-0001-000-0008-006

2004 SRO NRC Exam

Question Text

Which one of the following describes a Fermi 2 technical specification **safety limit**?

Response A

Water level in the spent fuel pool shall be greater than the top of active irradiated fuel.

Incorrect since there is no safety limit for fuel pool water level

Response B

Reactor vessel water level shall be greater than 31" above the top of active irradiated fuel.

Incorrect since the safety limit is > top of active fuel

Response C - Correct Answer

MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.09 for single recirculation loop operation

Reference: [Technical Specifications and bases](#)

Response D

With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow, core thermal power is limited to 50%

Incorrect since the safety limit is limited to 25% thermal power

Author: CADDEN
Date Last Used:
Time: 2
Points: 1
Difficulty: 1

Keywords: 2004 NRC SRO Question
Thermal Limits

Not Archived

Question ID: 35306
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295009	2.2.22	3.4	4.1

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[Technical Specifications and bases](#)

Question #21 with Details
EQ-OP-802-4101-000-0030-010

2004 SRO NRC Exam

Question Text

During refueling operations a Refuel Floor Log is maintained. Who has the shared responsibility for maintaining this log in accordance with procedure MOP13, Conduct of Refueling and Core Alterations?

Response A - Correct Answer

Refuel Floor Coordinator and Refuel Floor Supervisor

Reference: [MOP13 Conduct of Refueling and Core Alterations, Page 6](#)

Response B

Station Nuclear Engineer and Fuel Movement Verifier

Incorrect because Neither SNE nor Fuel Movement Verifier maintains the log.

Response C

Supervisor Reactor Engineering and Station Nuclear Engineer

Incorrect because Neither Supervisor Reactor Engineering nor SNE maintains the log.

Response D

Refuel Floor Supervisor and Supervisor Reactor Engineering

Incorrect because Supervisor Reactor Engineering does not maintain the log.

Author: CADDEN
Date Last Used: 2/7/2000
Time: 3
Points: 1
Difficulty: 1

Keywords: REFUELING
2004 NRC SRO Question

Not Archived

Question ID: 35310
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
	2.2.29		3.8

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[MOP13 Conduct of Refueling and Core Alterations](#)

Question #22 with Details
EQ-OP-315-0019-000-C005-001

2004 SRO NRC Exam

Question Text

The plant was operating at 100% power with the operating crew making preparations to vent the Drywell for pressure control in accordance with 23.406, Primary Containment Nitrogen Inerting and Purge System, using Division I SGTS as a vent path. The CRNSO reports that Division I SGTS has failed to start.

What action should the CRS direct?

Response A - Correct Answer

Line-up and vent through RBHVAC

Reference: [23.406](#), page 17 (pre-requisites)

Response B

Start Division II SGTS and vent the Torus

Incorrect because precautions and limitations (P/L 3.4, pg 5) state both divisions of SGTS should be functionally capable if using SGTS to vent the DW.

Response C

Start Division II SGTS and vent the Drywell

Incorrect because precautions and limitations (P/L 3.4, pg 5) state both divisions of SGTS should be functionally capable if using SGTS to vent the DW. Also, venting the DW, not the Torus.

Response D

Line-up and vent containment through the Torus Hardened Vents

Incorrect because venting through the Torus Hardened Vent is only done in emergencies.

Author: CADDEN
Date Last Used:
Time: 5
Points: 1
Difficulty: 1

Keywords: 2004 NRC RO Question
CONTAINMENT
NITROGEN

Not Archived

Question ID: 35311
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.3.8		3.2

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:
[ST-OP-315-0019-001](#)
[23.406](#)

Question #23 with Details
EQ-OP-315-0115-000-C005-001

2004 SRO NRC Exam

Question Text

While in the Refueling Mode, Technical Specification 3.7.7 requires a minimum of 22 feet of water over the irradiated fuel assemblies. What is the basis for this requirement?

Response A

Adequate Net Positive Suction Head is available for a running RHR pump while in the Fuel Pool Cooling Assist Mode of operation.

Incorrect RHR pumps take suction on Fuel Pool Skimmer Surge Tanks.

Response B - Correct Answer

Sufficient volume is available to remove 99% of the assumed 10% iodine gap activity released from a damaged fuel assembly.

Reference: [ST-OP-315-0015-001](#), [Tech Spec Basis 3.7.7](#)

Response C

Background radiation levels at the surface of the water are less than or equal to 5 mr/hr while refueling operations are in progress.

Incorrect because rad levels at the water surface are not in the design for minimum water level.

Response D

The free-fall of an 1100-pound load dropped over the vessel will be sufficiently slowed so as not to cause damage to the fuel assemblies in the RPV.

There is no basis to support this answer.

Author: CADDEN
Date Last Used:
Time: 0
Points: 1
Difficulty: 1

Keywords: FPC&C

Not Archived

Question ID: 35312
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic	2.3.10		3.3

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0015-001](#)
[Tech Spec Basis 3.7.7](#)

Question #24 with Details
EQ-OP-315-0141-000-0003-012

2004 SRO NRC Exam

Question Text

The plant is shutdown for a refueling outage.
RPV temperature is 140°F.
Division 2 RHR is operating in the shutdown cooling mode.
RHR pump B is running.
The following alarms and indications are noted:

- 3D156 REACTOR WATER LEVEL LOW
- 3D79 REAC VESSEL WATER LEVEL L3 CHANNEL TRIP

RPV water level 160" and steady on narrow range level indicators.
RPV water level 135" and lowering slowly on wide range level indicators.

Based on these conditions what action is taken in accordance with plant procedures?

Response A

Enter 20.205.01 Loss of Shutdown Cooling and restore shutdown cooling using B RHR pump.

Incorrect because SDC will not be restored until level is >L3. The plant is experiencing a LOCA.

Response B

Enter 20.205.01 Loss of Shutdown Cooling and re-open E1150-F015B, LPCI Inbd Iso Vlv.

Incorrect because E1150-F015B can not be opened until level is >L3.

Response C - Correct Answer

Enter 29.100.01 sheet 1 RPV control and restore level as directed using Table 1 systems.

Reference: [29.100.01 sht 1 RPV control](#)

Response D

Enter 29.100.01 sheet 1 RPV control and restore level per RPV flooding due to level indication discrepancies.

Incorrect because there is no level discrepancy. NR level stops indicating at 160".

Author: CADDEN
Date Last Used:
Time: 3
Points: 1
Difficulty: 3

Keywords: RHR - SDC
2004 NRC SRO Question

Not Archived

Question ID: 35314
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
295031	2.4.1	4.3	4.6
295031	2.4.9		3.9

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-315-0041-001](#)
[ST-OP-802-3002,3003](#)

[29.100.01 sht 1 RPV control](#)

Question #25 with Details
EQ-OP-802-3003-000-0008-008

2004 SRO NRC Exam

Question Text

Which of the following set of conditions would allow the CRS/SM to exit the ATWS section of the EOPs?

Response A

All control rods inserted to position 02; SLC injecting with tank level at 14 inches.

Incorrect because Maximum Sub-critical Banked Withdrawal Position is 0".

Response B

One rod inserted to position 30 and all other control rods inserted to position 02; SLC injecting with tank level at 45 inches.

Incorrect because Maximum Sub-critical Banked Withdrawal Position is 0".

Response C

Three rods inserted to position 04 while all others inserted to position 00; SLC injecting with tank level at 34 inches.

Incorrect because Maximum Sub-critical Banked Withdrawal Position is 0".

Response D - Correct Answer

One rod inserted to position 46 and all others inserted to position 0; SLC injecting with tank level at 58 inches.

Reference: [ST-OP-802-3003-001](#), [EPG Appendix B, Contingency 5](#), [Tech Spec Bases, Shutdown Margin](#)

Author: CADDEN
Date Last Used: 3/9/2001
Time: 2
Points: 1
Difficulty: 2

Keywords: ATWS
EOP RPV Power
2004 NRC RO Question

Not Archived

Question ID: 35315
Parent ID: 0
Child ID: 0

KA System	KA Number	RO Value	SRO Value
Generic 2.4	2.4.21	3.7	4.3
295006	A2.01	4.5	4.6

<input type="checkbox"/> RO	<input checked="" type="checkbox"/> ILO
<input checked="" type="checkbox"/> SRO	<input type="checkbox"/> ESP
<input type="checkbox"/> STAC	<input type="checkbox"/> Part A
<input type="checkbox"/> STAI	<input type="checkbox"/> Part B
<input type="checkbox"/> LOR	<input type="checkbox"/> Open Ref.
<input type="checkbox"/> NOC	<input checked="" type="checkbox"/> Close Ref.
<input type="checkbox"/> INO	<input type="checkbox"/> Static

References:

[ST-OP-802-3003-001](#)
[EPG Appendix B, Contingency 5](#)
[Tech Spec Bases, Shutdown Margin](#)