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. RESOLUTION: 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). RESOLUTION: 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. RESOLUTION: 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.]

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.

2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).

3. 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).

4. 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.

5. 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).

6. 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?

7. 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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. RESOLUTION: 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 area 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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? RESOLUTION: 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. RESOLUTION: 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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. RESOLUTION: 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”. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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 “Unterruptible” to “Uninterruptible”. RESOLUTION: 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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). RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: Emphasis added.
54	H	1				X						x		U	Bank. LOD = 1. Distractor A is the only plausible answer. RESOLUTION: 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. RESOLUTION: 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”. RESOLUTION: 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 **all** steam to the LP turbines and reactor scram. RESOLUTION: Distractor C rewritten.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
61	H	2	X			X						x		E	Bank. 1) Add to question stem that all systems are in their normal lineup. 2) Distractor C in NOT plausible that RPV level would be steady following a Reactor Feed Pump trip. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: Question resplaced 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. RESOLUTION: 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). RESOLUTION: 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.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
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 administrative 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: Question replaced.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
84	F	2										x	X	E	Bank. Editorial: In the question stem, change “returns” to “return” in the sentence associated with the APRMs. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: 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. RESOLUTION: Distractor D rewritten.
99	H	2										x	X	S	Bank.
100	H	2										x	X	S	Modified.