

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
1	H	3												B	E	C, 41.5, NRC-2005, CR.
2	H	3												N	S	D, 41.11, CR.
3	H	3												B	E	A, 41.5, NRC-2005, CR. Provide steam tables as a reference. Done
4	H	3												M	S	B, 41.3, CR.
5	F	3												N	S	C, 41.5, CR. Need reference for procedure basis. Done
6	F	2												B	S	D, 41.10, NRC-2005, CR.
7	H	2												B	E	C, 41.14, CR Provide steam tables as a reference. Done
8	H	3												N	S	B, 41.6, CR. Need ref for Mode definition. Done
9	F	3												B	S	A, 41.5, NRC-1998, CR.
10	H	3												B	S	A, 41.10, NRC-2002, CR.

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.
 - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
 - 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).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
11	F	2												N	S	D, 41.8, CR.
12	H	3												N	E	B, 41.5, CR. Provide steam tables as a reference. Done
13	H	2												N	E	D, 41.7, CR. Add reference for Log Safety channels. Done
14	H	3												N	S	B, 41.7, CR.
15	H	3												N	S	C, 41.7, CR. Add ref for MSIS setpoint. Done
16	H	2												N	S	A, 41.5, CR.
17	H	3												B	S	B, 41.7, NRC-2005, CR.
18	H	3												N	S	C, 41.10, CR.
19	H	3												B	S	A, 41.5, NRC-2000, CR.
20	F	2												N	S	B, 41.6, CR.
21	F	3												B	S	D, 41.7, NRC-2005, CR.
22	H	3												N	E	C, 41.9, CR. Re-word stem. Done
23	H	3												N	E	A, 41.10, OR . Revise stem. Done
24	F	3												B	S	B, 41.13, NRC-2005, CR.
25	H	3												N	S	D, 41.7, CR.
26	H	3												B	S	B, 41.10, NRC-2002, CR. Add ESD reference. Done
27	H	3												N	E	A, 41.10, CR. Reword question / answers. Done
28	H	3												N	S	D, 41.5, CR.
29	H	3												B	S	C, 41.7, NRC-2002, OR .
30	H	3												N	S	D, 41.7, CR.
31	F	3												N	U	A, 41.7, CR. Overlap with Q25. Re-wrote question
32	F	2												M	E	A, 41.3, CR.
33	H	3												N	E	C, 41.5, CR. Change the phrase "plant power" to "reactor power" and re-word stem. Done
34	F	3												N	E	D, 41.7, CR.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
35	F	3												N	S	B, 41.7, CR.
36	F	3												N	S	C, 41.7, CR. Missing p. 55 of reference. Provided
37	H	2												N	S	A, 41.10, CR. Add ref for why SW is restored to CCW. Done
38	H	3												M	S	D, 41.7, NRC-1998, CR.
39	H	3												N	S	C, 41.7, CR.
40	H	3												M	E	B, 41.7, NRC-2005, OR .
41	H	3												M	S	C, 41.7, CR.
42	H	3												N	S	B, 41.4, CR.
43	F	2												N	S	D, 41.7, CR.
44	F	2												N	S	A, 41.4, CR.
45	H	3												N	S	C, 41.10, CR. Need ref for 485 gpm basis. Done
46	H	3												N	S	D, 41.7, CR.
47	F	3												N	S	B, 41.7, CR.
48	H	3												B	E	D, 41.7, CR.
49	H	3												M	E	A, 41.7, CR. Need to add local aspect for operation of the EDG. Done
50	H	3												N	E	B, 41.8, CR.
51	F	2						X						M	U	B, 41.13, NRC-1998, CR. NUREG-1021 recommends not using negatively phrased questions unless necessary. Re-write question. Done
52	H	3												N	S	C, 41.10, CR.
53	F	2												N	S	D, 41.4, CR.
54	F	3												M	E	A, 41.9, NRC-2005, CR.
55	H	3												N	S	C, 41.10, CR. Need ref for first part of question. Done
56	F	2												N	S	B, 41.6, CR.
57	H	3												N	S	A, 41.6, CR.
58	F	3												N	E	B, 41.4, CR.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
59	F	3												N	E	C, 41.2, CR. Stem includes info not required. Re-wrote stem
60	H	2												N	E	C, 41.9, OR .
61	F	3											X	B	U	B, 41.6, NRC-2002, CR. Re-write question to RO level. Done
62	H	3												B	S	D, 41.5, NRC-2000, CR.
63	H	3												N	S	C, 41.13, CR. Need ACA reference. Done
64	H	3												N	S	A, 41.4, CR.
65	F	3												N	S	C, 41.10, CR.
66	F	2												N	E	B, 41.10, CR. Does not test on a generic aspect with regard to temporary management directives. New KA and question
67	F	3												B	S	A, 41.10, CR.
68	F	3												N	S	D, 41.10, CR.
69	F	3												N	S	D, 41.10, CR.
70	F	3												N	S	A, 41.10, CR.
71	H	2												B	S	D, 41.12, NRC-2005, CR. Need page 2 of question worksheet. Done
72	F	3											X	M	U	B, 41.13, CR. SRO-only question in that it tests on an LCO action step and it's basis per the references provided. Replace question. Done
73	F	3												N	E	C, 41.9, CR. Add procedure reference to stem. Done
74	F	2												N	S	B, 41.10, CR. Re-wrote question to preclude overlap with revised Q100
75	F	2												M	S	A, 41.10, CR.
76	H	3												N	S	D, 43.5, CR.
77	H	3												B	S	C, 43.5, NRC-2005, CR.
78	H	3												M	S	B, 43.5, CR.
79	H	4												N	S	A, 43.5, CR.
80	H	3												N	E	A, 43.5, CR.
81	H	3												N	S	C, 43.5, CR.
82	H	3												N	E	B, 43.2, CR.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
83	H	3												N	U	B, 43.1, OR . Unsat because it is a direct lookup with the reference provided (1903.010, Attachment 2). Replace question. Done
84	H	3												M	S	D, 43.5, CR.
85	H	4												N	E	D, 43.5, CR.
86	H	3					X							N	U	A, 43.2, CR. The indicated correct answer states "initiate a shutdown to Hot Standby within one hour." This is technically incorrect; the required action is if operability cannot be restored within one hour then initiate action to be in Hot Shutdown within 6 hours. Revise answers. Done
87	H	2											X	N	U	C, 43.5, OR . This could be argued it is an SRO question, however, an RO should recognize the reactor would trip and this would be an entry to the STPAs. This makes the question an RO question. Replace question. Done
88	H	3												N	S	B, 43.5, CR.
89	H	3												M	S	D, 43.5, CR.
90	H	3												N	S	C, 43.2, OR .
91	H	3												N	S	A, 43.5, CR.
92	F	3												B	E	C, 43.2, NRC-2002, CR. Technically, this LCO does not REQUIRE increasing the frequency of the water inventory balance. It provides two options; increasing the frequency or being in Hot Standby within 6 hours. Since either is acceptable, it could be argued there is no correct answer. Re-word stem. Done
93	H	3												B	E	C, 43.6, NRC-2005. Re-write to include second part of KA. Done
94	F	2												B	E	B, 43.5, CR. Questions involving generic KAs should be generic in nature and not system specific. Re-write question. Done
95	F	2												N	E	C, 43.2, CR. Questions involving generic KAs should be generic in nature and not system specific. Done
96	F	2												N	E	D, 43.3, CR.
97	F	2												N	E	D, 43.3, CR.
98	F	2												M	S	A, 43.4, CR.
99	F	3												N	E	A, 43.7, CR. Questions involving generic KAs should be generic in nature and not system specific. Replace KA. Done
100	F	2											X	N	U	B, 43.5, CR. Because this question tests on a specific operator action and the basis

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	for that action, it is an RO question. Replace question. Done
RO TOTALS:			B= 17 (23%) M= 10 (13%) N= 48 (64%)					F= 32 (43%) H= 43 (57%)				E= 21 (28%) U= 4 (5%) S= 50 (67%)		Additional Notes:			
SRO TOTALS:			B= 4 (16%) M= 4 (16%) N= 17 (68%)					F= 8 (32%) H= 17 (68%)				E= 10 (40%) U= 4 (16%) S= 11 (44%)		Additional Notes: The number of higher cognitive questions is higher than normal. This was discussed with the facility who agrees that this is acceptable.			
<u>GENERAL COMMENTS:</u>																	
1. Bank questions are indicated by B ; Modified are indicated by M ; New questions are indicated by N .																	
2. Chief Examiner comments are indicated in <i>blue</i> .																	
3. Average difficulty is <u>2.76</u> on the RO exam and <u>2.80</u> on the SRO exam. Both these values are within the normal expected difficulty range for this reviewer.																	
4. The 10CFR55.41/43 distribution is: RO / SRO																	
41.1 = 0 43.1 = 1																	
41.2 = 1 43.2 = 5																	
41.3 = 2 43.3 = 2																	
41.4 = 5 43.4 = 1																	
41.5 = 10 43.5 = 14																	
41.6 = 5 43.6 = 1																	
41.7 = 21 43.7 = 1																	
41.8 = 2																	
41.9 = 4																	
41.10 = 18																	
41.11 = 1																	
41.12 = 1																	
41.13 = 4																	
41.14 = 1																	
5. The answer distribution is: RO / SRO																	
A = 18 / 6																	
B = 20 / 6																	
C = 19 / 7																	

D = 18 / 6

6. There are 4 questions on the RO exam and 3 questions on the SRO exam with references provided.
7. There are 21 questions on this exam from previous NRC exams at ANO-2 (11 were from the 2005 exam). While there are no questions from the previous 2 NRC exams (2006, 2008), this is an unusually high number of previous NRC exam questions.