

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws			4. Job Content Flaws			5. Other		7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units			Backward
1	H	3										D/41.7	
2	H	2										A/41.7	
3	H	3										D/41.10	
4	F	3										C/41.10	
5	H	4										C/41.14	
6	H	4										A/41.3	
7	F	3										B/41.10	
8	H	3										B/41.7	
9	F	2										B	S

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).

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10	H	3											N	S	B/41.10	
11	F	3											N	S	A/41.10	
12	F	2				x							M	U	A/41.10	2007 RO NRC Retake Exam Q65 – Distractors C and D not credible. Not credible to affect Main Steam piping support when refilling a dry S/G. <b>Fixed</b>
13	F	2											N	S	B/41.10	
14	F	3											N	S	A/41.7	
15	F	3				x							B	U	C/41.5, 41.10	Not credible to use the controller on CP-8 after the loss of power and when the stem indicates that the valve must be operated manually. <b>Replace question. Fixed</b>
16	H	3											B	S	B/41.7	
17	F	2											N	S	D/41.7	
18	F	3											B	S	D/41.	
19	H	3											N	S	D/41.10	
20	H	3											M	S	D/41.10	
21	H	3											N	S	D/41.7	
22	H	3											N	S	C/41.6	
23	F	3											N	S	D/41.7	
24	H	3											N	E	C/41.10	Asking about operability which is SRO knowledge. Perhaps change it from "violation of operability requirements" to "configurations are not allowed in Mode 1?" <b>Fixed</b>
25	H	3											N	S	A/41.5	
26	H	2											N	E	B/41.10	Would there be any annunciator alarms locked in? If not, modify stem and conditions to give the applicant annunciator alarm(s) for this event. <b>Will add annunciator PZR Level Hi/Lo to stem. Fixed</b>
27	H	3											N	S	D/41.7	
28	H	3											N	U	B/41.5	LOD=1 <b>Fixed</b>
29	H	3											N	S	D/41.5	
30	H	2											N	S	A/41.10	

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31	H	4												S	C/41.7	
32	F	3												S	D/41.	
33	H	2												U	C/41.8 RCS pressure is 800 psia as given in the stem. Without even looking at the graphs the applicant will realize that there will be no flow via LPSI. How does that make Distractors B and D plausible? <b>Fixed</b>	
34	F	2												S	B/41.5	
35	H	3												S	A/41.7	
36	H	3												S	C/41.7	
37	F	3												S	B/41.7	
38	F	2												S	A/41.7	
39	H	2												S	C/41.7	
40	H	3												S	D/41.5	
41	H	3												E	B/41.5 Distractor A is not plausible. Doing nothing when a containment fan cooler has tripped with increasing containment pressure is simply not credible. <b>Fixed</b>	
42	H	3												S	D/41.5	
43	F	3												S	D/41.5	
44	H	3												S	A/41.7	
45	H	3												S	A/41.4	
46	F	2				x								U	D/41.5 The K/A deals with testing the knowledge of the effects on AFW operations when there is feed line voiding and water hammer. This question is written to test the knowledge of what design feature is in the system to protect against water hammer. <b>Fixed</b>	
47	F	2												E	C/41.7 Distractors A and B can be eliminated since rectifiers supply DC loads from AC. Distractor D can be eliminated since no DC Bypass supply exists. <b>Distractors A and B have been frequently missed at W3. Will fix Distractor D. Fixed</b>	
48	H	3												E	A/41.5 The Explanation section for the correct answer says a second ground in positive or negative direction may cause the DC bus to be inoperable. This is consistent with the text in the reference SD-DC (page 13), in the reference slide provided, it emphasizes that the concern is a second ground of opposite polarity, which isn't consistent with the other references. If the polarity of the second ground	

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													doesn't matter, then both answers A and C are correct. If it does matter, and it has to be a negative ground, then there is an issue with the reference materials. As a recommendation, change the wording in the question "A new..." to "An additional.." Since the reported ground from the RAB is a new item, the applicant may be confused that this is what is being referred to in the question.
49	F	3									N	E	D/41.7 Distractor C assumes no operator action is required. This can be easily eliminated as an outlier from the other distractors. <b>Fixed</b>
50	H	3									N	S	D/41.7
51	H	3									M	S	A/41.7 From 2008 NRC Exam
52	H	2									N	E	C/41.5 Distractor D stops Tower B fans while Distractors A-C start Tower B fans in fast speed. Distractor D can be eliminated by just knowing the first parts of Distractors A-C. Editorial note: substitute "internals" for "intervals" in Distractor B. <b>Fixed</b>
53	H	2									B	S	A/41.10
54	F	2									B	S	C/41.7
55	H	2									N	E	D/41.4 Distractors A and B not credible with the first part of the answer being that containment integrity is met with a containment penetration removed. Also, ROs not required to know TS action statements over one hour which eliminates Distractor C. <b>Mode 6 allows containment penetration to be removed as long as it is planned and there are contingency actions in place. This makes the first part of A and B credible. It would not be met if it was unplanned and just discovered by a watchstander making their rounds. Second part of question will be changed to the action statement for .5 hours for required RO knowledge. Fixed</b>
56	H	2			x						N	U	C/41.4 T/F question – Stem information not required to answer question. Also K/A mismatch (K/A points to knowledge of physical connections and cause effect relationships between CRDS and CCW, not knowledge of required actions). <b>Will revise. Fixed</b>
57	F	2									N	S	B/41.7
58	H	2									N	S	C/41.6
59	F	2									B	S	B/41.5

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60	F	2										N	S	A/41.8
61	F	2										N	E	B/41.7 Distractors A and D can be eliminated since it's not credible to have spent fuel pool temperature lowering with the given failure. <b>Fixed</b>
62	H	3										N	S	D/41.10
63	H	3										M	E	A/41.5 2009 NRC Exam – Not credible to have distractors with S/G pressure increasing with increased steam demand. <b>Fixed</b>
64	F	2										N	S	B/41.7
65	F	2										N	S	C/41.5
66	F	2										N	E	B/41.10 Distractors A and C not credible – Not credible to require safety glasses in the control room when compared with respirator glasses. <b>Fixed</b>
67	H	3										N	S	D/41.10
68	F	2										N	S	C/41.10
69	F	3										M	S	B/41.10
70	F	2										N	E	B/41.5 Second part of Distractors A and C should be a specified rate to seem plausible. <b>Fixed</b>
71	F	2										B	S	D/41.12 2010 NRC Exam -
72	F	2										N	S	C/41.12
73	F	1										B	U	A/41.10 2007 RO Retake Q75 – LOD=1 <b>Fixed</b>
74	F	3										N	S	B/41.10
75	F	3										N	S	C/41.10
76	H	4										N	S	C/43.5
77	H	3										N	S	B/43.5
78	H	3										M	S	A/43.5 2010 NRC Exam SRO Q16 -
79	H	3										N	S	A/43.5
80	F	2										N	S	C/43.2
81	F	2										N	U	D/43.5 Distractors A and C not plausible considering there is no generator malfunction given in the stem. <b>Fixed</b>

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82	F	2										N	A/43.5
83	F	2										N	C/43.5
84	F	2										N	B/43.5
85	F	2										N	D/43.2
86	H	3										N	A/43.5
87	H	3										N	B/43.5
88	F	2										N	A/43.5
89	H	3										B	C/43.5
90	H	3										N	A/43.5
91	H	3										N	E
92	F	2				x						N	U
93	H	2										N	U
94	H	4										N	S
95	H	3										N	U
96	H	4										N	S
97	H	3										B	S
98	H	4										N	S
99	H	3										N	S
100	H	4										N	S

RO TOTALS:

B = 9

F = 35

E = 12

Additional Notes:

M= 8	H= 40	U= 7
N= 58		

B= 2	F= 8	E= 1
M= 1	H= 17	U= 4
N= 22		

Additional Notes:

**GENERAL COMMENTS:**

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 *blue*.

3. Average difficulty is 2.56 on the RO exam and 2.84 on the SRO exam.

4. The 10CFR55.41/43 distribution is: RO / SRO

41.1 =	43.1 = 1
41.2 =	43.2 = 4
41.3 = 1	43.3 =
41.4 = 3	43.4 = 1
41.5 = 17	43.5 = 17
41.6 = 2	43.6 = 1
41.7 = 25	43.7 = 1
41.8 = 2	
41.9 =	
41.10 = 22	
41.11 =	
41.12 = 2	
41.13 =	
41.14 = 1	

5. The answer distribution is: RO / SRO

A = 13 (17%)	/	6 (24%)
B = 16 (22%)	/	7 (28%)
C = 21 (28%)	/	5 (20%)
D = 25 (33%)	/	7 (28%)

6. There are 15 questions with attachments provided.