

# questions reviewed in depth.

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	F	2				✓							✓		B	U E	<p><b>NRC:</b> 1) C and D not plausible, asking for TAF, but only two TAFs (one above and one below 500psig). Maybe better question to give conditions, then ask for actions.</p> <p><b>Licensee:</b> Used on 2008 RIII exam (verified by NRC). Agreed with comment, replaced with acceptable question.</p>
2	H	2		✓		✓							✓		B	E	<p><b>NRC:</b> 1) A is not plausible, ie, would have only Group 1(-54"). 2) DEOP entry condition is +8 and Group 2 and 3 are +6 so applicant should know he gets almost immediate Group 2 and 3 isolations when hit entry condition.</p> <p>Rewrite question to eliminate entry condition and give RWL problem, give level, pressure, etc. and ask what isolations should have occurred. Maybe replace A with "Group 2 or Group 3.</p> <p><b>Licensee:</b> Comments incorporated.</p>

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			
3	H	2				✓						✓		B	U	<p><b>NRC:</b> 1) Note: picture shows a switch still in FWD, should it be in REV? 2) B and D implausible. B placing switch in MAN and D placing switch in purge are not believable actions to isolate the TIP tube. May be better to rewrite and give indications and conditions, then ask what actions are taken..</p> <p><b>Licensee:</b> Comments incorporated, revised selections to make B and D plausible.</p>
4	F	2										✓		N	S	
5	F	3				✓								B	U	<p><b>NRC:</b> 1) Q≠KA, "...change in CST level associated with operating HPCL..." 2) A and B not plausible if never use CST. Is CST ever used? When?</p> <p><b>Licensee:</b> Replaced question.</p>
6	F	2										✓		N	S	½ twice
7	H	4 3				✓						✓		N	U	<p>½ twice <b>NRC:</b> 1) B and C implausible, B is implausible because loss of both divisional ATS is always a full scram; C is implausible because loss of one divisional ATS would not cause full scram. 2) LOD=1 because concept of loss of two divisional power supplies is required to cause scram is always true. 3) LOK=F because only asking fundamental knowledge concept of whether loss of one power supply will cause half or full scram.</p> <p><b>Licensee:</b> Rewrote question to address comments. LOK=H, LOD=3</p>
8	H	2				✓			✓			✓		B	U S	<p><b>NRC:</b> 1) Are operators required to memorize MAX NORMAL RAD LEVEL setpoints? 2) Why D is plausible (not purple placard)?</p> <p><b>Licensee:</b> 1) MAX NORMAL RAD LEVELS are DEOP 200-1 entry conditions, required to be memorized. 2) Recognition of the purple placard is part of the question knowledge being tested.</p>
9	F	2										✓		B	E	<p><b>NRC:</b> Clarify RBCCW L1, LII supply to SDC HX and LIII.</p> <p><b>Licensee:</b> Identified the three loops to examiners on drawing.</p>

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				
10	H	2				✓							✓		N	U S	<p><b>NRC:</b> 1) Distractor A, add "OFF" at end to clarify both systems have tripped off, vice one tripped ON and one tripped OFF. 2) Is 2 minutes sufficient time to allow B flow to increase to 4100 scfm and A flow decrease less than 3500? 3) What is significance of -70 inches RWL? 4) B not plausible. Why is 3500 scfm plausible? 5) A not plausible. The heater is designated "A". It is not plausible for the A heater to trip and cause a trip of both the A and B SGTS trains.</p> <p><b>Licensee:</b> 1) Dresden terminology: tripped=OFF, don't use tripped ON. 2) Ops confirmed 2 min is sufficient time. 3) -70 inches would have caused group isolation resulting in trip of PRI SGTS. 4) 3500 scfm is alarm setpoint for SGTS. 5) Not convention at Dresden for A items to be associated with A components.</p>
11	H	2											✓		B	E	<p><b>1/2 twice NRC:</b> 1) Provide reference for RRP stop and RRMG start setpoints based on RR discharge valve position. 2) What is bases for amber light? Blue light?</p> <p><b>Licensee:</b> 1) Examiners verified RRP and RRMG start setpoints based on RR Discharge Valve position. 2) Blue=normal operation; amber=tripped condition.</p>
12	F	3											✓		B	E	<p><b>NRC:</b> Delete "...is..." on stem, 1<sup>st</sup> line.</p> <p><b>Licensee:</b> Incorporated.</p>
13	H	3											✓		B	S	
14	F	3											✓		N	S	
15	H	3				✓			✓						M	U S	<p><b>NRC:</b> 1) Why are distractors A, C and D plausible? Base times on 5 Rem (whole body for all), 25 Rem (life saving), and 45 (3 X LDE). Distractors would be 7.5, 37.5 and 67.5 minutes, respectively. 2) Are operators expected to know max TEDE for protecting valuable property?</p> <p><b>Licensee:</b> 1) Times were intentionally meant to be in between the allowed times. Revised choices to make them closer to allowed times. 2) Per the learning objective, lesson plan and Operations confirmation, operators are expected to know the max TEDE times.</p>
16	H	3											✓		N	E	<p><b>NRC:</b> How does applicant discount distractor D?</p> <p><b>Licensee:</b> Per the learning objective and Operations Rep, operators are expected to know when the Torus Temp violates the HCL for the operating conditions given.</p>
17	H	3				✓							✓		N	U	<p><b>1/2 twice NRC:</b> A and B implausible, don't meet laws of physics, ie, pump trip and dP increases.</p> <p><b>Licensee:</b> Agreed with comment, replaced the question.</p>

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			
18	F	2										✓		M	S	
19	H	3										✓		N	S	Reference.
20	F	2				✓						✓	✓	B	U S	<b>NRC:</b> SRO only. Execution of the EOPs is SRO function <b>Licensee:</b> Per the learning objective, lesson plans and Operations rep, operators are required to identify reentry condition.
21	F	3										✓		N	S	½ twice
22	H	3										✓		N	S	
23	F	2				✓						✓		N	U S	½ twice <b>NRC:</b> 1) For clarification, is there a local synchscope? If not, why is part 2) of distracters B and D plausible? If there is a local synchscope, D could be considered a correct answer, ie, would still accomplish closing the output breaker. 2) What equipment on on 51i7 level? <b>Licensee:</b> 1) There is local synchscope, but can't synch from there. 2) EDGs.
24	F	2				✓						✓		N	U S	<b>NRC:</b> Is SOS or SE ever required to be notified of anything? Distractors A, B and C are implausible. <b>Licensee:</b> Specific examples of notification of SOS and SE (only) were identified.
25	H	3										✓		B	S	
26	H	2										✓	✓	N	U S	<b>NRC:</b> SRO only. Interpretation of TS is SRO function <b>Licensee:</b> Not TS interpretation. Knowledge of time limit extension for LCO is generic knowledge (also above "double line" for TS).
27	F	3										✓		B	S	
28	F	3										✓		B	S	
29	F	3										✓		B	S	
30	H	3										✓		N	S	Reference. ½ twice
31	H	3										✓		N	S	
32	F	2										✓		B	S	
33	F	2										✓		N	S	
34	H	2										✓		B	S	
35	F	3										✓		B	S	½ twice

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			
36	F	2				✓						✓		N	E	<b>NRC:</b> D not plausible, ADS switch in INHIBIT. <b>Licensee:</b> Agreed, revised D to have ADS in Normal.
37	H	3										✓		B	S	
38	F	3										✓		B	S	
39	H	2										✓		N	S	½ twice
40	F	2										✓		N	S	½ twice
41	F	2				✓						✓		B	U S	½ twice <b>NRC:</b> C and D not plausible, ie, withdrawal of two control rods. <b>Licensee:</b> Could have instance where one rod withdrawn for testing, when move second rod get rod block.
42	F	3										✓		B	S	
43	H	3										✓		B	S	
44	H	4 2		✓		✓						✓		N	U	½ twice <b>NRC:</b> 1) LOK=F, Take manual control only requires recall of fundamental knowledge. 2) Stem gives cue to first part of answer (manual) and also makes A and B implausible distractors. LOD=1, not discriminating, Replace or rewrite question. <b>Licensee:</b> Rewrote stem of question to basically remove the term "manual" and make question higher cognitive level.
45	F	3										✓		N	S	
46	H	3				✓						✓		M	E	<b>NRC:</b> C and D are basically the same (both are cross-tie valves that perform same purpose). Replace one. <b>Licensee:</b> Verified that both valves are in separate lines (not same cross-tie line).
47	F	4 2										✓		N	U S	<b>NRC:</b> 1) Stem, second sentence, should be "known". 2) LOD=1. Not discriminating, recognition of RWM colors (especially red). <b>Licensee:</b> This has been high miss concept, also 33% miss on validation (4/12). Keep question as is.
48	F	2										✓		B	S	
49	F	3										✓		B	S	
50	H	2				✓						✓		B	U S	<b>NRC:</b> C and D implausible. The HPCI Motor Gear Unit is never used to control RWL. <b>Licensee:</b> The HPCI MGU is used to control RWL. Procedures provided to verify (DGA 2300-03).

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			
51	F	2				✓						✓		N	U S	<b>NRC:</b> A and B implausible. Why is "7" psid believable? <b>Licensee:</b> Refer to DOP 1500-02.
52	F	3										✓		N	S	½ twice
53	F	3										✓		N	S	
54	H	3										✓		B	S	
55	H	3						✓				✓	✓	N	E	<b>NRC:</b> 1) SRO only. As written the stem is asking for the US directions. Rewrite so US not giving direction <b>Licensee:</b> Incorporated comment.
56	H	3				✓						✓		N	U	<b>NRC:</b> 1) A and B implausible. There is no RRP trip on high RR loop temp. <b>Licensee:</b> Replaced question.
57	H	3										✓		N	S	
58	F	4 2										✓		N	U	<b>NRC:</b> 1) LOD=1, not discriminating. 2) KA? How is second part of KA addressed, ie, "...and understand how..."? <b>Licensee:</b> Rewrote question, still asking about green board concept, but requiring specific knowledge of concept portion only used at Dresden.
59	H	3										✓		N	S	
60	H	2										✓		N	E	<b>NRC:</b> Distractor C, "Quality" misspelled. <b>Licensee:</b> Incorporated comment.
61	H	2				✓						✓		N	E	<b>NRC:</b> 1) Is question N, M or B? 2) D is implausible. <b>Licensee:</b> Revised distractor
62	H	2										✓		N	S	
63	F	2										✓		N	S	½ twice
64	H	3										✓		N	E	<b>Reference. NRC:</b> Rather than provide DEOPs with blacked out entry conditions, provide a set of DEOP curves, let applicants decide which curves to use. <b>Licensee:</b> Limit DEOP flowchart references to 3, DEOP curves for this question are included on those flowcharts.
65	H	2										✓		N	S	
66	H	3										✓		N	S	
67	F	2				✓						✓		N	E	<b>NRC:</b> D is implausible (ie cross tie Unit 2 SBLC with Unit 3 SBLC), rewrite. <b>Licensee:</b> Rewrote distractor.

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			
68	H	3										✓		N	S	
69	F	3										✓		N	S	
70	F	2										✓		N	S	
71	H	2										✓		N	S	
72	F	2				✓						✓		N	U	<p><b>½ twice NRC:</b> 1) Distractors C and D not plausible. When is paralleling done at Dresden where synchslope rotates in the slow (counter-clockwise) direction? 2) B and D implausible - When does anyone synch the D/G with the pointer horizontal?</p> <p><b>Licensee:</b> 1) Dresden does parallel in slow counter-clockwise direction. 2) Rewrote stem and second part of all distracters.</p>
73	H	4 2				✓						✓		N	U E	<p><b>NRC:</b> LOD=1, not discriminating, recognition of alarm setpoint color on SPDS.</p> <p><b>Licensee:</b> Rewrote stem and changed correct answer. Note: Question used on RIII NRC Exam 09-1.</p>
74	H	3										✓		N	S	
75	H	3										✓		B	S	
76	H	3										✓	✓	B	S	
77	F	2										✓	✓	B	S	
78	H	3										✓	✓	B	S	
79	H	2										✓	✓	B	S	Reference.
80	F	3				✓		✓				✓	✓	B	U	<p><b>NRC:</b> A and B not plausible, asking for operational requirements. Wiring and breakers are not "operational requirements."</p> <p><b>Licensee:</b> Rewrote stem to make distracters plausible.</p>
81	H	3										✓	✓	B	S	
82	F	2										✓	✓	B	S	
83	H	2										✓	✓	B	E	<p><b>Reference NRC:</b> 1) Stem, 4<sup>th</sup> bullet, replace "...pressure, which fails to reset..." with "...pressure and fail to reset." 2) Question indicates no <b>reference</b>; however, appears one is needed.</p> <p><b>Licensee:</b> Reference required.</p>
84	H	2										✓	✓	B	E	<p><b>Reference NRC:</b> Question indicates no <b>reference</b>; however, appears one is needed.</p> <p><b>Licensee:</b> Reference required.</p>

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			
85	H	2										✓	✓	B	S	½ twice
86	F	2										✓	✓	B	E	<b>NRC:</b> 2 hours is standard. Maybe better to give in between times and ask for latest time without exceeding required time. <b>Licensee:</b> Modified stem to incorporate comment.
87	F	2										✓	✓	N	S	
88	F	2										✓	✓	M	S	½ twice
89	H	3										✓	✓	B	E	<b>NRC:</b> 1) Delete "...is..." in stem, 1 <sup>st</sup> line. <b>Licensee:</b> Incorporated comment.
90	H	2										✓	✓	N	S	½ twice
91	H	3										✓	✓	N	S	½ twice
92	H	2										✓	✓	N	S	
93	F	2										✓	✓	B	S	½ twice
94	H	2										✓	✓	N	S	½ twice
95	H	4 2										✓	✓	M	U S	<b>NRC:</b> 1) LOD=1, Minimal difficulty and discrimination. 2) LOK=F, fundamental knowledge of definition of Mode 4. <b>Licensee:</b> This question has been used on more than one occasion. RIII NRC exam 09-1.
96	H	2										✓	✓	B	S	
97	H	2										✓	✓	N	S	<b>Reference. NRC:</b> Clarify answer. <b>Licensee:</b> Licensee used reference to clarify answer.
98	F	2										✓	✓	N	S	
99	H	3										✓	✓	N	S	
100	H	3										✓	✓	N	S	½ twice

1.Single implausible distracter: 5(RO); 0(SRO, 4%) with two or more implausible distracters; 10(RO); 0(SRO)

2.½ twice: 15(RO, 20%); 7(SRO, 28%)

3.References: 3(RO); 4(SRO)

4.U (RO=8, 11%); (SRO=1, 4%)