

**NRC COMMENTS TO THE PROPOSED**

**WRITTEN EXAMINATION, ES-401-9**

**FOR THE BRAIDWOOD INITIAL EXAMINATION - MAY 2006**

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	Backward	Q=K/A	SRO Only			
1	H	1											x		U	Modified. Level of difficulty is 1 because reference describes the action to take when two or more rods are NOT fully inserted. (1320 x 5 =6600 gallons. Note: previously used on an NRC exam. Weak K/A match. Question replaced.
2	F	2											x		E	New. In the question line, change operators to operator's - possessive operator action. Change made.
3	H	2.5											x		S	New.
4	H	3											x		E	New. In the stem, change operators to operator's - shows possessive. Change made.

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).
- 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).

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	Backward	Q=K/A	SRO Only			
5	H	2.5											x		S	Bank.
6	H	2											x		S	New.
7	H	3											x		E	New. Stem and distractors do <u>not match</u> . Stem asks for action, distractors provide action and reason for action. d. does not provide any reason for action. Suggest removing causes or revising stem and adding cause to distractor d. <i>Stem and distractor d. modified.</i>
8	H	2											x		S	New.
9	H	2											x		S	Modified.
10	F	2											x		S	New.
11	F	2											x		S	New.
12	F	2											x		S	New.
13	F	2											x		S	New.
14	F	2											x		S	New.
15	H	1											x		U	New. This becomes a math problem with the reference provided. <i>Question modified. Still a math problem, but the operator must make choices based on the math results.</i>
16	F	2											x		S	New.
17	F	2											x		S	Bank.
18	H	2											x		U S	New. Question's answer has to be known from memory - no method of determining the correct answer unless memorized. Not higher skill. Distractor a. is not plausible. <i>Question does have a thought process to arrive at the correct answer. Since pressure can continue to rise under certain conditions, distractor a. is plausible. Question not modified.</i>
19	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			
20	H	2.5											x		S	New.
21	F	2													S	New.
22	F	2													S	Bank.
23	H	2.5													S	New.
24	F	2.5													S	New.
25	F	2													E	New. Change operators to operator's in the stem. <i>Change made.</i>
26	H	2.5													S	New.
27	F	2													E	New. Distractor a. appears to not be gramatically correct ,or is missing information. <i>Reworked distractor a. to be accurate, put key words in another distractor.</i>
28	F	1													U S	New. Question is not discriminatory. LOD = 2, there are different power supplies at different power levels, making this more than simple memory. However, question modified to test the non-normal power lineup.
29	H	1													U E	New. Question is not discriminatory. Question is discriminatory, however, distractor a. was not plausible and was changed.
30	H	3													S	New.
31	H	2													S	New.
32	H	2													S	New.
33	H	2													S	New.
34	H	3													S	New.
35	H	2.5													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	Backward	Q=K/A	SRO Only			
36	F	2				x									E	New. Distractor c. does not appear to be plausible. This may be a higher cognitive level. Expected to be memorized; distractor c. was modified.
37	F	2				x									S	Bank. Verify distractor d. is truly incorrect. Station confirmed that distractor d. was incorrect.
38	H	3													S	New.
39	F	1													U	New. Question is not discriminatory. Rewrote question.
41	F	2													S	New.
42	H	2													U S	New. This is an immediate operator action that is required to be committed to memory. Reclassify as fundamental. Significant analysis needs to be done to arrive at the correct answer. This is not fundamental material required to be committed to memory. Question not modified.
43	H	2.5													S	New.
44	H	2.5													S	New.
45	H	3													S	New.
46	F	2.5													U S	New. This appears to require analysis to arrive at the correct answer. Appears to be a higher skill question. Memory item - common knowledge of setpoints the operator must know. Question not changed.
47	H	2.5													S	New.
48	H	2													S	New.
49	H	2											x		U S	New. Question does not test major DC loads. DG is a major load, not a large load. The fuel racks will trip and the diesel will shutdown. Question not modified.

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	Backward	Q=K/A	SRO Only		
50	H	2												S	New.
51	H	2.5												S	New.
52	H	3												S	New.
53	H	3												S	New.
54	H	2												S	Bank.
55	F	2.52												S	New.
56	H	2.5												S	New.
57	H	2												S	Bank.
58	F	1												U	New. Question is not discriminatory. Re-wrote correct answer, changing the difficulty level.
59	F	2												S	Bank.
60	H	3												S	New.
61	F	1												U S	New. Question is not discriminatory, does not meet all of the K/A. Panel described is outside the control room, making this more difficult. Question retained without modification.
62	F	2.5												S	New.
63	H	3												S	New.
64	H	2												S	New.
65	F	2.5												S	New.
66	F	2												S	Bank.
67	F	1												U	New. Question is not discriminatory. Re-wrote question.

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		
68	F	2												S	New.
69	H	2												S	New.
70	F	2												S	New.
71	H	2												S	Bank.
72	F	2												S	New.
73	F	2												S	New.
74	F	2												S	New.
75	F	1												U S	New. Question is not discriminatory. This material is required to be known by licensed operators. Auxiliary operators are not required to know this information. Question not modified.
76	H	2.5										x	x	S	New.
77	H	3										x	x	S	New.
78	H	3										x	x	S	New.
79	HF	3										x	x	S	New.
80	F	1										x	x	U	New. Question is not discriminatory for an SRO. All of the plant conditions are non-essential. Once the operator knows a Site Area Emergency has been declared, all the remaining items are not necessary. The question is not a Higher skill, but memorized. Question replaced, new K/A selected - unable to write a question with this combination event and generic K/A.
81	H	3										x	x	E	New. Attempt to replace distractor c. - implausible. Correct the stem to include a reason that the action is being taken (since the distractors already provide the reason.) Distractor c. was accepted as is, stem was modified.

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	Backward	Q=K/A	SRO Only			
82	H	3											x	x	S	Bank.
83	H	2				X							x	x	U	New. 1) The question does not match the K/A. The K/A requires knowledge of which events are reported to outside agencies. The question deals with when/who gets the report. <i>Question was modified.</i>
84	H	2											x	x	U S	New. Doesn't match K/A. Distractors a., b., and c. are not plausible. <i>Reviewed distractors with the utility, distractors determined to be plausible as written. No changes made.</i>
85	H	3											x	x	S	Bank.
86	H	2												x	U S	New. Distractors c. and d. are implausible. <i>Because power is &lt;30% where auto trips occur, distractors c. and d. become implausible. No changes made to question.</i>
87	F	2												x	S	New.
88	F	2												x	E	New. Used an "all of the above" format. Change distractor format. <i>Added more distractor info, resulting in removal of "all of the above" format.</i>
89	H	3												x	U S	New. Material is not required to be known from memory. <i>A station objective requires this material be known from memory. No change made to the question.</i>
90	H	2												x	S	Bank.
91	H	2.5												x	S	New.
92	F	2												x	U S	Bank. Doesn't match K/A. The K/A refers to cause/effect between fuel handling and shutdown monitor. The question refers to nuclear instrumentation. <i>Changed K/A, the question was retained. The exam author believed the Shutdown Monitor referred to nuclear instruments.</i>
93	H	2												x	U	New. No analysis is required. Knowing that any Action Level 3 requires a reactor shutdown makes this a simple memory question. <i>Station agreed. Cognitive level changed to fundamental.</i>



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	Backward	Q=K/A	SRO Only			
94	H	3											x	S	New.	
95	F	2												x	U	New. Series of T/F answers. Question was replaced.
96	H	2				x								x	E	New. Distractor c. is implausible. Not listed on the production risk matrix. <i>Distractor c. was modified.</i>
97	F	2				x								x	E	New. Distractor d. can be eliminated by reading the provided handout, making distractor d. implausible. <i>Distractor d. was modified.</i>
98	F	2												x	S	New. Probably not new. This question has been asked on other examinations.
99	H	2												x	S	New.
100	H	2												x	S	Bank.