

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	2.0											✓		B	S	
2	H	3.0											✓		B M	S+	NRC: Question modified to reduce overlap with independently written audit retake written exam 2010-2 Q#3. Response: Revised VCT pressure parameter in question stem which changed correct answer as indicated.
3	F	2.0											✓		N	S	
4	H	3.0											✓		N	S	
5	F	2.5											✓		B	S	
6	H	3.0											✓		M	S	
7	H	3.0											✓		B	S	

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.
 - 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).
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. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. 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?
8. At a minimum, explain any “U” ratings (e.g., how the Appendix B psychometric attributes are not being met).

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
8	H F	2.0											✓		M	E	<p>NRC: Question asking interlock, not higher cognitive.</p> <p>Response: Change question cognitive level to F. However, the facility still considers this question H because the candidate must recognize the plant power level is below 10% (P-7 light LIT) and know which trips are NOT blocked at this power level. Candidate must evaluate the parameters given to determine which trip setpoints are exceeded, and then determine which one would cause a trip in this particular set of circumstances.</p> <p>Note: Validation performance: 62.5% pass</p>
9	H	2.5											✓		N	S	
10	H	2.0											✓		B	S	½ twice
11	H	3.0											✓		B	E	<p>NRC: Explain answer more fully, appears only to be testing knowledge of P-11 light being lit, ie, "SI is blocked" and there is only one choice (B). Also, clarify A. and C. by replacing "ALWAYS" with something like "...on a large OR small break..."</p> <p>Response: The candidate must know the steamline SI signal is procedurally blocked when below P-11. Before being blocked, an SI and a MSL isolation will occur on steamline low pressure or rate of change. After the signal is blocked, the SI is blocked, but a MSLI will occur if there is a rapid lowering of steam line pressure, as will occur on a large break.</p> <p>Comment incorporated into A and C.</p> <p>Note: Validation performance: 62.5% pass</p>
12	H	3.0											✓		N	S	
13	F	2.5											✓		M	E	<p>NRC: To clearly meet KA, add procedure reference (BOP VP-1) to stem.</p> <p>Response: Added procedure reference to stem.</p>
14	H	2.5											✓		B	S	
15	F	2.0											✓		B	S	
16	H	3.0											✓		N	E	<p>½ twice NRC: Revise last line of stem to read, "Under these conditions, the operator is required to ..." Also, delete "Only" in A. and B. and add, "(Reset unnecessary)."</p> <p>Response: Comment incorporated.</p>
17	H	3.0											✓		B	S	
18	H	2.5											✓		N	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
19	H	2.5											✓		N	U S	NRC: A., B., and C. not plausible, ie, feeding 1A and 1B <u>dry SGs</u> . Response: Identified procedural instances of filling dry SG(s) which makes A, B, and C plausible (incorrect for given conditions).
20	F	1.0 2.5											✓		N	U E	NRC: Low LOD. Make question more operationally oriented. Give results, identify loss of bus or the loads. Would expect to ask for response based on malfunction or event, something not so straight forward in order to evaluate applicant competency. NOTE: Revised from U to E, and not Low LOD because question originally written to meet KA, and licensee incorporated comments. Response: Note: with the MTG not online, the UAT feeds are de-energized. If the SAT feed to Bus 143 trips, the loads on Bus 143 are de-energized since the Bus cannot ABT. The following loads are powered from Bus 143: 1A and 1C CW Pump, 1A VP Chiller, 1A SAC, 0A WS Pump; Bus 157: 1C HD Pump; Bus 159: Startup Feed Pump; Bus 144: 1B SAC
21	F	2.0		✓									✓		N	U S	NRC: Implausible distracters: D. implausible, never seen DG output breaker without synch. Cues: A. and B. both transformer feed breakers, if one incorrect answer, then so is other (they eliminate each other as possible answer); C. is only possible answer. NOTE: Based on discussions and improved answer justification, question is satisfactory as written. Response: Answer justification: A. ACB 1411 is closed only on a dead bus, so does not require a synchro check. All the other breakers are capable of being paralleled so do require a synchro check. B. ACB 1412 is one of the 4 supplies to BUS 141. It is a transformer feed breaker to the bus, and is plausible as it is one of the 4 so does not stand out as another busses breaker would. C. (correct) ACB 1413 will close WITHOUT a synchro check when it is automatically closing, which makes it a plausible distractor. D. ACB 1414 is a bus crosstie breaker, supplied from the opposite unit. Bus crossties do not always require synchro checks, ie; the ESF to Non-ESF bus crosstie is only used for dead bus transfer so it does not require a synchro check, which makes this choice plausible.
22	F	2.0											✓		B	S	
23	H	3.0											✓		B	S	½ twice
24	F	2.5											✓		N	S	
25	F	2.5											✓		B	S	½ twice
26	F	2.5													B	S	

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27	F	2.0												N	U S	<p>NRC: KA is asking for "backup (crossover) system" to the normal IA system. As written the question appears to address only the "normal IA supply.</p> <p>Response: IA is supplied from the SA header in the Turbine Building through dryers to a TB IA header, which supplies the Aux Bldg IA header, which then supplies IA to CNMT. Distractors are plausible because these would all be viable designs of the IA system.</p> <p>This meets the K/A of knowing the design of the IA system that supplies CNMT IA. The Service Air system provides air pressure to the IA dryers that supply IA Receivers. The receivers are connected to the Turbine Building IA system, which is <u>cross-connected</u> to the Auxiliary Building IA system. The AB IA system supplies the Unit 1 and Unit 2 containments separately, through IA CNMT isolation valves.</p>
28	H	3.0				✓								M	E	<p>NRC: B. is implausible because if have HI-2 would also have HI-1.</p> <p>Response: Remove first line of choice D so it reflects the same logic as choice B. This also provides more symmetry for the choices, with two having one bistable, and two having two bistables.</p>
29	H	2.5												B M	S+	<p>NRC: Question modified to reduce overlap with independently written audit retake written exam 2010-2 Q#29.</p> <p>Response: Changed stem as follows: "...Unit stable at 50% power..."; "Rod height is 160 steps..."; "...N-44 fails to 102%". Changed D.: "step in, and will be blocked from automatic withdrawal"; changed A.: inserted "sufficient" between "a" and "...Tave-Tref...". This made A. the correct answer as indicated.</p>
30	H	2.5												B	S	
31	H	3.0												M	S	
32	F	2.5												B	S	
33	H	2.5				✓								N	E	<p>NRC: B. is not plausible, no relationship between SI signal and Cnmt Charcoal Filter Fan.</p> <p>Response: Changed Distractor B to be more like Distractor D. The charcoal filter fan trips when the deluge valve is manually opened. The valve does not automatically open, and the fan is not affected by Phase A. Distractors are plausible because the Phase A signal could have these effects on the VA system, and because the provided information could be interpreted as not having tripped the running fan, but simply caused DP to go low.</p>
34	H	3.0												M	S	
35	H	2.5												N	S	
36	F	2.5												N	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
37	F	2.0										✓		B	S	
38	H	3.0										✓		N	S	
39	F	2.5										✓		B	S	
40	H	3.0										✓		B	S	
41	H	2.0										✓		N	S	
42	H	3.0										✓		N	S	
43	H	2.0		✓								✓		N	E	reference NRC: Remove underlined term "...prevent boiling..." from stem because it is a cue to the correct curve labeling ("...to Prevent Boiling...") which makes question more of a direct lookup. Response: Revised last stem sentence to eliminate term "prevent boiling" by inserting "minimum" between "the" and "required", and inserted "...maintain in subcooled region..." at end of sentence.
44	H	2.5										✓		N	S	
45	H	2.5										✓		N	S	
46	F	2.5										✓		N	S	
47	F	2.5										✓		B	S	
48	H	3.0										✓		N	S	
49	F	2.5										✓		M	S	
50	H	2.5										✓		B	S	
51	F	3.0										✓		N	S	
52	H	3.0										✓		N	S	reference
53	H	3.0										✓		N	S	reference
54	H	3.0										✓		B	S	
55	F	2.5										✓		B	S	
56	H	2.5										✓		B	S	reference
57	F	2.5										✓		B	S	
58	F	2.5										✓		B	S	
59	F	2.5										✓		B	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
60	H	2.0										✓		N	S	
61	H	2.0										✓		N	S	
62	H	3.0										✓		B	S	
63	F	2.5										✓		B	S	
64	F	2.0										✓		N	S	
65	F	2.0										✓		B	S	
66	F	2.0										✓		B	S	
67	F	2.0										✓		B	S	
68	F	2.5					✓					✓		N	U	<p>NRC: As written, having the procedure in hand could be interpreted as correct (although not complete). Reference only states "...may perform immediate actions from memory."</p> <p>Response: Rephrase first part of question with "immediate actions" as the correct answer, and "from memory" in the stem.</p>
69	F	2.0										✓		B	S	
70	F	2.0										✓		B	S	
71	H	2.0										✓		B	S	
72	F	2.0										✓		B	S	
73	H	3.0										✓		N	E	<p>NRC: Provide more justification to support for higher cognitive level vs fundamental (memory).</p> <p>Response: The question is Level 2 (higher-comprehension) because the candidate must determine that RH pressure will be higher than CC pressure in this situation. If RH were aligned for injection, or for MODE 6 refueling operations, RH pressure would be lower than CC pressure. The candidate must then use that information, and recognize the relationships between the 3 systems, and how the systems interact, including the consequences of leaks. This determination of cognitive level was made after referring to Appendix B, page 5.</p>

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74	F	2.0										✓	✓	B	U S	NRC: Procedure transition is an SRO function. Response: ROs are required to know immediate action steps from memory. Included in immediate action steps of BEP-0 are the transition to various procedures as identified in the question.
75	F	2.0										✓		N	S	
76	H	2.5										✓	✓	N	S	
77	H	2.5										✓	✓	N	S	
78	H	2.5										✓	✓	N	S	
79	F	3.0										✓	✓	B	U S	reference. NRC: Direct lookup, applicant references Table and is directed to Condition D. Explain how interpretation of TS is required. Response: TLCO 3.i action D requires initiation of alternate method of monitoring within 72 hours (3 days) and restoration in 7 days. Other actions in this TLCO have required completion times of 14 days and 30 days, or require entering TLCO 3.0.c, creating plausibility for the distractors. Each unit has one stack, with 1 monitor per stack. The TS table requires 1 monitor (which means 1 monitor per stack). The candidate must know that 1 inoperable monitor will have action requirements and not confuse "1 required" as meaning only 1 for both stacks. After determining the LCO is not met, the candidate must select the proper action which is a greater than 1 hour, so it is not expected the candidate would have the action memorized.
80	H	2.5										✓	✓	N	S	½ twice

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
81	H	3.0				✓							✓	✓	N	E S	<p>NRC: C. appears to be a correct answer. Explain why C. is incorrect.</p> <p>Response: If the spray valve fails open, RCS pressure will drop. Both RCPs have to be tripped because of the loss of npsh. With no loops in operation in MODE 4, TS 3.4.6 condition A applies.</p> <p>Tripping both RCPs with the spray valve open may be chosen if the candidate thinks that makes a loop inoperable. The candidate may think that tripping both RCPs and using 1BEP ES-0.2 may be chosen to utilize natural circulation, however, 1BEP ES-0.2 is not entered directly, but from 1BEP-0.</p> <p>In other situations, such as a trip of the 1C RCP with the 1D RCP running, the correct action would be to close the 1C spray valve to prevent "short cycling" the spray path. This can be confused by the candidate, making this distractor plausible, but incorrect.</p>
82	F	2.5											✓	✓	N	S	
83	F	2.0											✓	✓	N	S	
84	H	2.5				✓							✓	✓	N	U	<p>½ twice NRC: A. and C. "Loss of heat sink" is not a plausible distractor.</p> <p>Response: Change A.(2) and C.(2) "Loss of Heat Sink" distractors to "Loss of RCP Net Positive Suction Head". This would happen only if RCS pressure dropped to <300 PSIG. Replace B.(2) and D.(2) with "exceeding departure from nucleate boiling ratio".</p>
85	H	2.5											✓	✓	N	S	½ twice
86	F	3.0											✓	✓	M	S	
87	H	3.0											✓	✓	N	S	reference.
88	H	3.0											✓	✓	N	S	
89	H	3.0											✓	✓	N	S	
90	H	3.0											✓	✓	B	S	
91	H	2.5											✓	✓	N	S	
92	H	3.0		✓		✓							✓	✓	N	E	<p>reference. NRC: Distractor D is not plausible since depressurization wouldn't continue with subcooling too low.</p> <p>Response: Change Distractor D to "stop the depressurization...".</p>
93	H	3.0											✓	✓	B	S	
94	F	2.0											✓	✓	B	S	
95	H	3.0											✓	✓	B	S	

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96	F	2.0										✓	✓	N	S	
97	F	2.0					✓					✓	✓	N	E	<p>NRC: Choice A. (Plant Manager) is also correct answer.</p> <p>Response: The Shift Manager and RP Department may waive the requirement for VA exhaust fans in operation for releases. BCP 400-TCNMT/ROUTINE, Revision 20, Page 12, Section 4.2</p> <p>Positions used as distractors are all responsible for reviews or approvals of other administrative items.</p> <p>The Plant Manager may have signature authority for the Shift Manager, but they are signing for the Shift Manager position. It would be the same for a SM qualified Unit Supervisor. The Shift Manager position has the authority to waive the requirement for fans in operation.</p>
98	H	3.0										✓	✓	N	S	
99	H	3.0										✓	✓	M	S	reference.
100	H	2.5										✓	✓	N	S	