

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	2(3)											Y		B	E	Move "APRM power ..." to after "5006-3D, OPRM ..." Alarm will come in before oscillations are observed. In distracter "C" change oscillations to fluctuations.
2	H	4(3)							X				Y		B	U	Not required to memorize EOPs. Is this information on the EOP flowcharts provided to applicant during the exam? Acceptable if change reference to lesson plan, ie, consider this concept knowledge vice memorization of procedure steps.
3	M	3											Y		B	E	Reword distracter "A" "...to prevent an unmonitored release."
4	H	3											N		M	U	What was modified? Submit previous NRC question. Question not linked to (KA) Turbine Generator Trip. Why would RPV level drop if Main Turbine had not tripped.
5	H	3	X										Y		B	E	Replace the word "identifies" with "approximates" Figure P must be provided.
6	H	3				X							Y		M	U	What was modified? Submit previous NRC question. More than one correct answer. A small steam leak could be a small feedwater leak. Would a Main Steam leak cause particulate monitor to increase. Need to clarify small steam leak.
7	M	3				X	X						Y		B	U	Implausible choice and more than one correct answer. Auto transfer to SX has been disabled for years and therefore is not credible. Per given reference loss of CCW trips FC pumps, so ensuring that pumps are tripped should occur within 5 minutes. Also on a complete loss, stopping the Air Compressors would be prudent.
8	H(M)	3(2)											Y		N	S	Very similar to question 4
9	M(H)	2(3)											Y		B	E	Delete 2 nd sentence in stem. Suggest changing 1 st distracter to "remain open and RHR Pump A trips on low RPV level. Add "RPV" between low and level on 3 rd distracter.
10	H	3				X							Y		N	E	Revise 1 st and 4 th distracters to be more credible to fuel bldg event.
11	H	3											Y		N	S	
12	M	3											Y		N	S	Are the setpoints correct; refer to Table 17
13	M	3											Y		N	E	Change the first sentence to a statement rather than a question.

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																Formulate the answer as a complete sentence.
14	H	2(3)										Y		B	S	Requires EOP or EOP figures to answer See Q17
15	M	2(3)										Y		N	S	
16	M	3										N		N	U	Selected K/A relates to HEAT CAPACITY (EK1.03), whereas question is related to STEAM CONDENSATION (EK1.01)
17	H	2(3)	X				X					Y		B	U	Tests the same knowledge or ability as Q14 (EOP figures can be used to answer question even though not listed as reference). Not sure there is any correct answer.
18	H	3										Y		B	S	See Q19 & Q73; These questions may provide clues to answer this question.
19	M	2(3)	X											B	E	Delete 2 nd sentence or combine two sentences to make one statement. Knowledge of battery capacity ratings will provide clue for answering Q18.
20	H	4(3)										Y		N	S	
21	H	3					X					Y		B	E	Explanation of distracters says TBV already closed, but will open when turbines trip. Could RR FCVs be locked out?
22	M	3	X									Y		B	E	First sentence of stem is fluff.
23	H	3										Y		B	S	
24	H	3										Y		M	S	What was modified? Submit previous NRC question
25	M	4(3)							X			Y		B	??	Shouldn't setpoint be minimum? Does maximum turns CW correspond to maximum set point?
26	M(H)	3					X					Y		N	E	Since there is no interface between the IA system and the Polar Crane, distracter "A" is not credible.
27	H	3					X		X			Y	Y	N	U	The 2 nd part of distracter "A" is not credible since pump is powered from locked out bus. The 2 nd part of distracter "B" should probably state align and start RHR A in SDC.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																Is a RPV pressure of 115# high enough to initiate isolation? The 2 nd part of the question makes this an SRO only question; RO's are required to memorize subsequent actions.
28	H	3										Y		N	E	Revise stem to indicate both seals have failed.
29	H	3										Y		B	S	
30	M(H)	3										Y		N	S	
31	M	2										Y		B	S	
32	H	3										Y		B	E	May need to reword stem, since "Full In" LEDs not being lit indicates that SD criteria is not met.
33	H	3										Y		M	S	What was modified? Submit previous NRC question.
34	H	3										Y		M	S	What was modified? Submit previous NRC question.
35	M	3										M		B	S	Question is more related to pressure control than pressure measurement.
36	M	2										Y		N	S	
37	M	3										Y		N	E	May need to reword answer "C" to clearly identify that failure mode is only applicable when Main Steam is supplying SSE.
38	H	3										Y	?	N	E	May want to place ARP titles in parenthesis to clearly indicate multiple titles. RO's are not required to memorize subsequent actions, but should be able to answer this question based on system knowledge.
39	H	3										Y		B	S	
40	M	3										Y		B	S	
41	M	2										Y		N	S	
42	M	3	X									Y		N	E	Stem figure should be eliminated and alarm window title given in the narrative. Since figures do not show entire system flow-path, may want to reword stem to identify only the filter package.
43	H	3						X				Y		N	E	Stem Typo: "HPCS.... fail ed shut."

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																Borderline SRO only question, although generic enough that RO's should be able to answer. Instead of specifying a system state lower pressure to use other preferred injection systems.
44	H	3										Y		M	E	<p>What was modified? Submit previous NRC question.</p> <p>Create one stem statement referencing attached figures.</p> <p>Redraw figures so that font size and light sizes are the same for A and B subsystems.</p> <p>Add "...expected status of ...system." (Not enough indications to state positively that pumps are running and injecting.)</p>
45	M	3										Y		B	S	
46	M	3										Y		B	S	
47	M	3										Y		N	S	
48	M	3										Y		B	E	Replace "...in accordance with..." with "...with respect to"
49	M	3										Y		B	S	
50	H	3										Y		N	E	Specify where "white data" is displayed. Consider replacing "white data" with "RPC Withdrawal Inhibit"
51	M	2										N		B	U	Question is not related to KA , "detector" operation.
52	M	3										Y		B	S	
53	M	2										Y		N	S	
54	H	3										Y		B	S	
55	H	3										Y		B	S	
56	M	3										Y		M	E	<p>What was modified? Submit previous NRC question. Replace "Half" with "No"; the term half scram is not applicable to CPS.</p>
57	M(H)	3										Y		B	S	
58	M(H)	2										Y		B	S	
59	M	3	X									N		N	U	<p>RHR B is preferred due to head spray line.</p> <p>Reword question to identify which loop is preferred for transfer to</p>

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																reactor water to radwaste.
60	M	3	X	X								N		M	U	<p>What was modified? Submit previous NRC question.</p> <p>Question describes an instrumentation malfunction not a loss or malfunction of the AC Electrical Distribution.</p> <p>Distracter "A" should be replaced with valve in different system.</p>
61	H	3										Y		N	E	Reword stem: "...response for the first ten minutes after the SRV opens. "
62	H	3										Y		B	S	
63	M	3										Y?		B	E	1 st part of question not related to K/A
64	M(H)	3										Y		B	S	
65	H	3										Y		B	S	
66	M(H)	3		X			?					Y		B		Trip of a low range monitor alone eliminates radiation levels high enough to warrant EOP entry therefore choices "A" and "C" are easily eliminated and credibility is questionable.
67	H	3						X				Y		B	U	The question as written is an SRO only question. The question requires the applicant to evaluate first why a blowdown is required and then determine the basis for that decision. If the question simply asked the basis for the SRV Tailpipe Limit, it would be acceptable.
68	M	2(3)										Y		N	E	Recommend changing "Shift Manager" to "Shift Emergency Director"
69	H	3										Y		B	S	
70	H	3	X									Y?		B	E	Reword stem: Given the above scenario and the following parameters, select the parameter that will trip the SA/IA compressor.
71	H	2(3)										Y		M	S	What was modified? Submit previous NRC question.
72	H	3										Y		N	S	
73	M	2(3)										Y		M	S	<p>What was modified? Submit previous NRC question.</p> <p>See Q18; Knowing the correct answer to this question will provide clue to answering Q18.</p>
74	M	3										Y		N	S	

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75	H	5							X				Y		M	U	What was modified? Submit previous NRC question. Turning off the SVC would be an infrequent evolution requiring reference to the procedure. I would not expect the operators to memorize this "rough" rule of thumb.
1	H	2(3)		X									Y	Y	B	E	Change distracters to provide more generic answers; All DGs Operable, Continue Startup One DG Inop, Continue Startup One DG Inop, Do NOT Continue Startup 2 or more DGs Inop, Do NOT Continue Startup Recommend changing either A or C air pressure to value between 140# and 200#
2	M		X										Y	?	N	U	The two parts of the question appear to be unrelated. How is safety limit part of question applicable to K/A? Also, stem is not required to answer part 2.
3	H	1 (3)											Y	Y	M	U	What was modified? Submit previous NRC question. Direct lookup, low LOD.
4	M	3											Y	Y	B	U	2 nd part of question a direct lookup if the entry condition statement attached to question is supplied to applicant.
5	H	4(3)	X		X								N	Y	B	U	K/A focus is suppose to be Loss of IA. Question focus is LOCA. Distracters B & C are not safety related and not credible for use during a LOCA. Distracter A – change verify to ensure or start.
6	H	3	X					X					Y	Y	B	U	Distracter D appears to be the correct answer. It may not be preferred, but it's the only one currently available. Replace 3 rd and 4 th bullet with: - RHR Pump 'A' was running in Shutdown Cooling Mode, then tripped and became unavailable.
7	M	3											Y	Y	N	S	Recommend combining stem to create one statement.
8	M(H)	2(3)											Y	N	M	U	What was modified? Submit previous NRC question.

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																Immediate operator actions required to be memorized by RO
9	H	3										Y	Y	B	S	
10	H	3										Y	Y	B	E	Replace "Start" with "Maximize" or Ensure all.....cooling running
11	M	3										Y	Y	B	S	
12	H	3										Y	Y	B	E	Possibly add TGOP and EBOP status to stem
13	H	3										Y	Y	N	S	Verify that Unit Power Changes contains a section entitled "Emergency Power Reduction."
14	H	3										Y	Y	N	S	Verify EOP-1 or -6 reference doesn't answer first part of question.
15	H(M)	3	X					X				Y	Y	M	U	What was modified? Submit previous NRC question. "...what is the maximum time allowed", implies that a TS Action is required. Once you decide that LPCS is inoperable, the maximum time allowed is a direct lookup.
16	H	3	X				X					Y		B	U	More than one implausible choice. 2 nd part of "B" is not a credible distracter for draining the discharge piping. Need status of F015; F001 will not open if F015 is full open. What makes distracters "C" and "D" credible?
17	M	3										Y	N	N	U	Not SRO only. This is knowledge required by the non-licensed fuel handlers also.
18	H	3										Y	Y	B	S	
19	H	2(3)										Y	Y	N	E	Same time frames should be used between columns.
20	M	3										Y	Y	N	S	
21	H(M)	3										Y	Y	N	S	
22	M	3										Y	N	B	U	Not SRO only. Tech Spec definitions.
23	H	1										Y	Y	B	U	Direct lookup if EOP flow chart is provided
24	H	3										N	Y	B	U	The K/A is predict the impact of a LOCA on RHR. Question predicts the impact of a valve closure on RHR.
25	H	3										Y	Y	B	E	Add Suppression Pool Temperature info (temp and HUR) and RPV pressure band. Requires applicant to evaluate Figure P and

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																	requirement to not lower RPV pressure.

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).

RO: 12/75=U

SRO: 12/25=U

24/100=24%, exceeds 20% criteria