

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	Back- ward	Q= K/A	SRO Only			
1	H	3												B	S	
2	F	2												N	E	Added words to stem, "...provides an EFW initiation input .. to make an obvious K/A match
3	F	2												B	S	LOD borderline 2. Knowledge that the isolation valve breakers are open for the core flood tanks is very fundamental system knowledge borderline NLO
4	F	2										X		N	E	Should revise Q to also add the affected power supplies so that it better matches K/A for knowledge of bus power supplies. The answer addresses expected pump combinations for operation but makes no mention of power supplies. Q revised to add power supplies. Licensee added "pump" to B&D for accuracy.
5	H	2												N	E	Licensee made following changes based on validation feedback comments: Bulletized the subsequently line for consistency - Rearranged the wording in choices A and D for 2-part consistency with B and C. - Due to rearranging, length of choices changed, therefore the correct answer went from A to B. - Swapped A and B explanations.
6	F	2												B	S	
7	F	2												B	S	
8	H	2												B	S	

Note: TMI Written Exam Draft Received 2/23/12. Review completed and comments on written provided to the licensee on 2/29/12. Reviewed written exam resolutions on site validation week 3/22 and 3/23. Subsequently on 4/13 licensee recommended some further revisions based on feedback from exam validators. Written exam approved 4/19.

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9	H	4-5							X					B	S	Looks like minutia for RO to remember from memory is there a valid LO for this? Will get back to me. Licensee stated Required RO knowledge from memory and they have a valid LO
10	H	2												B	S	
11	F	3												N	S	
12	H	3												B	S	
13	F	2												B	E	Changed from "F" not H" just recall of set point
14	F	2												N	S	
15	F	3												N	S	
16	F	2												N	S	
17	H	3												N	E	Licensee made following changes based on validation feedback comments: - Changed 2 nd bullet from "Instrument air has lowered to 81 psig and is steady" to Instrument Air has lowered to 81 psig throughout the system, and is steady.
18	F	2												B	S	
19	H	3												N	S	
20	F	3												N	S	

[illegible]

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31	H													N	S	
32	H													N	S	
33	H					X								N	E	A&C don't appear to be plausible to purge the waste tank to stop a leaking relief valve? Licensee revised distactors to improve plausibility
34	F	2												B	S	
35	F	2												N	E	Need follow-up on K/A match for fuel handling Licensee explained basis for K/A match In addition, licensee reworded the stem and choices based on confusion of validators. They did not really understand the wording, and there were possibly 3 or 4 correct answers based on interpretation. The question itself has not changed, just rearranged.
36	F	2												N	S	
37	F	2												N	S	
38	H	3												N	S	
39	H	3				X								B	E	D not plausible with Rx Trip IMAs complete in the stem. Revised "C&D" and removed 4 psig ES actuation from stem not necessary and added steam tables as a required reference. In addition, licensee made following changes based on validation feedback comments: - Changed wording of choices to remove Phase 1 and Phase 2. The candidates must now know what is in Phase 1 and Phase 2. - Rearranged all choices for consistency. - Reordered explanations.

40	H	1				X									N	U	LOD=1 that decay heat will not be less than 1% in the 1 st minute GFE which makes A&B implausible. Also second part of the answer more operational but how important is that for RO to know? Replaced Q and K/A new Q.
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41	H	3				X								N	U	A&B not plausible to decrease RCS pressure 100 psig and no change in break flow results Licensee rewrote Q and answer choices	
42	F	2												M	S		
43	H	1				X								N	U	LOD=1, GFE indications of pump shaft shear, implausible distractors . Rewrote Q using same K/A with different stem conditions and answer choices.	
44	H													B	S	Please verify that this concept of not securing RCPs on a loss of SCM if elapsed time exceeds 1 minute has already been tested somewhere else on the exam. Licensee verified not tested elsewhere on the exam	
45	F	2												M	S		
46	F	3												N	E	In addition, licensee made following changes based on validation feedback comments: - Reorganized the choices for consistency. - Reordered the explanations accordingly.	
47	H	1				X								N	E	"D" distractor not plausible top of Pzr htrs is about 64" – the Pzr level is currently 190" and decreasing slowly approx 130" above top of htrs? Licensee lowered Pzr level in stem to make "D" more plausible also lowered power in stem to 5% to make lower level range for Pzr also more plausible.	
48	F	2												B	S		

49	F	2										X		N	E	1. K/A "adjustment" to maintain frequency and voltage – recommend increase frequency of EDG "A" to 61.1 and add to Q second part to explain how would adjustments be made, if necessary Licensee revised conditions in the stem and Q to require speed/frequency adjustment. - Licensee added "IAW OP-TM-864-901/902" to the stem for clarity and to avoid challenges based on other procedures.
50	H	2												B	S	
51	F	2				X								B	E	"A" is not plausible to isolate cooling to the RCPs on a Rx trip after discussion the licensee will revise to 500 psig RCS pressure ESAS and reorder answer choices in ascending order. Revised "A" choice and reordered answer choices shortest to longest.
52	F	1				X								N	U	Q is Too simplistic with no plant specific knowledge the Q can be answered. LOD=1, implausible distracters replace Q. Replaced Q with a bank Q testing a different K/A
53	F	2												N	S	
54	F	2												N	S	
55	F	2												N	S	
56	H	3												N	S	
57	H	1-2				X								N	U	GFE as written, C&D not plausible, recommend adding second part to questions to ask corrective action to make more operationally oriented. Revised stem and answer choices to ask required operator actions.
58	F	2												N	S	
59	3													B	S	
60	2													N	S	
61	2													B	E	Tighten and revise stem change from 'should' to what is required by procedure. Licensee revised Q stem to IAW MAP required action.

62	1														N	E	A&B may have effectively the same meaning need to verify meaning of word "suspended" and "interrupted" to ensure different meanings at site. Revised answer choices
63	2														N	S	
64	1-2					X									N	U	"A" & "B" not plausible to have 25" in the S/U range to support natural circ. Licensee will consider revising level to "50% operating range" which is the required level to maintain once natural circ is established. Recommended change made.
65															N	E	Licensee made following changes based on validation feedback comments: - Added Reactor Power is 25% and steady to Plant Conditions for clarity. - Changed part 2 of B and D to make wrong. Candidates could have argued securing the pumps, but cannot argue the revision when coupled with the next bullet. - Added "First" to part 2 of the question.
66	3														N	S	
67	2														M	E	Based on validation comments licensee changed all answers by 5 MW. The original correct answer, 925, is technically, on the high side of the line drawn, therefore one could challenge that 925 is above and NOT the maximum. 920 is close enough to the line but on the low side.
68	1					X									N	U	"C&D" not plausible that cannot hang more than one danger tag on valve NLO knowledge need to increase LOD of Q Overlapped with JPM licensee randomly selected a new K/A and replaced with a bank Q.
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69	H	3												B	S	
70	H	3												N	S	
71	F	2												N	E	Based on validation comments licensee added "if exceeded" to the stem to match the requirement in the alarm response, otherwise the listed answer would not be the correct answer.
72	H	3												N	S	
73	H	2												N	U	Replace Q it overlaps concepts tested in Q64 for natural circ level required in S/Gs also you have another Q testing loss of SCM Licensee replaced Q with a bank Q testing the same K/A.
74	H	3												N	S	
75	H	3												B	S	
76	F	2												N	E	Changed to "F" from "H"
77	H	3												N	S	
78	H	3											X	B	U	1) Not SRO – RO system knowledge to know recognize failure of instrument air will fail closed the EDG fan damper and inop the EDG is above the line knowledge of TS entry 2) "H" rather than "F" analyze plant conditions 3) add required TS action to make SRO level Added TS call to revised Q to make SRO level
79	H	3												B	S	
80	H	2				X								N	E	The distracters are not plausible with prep to restore condensate and MFW just starting "C&D are implausible and SCM approaching saturation temp "B" is not plausible. Revised the stem started a condensate booster pump to improve plausibility for "C&D" also removed "loss of vacuum" on both MFPs in first bullet. Added subcooling margin bullet.
81	F	2												B	S	
82	H	3												N	E	Revised "C" to balance answer choices.

83						X								N	U	B&D are not plausible with a LOOP no circ water pumps and cond available so use of Bypass valves not plausible. "C" also implausible to isolate both S/Gs then you take away means to c/d primary forces you to use feed and bleed also with high pressure in S/G need to avoid lifting S/G safety valves. Changed RM-G-26 reading, changed SG pressures and levels, added BWST level, removed LOOP, changed question to required actions also revised answer choices, changed explanation and justifications. In addition, licensee requested addition of 1.5 REM thyroid to the stem to avoid confusion
84	H	3												M	S	
85	H	3												B	S	
86	H	2				X								N	E	A&B appear to be implausible to crystallize boron at 49F. suggest changing temp to 45F a little closer to 40F limit. Recommended change made. In addition, licensee requested boron conc change from 2490 to 2475 to make further from TS limit.
87	H	3												M	S	
88	F	2	X											B	E	Revised stem to tighten by adding "actions required by procedures 1303-4.1 and TS"

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89	F	2												N	E	Typo on K/A system being tested Containment Spray not RPS. Fixed typo	
90	H	3												N	S		
91	H	2												B	S		
92	F	2												N	S		
93	F	2												B	E	Licensee listed wrong system being tested on K/A – typo corrected	

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94	F	1				X							X	N	U	<p>1. The distracters can be ruled out with RO level knowledge.</p> <p>2.. "C&D" not plausible stem reads which of the following is the responsibility of the Fuel Handling SRO "ONLY" initially develop fuel move sheets is the exclusive responsibility of the Res not plausible.</p> <p>3. "B2" is also not plausible that the CRO needs to also approve disengaging the grapple from assembly in the SFP- never get refueling done.</p> <p>Replaced Q using same K/A.</p>
95	H	3				X								B	E	<p>"C&D" can be ruled out using RO level of knowledge of TS. "B" EDG OOS at 1000 and at 1200 determined another 36 hours just to get part. It is not plausible to not test and determine that the other redundant EDG is operable for over 36 hours. Consider revising the time to test redundant EDG, Revised time to obtain replacement part to 24 hours to make distracters more plausible.</p>
96	F	3												N	E	<p>Licensee turned first bullet into two bullets for consistency.</p>
97	H	3												M	S	
98	H	3												B	E	<p>Typo in justification "is" also changed from modified to bank</p>
99	F	3												N	U	<p>No of the current answers appear to be correct per the reference both the RP manager and the site VP/Plant manager are required to approve. Complete rewrite of Q.</p>
100	H													M	E	<p>Modify stem to delete MA2 call from the stem that way someone needs to classify initially then the applicants will need to consider whether they can down grade with current conditions and escalate later due to loss of alarms. Rewrote Q and answers to increase discrimination level for an SRO applicant.</p>