

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			
1	F	2													E	Add word "containment" to the stem- <b>recommended changes made</b>
2	H	2													S	
3	H	3													E	TYPO - <b>fixed</b>
4	H	2													E	<b>Bold, underline and cap the word "required" -- recommended changes made</b>
5	H	2													S	
6	F	2													S	
R7/ S 10	F	2				X									U	Explain why distractors "A&D" are credible also reword the stem. <b>Question and K/A replaced.</b>
8	F	1-2													S	Borderline level of difficulty okay in limited #s
9	H	2													E	add the word "execute" to the "D" distractor -- <b>recommended changes made</b>
10	H	3													S	

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.
  - More than one distractor is not credible.
  - 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 the appropriate box if the sampled question does not match the approved K/A or an SRO-only question is not at the SRO level.
- 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?
- For any "U" ratings, at a minimum, explain how the Appendix B psychometric attributes are not being met.

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11	F	3												E	Change "may be" in the stem to "should be" - <i>revised as recommended</i>
12	H	2												S	
13	F	1-2												S	Borderline LOD also don't agree it is higher order - okay in limited number. <i>Licensee indicated that this was intended to be a memory level question.</i>
14	H	3												S	
15	H	3												S	
16	F	2												S	
17	H	2												U	Check to make sure battery rating is required knowledge from memory - <i>Replaced with a new question</i>
18	F	2										X		S	check K/A - replace K/A - <i>Agreed K/A match is okay</i>
19	H	2												E	Fig "B" - move title after Fig, "B" in the stem - <i>reworded the stem to clarify</i>
20	H	2												E	reword stem to "may fail as a direct..." - <i>recommended changes made</i>
21	F	2												E	revise wording of stem change "must be" to "shall be" in service to agree with procedure - <i>recommended changes made</i>
22	F	2												E	add to stem SOP-9.1 - <i>recommended changes made</i>
23	F	2												S	
24	F	2												S	
25	H	3												E	#25 appears to have the wrong proposed answer - see justification section - <i>Answer verified correct and corrected justification.</i>
26	F	2												S	
27	H	3												S	
28	H	3												S	
29	H	2												S	Make sure that valid RO learning objectives exist for all EOP application type questions on this exam. <i>Licensee verified valid RO learning objectives exist.</i>
30	H	2												S	<del>same comment as #29.</del> <i>same comment as #29. Licensee verified valid RO learning objectives exist.</i>

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31	H	2												E	same comment as #29 &30. <b>Licensee verified valid RO learning objectives exist. Deleted commas in each distractor and reorded distractors.</b>
32	H	2												S	Give applicants entire reference not just Att 5 also don't tell applicants which question reference will be used to answer.
33	F	2												E	modify stem - <b>stem modified change ? To :</b>
34	H	2												S	
35	H	2												E	<b>In stem add the word "temperature" after RWCU pump area and HTX</b>
36	F	2												S	
37	F	2												E	change verb in "A&B" from "may" to "will" to agree with "C&D" - <b>recommended changes made</b>
38	F	2												S	
39	H	2												S	
40/ 45	F	2				X								S	"A&B" distractors verify credible. <b>Licensee verified distractors credible.</b>
41	F	2												E	Add words in the stem "the core" in front of srpay pump min flow relief valve - <b>recommended changes made</b>
42/ 47	F	2	X			X	X							U	12 be used to fill torus? Tighten stem focus <b>Tightened stem focus also revised distractors.</b>
43	H	3												S	
44	H	2												S	
45	F	2												S	#44 stem may cue #45, <b>changed #44 SRM#12 withdrawn to maintain on scale</b>
46	F	2												S	
47	F	3												S	
48	H	2												S	
49	H	2												S	
50	H	2												S	stem 2 indications for valve open and 2 for valve closed - <b>revised stem</b>

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51	H	2	X											E	stem unclear - <i>rewrote stem</i>
52	F	2												S	
53	H	3												E	change stem: "may result" to "will result" - <i>recommended changes made</i>
54	H	3												E	reorder bullets in stem - <i>recommended changes made</i>
55	H	2												S	
56	H	2												E	Change "may" to "will" in each answer choice - <i>recommended changes made</i>
57	H	2												S	
58	H	2												S	
59	F	2												S	
60	H	2												S	
61	H	2												S	
62	F	2												E	Add to stem RBEVS in a normal "standby" line-up - <i>recommended changes made</i>
63	H	2												E	Modify the stem - <i>recommended changes made</i>
64	F	3												E	Add "EDG 103" in front of "output breaker" in choices "A&B" - <i>recommended changes made</i>
65	F	2												S	
66	F	2												S	
67	F	2												E	Add the word "the" to choices "B,C, and D"
68/ 71	F	3	X				X							U	Delete "before next use" in answer col. 2 also "B&D" implausible distractors <i>Revised stem and distractors</i>
69	F	2												S	
70	H	2												S	"

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71	F	2												S	
72	F	2												S	
73	H	2												S	
74	F	2												S	
75	H	2												S	
76	H	2												S	
77	F	2												S	
78	F	3												S	
79	F	2												S	
80	F	2												S	
81	H	2												S	
82	H	2												E	change "dump" valve to" bypass" valve in stem - <b>recommended changes made</b>
83	H	2												S	
84	H	2												S	
85	H	2												S	
86/ 83	H	3						X						U	Make sure "B" is incorrect - <b>Distractor "B" was revised</b>
87	H	2				X								U	"B&D" distractors implausible with cavity drained also revise wording in "A" to add "pump". <b>Added word and revised distractors.</b>
88/ 86	F	1-2												U	LOD Borderline - tested OPs test - <b>Replaced question same K/A used</b>
89	F	2												S	
90	H	3										X		U	Ability to locate not tested also better tested in Part C of the exam- <b>Modified question and distractors significantly.</b>

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91/90	H	2											X		U	Not tier 3 generic (system type) replace question <b>Replaced K/A and question</b>
92	H	2													S	
93	H	2		X											E	Correct answer for #34 may be cued by reference (core map) - <b>deleted reference as a handout</b>
94/96	H	2											X		U	Not tier 3 generic (system type) replace question <b>Replaced K/A and question</b>
95/95	F	2				X									U	Distractors don't appear credible for a very high Rad area <b>Distractors were revised</b>
96	F	1-2	X	X		X									U	Tighten stem and answer choices. As currently written, "first frisking" and "each area" doesn't make sense. Add <u>minimum</u> to frisking requirement. See proposed rewrite. <b>Tightened stem and reworded choices.</b>
97	H	2					X						X		U	"D" isn't this a true statement regardless Not tier 3 generic (system type) replace question <b>Replaced K/A and question</b>
98	H	2													S	
99	H	2													S	
100	F	2													S	
SRO																
13	F	2													S	
14	F	2		X		X									U	"A, B & D" distractors credible? Stem cues Power ops to contine <b>Revised stem</b>
15	H	1-2											X		U	low LOD. Direct lookup with the reference. Better tested in dynamic scenario or JPM <b>Wrote a new question that matches the K/A</b>
20	H	3													S	
21	F	1-2													U	low LOD. Direct lookup with the reference. Already tested on dynamic scenario <b>Revised distractors</b>
24	H	1-2													U	low LOD. Direct lookup with the reference. Already tested on dynamic scenario <b>Used same K/A and wrote new question</b>

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27	F	2											X		U	K/A mismatch, low LOD test more than one EOP leg or EOP at the time for an SRO Direct lookup with the reference. Already tested on dynamic scenario <b>Replaced K/A and question</b>
33	F	1-2													E	low LOD. <b>Rewrote question to calculate time to boiling given RPV operating history</b>
36	H	1-2													U	low LOD, test more than one EOP leg or EOP at the time for an SRO. <b>Rewrote question</b>
39	H	2													S	
40	H	2													S	
42	H	2													E	don't just give the one section 50.72 & 73 give all 10CFR2-50. Add a comma to the fourth bullet, put "the" in front of NRC
48	H	3													S	
55	H	1-2													U	low LOD, test more than one EOP leg or EOP at the time for an SRO Already tested on dynamic scenario? <b>Replaced K/A and question</b>
56	H	1-2		X		X									U	MSIVs isolated given in the stem clues the correct answer both vessel and containment isolations required. <b>Replaced question</b>
57	H	3													U	Already tested on dynamic scenario <b>Replaced K/A and question</b>
69	F	2													E	Simplify answer choice wording
81	F	2	X					X							U	Distractor "D" could be correct. If error discovered next day how could it be reported any earlier? <b>Revised stem and distractor</b>
84	H	3													S	
85	H	3													E	Add "a" before refueling outage
88	F	1-2				X									U	<b>C&amp;D don't appear credible also LOD</b>
89	F	2													E	Add "power" after "100%". 2 <sup>nd</sup> bullet: add ' for "valve's" ; remove ' for "its".
92	H	2													S	Change stem "what individual is responsible for final authorization to extend someone's annual Nine Mile dose limit to 1600 mrem"
93	H	2													S	Need to reword stem - all answers could be correct (i.e securing "within" 35 hours could mean securing in 3 hours). Proposed re-write: "Which one of the following describes how much longer Drywell venting can continue? <b>Drywell venting can continue for another...</b> "
94	H	2													S	Distractor C and D too similar, come up with a replacement (maybe "raise RPV level to 100 inches"?). A bit detailed for a tier 3 generic. <b>Replaced "D" distractor</b>

## OPERATING EXAM COMMENTS:

- The # of applicants have dropped from 16 to 8-9, therefore, the amount of exam material needed to conduct the exam has decreased. From the material submitted Scenarios #1, 3, 4 will be used with #5 to be used as a spare. Admin sets RO "B" and SRO "A" will be used.
- Requested licensee to send list of references that will be presented to the applicants for the written portion of the exam. Tech Specs will be provided only sections 3 and 4.
- In-plant JPM #9 will be replaced too simplistic also in same general area as the diesel fire pump JPM # 10.
- General comment: All Scenarios need procedure details added for ARPs, SOPs, EOPs, etc. Also for TS calls need to list all affected TS and most limiting LCO.
- Scenario #4 needs BOP actions added all board actions currently assigned to the RO. Also need to ensure for other scenarios that board assignments each watch station are more clearly delineated. Also for this scenario the licensee had to rework the leak rate several times during the validation week to get the scenario to the point that the pace was good.
- Scenario #1 deleted APRM #14 OOS in the turnover to ensure the failure of APRM #13 event #2 would result in operator action in this case bypass the APRM and place in a half scram. Added a normal reactivity at the beginning of the scenario to increase power 5% so that the RO would have a reactivity in that position. Changed event #4 so that recirc seal failure could not be isolated resulting in the cause of the LOCA rather than a random failure LOCA.
- Licensee suggested that we consider administering 3 scenarios each to the SROI candidates because of the way the RO position functions ( i.e., the BOP gets most of the actions other than reactivity manipulations using recirc and rods which is the RO responsibility and in most cases he stays at his panel). *Consequently, the SROI applicants will get 3 scenarios one each at the SRO, RO and BOP positions to ensure all minimum exam requirements are satisfied.*
- SRO, A.1.a JPM, rather than telling the applicants that the APRMs were calibrated in error - have the applicant review the ST for acceptance, recognize the error.
- SRO, A.1.b JPM, add at least another parameter that exceeds limits so that the JPM requires identification of what chemistry parameter exceeded and requires determination of mitigating actions and affect on the plant( i.e., TS) not just notifying personnel.
- SRO, A.3, question 2, have applicant determine that the RWCU room is a high rad area and is in an emergency condition (rather than being told this) and have the applicants determine that the situation requires the use of an emergency RWP.
- SRO, A.4 JPM, make time critical 15 min. to classify and 15 min. for notification.