

*FERMI* RE-TAKE  
INITIAL LICENSE EXAM

OCTOBER 15, 2001

NRC Review Comments to Facility-  
Developed Written Examination

(See ES-401-9 form)

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ES-401-9

“Written Examination Review Worksheet”

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	F	2											✓		U	{Bank} Per NUREG-1123, this K/A is BWR-2 only. Plus transient described would fall under 259002, Reactor Water Level Control, not 259001 Feedwater, therefore tie to selected K/A very weak. <b>Resolution</b> , facility re-selected K/A 2.01 in group
2	H	3													S	{Bank}
3	H	3													S	{Bank}
4	H	2													E	{New} K/A 2.1.12 requires applying ITS to a system, which the question does not do. <b>Resolution</b> , facility swapped K/A with the one chosen for original question 93. Wrote question to 295009 G2.2.22, this became question 93. Original 295009 K/A 2.1.12 changed to Generic 2.1.12, which became question #4, wrote new question specific to system
5	F	2													E	{Bank} Question does not address the REASONS for increased drywell cooling as required by the K/A. <b>Resolution</b> , changed stem to reflect EOP actions taken and asking reasons for actions.

## 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 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	Back- ward	Q= K/A	SRO Only		
<u>6</u>	H	3												S	{Bank}
7	H	2												E*	{NRC} 1) All distractors deal with scram valves/solenoids, while answer deals with SDV level. {Bank} 2) If can prove previous NRC change U to E or S but have to fix question <b>Resolution</b> , 1) changed distractor "c" to include one with RPS basis. 2) Proved from 2/2000 NRC exam
<u>8</u>	H	3												S	{New}
9	H	3		✓										U	{New} The stem illicit's the method for ISOLATING feedwater from the Drywell, however distractors "b" & "d" do not deal with isolation methods. <b>Resolution</b> , changed stem to ask for methods of stopping DW pressure increase and gave 2 FW related and 2 non-FW related distractors.
10	H	3										✓		U	{New} Question goes beyond RO level knowledge, requires comparison of information on the following curves HCL, SRVTPLL, DWSIL and LPCI NPSH/Vortex, plus interpolation of the HCL curve. Capitalize procedure title in distractors "a" & "c". <b>Resolution</b> , Modified question to ask only about SRVTPLL curve.
<u>11</u>	H	3												E	{New} Capitalization of Loss of Shutdown Cooling title in distractors "a" & "b." <b>Resolution</b> , fixed capitalization.
12	H	3				✓								U	{New} Question stem states ATWS due to hydraulic lock, then ask "first" design feature to provide power reduction, however distractors "b" and "d" are based on actions that automatically insert control rods -(one but not two). <b>Resolution</b> , modified distractor "d" to provide way to insert rods diverse from B/U scram.
<u>13</u>	H	4												S	{New}
14	H	4												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			
15	F	2											✓		E*	{NRC} K/A specifies interrelations with Condensate sys (256000), however question illicit's interrelations with Reactor Feedwater (259001). If can prove previous NRC Q change U to E or S, but have to fix question Resolution, 1) reselected K/A 2.05, LOD for all others <1. 2) Proved previous NRC question from 2/2000 exam.
16	F	3											✓		U	{New} K/A = REASONS for CNMT Isol on loss of AC power, however question illicit's equip response/status due to loss of power. Licensee identified as comp, NRC as fund (Knowledge that OB viv's are DC). Resolution, 1) modified to include reason for isolations as required by K/A. 2) Facility agreed question is fundamental.
17	F	3				✓									U	{New} Neither distractor "c" or "d" equipment impacted by loss of Div I DC, therefore not credible (one but not two) Resolution, facility modified distractors "c" to state HPCI unavailable to restore level on a LOCA signal.
18	F	3													E	{New} P er NUREG-1123, K/A is for Mark III CNMT only (should have been de-selected) Resolution, typo on outline should have been K/A 29512G2.4.18
19	H	3													S	{New}
20	F	3													S	{Bank}
21	H	2													S	{New}
22	F	3					✓								U	{New} Per the reference given, ST-OP-802-3005-001 @ F.1.a, distractor "a" may be considered credible. The reference states "Operation of the Turbine building ventilation preserves turbine building accessibility" vs. the distractor which states "allows." Resolution, modified distractor "a" to be definitely wrong
23	F	3													S	{Bank}
24	H	4													S	{Bank}
25	H	3													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	Backward	Q=K/A	SRO Only		
26	H	3												S	{Bank}
27	H	3												S	{New}
28	F	3												S	{Bank}
29	F	3				✓								U	{New} Distractors, especially "c" and "d" are minimally credible, conditions given are not congruent with stem ("c" fuel handling ops at 100% power & "d" SRM's being withdrawn at 100% power). One but not two. Licensee identified as comprehensive, NRC as fundamental. Resolution, 1) modified distractor "c" to specify spent fuel handling and distractor "d" to specify SRMs being moved for PMT. 2) Agreed question is fundamental.
30	F	2												S	{New}
31	C	2												S	{Modified}
32	F	2												S	{New}
33	H	3												E*	{NRC} 1) Distractors "a" & "c" not credible because require mode change and a steaming core to be correct when stem starts in mode 4. 2) Distractor "b" not credible because stem states in mode 4, not mode 5. {NRC?} If prove previous NRC change U to E/or S, have to fix question Resolution, 1) modified stem and one distractor so problem with Mode 4 and venting RPV pressure is no longer a problem. 2) Provide previous NRC from 2/2000 exam.
34	F	3												S	{Modified}
35	H	3												E	{Bank} Distractors "a" & "d" plus answer involve either EOP or AOP's, "c" involves an ARP. Resolution, changed distractors to procedures which will not provide cues.
36	H	3												S	{Bank}
37	H	2												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		
38	H	3												S	{New}
39	F	2												S	{Bank}
40	H	4												S	{New}
41	F	2												S	{New}
42	H	4												S	{New}
43	H	3												S	{Bank}
44	H	3												S	{New}
45	H	3												S	{New}
46	F	3												S	{NRC} Previous NRC question from 2/2000 exam. Licensee identified as comprehensive, NRC as fundamental. {NRC} Resolution, facility agreed as fundamental.
47	F	3												E*	{NRC} K/A illicit information about electrical power to the analog trip system logic cabinets(H11-P611), where as the question focuses on blown fuses which supply Trip System Pilot Scram Valve Solenoids and Indicating Lights in cabinets H11-P609. Suggestion reverse question i. e. given 47 rods inserted which of following caused. Answer - inst failure plus fuse F***, Reactor Scram Trip Logic ** Dist 1 - inst failure plus inst power loss both in same side of trip logic. Dist 2 - inst failure plus RPS failure in same side. Dist 3 - inst failure plus backup scram valve failure same side. If can prove previous NRC match to K/A, change U to E or S but have to fix question. Resolution, 1) modified stem such that question involves proper power supplies. 2) Proved previous NRC from 2/2000 exam
48	H	4												S	{New}
49	F	3												S	{NRC} Previous NRC from 2/2000 exam
50	F	2												S	{Bank}
51	F	3												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		
52	H	3												S	{Bank}
53	F	2										✓		U	{Bank} Question does not address the <b>AND</b> portion of the A2 K/A Resolution, modified question to address AND portion of A2 K/A.
54	H	2												S	{Bank}
55	F	3												S	{Bank}
56	F	4												S	{New} Licensee identified as comprehensive, NRC as fundamental. Resolution, facility agreed question is fundamental.
57	H	3										✓		U	{New} Question does not address the <b>AND</b> portion of the A2 K/A. Resolution, modified question to address AND portion of A2 K/A.
58	H	2												S	{New}
59	H	4												S	{New}
60	H	4												S	{Bank} Licensee identified as fundamental, NRC as comprehensive. Resolution, facility agreed question is comprehensive.
61	F	3												S	{New}
62	H	2												S	{New}
63	H	2												S	{New}
64	F	3												S	{New} Licensee identified as comprehensive, NRC as fundamental. Resolution, facility agreed question is fundamental.
65	H	3												S	{NRC} Previous NRC from 2/2000 exam.
66	F	2												S	{Bank}
67	F	3												S	{New}
68	H	4										✓		U	{New} Answer does not address the <b>AND</b> portion of the A2 K/A (only 1 distractor addresses the AND requirement) Resolution, modified question to address AND portion of A2 K/A.



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		
69	H	2												S	{New} Licensee identified as fundamental, NRC as comprehensive. Resolution, facility agreed question is comprehensive.
70	H	3				✓								U	{New} 1) 2 <sup>nd</sup> part of stem states RPV press @ 280# & lowering which is significantly less than the injection permissive of 461#, thus distractors "c" and "d" for Div 1 not credible. Distractor "a" for Div 1 same. Resolution, facility changed parts of distractors "c" and "d"
71	H	2										✓		U	{New} Exam outline illicit information on relationship between RHR Cnmt Spray Mode and electrical power supplies to pumps, the question as stated does not require knowledge of the RHR Cnmt Spray Mode. Resolution, modified stem to ensure tie to CNMT Spray Mode.
72	F	3												E	{Bank} The question as written does not clearly illicit information about the override for suppression pool spray valve logic as required by the K/A selected. Resolution, clarified stem to ensure that the override switch was a missed step.
73	F	2												E	{Bank} Change one of the distractors ("a") to a value greater than 1375 psig (i.e. 1450 - approx 110% of Safety Limit). Especially if basis for distractors is SRV lift setpoints. Resolution, changed a distractor to 1450#
74	H	3												S	{New}
75	F	3												S	{Modified}
76	F	4												S	{Bank}
77	F	2												S	{Bank}
78	H	2												S	{Bank}
79	F	2												S	{New}
80	F	2												S	{Bank}
81	F	3												S	{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	Back-ward	Q=K/A	SRO Only		
82	H	3												S	{Bank} Licensee identified as fundamental, NRC as comprehensive. Resolution, facility agreed question is comprehensive.
83	F	2												E	{Bank} Distractors "c" & "d" weak, only operate if EECW initiates (one but not two). Suggest change "c" to RBCCW closes. Licensee identified as comprehensive, NRC as fundamental. Resolution, 1) facility added RBCCW closes to distractor "c". 2) facility agreed question is fundamental.
84	H	2												S	{Bank}
85	H	3				✓								U	{New} With the stem containing the NO report that the Surge Tank Level reads 4.5 feet & steady, distractors "b" & "c" low credibility. (One but not two) Resolution, modified stem and one distractor to make more credible.
86	H	3												S	{Bank}
87	F	3										✓		U	{Bank} Question doesn't illicit information on AND portion of A2 K/A. Resolution, modified question to address AND portion of A2 K/A.
88	F	4												S	{New} In distractors "b", "c" & "d" capitalize first letter in each and period at end of sentence. Resolution, fixed capitalization.
89	F	3												S	{Bank}
90	H	4					✓							U	{New} Insufficient material/explanation provided to exclude distractor "d"- Uncontrolled Recirc Flow Change. AOP 20.138.01 is titled "Recirc PUMP TRIP" where as AOP on "Uncontrolled Recirc Flow Change" is numbered 20.138.03. Distractors a & b are immediate actions of distractor d. Resolution, changed distractors "a" and "b" to remove conflict and corrected typo in distractor "d".
91	F	3												S	{New}
92	F	4												S	{New} Stem should state MOP06 instead of MOP07, in distrator "c" capitalize first letter. Resolution, corrected typo.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
93	H	4													U	{New} Requires to much research in ITS Basis to be an Reactor Operator ITS? (Basis for entry into Condition I) K/A not 10 CFR 50.41. Resolution, see comments on question #4.
94	H	3													S	{New}
95	F	2													S	{Bank}
96	F	2													S	{NRC} Previous NRC from 2/2000 exam.
97	H	3													S	{Bank}
98	H	4											✓		U	{New} Question really requires knowledge of station electrical distribution, does not meet the intent of the K/A. Resolution, changed distractors and answer to actions from EOPs.
99	F	3													S	{Bank}
100	F	3													S	{New}
																18 U's; 12 E's with 4 previous NRC.
																9, disagreed on whether comprehensive or fundamental
																50 New questions; 4 Modified and 46 Bank questions