NRC COMMENTS TO THE PROPOSED

WRITTEN EXAMINATION, ES-401-9

FOR THE DRESDEN INITIAL EXAM - APRIL 2007

ES-401 **Written Examination Review Worksheet** **Form ES-401-9**

Dresden April 2007 Exam

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	H	3										X		E	Bank. To clarify the intent of the question, add the following words at the end of the question stem "for radiation exposure." RESOLUTION: Done
2	F	2										X		S	Bank.

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. 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?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

A "+" in the "Q#" column indicates that question was reviewed as part of the representative sample of 30 questions.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
3	F	3										X		S	Bank.
4	H	3										X		S	Bank. Change classification of question from Fundamental to Higher Cognitive Level. RESOLUTION: Done
5	H	3										X		S	Bank.
6+	F	3										X		S	Bank.
7	F	3										X		S	Bank. Why is distractor C not also correct? Is it because there no Groupt II isolation status light on the TIP drawer? RESOLUTION: The TIP light "on" indicates the Gruop II isolation is Reset.
8	F	3										X		E	Bank. To clarify the question stem, add the words underlined: "What is the MINIMUM time **after the LOOP** the battery ..." RESOLUTION: Done
9+	F	2										X		S	New.
10	F	2										X		S	New
11	H	4										X		S	New.
12	F	2										X		S	Bank.
13+	F	2										X		S	Bank. Is it credible that the reactor period would change from 100 seconds to 19 seconds with one control rod pulled out only 2 notches? RESOLUTION: Verified that 2 notches could result in a short period
14	F	3										X		S	New. Is this information something that an RO would be expected to know? RESOLUTION: Site learning objective requires this level of knowledge provided.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
15	F	3				X						X		U	Bank. Distractors B and D are not credible that it would be required to ensure that the Drywell and Torus must be greater than 0 psig to prevent an unmonitored release to the Reactor Building. Suggest changing "(2)" so that the distractors become: A. less than 0.0 psig. B. less than Reactor Building pressure. C. less than 0.0 psig. D. less than Reactor Building pressure. RESOLUTION: The suggested change would have resulted in 2 correct answers. B. And D. Changed to 'equal to' 0.0 psig.
16+	H	3	X									X		S	Bank. One could argue that there is no correct answer, since the operators could first attempt to take manual control of the turbine bypass valves to get them open. RESOLUTION: No, Loss of EHC will prevent opening the control valves
17	H	2										X		S	New.
18	H	3										X		S	New. On the Question Worksheet, change the K/A Importance from "2.8/2.9" to "2.7/2.7." RESOLUTION: Done
19+	H	3										X		E	New. 1) In the question stem, change the word "affect" to "effect." 2) On the Question Worksheet, change the K/A Importance from "3.4/3.6" to "3.3/3.4." RESOLUTION: Done
20	H	2										X		S	Bank. Change classification of question from Fundamental to Higher Cognitive Level. RESOLUTION: Done

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
21	H	3	X									X		E	Bank. 1) Change the format of the question stem and distractors so that there are two balnks to fill in (i.e., Current RBCCW pressure _____ and RBCCW temperature _____.). 2) It is not clear what "temperature" one is referring to in the question stem (i.e., RBCCW temperature or RPV water temperature). RESOLUTION: 1) agreed format could remain as is 2) Done
22	F	2										X		S	New.
23+	F	3										X		S	Bank.
24	F	3										X		S	New.
25	H	3				X						X		E	Bank. Distractor D is not credible, since it does not relate to any of the times given in the question stem. RESOLUTION: Distractor D changed.
26+	H	3										X		S	New. Would an RO be expected to know from memory the range of remote panel RPV water level instruments? RESOLUTION: Site learning objective requires this level of knowledge provided.
27	F	3	X									X		S	New. It is not clear why distractor D is correct. What procedure will have the operators throttle the torus cooling test valves following RPV flooding? RESOLUTION: DOP 1500-02 provided
28	H	3										X		E	New. Editorial: In distractor A, place "MCC 38-2" on the second line of the distractor. RESOLUTION: Done

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		
29+	H	3					X					X		E	Bank. 1) Distractor A could be argued to also be correct, since the turbine stop and governor valves would drift closed after a certain period of time on a loss of EHC pressure (if the EHC pumps also lose power). 2) Typo: In the question stem, correct the typo "floowing" to "following." 3) Editorial: In the question stem, change to: "**Then** the following sequence of events occur:" RESOLUTION: 1) EHC will not be lost, EHC powered by BUS 37. 2) Done 3) Done
30	F	3				X						X		E	New. 1) Change classification of question from Higher Cognitive Level to Fundamental. 2) Distractor D is not plausible that a loss of one Bus would cause loss of all APRMs. RESOLUTION: 1) Done 2) Reference to a 2nd Bus added to stem.
31	F	3										X		S	New.
32	H	3										X		S	Bank.
33+	F	2										X		S	Bank.
34	F	2	X									X		E	New. 1) In the question stem, state that the person is "**at** a Unit 2 CRD accumulator" instead of "on a Unit 2 CRD accumulator." 2) On the Question Worksheet, change the K/A Importance from "3.4/3.9" to "3.3/3.1." RESOLUTION: 1) Done 2) Done
35	H	3										X		S	Modified.
36+	H	3										X		S	New. NOTE: Question requires a reference.
37	H	3										X		S	New.
38	F	3										X		E	Bank. Editorial: In the question stem, delete the extra word "steady" in the second bullet. RESOLUTION: Done

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		
39+	H	3										X		E	New. Since each pump and each valve has a different indication, it is clear from the question stem that only one SBLC pump and only one squib valve opened. Then, the only information one needs to know to get the correct answer is the pump capacity of a SBLC pump. Suggest changing the question stem such that both squib valve lights are extinguished (i.e., both squib valves are open). RESOLUTION: Suggested change made.
40	H	2										X		E	New. Suggest deleting the "1" from distractors C and D. RESOLUTION: Done
41	H	3										X		S	New.
42	F	3										X		S	Bank.
43+	H	3										X		S	New.
44	F	2										X		S	New.
45	H	3										X		S	New. Need to go over breaker logics with facility. RESOLUTION: Additional reference provided.
46+	H	3										X		S	New.
47	F	2										X		E	New.
48	H	3										X		S	Bank. To provide clarity to what is meant by "closer to cavitation," add the following after this phrase "(lower the available pump NPSH)." RESOLUTION: Done
49+	H	2										X		E	Bank. Per DEOP 100, Figure C, distractor D (correct answer) should be changed from "-295inches" to "-297 inches." NOTE: Question requires a reference. RESOLUTION: Done
50	F	3										X		S	New.
51	F	3										X		S	Bank.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
52	F	2										X		S	New.
53+	H	3										X		S	Bank.
54	H	3										X		E	New. 1) For symmetry, change distractors such that there are two with "TBCCW system temperature DECREASES." 2) In distractor A, what does "No single parameter" mean? Does this mean there is no concern with any parameter, or that there is concern with more than one parameter? RESOLUTION: 1) In this case having only one decreases choice does not make the question easier to answer as shown in site validation. 2) The word "single" deleted from distractor A.
55	F	3										X		E	Bank. In distractor A (correct answer), change the phrase "this flow must be" to "this flow was determined to be" to agree with the wording in DOS 1500-02. RESOLUTION: Done
56+	F	3				X						X		E	Bank. Distractor D is not plausible that there is a torus high temperature Tech Spec limit. RESOLUTION: Distractor D changed.
57	F	2										X		S	Bank.
58	H	3										X		S	New.
59+	H	3										X		S	Bank.
60	F	3										X		S	New.
61	H	3										X		S	New.
62	H	3										X		S	New.
63+	H	3										X		S	New.
64	F	2										X		S	New.
65	H	3										X		S	New.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
66+	H	3										X		E	New. 1) Editorial: In the question stem, change "affect" to "effect." 2) Need to see reference that shows that the isolation condenser actuates on a high RPV pressure of 1070 psig for 17 seconds. RESOLUTION: 1) Done 2) Additional reference provided.
67	H	3										X		E	New. Editorial In the question stem, change "it's" to "its." RESOLUTION: Done
68	H	3										X		E	New. 1) Editorial: In the question stem, fully capiatalize the word "PREFERRED." 2) To ensure that distractor A is incorrect, change the question stem such that the East CRD Module Area rad level is 2600 mrem (instead of 2500 mrem, which is right at the Max Safe Limit). RESOLUTION: 1) Done 2) The vent location is near the West CRD Module Area where the rad level is 2800 mrem.
69+	H	2										X		E	Bank. 1) So as to not directly lead the applicant to the correct reference, provide the applicant with all of DOP 1000-03, instead of just Attachment A of DOP 1000-03. Need to ensure that the rest of DOP 1000-03 does not give away information that would help in other questions. 2) To provide a more plausible distractor , replace distractor D (180°F) with 105°F (and rearrange order of distractors from low to high). NOTE: Question requires a reference. 1) Done 2) Done
70	F	2				X						X		E	New. 1) Distractor C is not plausible that the LPCI Loop Select Logic will auto reset when either drywell pressure OR RPV level signal initiation has cleared. 2) To make distractor B more plausible, change distractor B from "EITHER/OR" to "BOTH/AND." 3) Typo: In the first two lines of the question stem, change "occured" to "occurred." RESOLUTION: 1) Distractor C changed. 2) Distractor B changed. 3) Done

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
71	F	2										X		E	New. Typo: In the first line of the question stem, change "occured" to "occurred." RESOLUTION: Done
72	H	3	X									X		S	Bank. Electrical Print 12E-6587 is one of two electrical prints provided to the applicant. However, this question does not appear to test an applicants knowledge, because it is not clear that an applicant would ever get to this print by himself (if it was not provided). NOTE: Question requires a reference. RESOLUTION: Author showed how applicant could easily find the print himself.
73+	H	3				X						X		E	New. 1) To make distractor D more plausible, change the last part of the distractor to; "due to Nitrogen inerting AND SBGT still being aligned." 2) Typo: In the second line of the question stem, correct the spelling of the word "purge." RESOLUTION: 1) distractor D changed 2) Done
74	H	3				X						X		S	New. Distractor C is not plausible that plant efficience will increase with a loss of feedwater heating. RESOLUTION: Generator output would increase and applicant could confuse this with an efficience increase.
75	H	3										X		E	Bank. Typo: On the third line of the question stem, correct the spelling of the word "indications." NOTE: Question requires a reference. RESOLUTION: Done
76+	H	3										X	X	S	Bank. NOTE: Question requires a reference.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
77	F	2				X						X	X	S	Bank. Distractors C and D are not plausible that the Tech Spec limit for drywell temperature is 160°F (since the number of 160°F appears to have no bases for anything). Suggest either deleting the first part of the question and adding four different distractors for the reason for the Tech Spec limit on drywell temperature, or adding another number that is associated with a different limit that one could get confused with (e.g., a MaxSafe temperature limit for a room) RESOLUTION: 160°F is the DOP 200-1 entry for drywell temperature.
78	H	2										X	X	E	Bank. To ensure that one is close to a condition requiring blowdown, in the question stem change "13 feet" to "12 feet." NOTE: Question requires a reference. RESOLUTION: Done
79+	H	3										X	X	S	Bank. Need a reference provided from facility to show that the second part of distractor A is correct. NOTE: Question requires a reference. RESOLUTION: reference provided
80	F	2										X	X	E	Bank. 1) Is the WEC staffed all the time? If not, who would have this responsibility during off hours when the WEC is not staffed? 2) Typo: In the question stem, correct the spelling of "Clearance." RESOLUTION: 1) Yes, the WEC is staffed all the time. 2) Done
81	F	3	X									X	X	S	Bank. Per Generic Letter 91-18, the state of operability of equipment is never unknown. Equipment is either operable or inoperable at all times. There appears to be no correct answer. RESOLUTION: OK site procedure requires calling Engineering to complete the operability call.
82	H	3										X	X	S	Bank. 1) Editorial: In distractors C and D, change "it's" to "its." 2) Need to go over references with facilty to verify that distractor D is correct. RESOLUTION: 1) Done 2) Additional reference provided.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
83+	F	2										X	X	S	Modified. Is 545' elevation the same elevation as the 3-1303-3 valve room? If not, then even though it might be closer, it may be harder to get the cart to the right area. RESOLUTION: Yes, the 545' elevation the same elevation as the 3-1303-3 valve room.
84	H	3										X	X	S	Bank.
85	H	3										X	X	S	Bank. NOTE: Question requires a reference.
86+	H	3										X	X	E	New. Editorial: In distractor D, change the word "secure" to "securing." RESOLUTION: Done
87	H	3	X									X	X	E	New. 1) The EARLIEST time is 17:17:30. To clarify, revise the question stem to say the EARLIEST time **of the times below**. 2) Once one calculates the EARLIEST time, one has the correct answer without having to know the answer to the second part of the question. This type of question is better suited to a 1of 2 taken twice type question. Suggest changing the distractors so that distractors A and B have time 17:17:00 listed, and distractors C and D have time 17:18:00 listed. 3) In distractors A and D, delete the Phrase "of 252.5 X 10^6 Btu/hr for 30 minutes." RESOLUTION: 1) Done 2) Done 3) Done
88	F	2										X	X	S	Bank.
89+	H	3										X	X	S	New.
90	F	3										X	X	U	New. Per the Tech Spec 3.8.1 Bases, the Common EDG is also required. Thus, there is no correct answer. Suggest changing distractors A and B to say "Unit 3 EDG AND 2/3 EDG," and changing distractors C and D to say "Unit 3 EDG AND either Unit 2 or 2/3 EDG." RESOLUTION: Distrators revised.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
91	H	2										X	X	E	Bank. 1) Editorial: In the last line of the question stem, change "THe" to "The." 2) In the last line of the question stem, add the word "the NSOs to" (i.e., direct the NSOs to"). NOTE: Question requires a reference. RESOLUTION: 1) Done 2) Done
92	H	3										X	X	S	Bank.
93+	H	3										X	X	E	Bank. In the question stem, fully capitalize the word "LONGEST." RESOLUTION: Done
94	H	3										X	X	S	New. To choose distractor D as the correct answer, need to **assume** that Reactor power is > 6% or is unknown. The question stem is not specific enough to say that this is true. RESOLUTION: Question stem is satisfactory, since with the APRM DOWNSCALE lights not illuminated, reactor power is > 6.5%.
95	H	3				X						X	X	E	New. Distractor C is not plausible a Service Air drop in pressure to 70 psig would require notification of the SRI, while a drop of Instrument Air pressure to an even greater amount (50 psig) would not require notification. RESOLUTION: Distractor C Service Air drop changed to 40 psig
96+	H	3	X									X	X	E	New. An outlet temperature of 150°F is required on the RWCU Non-Regenerative HX to cause a RWCU isolation. The flow reduction to the 3A RBCCW HX may not be enough to cause the outlet temperature of 150°F that is required on the RWCU Non-Regenerative HX to cause a RWCU isolation. Fouling, in general, is a **long term** problem, and it is not clear from the question stem that a RWCU isolation would occur for a long time. This could result in the second part of distractor D being incorrect, and thus there being no correct answer. RESOLUTION: Stem changed to indicated a rapid fouling.
97	F	2										X	X	S	
98	H	2										X	X	S	Bank. NOTE: Question requires a reference.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
99+	H	3										X	X	S	Bank.
100	H	3										X	X	E	Modified. In distractor D, add the following "and can not be recovered" after the phrase "When RPV water level drops below +8 inches." RESOLUTION: Distractor D changed