

**NRC COMMENTS TO THE PROPOSED
WRITTEN EXAMINATION, ES-401-9
FOR THE
POINT BEACH NUCLEAR PLANT INITIAL EXAMINATION
JULY 2007**

Point Beach July 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	2													E	New. The attached reference clearly quantifies the flow through the inactive loop, but not the active loop. What is the basis for the 115% value? RESOLUTION: The question was modified to test for knowledge of more general impacts, rather than specific numbers.
2	H	2				X									E	Bank. 1) Change the wording in distractor D to "Pressurizer PORV is stuck open," since the word "lifting" may imply that the PORV is operating normally to control RCS pressure. 2) On the Question Worksheet, the "Explanations" are not correctly aligned with the answers provided. No other comments on the question. RESOLUTION: 1) Change made as requested. 2) Correction to the Question Worksheet was made as requested.

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.

Pont Beach July 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		
3+	H	3												S	Bank.
4	F	3											X	E	New. The K/A requires knowledge of the operational implications of reflux boiling, not just its definition. For example, the background reference information about keeping the secondary side adequately full of liquid to promote reflux boiling in a one-out-of-two taken twice format might be used to yield a better question. <u>RESOLUTION:</u> Changes to question made as requested.
5	H	3												S	New.
6+	F	3												S	Bank.
7	F	2												S	New.
8	F	2												U	New. One is only required to know the answer to half the question to get the correct answer. Suggest changing question into a 1 of 2 taken twice type question by changing the distractors as follows: A. 90°-100°F 130°F B. 110°-120°F 130°F (Correct Answer) C. 90°-100°F 160°F D. 110°-120°F 160°F <u>RESOLUTION:</u> Changes to question made as requested.
9+	H	2				X								E	New. To add diversity to the distractors, change distractor C to say: "RCS pressure will rise until the reactor trips; pressure will continue to rise until Pressurizer safety(ies) lift, which will lower pressure. The Pressurizer safety(ies) will then shut and the pressure cycle will repeat." <u>RESOLUTION:</u> Changes to distractor made as requested.
10	F	2												E	New. 1) In the question stem, change the word "should" to "is required to." 2) Distractor A (correct answer) is the only distractor without a reason being given to take the action. Add the following reason to distractor A "to isolate steam leak." <u>RESOLUTION:</u> 1) Change to stem made as requested. 2) Change to distractor made as requested.
11	H	3												S	Bank.
12	F	2												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		
13+	H	3												S	New.
14	F	2				X								E	New. Distractor D is not plausible. It is unreasonable to just reach an alarm after the system is beyond being inoperable. Suggest a one-out-of-two taken twice question using only distractors A and B and the explanations given applied to both values. <u>RESOLUTION:</u> Replaced with a Fundamental and New question.
15	H	3	X											E	Modified. In the question stem, the fourth bulleted item is "G02 Emergency Diesel Cooler delta P Flow Low." However, the alarm response procedure provided as a reference for the question is titled "G02 Emergency Diesel Cooler P Flow Low." What is the correct alarm that should be given in the question stem? <u>RESOLUTION:</u> Question stem item revised to say "G02 Emergency Diesel Cooler Low Flow."
16+	H	3												E	Bank. 1) Editorial: In the question stem, fully capitalize the word "NEXT." 2) On the question worksheet, change the importance Rating for the K/A from 3.4 to 3.9. <u>RESOLUTION:</u> 1) Change to stem made as requested. 2) Change to question worksheet made as requested.
17	H	3												S	Bank.
18	F	2												E	Bank. To make the distractors more symmetric, change distractor A to say "MFW, Condensate, AFW, Bleed and Feed." <u>RESOLUTION:</u> Changes to distractor made as requested.
19+	F	2												S	New.
20	F	3												E	New. Delete "monitored" and discuss only the second part of the question. <u>RESOLUTION:</u> Changes to question made as requested.
21	H	3												S	Bank.
22	F	2												E	Bank. The references provided for the correct answer (i.e., to protect the condenser from overpressure) do not mention "overpressure." Is there a lesson plan that discusses condenser overpressure? <u>RESOLUTION:</u> Changes to distractor made to omit overpressure.
23+	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			
24	F	3													E	New. 1) The references provided do not specifically support distractor B as the correct answer. 2) On the question worksheet, change the Importance Rating from 2.6 to 2.5. <u>RESOLUTION:</u> 1) Changed distractors to delete "quickly." 2) Change to question worksheet made as requested.
25	H	2												X	U	Modified. This question is at the SRO level per 10CFR55.43(b)(5), unless there is an RO Learning Objective related to this question. <u>RESOLUTION:</u> Replaced with a question at the RO level and a Fundamental and New question.
26+	F	3				X									E	New. To make the distractors more symmetric (i.e., so that each system is listed twice in the distractors), suggest changing distractor A to delete mention of Hydrogen Recombiners, and instead add "Post-Accident Containment Ventilation to lower radiation levels in containment" to replace the Hydrogen Recombiners. <u>RESOLUTION:</u> Changed distractors to be more symmetric.
27	F	2													S	Bank.
28	F	2													E	Bank. Fully capitalize "ONLY" in distractor "A." <u>RESOLUTION:</u> Change to distractor made as requested.
29+	F	3													E	New. Change the question stem to "What is the purpose of the RCP flywheel?" <u>RESOLUTION:</u> Change to question stem made as requested.
30	H	3				X									U	New. 1) Distractors B and C are not plausible that a higher (lower) RCS boron concentration will cause a lower (higher) Shutdown Margin. 2) In the question stem, change the first bullet to "Unit 1 tripped 20 minutes ago from 1% power." 3) The explanation on the Question Worksheet for why distractor D is correct is not correct, since it states that the control rods will move in to compensate for a lower boron concentration. However, the rods can not move in, since they are tripped in on the reactor trip. <u>RESOLUTION:</u> 1) - 3) Replaced question with a Higher Cognitive Level and New question.
31	H	3													S	Bank.
32	H	3													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	Back-ward	Q=K/A	SRO Only		
33+	F	3												S	New. On the Question Worksheet, change the K/A Importance Rating from 2.7 to 3.3. <u>RESOLUTION:</u> Question Worksheet revised.
34	H	2												S	Bank.
35	H	2				X								E	New. Distractor B is not plausible that the ECCS could not sustain a single active failure. <u>RESOLUTION:</u> Change to distractor made as requested.
36+	F	3												S	Bank.
37	F	2												E	New. Eliminate the 2 nd half of the question regarding annunciation. <u>RESOLUTION:</u> Changes to question made as requested.
38	F	3											X	S	New. Question is at the SRO level [as a TRM Bases question per 10CFR55.43(b)(2)], unless there is a Learning Objective for an RO to know this information. <u>RESOLUTION:</u> Learning objectives LO#1 from LP-0078 and LO#2 from LP-3410 require RO knowledge of this information.
39+	H	2												E	New. Change the question stem to 16% power and 1800 RPM in preparation for synching. <u>RESOLUTION:</u> Changes to question made as requested.
40	F	3												S	Bank.
41	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		
42	H	2												E	<p>New. Suggest the following question.</p> <ul style="list-style-type: none"> - A large break LOCA occurred on Unit 1 one minute ago. - Containment pressure is at 35 psig. - No operator actions have been taken. <p>What is the expected status of Spray Additive valves HCV-836A and B, and what is the concern (if any) with the present status of the Spray Additive system? [Note: Distractor C below is the correct answer]</p> <p style="text-align: center;"><u>Status of HCV-836A and B</u> <u>Concern with Present Status</u></p> <p>A. Open No concerns. System operating normally.</p> <p>B. Open Increased for corrosion of stainless steel</p> <p>C. Closed No concerns. System operating normally.</p> <p>D. Closed Increased for corrosion of stainless steel</p> <p><u>RESOLUTION:</u> Changes to question made as requested.</p>
43+	H	3	X											E	<p>New. 1) In the last bulleted item in the question stem, add the word "then" before the word "slowly." 2) In the question stem, delete "= 1X10 -7 Amps IR."</p> <p><u>RESOLUTION:</u> 1) - 2) Changes to question stem made as requested.</p>
44	F	3	X			X								E	<p>Bank. 1) In the question stem, change "power level" to "turbine load." 2) To make the distractors more symmetrical, change distractor <input type="checkbox"/> to say "<55%."</p> <p><u>RESOLUTION:</u> 1) - 2) Changes to question stem and distractors made as requested.</p>
45	H	3									X			U	<p>New. 1) The question is at the ability level which does not match the K/A, which is at the knowledge level. Re-phrase the question to make it a Knowledge level question. 2) In the first bulleted item in the question stem, add the words "small break" before the "LOCA."</p> <p><u>RESOLUTION:</u> 1) - 2) Changes to question made as requested.</p>
46+	H	3												S	New.
47	H	3												S	Bank.
48	H	3												S	Modified.
49+	F	3												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		
50	H	3	X											E	New. In the question stem, change the second question to "How would the final RHR HX bypass flow compare to the initial RHR HX bypass flow?" <u>RESOLUTION:</u> Changes to question stem made as requested.
51	H	3												S	Modified.
52	F	3												E	Modified. 1) Change distractor D to Bus 2B-03. 2) Delete "direct" in question stem. <u>RESOLUTION:</u> 1) - 2) Changes to question stem and distractor made as requested.
53+	H	3												S	New.
54	F	3				X								E	New. In distractor C, delete the last two words "following refueling." <u>RESOLUTION:</u> Changes to distractor C made as requested.
55	F	2												S	New.
56+	F	2												S	New.
57	H	2												S	Bank.
58	H	3	X											E	Bank. Change to "Assume NO operator action related to pressurizer level control during the power reduction to 90% power." <u>RESOLUTION:</u> Changes to question stem made as requested. .
59+	H	3				X								E	New. To make the distractors more symmetrical, change the second bulleted item of distractor C to say "Exhaust fan will trip on interlock, Supply fan remains running." <u>RESOLUTION:</u> Changes to distractor C made as requested.
60	H	3												E	Bank. Request that the question be changed to having the leak located 5 feet above the top of the spent fuel racks to make the distractor more plausible. <u>RESOLUTION:</u> Changes to question stem made as requested.
61	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			
62	H	3					X								U	New. Distractors A and C could also be considered to be correct, since either one of these distractors would stabilize RCS temperature at or below 547°F (as required per EOP-0 step 8.2 (RNO)). <u>RESOLUTION:</u> Revised question to reference EOP-0.1 instead of EOP-0 to ensure the background reference supported the correct answer. The revised question is at the Higher Cognitive Level and New.
63+	H	3	X												E	New. Re-phrase the question in the question stem as follows: "What event would explain the indications above and what actions must be taken?" <u>RESOLUTION:</u> Changes to question stem made as requested.
64	F	2													S	Bank.
65	F	2										X			U	Modified. Is 1RE-212 considered a Process Rad Monitor instead of an Area Rad Monitor? If so, then Q = K/A. <u>RESOLUTION:</u> 1RE-212 was considered a Process Rad Monitor. Replaced question with a new K/A (K4.03) which was a Fundamental and New question.
66+	H	3	X												E	New. The reference provided with the question is associated with load changes of ≤10%. Does a sentence need to be added to the question stem to state that a load change from 100% to 90% (for example) is going to be made? <u>RESOLUTION:</u> Revised question to add a 5% load swing.
67	H	3													S	Bank.
68	F	2				X									E	Bank. To enhance the question change distractors A and C to "2485 PSIA" and "2735 PSIA." <u>RESOLUTION:</u> Changes to distractors made as requested.
69+	F	3				X									E	Bank. To make distractor A more plausible, change distractor A to state that RCS boron has decreased from 2330 to 2275 ppm (i.e., greater than 50 ppm). <u>RESOLUTION:</u> Changes to distractor A made as requested.
70	H	3	X												E	New. For clarity, in the question stem, re-phrase the last sentence to say: "Assume power remains constant at 100%." <u>RESOLUTION:</u> Changes to question stem made as requested.

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		
71	H	2				X								E	New. To make the question more plausible, make this into a 1 out 2 taken twice type question as follows: A. 8.8 hours 0.8 hours B. 8.8 hours 4.8 hours C. 12.8 hours 4.8 hours D. 12.8 hours 0.8 hours RESOLUTION: Changes to distractors made as requested.
72	F	3				X								E	Bank. Distractor B (to bypass the Portal Monitor) is not plausible. RESOLUTION: Changes to distractor B made as requested.
73+	F	3				X								U	Bank. 1) This question is similar to SRO question 80, in that both questions relate to how AOPs are used with EOPs. In addition, this question is at the SRO level (i.e., assessment of facility conditions and selection of the appropriate procedure as per 10 CFR55.43(b)(5). 2) Distractor A is not plausible that one would only perform EOP-0 as time allows. RESOLUTION: Replaced question with a Bank question at the Fundamental level.
74	F	3												S	New.
75	H	3												S	Bank. NOTE: Question requires a reference.
76+	H	1				X							X	E	Bank. Distractors B and C are not good distractors. TS actions > 1 hour are not required to be known from memory. RESOLUTION: Modified question to address these concerns.
77	H	2											X	S	New.
78	F	2				X							X	U	New. Distractors C and D are not plausible, in that a reactor trip would be expected to occur before safety limits were exceeded. RESOLUTION: A New question at the Higher Cognitive level was written to address these concerns. NOTE: Question requires a reference.
79+	H	3											X	S	Bank.
80	F	3											X	E	Modified. In the question stem, state that Unit 1 is at 100% power. RESOLUTION: Changes to question stem made as requested.

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		
81	H	3											X	S	New. <u>NOTE:</u> Question requires a reference.
82	H	3											X	S	New. <u>NOTE:</u> Question requires a reference.
83+	H	3											X	S	Bank.
84	F	2				X							X	E	Modified. Distractor A is not plausible that one would need 2 CS pumps and 4 Accident Fans to ensure that containment design pressure and temperature limits are met during a design basis LOCA, since SROs should know that the plant should be capable of withstanding a single active failure. <u>RESOLUTION:</u> Changed distractor A to 2 CS pumps and 4 Accident Fans .
85	H	3											X	S	Bank.
86+	F	3				X							X	E	New. Distractor D is not plausible, manually initiating an SI is attempted before manually starting and aligning components. <u>RESOLUTION:</u> Replaced distractor D.
87	H	3				X							X	E	New. 1) In distractor B, to be more specific, change the phrase "is causing flashing in Sump B" to "is causing flashing in the "A" Containment Spray and RHR pumps suction lines. 2) What is the normal containment sump level in this situation? When would distractor C be true? <u>RESOLUTION:</u> 1) Change to distractor D was made as requested. 2) Distractor C would be true at a containment sump level of 34 inches.
88	F	2											X	S	New.
89+	H	3	X										X	E	New. 1) In the question stem, change the phrase "should be taken" to "is expected to be taken." 2) In the question stem, change flow to 220 gpm because IF flow is not greater than 200 gpm, CSP-H.1 applies, eliminating distractors C and D regardless of AF-4012 failed position. <u>RESOLUTION:</u> 1) - 2) Changes to question stem made as requested.
90	H	3											X	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		
91	H	2	X										X	E	Bank. 1) In the question stem, add the title for step 21 of EOP-1 (i.e., Check If RCS Cooldown And Depressurization Is Required.”. 2) In distractor D, change the title of EOP-1.3 to “Transfer to Containment Sump Recirculation - Low Head Injection.” <u>RESOLUTION:</u> 1) Changed the question stem as requested. 2) Changed distractor D as requested.
92	H	3	X										X	E	New. 1) In the question stem, change the word “should” to “is expected to.” 2) In the question stem, in the second bulleted item, add the word “has” before the words “been removed.” <u>RESOLUTION:</u> 1) - 2) Changes to question stem made as requested.
93+	F	2											X	S	Bank.
94	H	2											X	S	New.
95	H	2	X										X	E	New. Change the question stem to state that one Reactor Head Closure Bolt has been detensioned, with the correct answer then becoming distractor D. <u>RESOLUTION:</u> Changes to question stem made to state that 3 Reactor Head Closure Bolts had been detensioned.
96+	F	2											X	S	Bank.
97	F	3	X			X							X	E	Bank. 1) In the question stem, change initial dose estimate to 110 R/hr. 2) Change distractor D to say: “May be made without special authorization, since 10CFR20 limits will not be exceeded. 3) Worksheet explanation for distractor B is incorrect. <u>RESOLUTION:</u> 1) Changed the question stem as requested. 2) Changed distractor D as requested. 3) Worksheet corrected.
98	F	1				X							X	U	New. LOD = 1. Distractors A and B are not plausible in that no sampling of a GDT is required. <u>RESOLUTION:</u> Replaced question with a New question at the Higher Cognitive level .
99+	H	3	X			X							X	E	New. 1) Distractor D is not plausible - change to: “SEP 2.4, Hot Shutdown LOCA.” 2) In the question stem, change the words in the last bulleted item from “is being evaluated” to “has been entered.” <u>RESOLUTION:</u> 1) Changed distractor D as requested. 2) Changed question stem as requested.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
100	H	1				X							X	E	New. 1) For distractor A, delete mention of AOP-1A since the answer is correct without this. 2) In the question stem, delete mention of the PORV block valve. <u>RESOLUTION:</u> 1) Changed distractors as requested. 2) Changed question stem as requested.