PERRY INITIAL LICENSE EXAM

MARCH 5 THRU 13, 2002

NRC Review Comments to facilitydeveloped written exam and operating test

Question Number		Comment(s)
3. UNSAT ₁	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "D" is also correct. A low SFP level could cause the SFP surge tank level to decrease resulting in a FPCC pump trip.
	LICENSEE RESPONSE:	The licensee modified distractor "D" to be clearly wrong.
4.	NRC:	Get rid of "Note." You didn't give a partial list as a possible answer.
	LICENSEE RESPONSE:	The licensee agreed and deleted this from the question.
6.	NRC:	This is a MEMORY LEVEL question. The applicant is expected to know the automatic and immediate actions for annunciators, including MSL high rads.
	LICENSEE RESPONSE:	The licensee agreed and changed the designation to MEMORY level.
15.	NRC:	Psychometric Flaw; distractors "B" and "C" are implausible.
UNSAT ₂	LICENSEE RESPONSE:	The licensee agreed and improved the distractors for plausability.
17. UNSAT ₃	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "B" is also correct. "Minimizing the amount of water injected into the reactor vessel" REGARDLESS of the source is synonymous with "preventing flooding of the main steam lines."
	LICENSEE RESPONSE:	The licensee modified distractors "B" and "D" to be <u>clearly</u> wrong.

Question Number		Comment(s)
19. UNSAT₄	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "C" is also correct. "continue executing PEI-B13" is synonymous with "re-enter PEI-B13."
	LICENSEE RESPONSE:	The licensee modified distractor "C" to be <u>clearly</u> wrong.
21. UNSAT₅	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "D" is also correct. The system isolates at a tank pressure of 9- psig. The stem states that the IA system is at 89 psig. This is too close to the set point. The valves may have not closed yet.
	LICENSEE RESPONSE:	The licensee modified the stem and distractor "D" to ensure the distracor was clearly wrong.
26.	NRC:	State "half-scram" in distractors "C" and "D."
	LICENSEE RESPONSE:	The licensee agreed and modified the distractors to include the term "half-scram."
27. UNSAT ₆	NRC:	Psychometric Flaw; distractors "A" and "D" are implausible. When would power decrease and period remain stable and positive? When would power rise yet period be negative?
	LICENSEE RESPONSE:	The licensee modified distractors "A" and "D" to be "more plausible."

Question Number		Comment(s)
28.	NRC:	Will reactor pressure go from 1090 to <1083 in 25 seconds or less (particularly under ATWS conditions)? If not, one or more distractors would be correct.
	LICENSEE RESPONSE:	The licensee will enhance the stem to make the 20 second time frame, discussed in the stem, clear.
31.	NRC:	By giving a value of suppression pool level and temperature right on the line, the LOD is < 2.0. However, if you gave values between such that the applicant would have to "higher" or "lower" IAW the graph, that would increase LOD.
	LICENSEE RESPONSE:	The licensee will enhance the question by providing values that require application of the notes on the graph to interpret.
33. UNSAT ₇	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "C" is also correct. The question asks for the "most effective" method. Distractors "A" and "B" would not result in rod motion thus would not be effective. The methods described in distractors "C" and "D" would cause rod motion but how would the applicant determine if "C" or "D" were the most effective?
	LICENSEE RESPONSE:	The licensee modified distractor "C" to be <u>clearly</u> wrong.

Question Number		Comment(s)
35. UNSAT ₈	NRC:	Psychometric Flaw; no correct answer is provided. The basis provided in the answer only applies under DBA conditions. Since DBA conditions do not exist, the basis for LLS is simply to minimize valve cycling and prolong the life of the SRVs.
	LICENSEE RESPONSE:	The licensee modified the correct answer, "A," to be based on the basis provided in the student text for LLS.
36. UNSAT ₉	NRC:	The question does not match the referenced K/A. The K/A concerns reactor low water level and the reasons for spray cooling. The question simply asks which system responds to the conditions in the stem. The applicant need only know that HPCS initiated. No knowledge of the reasons for the concept of spray cooling is required to answer the question.
	LICENSEE RESPONSE:	The licensee re-wrote the question and provided it to the NRC for review. The re-written question was also unsat, in that, it was considered a memory level question concerning ECCS acceptance criteria from 10 CFR 50. The licensee again rewrote the question and was able to develop a question that met the K/A.
37. UNSAT ₁₀	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractors "C" is also be correct. The basis states that the temperature limits are based on "equipment qualifications." Why doesn't this include the qualifications of the cooling units?
	<u>LICENSEE</u> <u>RESPONSE</u> :	The licensee modified distractor "C" to be <u>clearly</u> wrong.

Question Number		Comment(s)
39. UNSAT ₁₁	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "A" is also correct. "Maintenance representatives" assigned to a crew are typically also "operating representatives."
	LICENSEE RESPONSE:	The licensee modified distractor "A" to be <u>clearly</u> wrong.
41. UNSAT ₁₂	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "C" may also be correct. Won't run out eventually lead to cavitation thus distractor "C" would also be correct.
	LICENSEE RESPONSE:	The licensee included pump flow information in the stem that precludes the concept of run-out from being a possible answer.
43. UNSAT ₁₃	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "A" is also correct. Reactor pressure less than 250 psig would prevent an operator from manually opening the SRV.
	LICENSEE RESPONSE:	The licensee replaced this question. The new question meets NUREG-1021 requirements.
46. UNSAT ₁₄	NRC:	Tech Spec basis questions are not appropriate for an RO exam. It would; however, be considered an "SRO only" question.
	LICENSEE RESPONSE:	The licensee decided to use this as-is on the SRO exam. The proposed replacement question for the RO exam did not meet the intent of the K/A. The replacement question meets NUREG-1021 requirements.

Question Number		Comment(s)
48. UNSAT ₁₅	NRC:	This EOP basis question is not appropriate for an RO exam. It would; however, be considered an "SRO only" question.
ONOA 1 ₁₅	LICENSEE RESPONSE:	The licensee decided to use this as-is on the SRO exam. Modified the RO version to test at the appropriate level.
50. UNSAT ₁₆	NRC:	The question does not match the referenced K/A. The K/A concerns manipulation of controls. The questions tests the applicant's knowledge of a procedural limitation on rod withdrawal.
	LICENSEE RESPONSE:	The licensee replaced this question. The proposed replacement had two correct answers. The licensee replaced it with a question from their bank. The new question meets NUREG-1021 requirements.
	NRC:	Not modified in accordance with NUREG-1021. In order for a question to be considered modified, IAW NUREG-1021, you must:
		 Change at least 1 pertinent condition in the stem; and Change at least 1 distractor.
		 Change the conditions in the stem such that one of the three distractors in the original question becomes the correct answer.
		In this case, no pertinent condition in the stem was changed.
	LICENSEE RESPONSE:	The licensee agreed and changed the designation to BANK.

Question Number		Comment(s)
51.	NRC: LICENSEE RESPONSE:	Not modified in accordance with NUREG-1021. In order for a question to be considered modified, IAW NUREG-1021, you must: • Change at least 1 pertinent condition in the stem; and • Change at least 1 distractor. OR • Change the conditions in the stem such that one of the three distractors in the original question becomes the correct answer. In this case, no pertinent condition in the stem was changed. The licensee agreed and will change the designation to BANK.
53. UNSAT ₁₇	NRC: LICENSEE RESPONSE:	This EOP question is not appropriate for an RO exam. It would; however, be considered an "SRO only" question. The licensee decided to use this as-is on the SRO exam. The replacement RO exam question meets NUREG-1021 requirements.
54. UNSAT ₁₈	NRC: LICENSEE RESPONSE:	This Tech Spec basis question is not appropriate for an RO exam. It would; however, be considered an "SRO only" question. The licensee replaced this with a question that meets NUREG-1021 requirements.
56.	NRC: LICENSEE RESPONSE:	This is a MEMORY LEVEL question. The applicant is expected to know the automatic response of the ATWS inverter to an undercurrent condition. The licensee agreed and changed the designation to MEMORY level.

Question Number		Comment(s)
57.	NRC: LICENSEE	Where does the basis for condenser over pressurization come from?
	RESPONSE:	The licensee produced a GE "design document" that discusses this. They will incorporate this basis into the system lesson plan.
60. UNSAT ₁₉	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "D" is also correct. If the Superintendent of Plant Operations can be a licensed senior reactor operator, distractor "D" is also correct.
	LICENSEE RESPONSE:	The licensee modified distractor "D" to indicate that the Plant Manger is not licensed.
64.	NRC:	Poor distractor balance. Should modify distractors "B" and "C" to remove the term "automatic."
	LICENSEE RESPONSE:	The licensee agreed and removed the term "automatic."
68. UNSAT ₂₀	NRC:	This EOP question is not appropriate for an RO exam. It would; however, be considered an "SRO only" question.
	LICENSEE RESPONSE:	The licensee decided to use this as-is on the SRO exam. The licensee re-wrote the RO exam question. The licensee reworded the distractors and the question now meets NUREG-1021 requirements.

Question Number		Comment(s)
69. UNSAT ₂₁	NRC:	The question does not match the referenced K/A. The K/A concerns EOPs, high suppression pool temperature, and temperature monitoring. The question test the applicant's knowledge of how CAMS works.
	LICENSEE RESPONSE:	The licensee replaced this with a question from a previous NRC exam.
74(ro). UNSAT ₂₂	NRC:	Psychometric Flaw; one or more distractors are partially correct. Distractor "D" is also correct. Halon will coat the fuel source and, via chemical reaction, prevents oxygen from reaching the fuel.
	LICENSEE RESPONSE	The licensee modified distractor "D" to be <u>clearly</u> wrong.
77(ro). UNSAT ₂₃	NRC:	This EOP question is not appropriate for an RO exam. It would; however, be considered an "SRO only" question. If the question is really a systems fundamental question (i.e., knowledge of system arrangements or component elevations, etc.), we will allow it. In this case, the RO would have to know the basis of the SRV tail pipe limit and HCTL to answer the question.
	LICENSEE RESPONSE:	The licensee modified the question to test a "concept" rather than requiring the memorization of EOP basis by an RO.
79(ro).	NRC: LICENSEE RESPONSE:	The reference material does not state whether the EDG will start with only one air bank available or not. The discussion of this concept, from TS basis, will be incorporated into the system lesson plan.

Question Number		Comment(s)
85(ro).	NRC:	Not modified in accordance with NUREG-1021. In order for a question to be considered modified, IAW NUREG-1021, you must:
		 Change at least 1 pertinent condition in the stem; and Change at least 1 distractor. OR Change the conditions in the stem such that one of the three distractors in the original question becomes the correct answer.
		In this case, no pertinent condition in the stem was changed.
	LICENSEE RESPONSE:	The licensee agreed and changed the designation to BANK.
91(ro).	NRC:	The stem asks "which of the following describes the <u>adverse</u> <u>consequences</u> of this event?" Distractors "B", "C" and "D" describe conditions that may not be <u>adverse</u> .
	LICENSEE RESPONSE:	The licensee modified the stem so as not to cue the applicant.
99(ro). UNSAT ₂₄	NRC:	Psychometric Flaw; no correct answer provided. According to the reference provided and given the conditions in the stem, M25-F010A remains closed and M25-F020B remains open since train "A" was shutdown. This response is not included in the answers provided.
	LICENSEE RESPONSE:	The licensee corrected the stem of the question such that there is a correct answer.
72(sro).	NRC:	This question is not considered "SRO only." You asked the same question to ROs in question 82(ro).
	LICENSEE RESPONSE:	The licensee changed the designation to a "Both" question.

Question Number		Comment(s)
73(sro). UNSAT ₂₅	NRC:	I'll have to see some strip chart data that clearly indicates that a high pressure scram would not also occur based on the given plant conditions.
	LICENSEE RESPONSE:	The licensee ran this on the simulator and found that their original correct answer was not correct. the question was modified and is now correct but is no longer "SRO only."
80(sro). UNSAT ₂₆	NRC:	Psychometric Flaw; all answers partially correct. Can the Plant Manager also be assigned as the Duty Management Representative? If he/she can, "A" is also correct. Also, FTI-B0002, Note 3 states that contacting the reactor engineer to obtain verbal direction for rod recovery is considered "expeditious." Therefore, distractors "C" and "D" are correct.
	LICENSEE RESPONSE:	The licensee modified the stem to indicate no "Duty Management Representative" had been assigned. Also, the licensee modified distractors "C" and "D" to be clearly wrong.
83(sro). UNSAT ₂₇	NRC:	Psychometric Flaw; ineffective distractors. Distractors "A" and "B" are ineffective. A reasonable supervisor would not stop an operator from taking mitigating actions unless their life were in danger.
	LICENSEE RESPONSE:	The licensee rewrote the question. The new question meets NUREG-1021 requirements.
	NRC:	This question is not be considered "SRO only." ROs are also required to know RO responsibilities for emergency plan implementation. Need to see RO responsibilities form EPI-B5 and compare them to shift supervisor responsibilities to see if there is a "significant delta."
	LICENSEE RESPONSE:	The licensee changed the designation of this to a "Both" question.

Question Number		Comment(s)
86(sro).	NRC:	This question is not considered "SRO only." ROs are also required to know SJAE system automatic responses to alarming conditions. An RO would be expected to also know that vacuum pump operation is limited to 5% reactor.
	LICENSEE RESPONSE:	Although the question remains on the SRO exam, the licensee changed the designation to a "Both" question.
87(sro).	NRC:	This question is not considered "SRO only." ROs are also required to know the impact on shutdown cooling when E12-F008 closes. An RO would also be expected to know alternate means of shutdown cooling.
	LICENSEE RESPONSE:	Although the question remains on the SRO exam, the licensee changed the designation to a "Both" question.
88(sro).	NRC:	The K/A concerns EOPs, high drywell pressure, and drywell pressure. The question tests the applicant's knowledge of the basis of the Tech Spec limit for containment differential pressure but the tie to EOPs is weak.
	LICENSEE RESPONSE:	The licensee replaced the question with a question from their bank. No longer considered "SRO only." Also, not considered UNSAT due to having been used on a previous NRC exam.
90(sro). UNSAT ₂₈	NRC:	This question is not be considered "SRO only." ROs are also required to know which instruments are considered post-accident monitoring instruments.
	LICENSEE RESPONSE:	The licensee modified to be a "SRO only" question.

Question Number	Comment(s)		
91(sro).	NRC:	Not modified in accordance with NUREG-1021. In order for a question to be considered modified, IAW NUREG-1021, you must:	
		 Change at least 1 pertinent condition in the stem; and Change at least 1 distractor. OR Change the conditions in the stem such that one of the three distractors in the original question becomes the correct answer. In this case, no pertinent condition in the stem was changed.	
	<u>LICENSEE</u>	in this case, no pertinent condition in the stem was changed.	
	RESPONSE:	The licensee agreed and changed the designation to BANK.	
92(sro). UNSAT ₂₉	NRC:	This question is not be considered "SRO only." ROs are also required to know the immediate actions in ARPs. ROs are also expected to know entry conditions into off-normal procedures.	
	LICENSEE RESPONSE:	Although the question remains on the SRO exam, the licensee changed the designation to a "Both" question.	
93(sro).	NRC:	No basis was provided that discusses carbon buildup in the exhaust system.	
	LICENSEE RESPONSE:	The licensee provided a letter stating the "official station stance" on this issue and it supports the question.	

94(sro). UNSAT ₃₀	NRC:	The question does not match the referenced K/A. The K/A concerns AOPs, high drywell pressure, and leak rates. The question tests the applicant's knowledge of Tech Spec entry conditions.
	LICENSEE RESPONSE:	The licensee re-wrote the question. The new question meets NUREG-1021 requirements. Although the question remains on the SRO exam, the licensee changed the designation to a "Both" question.
98(sro)	NRC:	Distractor "B" appears implausible. Why would an operator determine that an inoperable piece of equipment was required to be operable yet think that no action was required?
	LICENSEE RESPONSE:	The licensee modified distractor "D" to be "more plausible."

JPM/Scenario Event Number		Comment(s)
A.1.a (ro) (shift turnover)	NRC:	The Task Standard needs to be modified to include the need to identify control board errors (RCIC, pressure regulator).
	LICENSEE RESPONSE:	The Task Standard was updated to reflect control board errors.
	NRC:	Can this review be condensed (i.e., limit panels)? Should shoot for no longer than 30 minutes
	LICENSEE RESPONSE:	The JPM was modified to NOT include a walk-down of the "long response" panels.
	NRC:	Second Performance Step is not considered <i>critical</i> . Failure to identify the problem does not appear to impact continued operation of reactor plant.
	LICENSEE RESPONSE:	The step was changed to NOT be critical.
A.1.b (ro) (jet pump operability)	NRC:	The Task Standard needs to be modified to include the need to identify that the surveillance acceptance criteria was not met.
	LICENSEE RESPONSE:	The Task Standard was modified to include the need for the applicant to identify that the surveillance acceptance criteria was not met.
	NRC:	The Standard for Performance Step 5.3.1 should also include the need for the applicant to properly complete the surveillance package including indicating <i>unsat</i> results were obtained. This is how the RO makes the "operational judgement" required by the K/A.
	LICENSEE RESPONSE:	The JPM was modified to require the applicant to complete the surveillance package including indicating <i>unsat</i> results were obtained.

JPM/Scenario Event Number		Comment(s)
A.2 (ro) (tagout a pump)	NRC:	Note 3 should state1N27-F714B
(agout a parrip)	<u>LICENSEE</u> <u>RESPONSE</u> :	Note 3 was modified.
A.3 (ro) (select a rwp) UNSAT ₁	NRC:	There is no need to evaluate the applicant's response to identification of personal contamination. The referenced K/A for this JPM, 2.3.1, states "knowledge of 10 CFR 20 and related facility radiation control requirements." Contamination control requirements fall under K/A 2.3.4. Also, this JPM is not discriminating (i.e., does not provide the examiner with sufficient opportunity to determine if the applicant would be a competent operator).
	LICENSEE RESPONSE:	The JPM was replaced with a task requiring the applicant to review a proposed work assignment and determine if administrative dose limits would be exceeded. The replacement JPM meets NUREG-1021, Appendix C requirements and is discriminating.
A.4 (ro) (site accountability outside control room)	NRC:	Recommend the JPM be initiated with simulated plant page informing the applicant that site accountability is being established and to report to the OSC. We can then evaluate their knowledge of 1) how to report for accountability and 2) where the OSC is located.
	LICENSEE RESPONSE:	The JPM was modified as discussed above.
	NRC:	Where does the "30-minute" requirement come from?
	LICENSEE RESPONSE:	The 30-minute requirement did not apply and was deleted.
	NRC:	Performance Step 3 should be deleted. In accordance with NUREG-1021, an administrative task can be evaluated using either a JPM or two prescripted questions. The only time the examiner would ask a follow-up question would be if they had identified a performance deficiency, per the NUREG.
	LICENSEE RESPONSE:	The step was deleted.

JPM/Scenario Event Number	Comment(s)	
A.1.a (sro) (shift turnover)	NRC:	See comments made to A.1.a (ro).
	LICENSEE RESPONSE:	See the licensee's response to NRC comments made to A.1.a (ro).
	NRC:	A SRO applicant would also be expected to determine the tech spec applicability of both the RCIC and pressure regulator issues. NURGEG-1021 requires that SROs be examined at an appropriate level commensurate with expected duties and responsibilities of the position.
	LICENSEE RESPONSE:	The JPM was modified to require the applicant to determine the tech spec applicability of both the RCIC and pressure regulator issues.
A.3 (sro)	NRC:	See comments made to JPM A.3 (ro).
(select a rwp) UNSAT ₂	LICENSEE RESPONSE:	See the licensee's response to NRC comments made to JPM A.3 (ro).

JPM/Scenario Event Number		Comment(s)
B.1.a (shift recirc pumps)	NRC:	So far as reactivity briefings are concerned, if the applicant needs time to review a procedure, he/she may take it. The examiner will not direct the applicant to discuss possible problems or concerns.
	LICENSEE RESPONSE:	The licensee agreed.
	NRC:	The applicant will be expected to announce all expected alarms.
	LICENSEE RESPONSE:	The licensee agreed.
	NRC:	Delete the first bullet of the third cue of step 5.3.1. Also, the fourth cue should be deleted.
	LICENSEE RESPONSE:	These unnecessary cues were deleted.
B.1.b (alt inject using crd pump)	NRC:	Change K/A listed on the JPM cover sheet from 295009 to 295031.
	LICENSEE RESPONSE:	The listed K/A was changed.
B.1.e (terminate rhr cont. spray)	NRC:	Delete steps 3.6 and 3.7 from JPM.
	LICENSEE RESPONSE:	These unnecessary steps were deleted.

JPM/Scenario Event Number	Comment(s)	
B.2.a (alternate boration) UNSAT ₃	NRC:	The applicant's actions are not sufficient for the examiner to evaluate their understanding of how to perform an alternate boron injection. Recommend starting the JPM at Step 5 of PEI-SPI 1.8. This would give the examiner an opportunity to evaluate the applicant's ability to: 1. Locate and install temporary hoses;
		 Locate and install starter cable for the ABI pump; and Valve lineups necessary to support Injection of the boron slurry into the reactor.
	LICENSEE RESPONSE:	The JPM was modified to incorporate the above comments. The JPM meets the requirements of NUREG-1021, Appendix C.
	NRC:	Delete reference to 211000 from the cover sheet of the JPM.
	LICENSEE RESPONSE:	The reference was deleted.

JPM/Scenario Event Number		Comment(s)
Scenario 1 (spare)		
Event 2	NRC:	There appears to be insufficient actions to credit this event as a component failure for the BOP.
	LICENSEE RESPONSE:	RHR min flow valve failure was deleted.
Event 3	NRC:	No credit is given to the RO for a component failure. There are no verifiable actions for the RO other than reporting conditions.
	LICENSEE RESPONSE:	The event was replaced by a reactor power increase using recirc flow and a recirc loop "A" flow controller manual switch failure.
Event 4	NRC:	The RFP bearing failure would be combined with removing the RFP from service as one component failure. Since the RO will be reducing reactor power, isn't it likely that the SRO will assign the BOP to remove the RFP from service?
	LICENSEE RESPONSE:	The event description was modified to credit the BOP with responding to the RFP "A" bearing failure and tripping of RFP. Also added was the RO's responsibility for reducing power.
Event 5	NRC:	The HPCS pump shaft shear and RCIC turbine trip latch failure complicate the event but would not be credited as component failures.
	LICENSEE RESPONSE:	The licensee agreed and modified the scenario.

JPM/Scenario Event Number	Comment(s)	
Scenario 2		
	NRC:	NEED TO ADD AN ADDITIONAL EVENT FOR THE RO.
	LICENSEE RESPONSE:	An APRM failure upscale was added to the scenario to ensure RO applicant's would get minimum number of competencies.
Event 2	NRC:	HPCS pump flow degradation event may not require the crew to take any actions aside from increased monitoring.
	LICENSEE RESPONSE:	The event was deleted.
Event 6	NRC:	The failure of RPS and ARI are the basis for the ATWS. No additional credit would be given aside from actions taken to address the ATWS condition.
	LICENSEE RESPONSE:	This event was reclassified as a MAJOR.

JPM/Scenario Event Number		Comment(s)
Scenario 3		
Event 4	NRC:	Need to add a NORMAL event for the BOP. Recovering the CRD pump is a response to a component failure and would not be counted as a NORMAL.
	LICENSEE RESPONSE:	Added a shift of the AEGT system for the BOP NORMAL event.
Events 6 and 7	NRC:	Based on the significance of required operator actions, need to regroup the events and assign responsibility to the appropriate operators.
	LICENSEE RESPONSE:	The scenario was updated.
Scenario 4		
Event 4	NRC:	The spurious trip of the RFP and failure of the "B" FCV to runback are considered one event for the RO.
	LICENSEE RESPONSE:	The licensee agreed and modified the scenario.
Event 7	NRC:	The failure of the level transmitter has no verifiable actions, no credit is given for an instrument failure.
	LICENSEE RESPONSE:	The event was deleted.