

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
1	F	2					X							B	E	D, CR, 41.7 - If the concerns are temperature and hydrogen level increasing, then distracter A could be argued as being correct as well. The training materials cited only support the idea that hydrogen levels are the key parameter, so I am not sure where the tie to the temperatures is supported. Bank 15139 S Added USAR to stem and added link to reference from USAR. Question is now SAT However you need to update the worksheet with USAR reference and revision. Done.
2	F	3				X								B	U	A, CR, 41.7 - According to training materials [COR002-28-02 (1487), R. 19, Page 11], there are four possible suction paths for SGTS. The HPCI room area is not one of them, unless the HPCI and SGTS equipment rooms are the same. If they are different rooms, then using the HPCI room as a suction source is implausible. That makes answers B and D implausible. In addition, unless there are some manual alignments made to the ventilation in Primary Containment not stated in the training materials, a totally auto suction path

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.
 - 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).
- 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).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- 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?
- 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. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	from this area would not be in effect if the refuel accident were to occur. Please reconcile this with information in the cited lesson plan, Page 11, Section 4a and 4b. Bank 1347. S Licensee Removed the HPCI Room from the distractors B and D and substituted the Primary Containment, because in the student text it lists the four places that SBGT can take a suction from and Primary containment was on the list, however it requires a manual alignment. Also during a refueling accident that location would be incorrect. Question is now SAT.
3	F	3					X							N		E S	C. CR, 41.4 – On Answer D, the power supply “69 KV line through the Corn Field Substation to the 12.5 KV North Overhead Line” appears to be the same as the “69 KV line from OPPD,” per Figure 3 in the COR001-01 training materials. If this is the case, this distracter could be argued as correct as well. GENERAL COMMENT: Writing up the reasons why the distracters are plausible and NOT correct would help in addressing these issues seen so far. Licensee inserted USAR text on offsite power and it does not include 12.5kv line, therefore this question is SAT.
4	F	2												N	S		B, CR, 41.7
5	H	3					X							B	S		C. CR, 41.7 – Based on review of the RBM training (COR002-24-02), there is no “Off-Normal” rod block (only upscale/downscale varieties). If this isn’t a valid type of rod block, or auto function that could actuate with this situation, this distracter is implausible. Comment: The question cover sheet says it is associated with 10 CFR 55.41(b)(6), while NUREG-1123 ties it to 10 CFR 55.41(b)(7). 6137 The licensee states that there is an off normal rod block, and it is generated when the flow units for the APRMs do not agree with the other recirc flow unit, or it fails downscale. This is a very plausible distracter, one that has been selected numerous times when this question has been asked.
6	H	3												N	S		B, CR, 41.7
7	F	2					X							B	U		D, CR, 41.7 – For Answer A, does the pump breaker need to be racked out while the suction valve is closed, or does it need to be racked out PRIOR TO CLOSING the suction valve? If the interlocks are met to close the valve, and it is closed, the breaker may be racked in or racked out. This plays into whether the distracter is plausible or not (COR002-06-02, Page 14). Distractor “A” has nothing to do with overpressure, in fact, with no suction valve

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>opened, the pump would deliver no discharge pressure and therefore this is not credible for the stem.</p> <p>Also, the inbd and outbd valves are never opened at the same time, so distractor "B" Could be considered not credible. What does it mean to state in the training materials that the valves can be opened at the same time but only if one valve is opened first? By definition, they can't be opened at the same time if one has to be opened first.</p> <p>Bank 1691</p> <p>Still UNSAT after second submittal. Talked to several examiners and BC and all agreed this question is UNSAT as written. Distractors A, B, and C are not credible as written.</p> <p>S Licensee rewrote the question and it is now SAT.</p>
8	F	2				X								B	E	<p>B, CR, 41.7 – There is no 155 VAC distribution on site, based on the AC distribution lesson plan. If this is the case, Answer D is implausible.</p> <p>Licensee agreed that this was purely a typo. The correct voltage is 115 volts. During the validation, the operators recommended removing the voltage from the question and the question has been revised.</p> <p>S 1538 – Noted similar to 2009 NRC Exam Question 18 Question is now SAT.</p>
9	H	2				X								N	U	<p>D, CR, 41.5 – It is understandable to see if the applicant understands the knowledge of the MO-27A/B five minute interlock in the given system (plausible) (Answer A). However, Answer B and C, if it is recognized that the RHR heat exchanger bypass valve will operate, are physically impossible. Unless there is another input into the heat balance at this point, increased flow through a heat exchanger increases heat removal, i.e. core cooling (Answer B). If the flow rate through the heat exchanger stays the same, and there is no additional heat input indicated in the question, the core cooling cannot stay the same.</p> <p>S Licensee replaced entire question and it is now SAT.</p>
10	H	4												N	S	<p>D, CR, 41.5 – Observation: The details that assist in addressing this question are in lesson plan COR001-10-01, vice that which is referenced.</p>
11	H	4												B	S	<p>B, CR, 41.7 7763</p>
12	H	2										X		B	U	<p>C, CR, 41.7 – The K/A statement involves having a loss/malfunction of breakers, relays, or contacts. When the loss of offsite power occurs, all of the breakers, relays and contacts function as expected. I don't see how this matches the K/A.</p> <p>This question stem was modified to include a tripping of a breaker that feeds power to</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	one division pump. The question is now SAT Bank 18245
13	H	3				X								B			D, CR, 41.5 – If the SW supply for Division II is downstream of Division I, and this is a reason that Answer C is incorrect, is it physically possible to supply SW from Division II to Division I? If not, the distracter is implausible. Comment: NUREG-1123 says this K/A is associated with 10 CFR 55.41(b)(5), not 55.41(b)(8). The licensee revised the question to include a rise in crankcase pressures and temperatures to match the K/A and this also removes the possibility of the applicants misinterpreting whether the diesel has lost cooling or not. Distractor C is still not credible-this comment was not addressed. E Licensee is sending information to support distractor C as credible because at CNS the other division can and will supply SW cooling to the opposite train EDG if the air operated valve fails for that train's EDG during startup for the LOCA. S The question is now SAT. Bank 19288
14	H	3				X								B			B, CR, 41.5 You should not use no change type of answers for parameters and subsequent distractors. Change distractor C to read ECST level will lower and change distractor D to read ECST level will lower to repair this issue. S The question is now SAT. Bank 3744
15	H	3												N	S		B, CR, 41.5 – Recommend placing the procedure reference in the question stem to better tie it to the K/A statement. Comment: NUREG-1123 says this K/A is associated with 10 CFR 55.41(b)(5), not 55.41(b)(2). The licensee stated that listing the procedure 2.1.5 "Reactor Scram" in the step would indicate that the RPS channels have tripped which would cue to the answer, therefore this question is SAT as written.
16	H	3												M			B, CR, 41.5 - Recommend placing the procedure reference in the question stem to better tie it to the K/A statement.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	<p>E</p> <p>If it is acceptable to place "check" action steps in as plausible distracters, then why wouldn't the correct answer state that the check of the SGT heaters is the correct answer? It is Step 1.1 in Alarm Procedure 2.3_K-1, while starting the other SGT train is Step 1.2.</p> <p>Why is checking the SGT-DPIC wrong?</p> <p>The licensee revised the question to include check the heaters in two answers and removed the starting of the standby fan because they agreed that if checking is allowed in the distracters then it should be allowed in the correct answer.</p> <p>The Annunciator procedure never has the operator check the SGT- Differential Pressure Indicating Controller, because flow is not the problem, moisture is.</p> <p>S</p> <p>This question is now SAT.</p>
17	F	3												N		<p>U</p> <p>D, CR, 41.7</p> <p>Reference 2.3_9.5.1nor does COR0020102 support this answer or any of the distractors.</p> <p>The licensee replaced this question with one that is supported by procedure / Lessons. They disagreed with the Unsat because even though there was no reference that stated when the alarm cleared, they stated that "It is known during startups or when a Recirc pump runs back, the LPRMs will clear or come back in."</p> <p>E</p> <p>The replaced question needs editing because if you know the first part of the information, ie that LPRM A setpoint is 3 w/cm2 then the second part of the distractor information is not needed and you can directly select answer A on this information alone.</p> <p>S</p> <p>This question is now SAT.</p>	
18	H	3												N		<p>E</p> <p>D, CR, 41.5</p> <p>Reference does not entirely support correct answer.</p> <p>S</p> <p>The licensee changed the order of the distractors but did not provide a reference to completely support the answer.</p> <p>The question is now SAT.</p>	
19	H	3				X								N		<p>U</p> <p>D, CR, 41.7 – Unless there is a system parameter that triggers at 192F (the 7 minute mark), or within 7 minutes of some initiating parameter, the isolation in 7 minutes is implausible in Answers A and B. It appears that the RWCU system will isolate on other inputs (Step 6.3 of Procedure 2.1.22), so that would be the place to look for plausible distracters. The system isolates on 191% flow, so that could be used.</p>	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>Remove "and RWCU MO 74 should be cracked open" since this is in all four choices it is not relevant to the question or answer.</p> <p>S The licensee Revised the question to remove the 7 minute time and replaced it with immediately. Added system flow at just below the isolation setpoint to make choice 'a' and 'b' credible.</p> <p>Removed the "and RWCU MO-74 should be throttled open" from all the choices.</p> <p>This question is now SAT.</p>
20	H	3				X								B	<p>U B, CR, 41.7 – Answers C and D are built on the assumption that the applicant would see they are plausible based on actions the previous RVLCS did in this situation. That may be discriminating for requalification program crews, but initial licensing groups should be trained on how the present system works, and tested to that. Based on that, those two distracters are implausible.</p> <p>S The licensee revised the question to remove the reference to the old RVLCS response and added a recirc pump runback toward 45% as plausible distracters. This will only occur if feed flow at the feedpumps drops low and the system is in single element.</p> <p>The question is now SAT.</p> <p>16414</p>	
21	H	3				X								N	<p>U B, CR, 41.10 – If the alarm panel card says to check tailpipe temperatures and enter procedure 2.4SRV despite the tailpipe temperature trending, then Answer C could be argued as correct. Entering 2.4SRV provides no conditional statement on its direction to cycle the affected SRV's. If you enter the procedure, it tells you to cycle the valves.</p> <p>Stem needs edit-"both or MSIVs automatically close." Also ..."The Ro reviews the annunciator"s not "The RO reviews of the annunciators."</p> <p>Distractor "C" is a subset of distractor "D,"which is therefore another psychometric flaw and therefore makes this question unsat.</p> <p>The licensee wrote a new question which needs some clarification because distractors A and C have local gauges in their text that do not appear to exist in the plant. You can not make up equipment for the distractors.</p> <p>E The licensee added information on why A and C distracters are credible but incorrect and there are local gauges as described in the distractor section now so this question is now SAT.</p> <p>S</p>	
22	H	3												M	S	B, CR, 41.10

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
23	F	3				X								B	E S	B, CR, 41.7 – If there are no squib valve position indicators, then it is not plausible that this is an indication they would have in the control room to assess whether the squib valves fired or not. Answer C is implausible. The licensee revised the question to remove the red valve indicating lights from one of the distracters and replaced it with the Annunciator. The question is now SAT. 3268
24	H	3					X							B	E S	B, CR, 41.7 – Is there data to support that the RWCU system will isolate (Answer B) before the Recirculation pumps will trip due to high lube oil temperature (Answer C)? If there isn't data, it could be argued that Answer C is correct as well. There is no auto trip of the REC pumps for low pressure therefore this is not a credible distractor. The licensee revised the question to remove the REC Pump trip and the RR MG Set temperature distracter. The question is now SAT. 24839
25	H	4												B	S	A, CR, 41.7 1098
26	H	3				X								M	E S	D, CR, 41.5 – The explanation for the correct answer says that procedure 2.4SRV directs entry into procedure 2.1.5, which it does in Step 4.12. Procedure 2.1.5 tells the staff what to do after a scram is inserted. However, nothing in the procedures in this flow path tell the operators to actually scram the reactor. Step 4.3 addresses scrambling and entering procedure 2.1.5 correctly, but the operators are not driven with the conditions given to take action on that step (procedure issue). Regardless of that, part of the expected actions in the correct answer should be to scram the reactor. The licensee revised the question to just say scram the reactor and enter procedure 2.1.5, and raised suppression pool temperature closer to the limit that would require a scram. 110degrees F. The question is now SAT.
27	F	3												B	E S	C, CR, 41.8 References are incomplete for correct answer. The reference that supports manual initiation I could not find in INT008-06-13. I did find it in COR0022302R27, page 48.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	The licensee corrected the reference mistake on the worksheet and the question is now SAT.
28	F	2											X		N	U	<p>C, CR, 41.7 – The K/A statement is tied to knowledge of the power supply for the Recirculation Flow Control System hydraulic control units (K/A 202002, K2.01). The question stated is about power supplies to the recirculation system pumps themselves (K/A 202001, K2.01).</p> <p>The licensee stated that this K/A is associated with BWR 5/6 and should have been rejected on that basis. They selected the topic that is for BWR 3/4s as a replacement, 202001.</p> <p>This question is now SAT.</p>
29	H	3						X							M	E	<p>C, CR, 41.7 – There is no mention of what suppression pool temperature does during the transient in the question stem. If flow is lost to the means of heat removal to the suppression pool, it is possible that the temperature goes up. With that, starting a backup pump will restore heat removal, thus lowering the temperature. The way the question is currently worded, both answers C and D could be argued as being correct.</p> <p>Where is the original question (1752) for comparison?</p> <p>The licensee revised the question to state that the second pump is started within "seconds" of the trip of the first. A momentary loss of flow will not cause a noticeable change in temperature. They also revised the two distracters 'a' and 'd' to state that they continue to either rise or lower.</p> <p>The licensee needs to state in the stem a few seconds or 5 seconds or something reasonably short because seconds could mean 59 seconds and this might be a noticeable temp change.</p> <p>This question is now SAT.</p>
30	F	2											X		B	E	<p>A, CR, 41.7 – If there is no temperature compensation in the reed switch circuitry, how can you say that distracter C is plausible?</p> <p>Question ondistractor "B":Where does PMIS get the temp signal from to input annunciator on panel 9-5? It has to come from somewhere other than a system.</p> <p>The licensee revised the question to better clarify where the thermocouples send their outputs. Yes the thermocouples send their signals to the PMIS computer which generates a signal to feed the alarm. The distracters have been bolstered to clarify this.</p> <p>The question is now SAT.</p> <p>2092</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
31	F	3												N	S	C, CR, 41.5
32	F	2												M	E S	A, CR, 41.7 "D" needs edit to be consistent with "C" for "...position indicated" not "...position indication." The question is now SAT.
33	H	3												B	E S	D, CR, 41.5 – The justifications for the distracters are all the same. There are different reasons for the distracters being plausible, but wrong. The licensee added better text to justify the distractors. Question is now SAT.
34	H													B	E S	B, CR, 41.5 This K/A involves two aspects, predict impact and use procedure to mitigate. You did not write the question to the first part of the K/A, and it could be written to cover that aspect, however, this is not required for every A2 K/A so an allowance could be made for this question, however you did not tie the actions to any procedure reference where these actions are taken from, therefore the question is marked as editorial. Provide a procedure link to the question and it will be fine, but training material is not adequate for actions taken on any question with this K/A (ie A2). You also do not have any discussion in the notes section of the question on the distractors credibility. The licensee added to the question that "The operator enters procedure 4.1.4 TRAVERSING IN-CORE PROBE SYSTEM." Then asked what would be required. Also added why each distracter is not correct. The question is now SAT.
35	H	3												M	E S	C, CR, 41.7 – Address in distracter D why having no lit indication (red or green) is plausible but wrong (in justification).). Is 80 amps the reasonable steady state value? I couldn't find this in the training materials. The licensee added a statement in the 'd' distracter to explain why the light might be off and verified with simulator that 80 amps were the normal 100% power current draw for a Condensate Pump. The question is now SAT.
36	F	2												N	S	A, CR, 41.7
37	F	3											X	N	E	B, CR, 41.5 "D" is not credible without some serious justification, ie if the applicant remembers that this distracter is a statement of applicability within the TS 3.7.4 in Modes 1, 2,

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	<p>and 3 however this is not mentioned in the stem so I don't think this is credible. A better distractor would be LCO condition A1.</p> <p>E The licensee stated that choice 'c' has to be changed because this is an RO question and the only thing they are required to know are LCO conditions for entry, modes of applicability and actions required that are 1 hour or less in time.</p> <p>The licensee revised the question to add movement of fuel in secondary containment, however it is not lately irradiated fuel so it does not meet the definition and therefore does not need to be stopped. Also replaced distracter 'c' with a modified statement from the SGT spec 3.6.4.3 for immediately starting an operable SGT. They just replaced SGT with CREFs.</p> <p>S The BC believes this question is SRO only knowledge therefore licensee replaced the question. The question is now SAT.</p>
38	H	3												B	S		A, CR, 41.7 1063
39	F	3												B	S		D, CR, 41.8 24832
40	F	2												B	E		<p>B, CR, 41.10 – Better explanation of why distracters C and D are wrong would be beneficial.</p> <p>I am not sure that "C" is incorrect. See page 23 of INT 008-06-13 (LO 12). I also don't see the exact words in the reference that clarify answer "B" as correct.</p> <p>The licensee provided substantial explanations for C and D. "C" distracter is incorrect because it says that the Tailpipes are the concern, not Primary containment.</p> <p>E Reference still does not completely support the correct answer.</p> <p>S Added additional references and question is now SAT. 19220</p>
41	F	3												B	E		<p>A, CR, 41.10 – Typically, questions on Tech Spec bases content are for SRO applicants. See if this content is stated in some procedure/training that ROs are trained on.</p> <p>The licensee changed the Reference from Tech Specs to USAR and Lesson on Refueling COR001-21-01. Provided an excerpt of USAR Section VII REFUELING to justify the answers.</p> <p>S This question is now SAT. 19212</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
42	F	2												B	S	D, CR, 41.7 25186
43	F	3												B	S	D, CR, 41.7 24799
44	H	3												B	E S	A, CR, 41.7 Stem states that the alarm window is 9-5-1/F-5 however I believe it should state 9-5-2/F-5. Alarm response procedure does not provide the answer to the question of what happens to the valves. You need to change the reference to the correct one for this question, which is COR002-04-02R23, page 41. Revision of reference ANN Procedure 2.3_9-5-2 in the worksheet is R28 however R27 was provided in reference materials. Which is correct? Is there a difference for this question? If so then you need to send it (R28) to us for review of the question. The licensee revised the references to the Lesson COR002-04-02 and changed the rev number for the ANN Procedure 2.3_9.5.2 to rev 28. Verified that the new revision did not change the answer. The question is now SAT. 3996
45	F	2				X	X							B	E S	B, CR, 41.5 – The correct answer, as stated, is to ensure that natural circulation can be achieved. Natural circulation is needed to ensure adequate core cooling. Therefore, distracter A could be argued as being correct. It can be assumed that if SDC is being used, that it is the motive force of flow in the reactor, and the recirculation system is not. Unless there is a situation when both could be running at the same time, this seems implausible. Even if it is plausible that the recirculation system is being used in parallel for forced flow, whatever reason that makes distracter D wrong would by default make distracter C wrong. One of the distracters, since the components are linked, is an invalid distracter. The licensee added several reference excerpts to explain why the correct answer is correct and the distracters are incorrect. Also explained the difference between Reactor Recirc Pump and Jet Pump NPSH. The question is now SAT. 2751
46	H	3												B	E	A, CR, 41.5 Distractor "C" for is not credible because power is present to part of the panel so loss

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	of both divisions is not credible. S The licensee provided an explanation on why distracter "c" is credible. This question is now SAT. 25257
47	H	4												B	S		A, CR, 41.5 Reference is wrong, this answer is not found in PSTG but in INT0080610R22, page 10. Please correct the worksheet. The licensee added to the explanation a section of the PSTG that describes lowering level to -60 inches. 14478
48	H	4												N	S		A, CR, 41.5 Question – Would an applicant be expected to know that the generator reactive loading needs adjustment without consulting procedure 5.3GRID, Attachment 2? Do you have a LO to cover this question and its answer? The LO referenced on the worksheet only requires the applicant to know the right procedure to be utilized. The licensee answer is that the applicant should realize that too many VARs are being taken in and that the generator would become unstable. They will know to raise VARs by raising voltage. COR001-13-01 objective 11. Covers this question, and was added to the list of objectives on the form. This question is SAT.
49	F	3					X							B	E S		C, CR, 41.7 – The reference stated for the correct answer (procedure 5.4FIRE-SD, Attachment 1, Caution before Step 2.1.3) is not in the procedure given (Revision 38). If this is not clearly supported by procedure, distracter A may be seen as correct. Worksheet is incorrect also-it states reference for answer is 5.1ASD R13, which was not sent anyway. Rev 11 of 5.1ASD was sent. On page 38 of this procedure it directs the ASD operator to use HPCI steam pressure as a note prior to step 2.4.1. The licensee reported that this procedure was revised between the time the references were sent and the selection of this question and that the changes do not affect the question. S The question is SAT. 19280
50	H						X						X	B	S		A, OR, 41.7 – The explanation for distracter B says that ED isn't required until RPV level is less than -158 inches FZ. The stem says that the RPV level is -180 inches

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>FZ. Please clarify why this is not a correct answer as well.</p> <p>If the applicant is within the EOP's and is applying judgment on which actions need to take place next, it is a SRO question. Justify why this is a RO question.</p> <p>Giving the applicant the direct reference needed to answer the question doesn't test their ability to determine which actions are appropriate.</p> <p>The licensee responded that the discrepancy in level -158 versus -180 is done on purpose. It is a corrected indication versus indicated level that requires the RO to use a correction graph. That graph is #14 and will be provided to the candidates for use on the exam. The attached copy of the steps out of the EOP was for the reviewers benefit so they would not have to pull the hard copy that I sent out and verify what the steps said. It was not intended that it be given to the candidate during the exam.</p> <p>According to the NRC/WesTrain Examination Conference this past year it is stated that the RO is responsible for the knowledge of how to execute the EOPs. This is also backed up by 10CFR55.41.b (10) Administrative, normal, abnormal, and emergency operating procedures for the facility. They are trained to know from memory the conditions that require things in the EOPs such as Emergency Depressurization, RPV Flooding, etc.</p> <p>This question is SAT.</p> <p>9724</p>
51	H	4	X						X					B	S	<p>B, CR, 41.10 – If according to EOP 3A evaluation of the Graph 7 the highest temperature for the transition (ED) is 200F, why is 195F listed as the correct answer? Evaluating the EOP graphs to determine where the transition point to another EOP evolution would be (ED) is typically a SRO task. Justify why this is an RO question as well. I would expect the applicant to need the EOP graphs to answer this question.</p> <p>The licensee responded that the interpretation of the graph could be off by 1degree F or 1 psig so values exactly on the line are avoided. 195 is the highest temperature of the ones given before ED is required. 196, 197, 198, and 199 are also correct. This just gets them away from an answer exactly on a line on the graph. It is intended that the candidate get Graph 7.</p> <p>This question is SAT.</p> <p>24497</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
52	F	3												B	E	<p>A, CR, 41.10 – There is no explanation given why the Emergency Bypass system doesn't start in this condition. It should be researched and documented.</p> <p>Also, Distractor "C" is not credible because the dampers closing in the same distractor as supply fans not tripping is not credible. Also, you are toggling three pieces of information when the NUREG has guidance on this that one piece of information is just clouding the information you want to get the applicant to demonstrate, as seen in your explanation of the distractors, where you didn't even address if the bypass train starts or not, and it is not credible to use this without some clarifying statement in the distractor to prevent the applicant from expecting a supply fan failure to occur if dampers are shut and fans are still running.</p> <p>The licensee responded by provided a better explanation of the reason for what starts the CREFs and Fire is not one of them. Changed the distractor in choice "c" to remove the supply fans not tripping.</p> <p>The question is now SAT.</p> <p>S 3724</p>
53	H	3												N	E	<p>B, CR, 41.10</p> <p>This explanation for the correct answer is not found in the reference material listed on the worksheet.</p> <p>The licensee responded by stating that the reference that justifies the correct answer has been added to the work sheet and the form for the question.</p> <p>S The question is now SAT.</p>
54	F	3					X							M	U	<p>A, CR, 41.10 – The stem says that the 9-5-2/C-4, TSV & TCV CLOSURE TRIP BYP annunciator is clear, meaning that reactor power/turbine 1st stage pressure is above 29.5%. If this is the case, then procedure 2.4TURB directs the operator to scram the reactor and trip the turbine (Attachment 11, Step 1.2.1). This would mean that distractor C is actually the correct answer.</p> <p>The licensee responded that this was a missed edit from a cut and paste. It has been changed to reflect that the annunciator is alarming.</p> <p>S This question is now SAT.</p>
55	H	2										X		N	U	<p>D, CR, 41.5 – The question as written asks the applicant to provide system knowledge of how SGT and PCIS (Group 6) works. The K/A (2.2.44) involves testing their ability to verify system status by control room indication AND to understand how operator actions/directives affect plant conditions in that situation. This question doesn't appear to address the K/A statement.</p> <p>The licensee responded that they revised the question to provide four meters that the</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	operator must observe and discern if the actions taken have caused the SGT to start and asked then to explain what function they are providing if they did start, or what actions are required. This question is now SAT. S
56	F	3					X						X		N		D, CR, 41.10 – Without information to specify that the exceptions to de-energizing the equipment have been addressed per procedure 0.36.8, Attachment 4, Step 2.6, the applicant can assume that there is no information on this. With that, the applicant could say that the proposed work does not meet CNS Electrical Safety Standards because work should not be performed on energized equipment. This provides a basis for distracter B to be a correct answer. The generic K/A used is not in the list of those that can be used with Tier 1 or 2 questions. See NUREG-1021, ES-401, Section D.1.b (page 4 of 33). The licensee reselected a random K/A from the Tier 1 Group 1 K/A list given in NUREG 1021 ES-401 page 4 of 33. Randomly selected 2.2.25 and was unable to develop a psychometrically valid RO question, so another random selection was made, which resulted in 2.4.4. They replaced the original question with a new one, written to sample Generic K/A knowledge about entry conditions for Abnormal/ Emergency Procedures for the RO. The question is now SAT. S
57	H	3				X								B		E	C, CR, 41.10 – Since reactor power starts at 35% in the question stem, it is not plausible after several things happen that reactor power stays at 25% (distracter B). There has to be a decrease in power to that level for plausibility. The licensee rewrote the question to provide a runback so that lowering power to 25%. The question is now SAT. 19077 S
58	H	3											X	B		E	C, OR, 41.8 - Evaluating the EOP graphs to determine where the transition point to another EOP action is typically a SRO task. Justify why this is an RO question as well. The licensee responded that justification was added to the explanation showing the RO and SRO Objectives for lesson INT08-06-18. Obj 2 for each graph used in the flowcharts, identify the action(s) required if the parameters associated indicate operation in the restricted or prohibited area. The question is SAT. S

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																12325
59	F	2				X							X		N	E S C, CR, 41.5 - How can tripping the main turbine reduce "load" on the reactor? If the turbine trips, reactor pressure goes up, reactor power goes up. Distracter D seems implausible. The licensee changed distracter "d" to a rapid cooldown of the Main Steam Lines and water hammer. This question is now SAT.
60	F	2													B	S B, CR, 41.7 2590
61	F	3													N	S D, CR, 41.5 I could not find the reference that states that the Rod movement control switch could not be used or that the emerg notch switch was directed to be used for this condition. Although it makes perfect sense and would be most logical where is this directed/required? The licensee responded that In accordance with Emergency Procedure 5.8.3 the RWM is bypassed in step ARI-20 to allow the Rod Insertion Blocks to be cleared so the emergency notch override switch can be used to insert the control rods. The step is in the flowchart that is scanned into the procedure so a word search will not locate it. This question is SAT.
62	H	3													B	S B, CR, 41.7
63	H	3													B	S C, CR, 41.10 – The distracter explanations all refer to 940 psig in the applicable Tech Spec action statements. In the Cooper Tech Specs, it is 900 psig. Also, although it doesn't affect the question, the explanation says that RPV pressure should be 600 psig if the RFP is about to be started. Procedure 2.1.1, Step 5.24, says to start a RFP when RPV pressure is 350 psig. From a 2009 Pilgrim Exam The licensee responded that Cooper Tech Spec 3.1.5 is based on an RPV Pressure of 900 psig, however in the completion time column are the conditions about CRD Charging Header Pressure either being above or below 940 psig. So the question is correct. This question is SAT.
64	H	4				X									M	U A, CR, 41.10 – For distracters C and D, how can you say they are plausible if they call for automatic action at RPV level of -113 inches, and the stem tells you that level is already at -145 inches? The apparent disconnect would make easy to eliminate from contention.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>Another item to consider in writing these questions is what knowledge you are really trying to get from the applicant, in this case if he/she knows that they need a Rad tech they can arrive at the right answer and it doesn't get to the K/A knowledge desired.</p> <p>S The licensee responded that they replaced the question with a new one. Based on very high rad conditions in Secondary Containment and the need to use alternate injection systems to provide water to the vessel following a LOCA. EOP-5.8.4 Alt Inj Systems has a section that instructs the operator on what to do in the case of high rad conditions and which system to use.</p> <p>The question is now SAT.</p>
65	F	2		X										N	E	<p>B, CR, 41.10 – In the question, it asks when you enter EOP 3A when Suppression Pool level exceeds a certain level. By saying "exceed," you are saying that "greater than," which means the Suppression Pool level is increasing. Part of the goal of the question is to test whether Suppression Pool level increases or decreases, and this cues the test taker that the level increases.</p> <p>S The licensee modified the stem so that the cueing was removed.</p> <p>The question is now SAT.</p>
66	F	3												B	E	<p>B, CR, 41.10 – The Explanation refers to Section 9 Note 2 in the procedure. It is Section 10 Note 2.</p> <p>The licensee corrected the typo.</p> <p>S The question is now SAT.</p> <p>16465</p>
67	F	2		X		X								B	U	<p>C, CR, 41.10 – Per procedure 2.0.3, Steps 7.3.4. and 7.3.4.1, the operator responding to the CRS is required to state VALUE and TREND (shall do this per Step 7.3.4). Step 7.3.4.1 says that a RATE SHOULD be stated as conditions permit. Therefore, the RATE is not a requirement. The question asks if the RO met the communications requirements. Technically, with the information provided, he/she meets the requirements of Step 7.3.4. The RATE information is not required. The answer marked as correct is not correct, and the closest distractor to the correct answer is only partially correct in its text (distractor B).</p> <p>From distractor wording perspective, one parameter (drywell temp) has no rate of trend in the stem, which makes "B" distractor not credible. To establish credibility, you could remove "or rates of trends" from distractor "B."</p> <p>For distractor "D", trend is provided in the stem therefore "D" can not be credible as written because it states "does not meet" in this distractor.</p> <p>The "as conditions permit" clause in the reference regarding RATE confuse the entire</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>question as written. Consider changing stem to incorporate this concept into the question (although you will have to be careful with respect to cueing on the rate if you do this).</p> <p>For two unsat distracters (B and D) this question iis unsat.</p> <p>The licensee responded Rewrote the question to value and trend, not rate, and changed the Torus Water Level report to value only. The correct answer is now "c", Does not meet. Value and Trend shall be given.</p> <p>S This question is now SAT. 19155</p>
68	F													B	E	<p>B, CR, 41.10</p> <p>Answer "B" is not credible since it is clearly cued in the stem at 100% power.</p> <p>The licensee revised the question to state that the plant was shutdown but still at pressure (Mode 3), so the student would have to determine plant mode and then apply his knowledge of the applicability of LCO 3.8.1, which is Modes 1, 2 and 3.</p> <p>The question is UNSAT because it is a Tier 3 K/A which can not be plant specific equipment per NUREG-1021.</p> <p>S Licensee replaced question and it is now SAT. 21776</p>
69	F	2				X								B	U E	<p>B, CR, 41.10 – There is no mention of a QA supervisor associated with actions in the Equipment Control procedure (0.31). If there is no QA Supervisor role that is filled when doing these tasks, this could be implausible.</p> <p>"A" is not credible due to length, ie a psychometric flaw. Also, this question is a partial list of subsets for the answers (ie different by one item added to the next distractor). I recommend adding Work Control Supervisor to distractor "B" and also change notification to CR is this is the correct system. Do you have both notifications at CNS and CR's?</p> <p>In the stem, tie the procedure ie ..."IAW Procedure 31, what are all of the required actions for this condition?" Also, I recommend that you have the words line-up deviation in the stem or something like that to ensure that the stem is clear that the vent should be closed, because even in an outage the required position may be open if some maintenance was being done. Question is unsat for two bad distractors.</p> <p>The licensee responded with Changed the stem to add that the valve is out of</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	position in accordance with the checklist. Added Work Control Supervisor to both the first and second distracters to correct the psychometric flaws. Also changed the word "notification" to CR (Condition Report). S The Question still needs work because A has two items, B has 3, C has 4 items, and D has five items, which is psychometrically imbalanced too far between A and D. Also the differences between the choices only make it necessary to know one piece of info to split two choices so all extra items get in the way of the question's ability to distinguish the two pieces of info you are trying to toggle in the question and per NUREG should be removed from the choices. The question is now SAT. 12203
70	F	3										X		N		U B, CR, 41.11 - The K/A statement (2.3.11) deals with demonstrating the ability to control radiation releases. The given question tests knowledge of the basis for actions taken during a radioactive release. It doesn't match the K/A statement. 23483 – Used in 2006 Initial Licensing Exam, Question 71, Bank #19169 This is SRO only knowledge as written anyway. You also need to add the word "that" to the two distractors "C" and "D" to ensure balance with "A" and "B." The licensee responded that Rewrote the question to ask how to control radiation releases. To match the K/A better. This is now a new question. It was not used on the 2006 Exam. It is now written to the RO level. S The question is now SAT.	
71	F	2												B		C, CR, 41.12 E Small typo on the answer, you have extensions bolded in the answer but not in the other distractor similar to it, which could cue to the answer. S Licensee corrected these two items and the Question is now SAT. 23484 - Used in 2006 Initial Licensing Exam, Question 74, Bank #21418	
72	F	3				X								B		U A, CR, 41.10 - Distracter D is not the name of a communications system in the training on the Communications System (COR0010302, Rev. 20). It should be "CNS State Notification Telephone System." Also, there is no SNS acronym stated. This makes sure it is plausible. The justifications for the distracters refer to "EAS." There is no "EAS" acronym used in the Communications System training. In addition, there are legitimate reasons distracters are plausible other than they are not part of ENS. They each have separate functions stated other than being used to communicate with NRC Headquarters Operations Center. Recommend improving the distracter text. Distracters "C" and "D" are not credible, therefore this question is unsat.	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>U The licensee made changes to distracters "c" and "d" to make them more plausible. Added the section out of the Lesson material concerning Federal Telecommunication Systems to the explanation section. Stem is still cueing the answer therefore it is still UNSAT.</p> <p>S The question is now SAT. 1927</p>
73	H	3										X		B	<p>U D, CR, 41.7 – The K/A statement (2.4.22) says it is testing knowledge of the prioritizing safety functions in abnormal/EOPs. This question ask what action will be taken based on given conditions, not testing the knowledge of why the prioritized action is taken. This is SRO only knowledge as well Revised the question and changed the answers to better reflect the intent of the K/A statement. The basis is now being asked for which of the two contingencies is required. The ROs are taught to this level and have objectives to support asking them to determine when and why contingencies are required while performing EOP steps. This question is now SAT. S 8933</p>	
74	F	3					X							N	<p>U D, CR, 41.10 – Per procedure 2.4ANN, it doesn't say that the SRO needs to evaluate the situation for the EAL call. It is agreed that this needs to be done, but since the question stem ties to actions per 2.4ANN, Answer D is not correct. Distracter C is correct based on the question stem. All the selections are essentially subsets of "D" the correct answer, therefore this question is also unsat for this as well as K/Amismatch. The licensee responded with Revised the question to match the K/A, what are the actions that the RO needs to do on a loss of annunciators. Revised distracter "d" to remove SRO actions, and added that the computer fails over to the backup PMIS computer. Also added this failover to distracter "b" to address the subset issue. The question still needs editing for psychometric imbalance. A is 1 item, B is 3 items, C is 3 items, and D is 4 items. A could be ruled out by its short nature alone. Toggle the items you are trying to gain knowledge of and remove the rest from the answers. You can place them in the stem for completeness. S The question is now SAT.</p>	
75	F	2										X		B	<p>U D, CR, 41.7 – The K/A statement (2.1.27) tests the applicant's knowledge of system purpose and/or function. Since the actual function of the REC system is stated in each of the answers, it doesn't test the knowledge of its purpose/function. The</p>	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>present question tests knowledge of equipment locations only.</p> <p>Also, Turbine is not credible and with this elimination you have the answer as it is in all three distractors. These are also a partial subset of the answer again. Additionally, most of the words in all four choices should be moved to the stem because they don't add to the value of the selection per the NUREG so they should be in the stem..."Provides cooling water to critical and non-critical contaminated or potentially contaminated components in the." Distractor A has 2 items, B has 3, C has 4 items, and Answer D has all five items.</p> <p>Recommend putting non-crit and crit in the stem as well as Reactor bldg., then for distractors as follows:</p> <ul style="list-style-type: none"> A. Radwaste and Control bldgs. Only B. Augmented Radwaste and Control bldgs. only C. Radwaste and Augmented Radwaste bldgs. only D. Augmented Radwaste, Radwaste, and Control bldgs. only <p>This question is now SAT.</p> <p>S 2527</p>
76	F	2										X	X	N	U	<p>D, CR, 43.5 – The K/A statement involves testing the applicant's ability to interpret/determine the cause of a loss of DC power. The question is written to test the knowledge of what procedure is entered with the given alarms. In itself, it is an RO knowledge question. Supporting this, it doesn't match the K/A statement.</p> <p>Editorial – The first page says that it is associated with K/A EA2.03, instead of K/A AA2.01.</p> <p>With RO knowledge you can answer this question, as stated in previous review. If you cover up the procedures in the various choices all four choices have different buses that have failed so with RO knowledge of which bus failed the procedure selection is not needed to get to the answer.</p> <p>Still UNSAT.</p> <p>S Wrote new question and is now SAT.</p>
77	H	3				X								B	E	<p>B, CR, 43.5 – It is not clear from reviewing referenced procedure 5.7.1 where the definition of "major fuel damage" is. This involves proving that the distractors are plausible.</p> <p>Generic Comment – None of the SRO questions include the field for listing proposed references to be provided to the applicant on the ES-401-5. This needs to be clarified on all of the SRO questions.</p> <p>Is this to be performed from memory? Also, usually you don't do the "minimum" required EAL call. This is violation space if you do this on an exercise. There is one and only one correct EAL call unless there is a procedure or content issue with</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
															S	training, etc. The licensee removed the word minimum from the question. 19335
78	H	3										X		N	U	A, OR (I assume), 43.5 – The K/A statement involves testing the applicant’s ability to interpret/determine the cause of a loss of Component Cooling Water (REC for Cooper) [K/A 295018, AA2.03, for SRO tied to 10 CFR 55.45(b)(5)]. The question as written is an application of Tech Specs on the REC system, calling on no knowledge about the person’s about to determine causes for the situation. It is written to test knowledge under 10 CFR 55.45(b)(2), not in alignment with the K/A statement. This is a bank question, and it appears that the original author thought it addressed both of these K/A statements. It addresses the 10 CFR 55.45(b)(2) content only. Old question bank # was 19227. The licensee replaced Question to match the K/A. It is now a 10CFR55.43.b.5 topic. This is a new question. S This question is now SAT.
79	H	3				X								B	E	D, CR, 43.2 or 43.3 – Verify that it is possible to reach a point where an offgas system isolation could be directed within 30 minutes. Not sure if this is plausible. The bases for the distracters don’t provide this detail. 5448 “A” is not credible because it is not the same as LCO “F” which it is trying to duplicate. I guess this depends on if this is handed out, too. The note says to not provide the TS bases, but does this mean that the ODAM and TRM are to be handed out? If these are to be handed out then the distractors “B” and “C” need to be credible, ie exactly like LCO statements in these documents to be credible and currently these two are not like LCO statements in the other docs. The licensee responded that they corrected the answer choices to reflect the Required Action statements of the T.S and ODCM. Now that the handout items are known, it is not credible to have the TRM in the stem if you do not plan on handing any section of it out. Also your justification section needs to have some bases in it as was communicated previously so that it can be determined that this question is not a direct look-up. If it is, then this would be an UNSAT question. S The question is now SAT.
80	H	4	X			X						X		N	U	C, OR, 43.5 – Four comments: 1) The question stem gives the average suppression pool temperature. I

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	<p>assume based on the context that this is equivalent to "average torus water temperature" on the HCTL curves. However, do the applicants get trained that these terms are synonymous?</p> <p>2) For the correct answer, how can the applicant assume that the PCPL will be exceeded with no indication in the conditions of Drywell Pressure?</p> <p>3) If Torus water level is 14 feet and rising, and the SRV tail pipe supports are suspect by 16 feet, how can it be said that Answer B is not a valid answer? With the Emergency Depressurization, the Torus level could exceed 16 feet.</p> <p>4) How does this address the K/A tied to High Drywell Pressure when the applicant is not given indications on Drywell or Torus pressures to ascertain the mitigation strategy?</p> <p>The reference provided does not support this discussion and the distractors in detail to determine what is correct and what is credible but not correct. Can you update the reference with EOP-3A bases and/or training materials on EOP-3A that support this question?</p> <p>Also need to remove "to" from stem after the word were and before Emergency.</p> <p>The licensee responded that:</p> <ol style="list-style-type: none"> 1. The PSTG that the SROs are trained on, state the basis behind the curves of the HCTL Graph. I have included a page out of the PSTG in the explanation section of the question. 2. The assumptions that support the design of the Mark I containment support the correct answer as discussed in the PSTG 3. The SRV tailpipes are covered by the 16 feet limit, however there is direction to Emergency Depressurize the Vessel when torus level rises to 16 feet to prevent damaging the supports. 4. This is the phenomena specified in the PSTG. <p>Also, the word "to" was removed.</p> <p style="text-align: center;">S</p> <p>The question is now SAT.</p>
81	H	3										X		N	U	<p>C, CR, 43.5 – The K/A category (295027) is for Mark III containments only (see NUREG-1123). Since Cooper has a Mark I containment, this K/A cannot be used. Question written to K/A 295027 G 2.1.39. Sample plan submitted says to be written</p>	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>to K/A 295027 G 2.1.27. In addition, G 2.1.39 cannot be used with Tier 1 or 2 questions, per NUREG-1021, ES-401, Section D.1.b (page 4 of 33).</p> <p>Also, this question is K/A mismatch because picking a temperature and procedure in itself is not demonstrating knowledge of conservative decision making practices. Additionally, the stem needs to have some kind of failure in it to make sense (ie are the drywell fan coolers failing or what is causing rising containment temps?</p> <p>The licensee responded that they Reselected new K/As 295032 and G 2.4.9 and wrote a new question concerning High Secondary Containment Temperature and a Low power situation to match the K/A selected above.</p> <p>This question is now SAT.</p>
82	H	3										X		M	U	<p>B, OR, 43.2 – The K/A deals with Reactor low water level related to PAM instrumentation, when the focus of the question is on Reactor vessel pressure indication.</p> <p>Other comments:</p> <ol style="list-style-type: none"> 1) This 2003/2004 vintage bank question is written based on Revision 178 to Tech Spec 3.3.3.1. In 2010, Tech Spec 3.3.3.1 was up to Revision 233. This question needs to be reviewed versus the current Tech Specs and their bases to see if any changes are necessary. 2) If you are testing the applicant's knowledge/abilities with Tech Specs, how do you do this by giving the applicant a copy of the Tech Spec section that he/she needs to answer the question? A copy of the Tech Specs could be provided so that they determine what Tech Specs are applicable. THIS IS A GENERAL COMMENT FOR ALL OPEN REFERENCE QUESTIONS TO RESOLVE. 3) Revision 233 of the Tech Specs refer to Reactor Pressure indication, but there is no delineation of narrow versus wide range, as there is with other PAM instrumentation. Is there a wide and narrow range pressure indication that is applicable here? <p>19967</p> <p>The licensee responded that they modified the question to focus on PAM Level instruments to meet the K/A statement.</p> <p>The Tech Spec referenced has a revision of 223 on the first page and 178 on the remaining pages. The revision 233 does not change the answer to the question.</p> <p>The applicants will be given a set of references in a booklet and one of them will be Tech Spec 3.3.3.1 and its Bases. Other Tech Specs are given to answer other questions along with some to justify or rule out distracters. In addition a couple of Tech Specs will be given that will not be used to answer any questions so that the candidate will not be able to select those Tech Specs solely because they are related to an individual question. THIS APPLIES TO THE ENTIRE TEST FOR OPEN</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>REFERENCED QUESTIONS.</p> <p>Tech Spec Bases contains enough information for the student to determine which instruments are Wide Range versus Narrow and Fuel Zone.</p> <p>The SRO Candidate must recognize (Identify) which instruments are Post Accident Monitoring instruments and use that knowledge to determine the LCOs that apply to them. This meets the intent behind the K/A as related to 10CFR55.43 b (2) for SROs.</p> <p>This question is now SAT.</p>
83	F	3				X								N	U	<p>C, OR, 43.5 – Without evaluating the EAL charts, an applicant would know that the “H” category of classifications deals with external events. Since no information is given in the cue about initial events, this makes two distractors implausible.</p> <p>Can the leakage into the sumps count as external flooding, which I believe is the reason to use the H code for classification of events in the EALs? If this is true that H code is not for internal flooding caused by LOCAs then distractors “B” and “D” are not credible.</p> <p>The licensee responded that they removed the mention of the HU1.4 as this was only due to external flooding, not LOCA.</p> <p>This question is now SAT.</p>
84	H	3												B	E	<p>B, OR, 43.2 – Same comment as before about giving the applicant the selected section of the Tech Specs with the question. This is not testing their ability to use the Tech Specs.</p> <p>110</p> <p>Distractor “A” is not credible since it is a “no change” answer and is not allowed.</p> <p>The licensee responded that the candidates are getting several different sections of Tech Specs and ODAM and they will not be with any particular question. There will be a booklet of provided references which will contain a few non-needed references. In this question there is no mention of which tech spec is to be used so the candidate would Again, this is not a best choice multiple choice question and therefore the NUREG would allow its use, even though it contains a choice where nothing happens.</p> <p>After discussions with my branch chief and several other chief examiners the “no change” answer is not allowed for several reasons:</p> <ol style="list-style-type: none"> 1) the NUREG does not allow it (see page 9 of APP B) 2) There are better ways to get at the knowledge you want the applicant to demonstrate that he/she knows, and 3) It provides the appearance of trickery on the exam in that the applicant would not believe that no change would be the answer on an NRC exam.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
															S	Distractor A must be changed to a credible selection. The question is now SAT.
85	H	3												N	S	D, OR, 43.2
86	H	3												N	E	D, CR, 43.5 – Is there a position of the pump control switch that it could plausibly be placed in as part of the distracters? The same position is stated in all of the answers, so it doesn't appear to be discriminating. This question appears to be written to K/A 203000 A2.09. The ES-401-5 says 205000 A2.09. Stem needs to have "and using what procedure" to it to complete stem to answer link and also to adequately tie the question to the K/A. Answer as stated is not exactly like the answer in the listed section of the question. It is missing the words "and release" before ONLY in bold and after OFF. Why is an SOP considered a good distractor in abnormal situations? The SOP choices don't seem credible since the stem has abnormal conditions, making the logical choice either "B" or "D" but RO knowledge of the interlock answers that aspect of the question, too, so this is an unsat SRO only question for those reasons. The licensee responded that they wrote a new question, the original question was Double Jeopardy with an RO question and therefore this question was replaced. E Had to randomly reselect a topic. The topic selected was 209001, Low Pressure Core Spray. I maintained the A2.09 portion of the K/A and generated an SRO question with it. This question needs editing. The stem has an "is" before EOP that needs to be removed. Also, you have no discussion on why the distractors are credible but not correct for this question. The reference handouts as I understand it are only the graphs, correct? You will need to be very diligent in your review of reference material overlap for other questions (ability to answer) because you are very high on reference material use on this exam. This is a signed QA check by the facility manager that references provided do not assist the applicant in answering other questions. S The question is now SAT.
87	H	3												N	E	A, CR, 43.5 – On the answers provided, the plausibility of the answers depend on whether there is a legitimate situation for scrambling half the rods. In addition, I think the justification for the answer may be written in reverse of the indications given in the question cue (RPS A versus B). There should be a justification for why the wrong answers are wrong. Having the 4 lights go out with a bulleted format is not preferred since it happens after the two bulleted items above it, which are static items. Recommend something like during the test, all 4 RPS scram group lights for trip system "A" extinguish. The

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																<p>reference does not entirely support the answer or the credibility of the distractors. The licensee responded that they rewrote the question to just set up the sequence better. The same outcome is expected. They also provided distracter justifications and provided copies of some GE Prints for the way the Scram Group Lights are arranged. This was the best explanation they could find. The students learned these prints during their RPS Lecture. The question is now SAT.</p> <p>S</p>
88	H	5												B	E	<p>C. OR, 43.2 – The explanation for disctracter answer A says it is correct until you exit a 2 hour action statement with a DG and offsite source inoperable. There is a 24 hour completion time on this, not 2 hours. Action Statement E.1 is 2 hours, but you never have a period where both DGs are inoperable at the same time.</p> <p>21404 (LOR 21208) – By number 21404, this is a duplicate of RO question 47 on the 2006-10 exam. Review of the question shows it is NOT the same question. Issues with exam bank numbering.</p> <p>The licensee responded that they provided a better explanation as to why the correct answer is right and the wrong ones are not.</p> <p>There is an issue with exam bank numbering. The only way they could make an NRC Exam truly secure while using their TaskMaster program was to generate a totally separate copy of the program that had all the old questions in it then as questions were added, the system would automatically generate a question number. However, that number could be the same for a different question in the other Exam Bank that the Requalification instructors were using. That is why the numbers are typically prefixed with Secure TaskMaster # or Production TaskMaster #. They are presently replacing TaskMaster with a new system that will keep each question written as a separate number.</p> <p>E Question: Will TS 3.8.1 be provided? Answer-Yes. If so, then the question needs to state that this reference is needed for this question.Done. Also, is TS section 1.3 going to be part of the handouts? Answer-No.</p> <p>S The question is now SAT.</p>
89	F	3										X		M	U	<p>B, CR, 43.3 - The generic K/A used is not in the list of those that can be used with Tier 1 or 2 questions. See NUREG-1021, ES-401, Section D.1.b (page 4 of 33). 20532</p> <p>The licensee responded that they Randomly selected K/A 2.2.40 from the list of approved Tier ½ Generic K/As from ES-401 and modified an existing question from the bank and applied a failure of AC distribution to a Tech Spec Mode question.</p> <p>E Are there any references provided for this question? Answer – Yes. They have been added to the question field for references provided.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
															S	The question is now SAT.
90	H	4				X								N	E	C, OR (I assume), 43.5 – It is not apparent how distracter B is plausible, in that there is no situation where it directs that RPV pressure be lowered below 800 psig per EOP 6A. The only pressures stated in the EOP are 940 and 1050 psig. Based on that, not knowledge of the situation and how to apply the EOPs, could the applicant rule this answer out. The licensee responded that they added in the distracter section for Answer “b” the reason why 800 psig is a viable and credible distracter. This question is SAT.
91	H	3												N	S	D, OR (I assume) 43.5 Need to fix the icon for degrees F in the stem, particularly since this is on the parameter of interest for resolving the question. The licensee responded that they fixed the degree symbol in Stem. This question is SAT.
92	F	3			X									B	E	C, 43.5 – Unless there are cases with discharges where the Shift Manager authorizes and approves the release (i.e., Chemistry always has to authorize releases), the applicant could answer/eliminate distracters easily without reading the stem of the question. Can be seen as a true/false question. The licensee revised the answers to remove the combination of chemistry and shift manager authorizing and approving the release. Revised the question to ask who approves the release only. This question is now SAT. S 23510 – 2006 NRC Exam (Question 98, but numbered as 20526)
93	H	4												N	E	B, OR (I assume), 43.5 – The EOP referenced in Answer B and the justification do not match. Believe the driver for the correct answer is in EOP 5.8, Attachment 1 (7A). Need to have better justification in answer section on why distractors are not correct is when to transition in/out of the various EOP’s and why you wouldn’t be in EOP3A, etc. Are you completing the RHR/CS stop as part of stop and prevent in EOP 7A? If so, the answer discussion should that information, too. E The licensee responded that they provided a better explanation as to why the correct answer is right and added distracter justifications So is the correct answer EOP 7A or 6B? Answer is EOP 7A. Look at your selection for answer B and justification for answer B (they do not agree). Also, the first sentence of your explanation does not make sense-you are missing some words in the explanation.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation		
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only					
																S	The question is now SAT.	
94	F	3	X											B	U	<p>D, OR (I assume), 43.2 – If Mode 5 has been set during the outage, it can be assumed that fuel is in the reactor at the point of the question. This would set the minimum staffing for the question. By reading Tech Specs Section 5.2.2 (Amendment 200) and 10 CFR 50.54 (m)(1) and (2), it would appear that prior to Mode 3 entry, there would be 1 NLO, 1 RO, 1 RP Technician, and 1 SRO available. To change to Mode 3, 2 NLO's, 1 RO, 1 RP Technician, 1 SRO and 1 STE are needed. The question asks what ADDITIONAL personnel are needed to transition to Mode 3. Additional personnel would be the difference between the two states: 1 NLO, and 1 STE.</p> <p>Even if this set of assumptions is incorrect, remaining silent on something that is assumed can lead to some of the answers provided by applicants being appealed. The question needs to be reviewed to make it accurate, with one correct answer.</p> <p>24480</p> <p>The licensee responded that: MODE 3 required positions: 3 NLOs 1 SRO in CR 1RO in CR 1 RP Tech 1 STE</p> <p>MODE 5 required positions: 1 NLO 1 SRO on site 1 RO in CR 1 RP Tech</p> <p>Difference</p> <p>2NLO 1 STE</p>	S	<p>Corrections made to the question. This question is now SAT.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
95	F	3				X								N	E	<p>C, CR, 43.5 – If there are no cases specified in procedure during a startup when the plant would insert the rods to achieve sub-criticality again, how can that be plausible? QUESTION - CAN THIS BE REPLACED TO GIVE 43.6 COVERAGE?</p> <p>When is procedure NPP10.13 used? Can it ever be credible for the given stem? If not, then "B" and "D" would not be credible based on this either.</p> <p>Please put the numbers on each question at the top. Several questions have no number or they have a bank number which is not in the correct format per the NUREG-1021.</p> <p>The licensee responded that they provided the procedural guidance for inserting control rods during a startup. There are general cautions that if unusual behavior is noticed, to place the reactor in a safe condition, which includes inserting control rods to achieve sub-criticality. Added references 2.1.1, 10.13 and 0-CNS-61.</p> <p>This question deals with determination of internal effects on core reactivity 10CFR55.43 (6).</p> <p>The question number was an oversight, and all will be checked before resubmittal. The question is SAT.</p>
96	F	3				X	X							N	E	<p>C, CR, 43.4 - In Attachment 3 of procedure 9.EN-RP-108 (Revision 5), the example of a Locked High Radiation Area posting does not include any content about what documentation/requirement is driving the posting. Since the posting itself is in place to ensure meeting Tech Spec 5.7.2, based on no hard example in the procedure, it could be said that both Answers C and D are correct. "D" is incorrect because of the TS 5.7.1 vice TS 5.7.2 (correct).</p> <p>The licensee responded that they disagree with this Unsat, 'd' is incorrect, however it would be correct if the dose was < 1Rem.</p> <p>9.EN-RP-108 Radiation Protection Posting, Locked High Radiation Area (LHRA) - An area, accessible to individuals, in which radiation levels from sources external to the body could result in an individual receiving a deep dose equivalent ≥ 1 Rem (10 mSv) in 1 hour at 30 cm (- 12") from the radiation source or from any surface that the radiation penetrates.</p> <p>9.EN-RP-108 Section 1 . PURPOSE 1 .1 The purpose of this procedure is to provide a common method of posting radiological areas throughout the Entergy sites.</p> <p>This question is SAT.</p>
97	H	3										X		B	E	<p>C, OR, 43.5 – Spelling error in stem –word outside. 20682</p> <p>The licensee corrected the spelling error and made minor changes from validators. This question is SAT.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
98	F	3				X								N		<p>C, CR, 43.5 – Distracter A says that it can be recorded on the Crew Turnover Sheet IAW 2.0.3. There is no Crew Turnover Sheet discussed or provided as an attachment to procedure 2.0.3. This appears to be implausible, unless there is something called a Crew Turnover Sheet administrated by another procedure.</p> <p>The alarm could be tracked in the first 24 hours with the narr. Entry per COP 2.02 then later transferred to the NOMS tracking module, which would be inferred since it is not specified in the stem or answer choices, therefore "C" is also correct as written, therefore the question could be Unsat for two correct answers. Please review this for two correct answers.</p> <p>The licensee responded that Alarms disabled for short durations (24 hours) maybe tracked with a narrative log entry, but is an incorrect way of tracking this item. The alarm will not be repaired for at least 5 days. The intent behind the 24 hour allowance is to allow a crew and the relieving shift the opportunity to turn this short duration item over with only a narrative log entry, not to temporarily track a disabled annunciator until a NOMs LCO tracking entry can be made. Crew Turnover is covered in Procedure 2.0.4. They also added some clarification in the explanation and provided justifications in the distracter section.</p> <p>S After clarification was added to the explanation This question is SAT.</p>
99	F	3										X		B		<p>U B, CR, 43.2 – The question addresses part of the K/A statement. The K/A (Generic 2.1.32) tests the ability to apply AND explain procedural precautions. As written, the question test ability to apply, but not the ability to explain the precaution.</p> <p>24571</p> <p>The Tier 3 K/A's and subsequent question and answers can not test system specific knowledge IAW NUREG-1021, which this k/A does. This K/A should be thrown out for Tier 3 and another selected.</p> <p>The licensee responded that ES-401</p> <p>Ensure that the questions selected for Tier 3 maintain their focus on plant-wide generic knowledge and abilities and do not become an extension of Tier 2, "Plant Systems."</p> <p>This question was written to address the site wide MOV requirement to stroke any MOV after manual operation. They also added the reference to the question.</p> <p>They disagree with this Unsat,</p> <p>The "explain" portion of the K/A is still not met therefore the question does not meet the K/A and therefore is still UNSAT. I do agree that the generic concern is addressed with the MOV explanation you provided although the question could be more clear in addressing the concept you are trying to measure. Trying to force old bank questions into this exam under different K/As has caused more problems than solutions. Additionally, MOV stroking guidance in an Admin procedure does not fit the</p> <p>U</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
															S	definition of a precaution or a system limit as you have documented it. New Question written which is SAT.
100	F	3						X						B	E	<p>C, CR (I assume), 43.5 – While I agree that procedure 2.0.1.2, Step 2.5 addresses the marked corrected answer, the applicant may argue that if they are in this situation, needing to gain control to protect public health and safety, they may invoke 10 CFR 50.54 (x) per procedure 0.1, Step 10. 5.3 (Revision 34). Therefore, distracter A is at least partially correct.</p> <p>23314</p> <p>The licensee responded that 10CFR50.54 (x) A licensee may take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent. I would argue that based on the correct answer, there is guidance provided within the license condition and tech specs. There is written guidance in our administrative procedures that give permission for the higher tier document (EOP) to supersede the lower tier document (AOP). Adequate steps are provided to open the bypass valves in this case. Invoking 10CFR10.54 (x) is wrong.</p>
RO TOTALS:			B= 42			F= 37			E= 33			Additional Notes:				
			M= 7			H= 38			U= 20							
			N= 26													
SRO TOTALS:			B= 8			F= 9			E= 14			Additional Notes:				
			M= 2			H= 16			U= 9							
			N= 15													
GENERAL COMMENTS:																
1. Bank questions are indicated by B ; Modified are indicated by M ; New questions are indicated by N																

2. Chief Examiner comments are indicated in black. All comments by reviewer, utility, and chief examiner are provided on this worksheet.
3. Average difficulty is 3 on the RO exam and 3 on the SRO exam.
4. The 10CFR55.41/43 distribution is: RO / SRO
- | | |
|------------|-----------|
| 41.1 = | 43.1 = |
| 41.2 = 2 | 43.2 = 7 |
| 41.3 = | 43.3 = 1 |
| 41.4 = 1 | 43.4 = 1 |
| 41.5 = 15 | 43.5 = 15 |
| 41.6 = 1 | 43.6 = 1 |
| 41.7 = 30 | 43.7 = |
| 41.8 = 3 | |
| 41.9 = | |
| 41.10 = 20 | |
| 41.11 = 0 | |
| 41.12 = 2 | |
| 41.13 = 1 | |
| 41.14 = 1 | |
5. The answer distribution is: RO / SRO
- | | | |
|--------------|---|---------|
| A = 20 (27%) | / | 6 (24%) |
| B = 22 (29%) | / | 5 (20%) |
| C = 17 (23%) | / | 8 (32%) |
| D = 16 (21%) | / | 6 (24%) |
6. There are 2 RO and 11 SRO questions with attachments provided. Q50 and Q58 on the RO exam and Q77, Q79, Q80, Q82, Q83, Q84, Q86, Q88, Q89, Q93, & Q97. Another note is that Q77, Q83, and Q97 use the same reference and Q80 and Q93 use the same reference.