

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	Back- ward	Q= K/A	SRO Only			
1	H	4								b				B	S	CFR 55.41.7, 2008 NRC, HANDOUT .
2	H	3								c				N	E S	CFR 55.41.5, Remove "s" from "breakers" in distracter "D" to balance with "B". The reason for load shedding is to protect the power supply from being overloaded, to keep the voltage at an acceptable level. Doesn't that protect the 4160V buses from degraded voltage, a sub-category of under voltage? Could distracter A (and possibly B) be argued as partially correct? Licensee made changes to plurality and edited stem to state per the USAR what is primary reason for load shedding. Question is now Sat.
3	H	3		X						b				B	E	CFR 55.41.10, 2006 NRC Stem has cueing to DC failure. Make stem cues operationally valid. Also, how would they know the DC control power is on for other buses. Shouldn't give them this either. The licensee edited the stem to remove the DC partial cueing, although in discussions with them all four answers are DC and the stem does not give away any

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 B 5 (easy B difficult) rating scale (questions in the 2 B 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 AU@ ratings (e.g., how the Appendix B psychometric attributes are not being met).

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															S	of these so this would not be an unsat question even as submitted originally. Question is Sat.
4	H	4								c				N	S	CFR 55.41.7 What is the significance of the two minutes? Answer from licensee is that after thirty minutes or more the GP6 isolation will remove cooling to the running RR pump and so it will be lost as well so to bound the answer for the immediate time period after the trip but before HVAC is lost to the RR MG set the two minutes was used. Licensee made edits todiscussion section to explain this but question was sat as written. Question is Sat.
5	H	3								c				N	E S	CFR 55.41.8, Also, can a rapid down power from 100 to 10% be conducted in a minute? Is that plausible? Licensee made change to 50% but clarified that on loss of vacuum that there are no rate limits on the downpower in the pedigree section.
6	H	3								d				N	S	CFR 55.41.13
7	H	3								b				N	E S	CFR 55.41.5, stem edit, "during the" Distracters "C" and "D" second part needs to be removed for balance and credibility. Put "CRS directed power to be lowered because of the high river water temperatures" into the stem to fix examiner concern that Procedure 5.2REC only directs reactor power reduction if service water cooling to the REC heat exchangers is lost (Section 4.9). The stated correct action would not be correct per this procedure based on the initial conditions provided. Section 6.5 of Procedure 2.2.65.1 directs using the SW TCVs to reduce REC temperature if it is outside 5 to 15F above river temperature. Licensee fixed stem to "during the" as requested. Deleted second part of distracters c and d. Added statement to the stem about CRS directing power reduction. Question is now Sat.
8	H	4								c				N	S	CFR 55.41.7 Verify that a "medium size Service Air leak" will result in service air header pressure less than 77 psig. It would enhance the question if some indication of Service Air pressure is provided to test the applicant's knowledge of the auto valve isolation, as well as it would make sure there is one correct answer. Licensee response-medium size leak is subjective but based on stem conditions that all SACs are running it is big enough to setup the question as written, therefore it is okay. The Pressure instruments provided test what is necessary for the question and is operationally valid as it is what they would see in the control room. Question is Sat as written.

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9	H	3								d				N	E S	CFR 55.41.7 Need more to ensure that CRD is not a second correct answer. Licensee added to distracter explanation that 2.4SDC does not direct CRD to be utilized as a sub-system for heat removal. Question is now Sat.
10	H	2								b				N	E S	CFR 55.41.7, distracter "D" is not credible as written. Remove the dust part of it. Disagree with the LOD of 3. This is LOD = 2. Licensee changed "dust" to "particle" debris knocked loose is a reason for high airborne and the area high radiation alarm. (we will discuss more) Changed LOD to 2. Question is now Sat.
11	H	3								a				B	E S	CFR 55.41.7, classified as Modified but it is not. This is not a modified question by definition. The stem and answer are still the same. You modified some of the stem but pertinent info is still the same.. Distracter "D" is also correct as written. Need to modify the stem to preclude this issue. An argument could be made that with 2 minutes, the drywell pressure could be maintained below 1.5 psig with a rapid down power. Therefore, the applicant could argue that distracter D is correct answer. This is allowed by Alarm Response Procedure 9-5-2/F-3, Step 1.2, through Procedure 2.4PC, Step 4.5. Two possible correct answers. Licensee removed reference to Modified and counted as Bank question. Revised the step condition by stating drywell pressure is at the scram requirement of 1.5 psig. This will preclude distracter d from being correct. They also commented that operators would not wait until the sp was reached so this is why they thought distracter d was not correct as originally written, however they did make the requested changes and question is now Sat.
12	H	3								b				N	S	CFR 55.41.7 Does the 30 seconds stated in the question affect what the correct answer is? Licensee answer- Yes because after a few minutes you will get an RPV low water level scram, which is distracter C so it was Sat as written.
13	H	3								c				N	E S	CFR 55.41.10, typo for distracter "D" as distracter "C" in explanation section ("C" is the correct answer). Licensee corrected typo. Question is now Sat. HANDOUT
14	F	2								a				N	S	CFR 55.41.5 Provide a copy of the EPG Issue 1103 reference. It doesn't seem right that the site wouldn't ED if it can't maintain the Drywell within its design temperature. Licensee pointed out in EOP-3A that this is correct per the EOP and therefore

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																question is Sat as written.
15	F	2								b				N	S	CFR 55.41.7, some errant space bars in the explanation text. Licensee made minor edits and Question was and still is Sat.
16	H	4								c				N	S	CFR 55.41.8
17	H	3								b				N	S	CFR 55.41.6
18	H	3								a				N	S	CFR 55.41.13
19	F	3								b				N	S	CFR 55.41.7
20	H	3								c				N	S	CFR 55.41.10, typo in explanation "A" (16 kV and it should be 161 kV), several typos in explanation section. Are you sure that "A" can't be argued as correct? Licensee fixed typos and explained why A could not be argued as correct (the only precludes its selection). Question is Sat.
21	F	3								d				N	S	CFR 55.41.7
22	H	2								b				N	S	CFR 55.41.7
23	H	3								c				N	S	CFR 55.41.7
24	F	4								d				N	E S	CFR 55.41.10, typo on distracter "C",high temperature alarms is received" remove the "s" from alarm. For answer "D" why is it not correct to state that the operating pump cannot be immediately started since you tell them in the stem that the alternate can't be restarted? Why do you use CRDH pump in stem and answers but in procedures it is referred to as CRD? Verify that the distracters tied to other alarms/Tech Specs do not have an action to scram the reactor. Tie these to their alarm response procedures. They are not cited for distracters A and C. Distracter B appears to be tied to LCO 3.1.5 Conditions C and D. Fixed the type in distracter c by removing the s. Changed all to CRD vice some CRDH. Added to the stem that a restart of the operating pump is attempted but fails. Licensee discussion centers on the correct ARP for this event and verified that the other ARPs and/or TS do not require a manual scram. Question is now Sat.
25	F	3								b				N	S	CFR 55.41.5 Verify if this level of knowledge is expected for RO applicants onsite. Licensee verified training objectives are correct for RO applicants for this topic and

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																therefore it is correct as written.
26	H	3								c				N	E S	CFR 55.41.7 Which alarm response procedure has the referenced alarm? Need to know to verify actions match to answers. Licensee will add the ARP for this alarm to the pedigree and list of references. Question is now Sat.
27	F	3								c				N	S	CFR 55.41.10 Provide the EOP Bases documents for answer verification. Licensee added EOP-5A bases to list of references or it was already there and we missed it in the review. Question is Sat.
28	H	4								d				N	S	CFR 55.41.7
29	H	3								c				N	E S	CFR 55.41.5 Discuss KA match to heat removal mechanism vs K5.02 valves. Also make choices look like this: The outline says that this question is to be written to K5.03. The proposed question is focused on the how valve operations affect this. This is K5.02. Licensee made minor edits to the choices by removal of valve manipulations from the choices and the question matches the KA for heat removal as adjusted.
30	H	3								d				N	E S	CFR 55.41.7 Recommend adjusting the stem wording to say what the HPCI inlet pressure stabilizes at versus to what pressure does the steam line rise to. In rising to 1010 psig, it does rise to 955 psig as well. Could try to argue that distracter B is correct as well on appeals. Licensee made corrections as recommended and question is now Sat.
31	F	2								b				N	E	CFR 55.41.7 The CS pump starts 10 seconds after drywell pressure rises above 1.84 psig, not 1.85 psig. Someone could argue that the correct answer isn't correct. Procedure comment: Procedure 2.2.9, Attachment 5, Section 2.1 says that CS pumps start when drywell pressure is equal to or LESS THAN 1.84 psig. This needs to be corrected. Licensee corrected this to 1.84 psig and added pedigree comments to state they are trained to the TS values and the actual electrical start sp may be lower but this is not how they are trained in ILO class and the ARP states both values to be clear.

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															S	Question is Sat.
32	F	3								b				N	S	CFR 55.41.7
33	H	3								b				N	S	CFR 55.41.10 Procedure comment: Procedure 2.2.74, Note 2 prior to Step 11.1.3, says that lowering the boron concentration below 15% invalidates design calculations, including the hot/cold shutdown boron weights assumed in the EOPs. Recognize that SLC can stay operable as long as they stay in the Acceptable region on TS Table 3.1.7-1. However, since this would put the plant in an unanalyzed space in the accident analysis (hot/cold shutdown boron weights are not as assumed), how can the plant continue to operate? This doesn't affect the question or answer as written but there may be a concern with the procedure content of 2.2.74 Note 2 on page 25 vs TS and licensee will resolve offline from exam when the exam is completed.
34	F	3								c				N	S	CFR 55.41.6 I have seen this question before on other GE exams.Are you sure this is New? Licensee states that this question is in our exam bank with a twist. It also includes the SDV vent and drain solenoid valves (Item number 868).
35	F	2								a				N	S	CFR 55.41.7 I don't think this should be a LOD=3. I also have seen this question before on other GE exams. Licensee made a LOD of 2 and stated that they have a close one in their bank, but it is different.
36	F	2								d				N	S	CFR 55.41.6 I disagree with higher cognitive for this question. If the applicant knows one piece of info he/she can answer the question. This is a fundamental or memory question as written. If the distracter A had been correct, then it would be higher order. Licensee made it memory and LOD=2.
37	H	3								b				N	S	CFR 55.41.6
38	F	3								a				N	E	CFR 55.41.5 I disagree with higher cognitive for this question. If the applicant knows one piece of info (ie no half scram occurs, then can throw out all three distracters) he/she can answer the question. This is a fundamental or memory question as written In the question, state the switch name and positions like they would be shown in the control room. In one place, it says "function switch." In the Explanation, it says

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																<p>"Function switch." Same thing with "operate" and "OPERATE" switch positions. Since the Explanation talks about the flow unit being INOP, it is assumed that is different than having the APRM INOP. Please verify. Affects correct answer.</p> <p>The LOD changed to 2 and question cognitive level changed to memory/fundamental knowledge. Need to discuss as the flow units do change the APRM flow bias scram setting and the APRMs do cause half scrams.</p> <p>Minor edits made to match the case of switch with case of question and question is Sat.</p>
39	H	3				X				a				N	S	<p>CFR 55.41.6</p> <p>Do you ever get a half scram for a single instrument failing high? If not then how is it credible to have 1 out of six APRMs fail to 112% giving a half scram? Even with the other one in bypass you still have 4/6 working channels. This affects distracters C and D.</p> <p>Verify that the applicant has all the information needed to deduce whether this caused an APRM upscale High flow biased alarm, or a High-High alarm. Makes the difference on whether a half scram occurs or not. Reference procedure 4.1.3, Attachment 1, Section 2.3.</p> <p>Licensee response Yes. One APRM upscale provides a scram on that division. APRM A,C, or E trip RPS A on an upscale trip. APRM B,D, or F trip RPS B on an upscale trip.</p> <p>The high high alarm is the "upscale trip" alarm and given the information in the stem, this is the upscale alarm (which is not the trip alarm) therefore it is correct as written for this aspect.</p> <p>Question is Sat as written.</p>
40	H	3								d				N	E S	<p>CFR 55.41.7</p> <p>The RCIC system test return valves are MO-30 and -33. Distracters B and C say they are MO-33 and -34. Without knowledge of their operation, the applicant can eliminate the distracters based on incorrect valve numbering. Reference procedure 2.2.68, Attachment 1.</p> <p>Licensee made corrections and question is now Sat.</p>
41	H	3								d				N	S	<p>CFR 55.41.7</p> <p>The Explanation says that the ADS TIMERS ACTUATED alarm comes in when RPV level reaches -113 inches. Alarm Response Procedure 9-3-1/A-1 says this happens when the ADS TIME CHAN A and CHAN B ACTUATED comes in. It is assumed that this is after you get the Level 3 and Level 1 signals, but it needs to be verified.</p> <p>Procedure comment: In ARP 9-3-1/A-1, it says that the automatic action is that "AFTER all time expires, then all ADS valves open." There has to be proof of flow for</p>

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																<p>RHR or CS in order for the valves to open, in addition to the timer expiring. The statement of automatic action is incorrect.</p> <p>Licensee answer is that the ADS timer actuated alarm is given in the stem therefore this comment is already addressed in the stem. Regarding the procedure, they state that for the timer actuated alarm to be lit, the relay for it is energized, which requires a pump discharge pressure limit to be met, ie a pump is already running and the timer just needs to time out for the ADS actuation, therefore this is a misunderstanding of the ARP by the NRC.</p> <p>Question is Sat as written.</p>
42	H	3				X				a				N	E S	<p>CFR 55.41.7</p> <p>The NUREG discourages the use of distracters/answers that state that nothing happens, neither repositions, etc, because this may appear as a trick to the applicant. The idea is that why would the exam have this complicated stem and then have the answer be nothing realigns? This is in the Appendix of NUREG-1021. We need to look at changing distracter "D" for this reason.</p> <p>If the stem says that a RCIC steam line flow instrument fails high, how plausible is it that no valves operate to isolate it? Affects use of distracter D and the statement of "if any" in the question.</p> <p>Licensee revised distracters c and d and question is now Sat.</p>
43	F	3								c				N	S	CFR 55.41.7
44	H	3								d				N	S	CFR 55.41.7
45	F	2								c				N	S	<p>CFR 55.41.9</p> <p>This question can be answered with knowledge of how differential pressure affects mass flow rate. GFES level of knowledge.</p> <p>We looked in the BWR GFES and there are no concepts taught implicitly for containment (ie knowing the DP relationship between torus venting and drywell pressure versus suppression pool therefore the licensee believes that this is not GFES because of this.</p> <p>Question is Sat.</p>
46	H	3								c				N	S	<p>CFR 55.41.7</p> <p>Could an overcurrent condition through the inverter cause the de-energization of MDP-2? If this is the case, it is plausible that distracter B could be correct too.</p> <p>There is no electrical fault given in the stem, it was inadvertent so this is not a concern.</p>

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																Question is Sat as written.
47	F	3								c				N	S	CFR 55.41.7
48	F	3								d				N	S	<p>CFR 55.41.7</p> <p>We need to discuss this one. The explanation you have seems to indicate that several other choices (distracters "B" and "C") could be correct as well.</p> <p>Licensee response: For distracter b, the inverter does not transfer on an OUTPUT over current condition. It only transfers on an overcurrent on the input side therefore distracter b is not correct as written.</p> <p>For distracter c, the inverter only transfers on a output UNDER VOLTAGE not the supply. Believe the question is correct as written.</p> <p>Change the pedigree section for B and C to explain this.</p> <p>Question is Sat as written.</p>
49	F	3								c				N	E S	<p>CFR 55.41.7</p> <p>Capitalize Starter Rack for distracter "B" to make it look like the other distracters. Can you lengthen Distracter "A"?</p> <p>Distracter A looks like a correct answer as well. Verify this.</p> <p>Changed both distracters "A" and "B" to be the supply for the distracters "C" and "D" and because the use of the word direct in the stem is used, this excludes distracters "A" and "B" from being correct.</p> <p>Question is now Sat.</p>
50	H	3								b				N	S	<p>CFR 55.41.7</p> <p>To ensure that the answers are correct, there needs to be an understanding of how long an EDG can run on its day tank if unloaded. This, in combination with the data point on how long it can run fully loaded, will make sure the answers are correct/incorrect. Licensee verified the fuel consumption at minimal load would not last over 24 hours, therefore C cannot be correct.</p> <p>Question is Sat as written.</p>
51	H	3								c				N	S	CFR 55.41.10
52	H	3								d				N	S	CFR 55.41.4
53	F	3					X			a				N	U	<p>CFR 55.41.7</p> <p>Stem edit needed (comma or and or something to separate the A HX from the B HX).</p> <p>In the initial conditions, REC Heat Exchanger B is unavailable with maintenance. Even if Service Water is available to this heat exchanger, Service Water cannot transfer heat from it in this condition. Therefore, when Service Water is lost to REC</p>

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																Heat Exchanger A, there is a loss of SW cooling to both REC heat exchangers. This put the operators in procedure 5.2REC, Section 4.4. This requires a reactor scram and additional actions, none of which are described in the provided answers. There are no correct answers. Licensee reply: Put an "and" in between and also added (REC) to Heat Exchanger B for consistency and added words to the stem for flow to drop from 2000gpm to 500gpm, but not a total loss as the question was originally written. Question is now Sat.
54	H	4								b				N	S	CFR 55.41.6
55	H	3								a				N	S	CFR 55.41.5
56	H	3								d				N	S	CFR 55.41.7
57	F	3								b				N	E S	CFR 55.41.3 Section 17 of procedure 2.2.66 says that the method for aligning RWCU as Alternate Decay Heat removal is to align it per Section 20, which is installation of the spool piece connection to FPC. Therefore, distracter A is a correct answer. The only way to make it false is if the feedwater line isolation precludes the operation of RWCU otherwise, and if there is something else in service as the Alternate Decay Heat removal method. Licensee response: Added FW line isolation to the stem although the only way that you would be cross—tying the two systems is if you had FW line A isolated (so it is inferred when using the spool piece that A would not be correct). This would be an edit issue to ensure no appeals but is was correct and A was incorrect as written. Question is now Sat.
58	H	4								d				N	S	CFR 55.41.7 Verify that the initial conditions (two RCS level instruments in bypass) doesn't drive action by the Tech Specs or TRM that are not accounted for here. Licensee verified this and question is Sat as written.
59	F	3								b				N	S	CFR 55.41.7
60	F	2								a				N	S	CFR 55.41.7
61	H	3								a				B	E	CFR 55.41.7 HANDOUT In distracter B, the high pressure turbine blade phenomenon needs to be explained better. It is a sentence fragment, and doesn't answer "why?" I believe the Power to Flow Map is being provided as a reference for another RO

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																<p>question. If it isn't provided, then the applicant could not use his/her knowledge to eliminate distracter C. Also, an indication of what percent rod line the reactor is operating at is needed in the initial conditions. Otherwise, the applicant can eliminate distracter C because they don't have the information to determine whether it is right/wrong, not that he/she knows it is right/wrong.</p> <p>Exam Outline comment: The original K/A for this one, K6.18, was rejected and replaced with K.6.05, per the ES-401-4. The ES-401-1 needs to be revised to reflect this. This was added in the rev5 version of the draft outline file.</p> <p>Licensee added more in explanation and 70% rod line to help credibility of distracter C.</p> <p>Question is Sat.</p>
62	H	3								a				N	S	CFR 55.41.7
63	F	3								a				N	S	CFR 55.41.10
64	F	3								d				N	S	CFR 55.41.7
65	H	3								a				N	S	CFR 55.41.9
66	F	3								a				N	E S	<p>CFR 55.41.10</p> <p>Provide the reference used in making this question. Operating Instruction 20, Rev. 15.</p> <p>Question is now Sat.</p>
67	F	3								b				N	E S	<p>CFR 55.41.10</p> <p>Partial KA mismatch. You need to ask what panel this indicator would be found to hit the locate portion of the KA. If you do this, you defeat the Tier 3 requirement. Ed work this out.</p> <p>Licensee completed tie to location and question is now Sat.</p>
68	F	3								a				N	S	CFR 55.41.10
69	F	2								d				N	S	<p>CFR 55.41.10</p> <p>Procedure comment: Having someone in a position to authorize TS surveillances that is not required to have an active SRO license appears precarious. This practice should be reviewed.</p>
70	F	2								b				N	S	CFR 55.41.10
71	F	3								c				N	S	<p>CFR 55.41.12</p> <p>Question: the difference between answer C and distracter D is minimal. Are you sure</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	Back- ward	Q= K/A	SRO Only			
																they might not challenge this question as written? Verify whether this is RO level of knowledge or not. Licensee verified this is RO required knowledge and is okay as written.
72	F	3								a				N	S	CFR 55.41.12 Licensee added reference to Alarm (HI-HI) for Distracter "C."
73	F	3								d		X		N	U S	CFR 55.41.12 It doesn't seem credible to have the control room narrative log be a selection, which affects distracters B and C. The K/A statement says the question needs to test the applicant's ability to comply with RWP requirements. The question asks what is required for entry into an area without a RWP. The question doesn't test knowledge of how to comply with an RWP. K/A mismatch. Licensee wrote new question which has requirements during an emergency in 9Alara1 procedure, and these requirements are relaxed during emergencies in that an RP tech follows in and out then dose is determined. New question meets KA and is Sat.
74	F	3								a				N	S	CFR 55.41.10 The EOP Bases document would describe this. Please provide it. Verify if this is RO level of knowledge or not. Licensee response: EOP bases are RO knowledge per SRO only guidance and the KA match/pt value therefore this question is Sat.
75	F	3								d				N	S	CFR 55.41.10
76	H	2								d			X	B	U	CFR 55.43.5 This question is reduced to 50/50 choice because RO knowledge gets the first part of the selection out of the way. For procedure selection, you don't have to analyze complex issues to determine the procedure choice (ie with RO knowledge of entry conditions for the EOP you can get the second part of the question) so it is marginally SRO only and is a LOD = 2 as a result. I don't agree with licensee that this is LOD=4. To answer the question, the applicant needs to know a) how the breakers operate when the EDG is running in that condition, and b) by knowing the entry conditions to emergency procedure 5.3AC480. There is no other emergency procedure that has to be entered, showing the ability to prioritize which actions need to be taken with priority over others. Both of these are RO level of knowledge sets. Licensee response: Wrote a new question asking for priorities and procedure to use to respond to partial loss of RPS power supply. Still needs work to justify reason for

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
															S	the answer and priorities. Licensee completed justification on new question and it is now Sat.
77	H	3								c				N	E S	CFR 55.43.5 The stem has cueing to the answer with "Shift Manager determines the failure is causing a danger to plant personnel and other plant equipment." If you take this out, the applicant has to determine that the hot shorts and the system they are occurring on is a danger to plant equipment and then they can determine on their own the answer. With this in the stem, the LOD=1 due to the cueing. Licensee response: Changed stem to be in SBO and have 125 VDC hot short. Candidate must know RCIC is the only available injection source for continues RPV injection. Question is now Sat.
78	H	3								b		X		N	U S	CFR 55.43.5 In the explanation section you need to explain that EOP-2A is an override from EOP-1 and is SRO only because it is a procedure transition. Also would help to explain that this is a note, caution, etc to complete the tie to the KA. The question doesn't test the knowledge EOP warnings, cautions, or notes. Doesn't match the K/A statement. After discussion with licensee, we agreed to reject 2.4.20 and go with 2.4.6 and write a new question based on this KA, keeping same system. Licensee wrote a new question and it is now Sat.
79	H	3								b		X		N	U S	CFR 55.43.5 K/A mismatch-didn't address knowledge of cause of partial loss of REC. Distracter "D" could be argued as correct. The stem doesn't ask what procedure is required to restore REC, it asks (based on conditions given in the stem) what procedure and why. 5.3SBO is a correct procedure (if only for a few seconds) and the second part of "D" is correct. This question needs some work. Disagree with LOD=4. It is easy to ignore the one rod out since this is part of the design of the plant (RO knowledge). LOD=3 is more appropriate. Revised question to match the K/A concerning the cause of the partial loss of CCW. Revised the stem stating 10 control rods are withdrawn which makes selecting another procedure more plausible. Changed LOD to 3. Still not SRO only. Licensee wrote new question and it is now Sat.
80	F	3								c				N	E	CFR 55.43.4 Distracter "A" is not credible as written. If it had a focus on fuel failure that would

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
																<p>make it better. I don't think this is an LOD=4 either. Also, the 55.43.4 requirement would be on standard versus emergency rad practices (ie variation of radiological conditions), so this should be toggled in the choices to help fit the KA better. How about this for distracters?</p> <p>a. Reset RCIC over speed trip using emergency radiological protection practices so RCIC can be placed in service.</p> <p>b. Anticipate emergency depressurization and fully open main turbine bypass valves to minimize the off-site release.</p> <p>c. Reset RCIC over speed trip using standard radiological protection practices so RCIC can be placed in service.</p> <p>d. Anticipate emergency depressurization and fully open main turbine bypass valves to maintain off-site release rates within regulatory limits.</p> <p>Recommend adding some indication of drywell pressure, so the applicant has all the information needed to assess the situation.</p> <p>S Made the changes close to what was suggested. Changed LOD to 3. Added drywell pressure that would exist due to loss of cooling so candidate can better assess containment. Question is now Sat.</p>
81	H	2								c				N	E	<p>CFR 55.43.5</p> <p>Request shore up explanation on procedure use (normal used in kickout from EOPs)</p> <p>The allowance to ED to 200 psig to allow for HPCI operation is not stated in EOP-1A or -2A. Find the reference, and include it in the Explanation.</p> <p>S Licensee explained that as low as practical but you are trying not to isolate HPCI, which would occur at 150psig approx., so you can maintain a source of cooling and inventory, so this exclusively limits your choices to those provided in selections C and D, and the first part of selection D is incorrect, making C the exclusive answer.</p>
82	H	3								a				B	E	<p>CFR 55.43.4</p> <p>Grammar issue in stem, should be "With the wind blowing.."</p> <p>There is no reference provided to verify that this is consistent with applicant training or site procedures. Please provide.</p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
															S	Licensee added technical reference and this is a solid bank question. Question is Sat.
83	H	3								c			X	N	U	55.43.6 This requires only RO knowledge to answer the question. The pressure value for scram required is met, so this can be easily selected without any SRO knowledge (CFR required SRO knowledge). No procedure selection knowledge is required. S Licensee wrote new new question to a TS bases question dealing with RPV pressure bases of the safety function of Safety Valves. Question is now Sat.
84	H	4								b				N	E	55.43.5 A better selection that ties to the KA for SRO is to have the EOP leg choices with all four selections. This involves EOP strategy as opposed to strategy within a leg of the same EOP, which leans more towards RO knowledge than SRO knowledge. Bases for EOP prioritization implies different EOP legs at a minimum and different EOPs is best to meet the KA. Provide the EOP bases document that shows how this action is supported. Trying to understand how this question addresses the K/A. S Licensee response: Added EOP leg choice designations and transitioning to another leg. Question is now Sat.
85	H	4								c				N	E	55.43.5 You shouldn't cue in the stem about secondary containment. Let the applicant determine that from the choices. Also, to complete the SRO selection, you could give other distracters that tie to other information in the stem that may need to be dealt with, but are lower priority than the secondary containment. This would give four unique choices that help determine if the applicant knows that sec containment is the priority (if it is highest for these conditions). Verify that RPV level less than -42" wouldn't result in a reactor scram. If a scram occurs, then the SRO would be expected to deal with EOP 1A. Deals with whether distracter C is partially correct or not. S Licensee response: Revised distracters a and b to address different parameters. AT low level the scram already occurred and distracters a and b are incorrect because EOP-5A takes priority over 2.1.5 and in distracter b an ED is not required or desired for the given conditions. Question is Sat.

[illegible]

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
91	H	3								b				B	S	HANDOUT 55.43.2 For the given question, Control Rod 30-19 would be classified as "slow" as well. The correct answer is C. Licensee Response: NO, 30-19 is greater than 7 seconds, and anything over 7 seconds is inop by definition and can't be declared slow.
92	H	3								d				N	S	55.43.5 Are both 1A and 1C RHR pumps running in Torus and Drywell spray mode together? That is the implication, but it isn't clear. Not sure what 1C function is providing for. If one is running, it can provide for Torus and Drywell spray at the same time? Licensee Response: Yes. Yes.
93	H	2								c				N	S	HANDOUT 55.43.5 Typo in stem, "...and as well as following treatment" remove the second "as." Question: Since the KA is for knowledge of entry conditions for TS and these are required to be known from memory, why are we giving them references for this question? Licensee response: This is an ODAM TS question and is not required to be known from memory for RO or SRO. Still meets CFR requirement for TS item. Question is Sat.
94	H	3								a				B	E S	55.43.5 You need to explain that the 5.5 p-p value is deep into the procedure and is not trained as part of systems knowledge for the RO, therefore the SRO has to use procedure selection and knowledge from the step to arrive at the answer. Since the crew is in both procedures 2.1.10 and 2.4RXLVL with this information, the applicant needs data to determine if actions in 2.4RXLVL are needed or not. Electing not to give the person the information means that distracter C will be dismissed because there is not enough data, not because the applicant has evaluated the data, and knows that actions in that procedure are not applicable to this situation. Licensee disagrees with comment and after discussion it is acceptable as is. The plausibility of distracter C is that the applicants will want to use 2.4RXLVL to combat this event but it is the wrong one. Only if they know this information within the procedure and the procedure selection will they get it right. Question is Sat.
95	F	2								b				N	S	55.43.7

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
96	F	2								d				B	S	55.43.3 The first part of the explanation needs minor correction. A TS Amendment needs NRC approval. The design basis part in the explanation does not clearly link answer D to the explanation of the correct answer. Procedure Comment: If it is so important to have the Refuel Floor SRO monitor cavity level, then why allow an option for it to be delegated to a designee? What are the qualifications of the designee? Licensee Revised the explanation to clearly describe the answer. Question is Sat.
97	F	3								a				N	E S	55.43.5 Recommend using T-4 or T-7 weeks in the distracters. There is no procedural action on the T-6 week, so it can be screened out just by knowing there is no proceduralized scheduling work that week. Licensee modified question to strengthen distracters but disagreed with comment that there are no scheduling work in the T-6 week. Question is now Sat.
98	H	2								b				B	S	HANDOUT 55.43.4
99	F	3								c				N	E S	55.43.4 The KA is for radiological principles and part of the answer selection involves de-inerting primary containment. The stem and answer could just use the last column and be most appropriate for the KA. Secondly, the second column for Torus Oxygen is not needed to answer the question and per the NUREG should be removed from the question. Licensee removed Torus oxygen column per request and question is now Sat.
100	H	4								b				N	E S	55.43.5 HANDOUT Are you sure no reference is provided? The LO states, "Given a copy of the EPIP," Licensee response-you are right-need to give them this as a hand-out and question is now Sat.
RO TOTALS:			B= 4 (5.3%) M= 0 (0%)					F= 34 (45%) H= 41 (55%)				E= 22 U= 2		Additional Notes:		

N= 71 (94.7%)

B= 7 (28%)

F= 5 (20%)

E= 14

SRO TOTALS:

M= 0

H= 20 (80%)

U= 4

Additional Notes:

N= 18 (72%)

GENERAL COMMENTS:

1. Bank / Mod / New questions are indicated in their respective column field above.
2. Chief Examiner comments are indicated in *blue where multiple comments exist, otherwise they are in black*. All were converted to black once resolutions complete.
3. Average difficulty is 2.97 on the RO exam and 2.92 on the SRO exam.
4. The 10CFR55.41/43 distribution is: RO / SRO

41.1 =	0	43.1 =	0
41.2 =	0	43.2 =	2
41.3 =	1	43.3 =	1
41.4 =	1	43.4 =	4
41.5 =	7	43.5 =	16
41.6 =	6	43.6 =	1
41.7 =	36	43.7 =	1
41.8 =	2		
41.9 =	2		
41.10 =	15		
41.11 =	0		
41.12 =	3		
41.13 =	2		
41.14 =	0		
5. The answer distribution is: RO / SRO

A = 18 (24%)	/	6 (24%)
B = 20 (26.7%)	/	7 (28%)
C = 19 (25.3%)	/	7 (28%)
D = 18 (24%)	/	5 (20%)
6. There are 8 questions with attachments provided. Questions 1, 13, 61, 88, 91, 93,98, and 100 require hand-outs