Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
1	H	2									B			N	E S	(41.7) Only need to know second part of the question in order to answer correctly. Suggest adding the second part of the answer into one of the C and D distracters and vice versa of the C and D distracters into A and B for a true two by two. Are there any procedural guidance steps to perform the actions you indicate are the correct actions for this situation (ie driving the output to 3% to reset the RTO)? **Changed as recommended. Resetting the RTO is not in the offnormal, but is in the lesson plan.** **Fixed**
2	H	2									D			B	S	(41.5)
3	H	2									B			N	U S	(41.10) K/A mismatch. The K/A is requiring knowledge of what is occurring in the S/G during a small break LOCA and what is important about that. The question as stated is requiring knowledge of ESFAS signals. **The question was completely revised to match the K/A.** **Fixed**

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 B 5 (easy B difficult) rating scale (questions in the 2 B 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
   - $ The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - $ The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - $ The answer choices are a collection of unrelated true/false statements.
   - $ The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - $ One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. Check the appropriate box if a job content error is identified:
   - $ The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - $ The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - $ The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - $ The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
6. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. 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?
8. At a minimum, explain any AU@ 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.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
4	F	3									D			B	U S	(41.10) KA mismatch Generic Section 2.4 is for emergency procedures and it has a lot of different topics on EOPs but this KA is asking for AOP knowledge as it relates to the LBLOCA system 011, so this KA probably should be rejected and changed if you can't find a good AOP question for the LOCA conditions. You might consider steps in an AOP for loss of IA or something like that where valuable perform steps are directed but while you are in the LOCA EOP. A field operator's actions might be valuable from an AOP perspective during a LB LOCA, not sure. You could resample the KA to something in EOP space within the G2.4 section. This might allow you to keep the question, too. **Randomly selected another K/A in the 2.4 field in EOP space. 2.4.20 was selected and was able to keep the question.** **Fixed**
5	F	3									A			N	S	(41.6)
6	H	2									A			B	S	(41.10) **2006 NRC Exam**
7	H	1									D			N	S	(41.10) **Reference**
8	H	2									D			N	S	(41.7)
9	H	3									D			N	S	(41.10)
10	F	2									A			B	S	(41.10) **2010 NRC Exam**
11	H	3									B			N	S	(41.5)
12	F	2									D			N	S	(41.10)
13	H	3									D			B	S	(41.10)
14	H	3									B			N	S	(41.10)
15	H	2									D			N	S	(41.10)
16	H	2									C			N	S	(41.10)
17	H	1									C			N	U S	(41.8) **Reference** – "If any" is similar to the "none of the above" statement which is not allowed per NUREG 1021. Also, ROs are only required to know above the line or one hour action statements which would make this question too easy. **Question was changed to include only TS 3.7.4 material above the line. The reference was removed.** **Fixed**
18	F	2									D			N	S	(41.10)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
19	H	2									C			B	E S	(41.10) **2007 NRC Exam** - K/A requires knowledge of RCS temperature AND pressure changes for a dropped control rod. **Changes made that include RCS pressure.** **Fixed**
20	H	2									B			B	S	(41.10)
21	H	3									C			N	S	(41.6) **Reference**
22	H	1									C			N	U S	(41.10) K/A mismatch. K/A requires knowledge of magnitude of release. Also this question would be LOD=1. Condenser route vs. Atmospheric Dumps **New K/A randomly selected and a new question written.** **Fixed**
23	F	2									D			B	S	(41.10) **2010 NRC Exam**
24	F	3									A			N	S	(41.4)
25	H	2									A			N	U S	(41.10) Need only know the first part of the answer in order to decide correctly. Not proper 2 x 2. Distracter C is not credible-if you bypass the IX flow is stopped not minimized. Also, to make the question more discriminating, I would use the entire statement for the reason in the answer selection, such as A. Start backup charging pumps to maximize L/D flow B. Stop backup charging pumps to mimimize contamination of IX resin C. Bypass IX to prevent contamination of IX resin D. Place stby IX in service to remove more activated products **Changed as recommended** **Fixed**
26	H	3									B			B	S	(41.10) **2008 NRC Exam**
27	F	2									A			B	S	(41.10) **2007 NRC Makeup Exam**
28	F	3									B			B	S	(41.10) **2007 NRC Makeup Exam**
29	H	2									B			N	E S	(41.7) Editorial: Usually when you give a numerical valve (such as CV-169) you also provide its noun name in the stem of the question. **Changed as recommended** **Fixed**
30	H	2									B			N	S	(41.5

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
31	F	2									C			N	S	(41.2)
32	F	3									C			N	E S	(41.7) D is a subset of A. Need interlock setpoint in the stem to prevent arguing A is correct. 368 psia is a better alternate pressure IAW the NUREG. **Incorporated the change as recommended.** **Fixed**
33	H	2									A			B	S	(41.3) **2007 NRC Makeup Exam**
34	F	2									B			B	S	(41.3) **2011 NRC Exam**
35	H	2									C			N	S	(41.10)
36	H	2									B			N	S	(41.10)
37	H	2									A			N	S	(41.5)
38	F	3									D			N	S	(41.2)
39	H	2									B			B	S	(41.4) **2012 NRC Exam**
40	F	3									C			B	S	(41.4) **2007 NRC Exam**
41	F	3									A			B	S	(41.4) **2012 NRC Exam**
42	H	2									D			B	S	(41.8) **2010 NRC Exam**
43	H	2									C			N	S	(41.10)
44	H	3									D			N	S	(41.4)
45	H	2									A			B	E S	(41.4) **2009 NRC Exam –** Credible to use S/U FRV at 58% power? This affects two distracters. **The S/U FRV can maintain steam generator levels up to 22% flow demand. The stem was changed to indicate Rx power at 40% to make the incorrect answers more plausible.** **Fixed**
46	H	2									C			N	S	(41.7)
47	H	3									C			N	U S	(41.7 Why is distracter “A” not correct. The TG states “The sequencer is required to be timed out in order to close the 32 feeder breakers. The operator should reset all of the Pzr heaters and maintain pressure…..” All heaters implies both proportional and backup, so this makes “A” correct as well as “C.” Two correct answers Unsat’s the question. **Changed the distractors to make only one answer correct. Resetting the heaters was added to all distractors.** **Fixed**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
48	H	2									C			N	S	(41.13)
49	H	3									B			B	S	(41.5) **2008 NRC Exam**
50	H	2									A			B	E S	(41.10) **2008 NRC Exam** – K/A mismatch. K/A requires knowledge of the relationship between radiation intensity and exposure limits not reason for initiating a survey. **The question has been changed to a bank question that meets the K/A. The new question comes from the 2010 exam.** **Fixed**
51	F	2									C			N	S	(41.10)
52	F	2									C			N	S	(41.7)
53	F	3									A			B	S	(41.7) **2008 NRC Exam** Compare to Q18 to ensure nothing given away**. Nothing is given away. Question 18 only refers to essential air and not interlocks with the Instrument Air system. NRC agreed, no changes required.**
54	F	2									C			B	S	(41.10) **2010 NRC Exam**
55	H	2									D			B	S	(41.10) **2008 NRC Exam**
56	H	2									A			N	S	(41.6)
57	H	2									C			B	S	(41.7) **2006 NRC Exam, Reference**
58	H	3									B			B	S	(41.6)
59	F	3									A			B	S	(41.7) **2008 NRC Exam**
60	F	2									C			N	S	(41.2)
61	F	3									B			B	S	(41.10) **2010 NRC Exam**
62	H	3									A			N	S	(41.7)
63	H	2									D			B	S	(41.11) **2008 NRC Exam**
64	F	2									B			N	S	(41.4)
65	F	2									A			N	S	(41.10) **the NRC, question is SAT and no changes are required.**
66	F	2									C			B	E S	(41.10) **2006 NRC Exam** – Prior to reactivation of the license a plant tour is required by someone to the appropriate license level of the operator. This reads that only the 40 hours are necessary which isn't true. **Added 'in addition to conducting a plant tour' into the stem.** **Fixed**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
67	F	2									C			N	S	(41.10)
68	F	2									A			N	E S	(41.7) Only need to know second part of answer to get both correct. Also, if the SRO declares the Mode change then this question becomes unsat on K/A mismatch which is knowledge of RO duties in the control room during fuel handling. **Removed the two column format and made each answer one line**. **Fixed**
69	F	2									B			N	E S	(41.10) Don't believe it's credible to give a reactivity brief after the PMU addition. This affects two distracters**. Changed the distractors for reactivity brief to notification of the RAB watch. The RAB watch is required to be notified if starting or stopping major loads in his watchstation, but is not required in this instance for cycling valves.** **Fixed**
70	F	2									B			B	S	(41.10) **2011 NRC Exam**
71	F	3									D			B	S	(41.11) **2009 NRX Exam**
72	F	2									A			N	S	(41.11)
73	F	2									C			N	E S	(41.10) It seems by definition that "Optimal" would prohibit the use of two procedures at once. Let's discuss. **Changed the question such that the word "Optimal" is not used. The question know states "recovery" procedures.** **Fixed**
74	F	3									A			N	S	(41.10)
75	F	2									C			N	S	(41.10)
76	H	2									B			N	S	(43.5)
77	H	2									A			N	S	(43.2) **Reference**
78	H	2									D			N	S	(43.5)
79	H	3									C			N	S	(43.5
80	F	3									C			B	S	(43.2)
81	F	3									A			M	E S	(43.2) **2009 NRC Exam** There are multiple examples of cueing in the stem of this question. To fix it, give them voltage, freq, load, MVAR values and have them select whether or not they need to enter the TS and why. **Removed the statement "which is below the required value of TRM 3.8.1.1 for post-trip emergency loads" from the stem.**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
																Fixed
82	H	2									C			N	S	(43.5)
83	H	2									C			N	S	(43.4)
84	H	2									B			N	U S	(43.5) RO level question. System knowledge**. Agreed, a new K/A had to be selected and a new question was written to match the new K/A.** **Fixed**
85	H	3									A			B	S	(43.5) **2009 NRC Exam**
86	H	3									C			B	S	(43.5) **2009 NRC Exam - Reference**
87	H	2									D			N	S	(43.5)
88	H	2									C			B	S	(43.5) **2009 NRC Exam**
89	H	3									C			N	U S	(43.5) Why would anyone pick “B” or ”D” distracters for verifying flow, (assuming that the LPSI pump “B” started) when you gave them in the stem that its output breaker has no control power? A possible change might be send a local operator to manually close the LPSI “B” breaker as long as this is not a possible correct answer. **Changed B and D distractor per NRC request. Meeting flow curves was not a valid distractor with no LPSI pumps running. Changed to locally closing the breaker using the pistol grip. The breaker can not be closed in using the pistol grip even if control power was available, the breaker can only be tripped with the local pistol grip.** **Fixed**
90	F	3									C			N	S	(43.5)
91	F	3									B			B	S	(43.7) 2009 NRC Exam
92	F	3									B			N	S	(43.2)
93	H	2									B			N	E S	(43.5) Entry conditions to major AOP. RO level question**. A decision must be made by the CRS if the Rx must be tripped on an overspeed, he must know what is the content of OP-901-210 and the overall mitigation strategy. The reactor must be tripped if due to a loss of lube oil or high vibration. This decision is usually made before AOP entry. No changes made due to this comment. Did change the question from a two column format to a one column for better readability per NRC request.** **Fixed**
94	F	2									B			B	S	(43.5) **2012 NRC Exam**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
95	H	3									A			N	E S	(43.5) For distracters "C" and "D" why would someone pick natural circulation to verify RCS is not water solid? This is not a misconception and has no physical bearing on natural circ and therefore is not a good distracter. C**hanged distractor C and D to something more plausible as requested. The new distractors will require knowledge of RVLMS indication on QSPDS. Explained in the explanations portion.** **Fixed**
96	F	2									B			N	S	(43.3)
97	F	3									A			B	E S	(43.2) **2010 NRC Exam** – Distracter D stands out as an outlier due to the no testing requirement. Distracter "C" is not credible (why would you test the door that is inoperable to establish operability?) and "D" is not allowed by NUREG-1021. **Changed distractor C to indicate no surveillance testing required such that I matches the D distractor. The D distractor was previously unlike the other 3 distractors** **Fixed**
98	F	2									D			N	S	(43.4)
99	F	3									D			B	S	(43.2) **2010 NRC Exam**
100	F	2									D			N	S	(43.1)

				Additional Notes:
RO TOTALS:	B= 31	F= 34	E= 10	
	M= 0	H= 41	U= 6	
	N= 44			
SRO TOTALS:	B= 8	F= 11	E= 4	
	M= 1	H= 14	U= 2	Additional Notes:
	N= 16			

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 *blue*.
3. Average difficulty is 2.27 on the RO exam and 2.48 on the SRO exam.

4. The 10CFR55.41/43 distribution is: RO / SRO

41.1 = 0	43.1 = 1
41.2 = 3	43.2 = 6
41.3 = 2	43.3 = 1
41.4 = 7	43.4 = 2
41.5 = 5	43.5 = 14
41.6 = 4	43.6 = 0
41.7 = 12	43.7 = 1
41.8 = 2	
41.9 = 0	
41.10 = 36	
41.11 = 3	
41.12 = 0	
41.13 = 1	
41.14 = 0	

5. The answer distribution is: RO / SRO

A = 19 (26%	)/	5 (20%)
B = 18 (24%)	/	7 (28%)
C = 22 (29%)	/	8 (32%)
D = 16 (21%)	/	5 (20%)

6. There are __7__ questions with attachments provided.