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.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			Explanation
1	H	3												B	S	C, CR, 41.7
2	F	2												N	S	A, CR, 41.5
3	F	2												N	S	A, CR, 41.7
4	F	2												N	S	B, CR, 41.5
5	F	3												N	S	C, CR, 41.8
6	H	3												B	S	C, CR, 41.7
7	F	3												N	S	C, CR, 41.7
8	H	3										X		N	U	D, CR, 41.10 – KA requires testing on the impact and use of procedures and the question tests on operator action. Reword stem and distractors to read as operator actions and include part (a) of the KA. Revised
9	H	3												N	S	A, CR, 41.7

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.

2. Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).

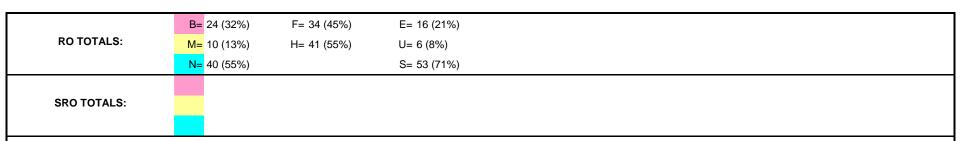3. Check the appropriate box if a psychometric flaw is identified:

   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).

4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.

5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).

6. 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 "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	Back-ward	Q= K/A	SRO Only			
10	H	3												N	S	A, CR, 41.7
11	H	3												N	S	A, CR, 41.2
12	H	3												B	S	A, CR, 41.7
13	F	3												B	S	D, CR, 41.7
14	H	3												M	S	B, CR, 41.10
15	H	3												N	S	C, CR, 41.10
16	F	3												B	S	A, CR, 41.8
17	H	3												N	S	C, CR, 41.7
18	H	3										X		B	U	B, CR, 41.5 – KA states power change, not steady state. Revised question
19	H	3												M	E	C, CR, 41.5 – Reword stem to clarify location of break Fixed
20	F	3	X											N	E	A, CR, 41.7 – Add the TDAFW pump is running to the stem. Fixed
21	H	3		X										B	E	B, CR, 41.7 – The correct distractor is unique and could be a cue; add a different battery as a distractor. Fixed
22	F	3					X							B	E	B, CR, 41.7 – Distractor A could be argued as being correct since 1 hour is a subset of 2 hours (i.e. if it is designed to last 2 hours, then it is by definition designed to last 1 hour). Chang stem to read: "During a loss of all AC, what is the design lifetime of a vital 125 VDC battery during a design basis accident coincident with a loss of battery charger?" Fixed
23	H	3										X		B	U	A, CR, 41.7 – This question does not match the KA because it does not address the automatic loader as the KA requires. Replaced question
24	H	2				X								N	E	A, CR, 41.11 – Add "fail high" to distractors B and D for clarification Fixed
25	F	3												M	E	B. CR, 41.10 – Having "b" in all distractors eliminates it from being discriminatory. Revised
26	H	3												N	S	A, CR, 41.7
27	H	2												N	S	A, CR, 41.4
28	F	3												N	S	B, CR, 41.7
29	F	3												B	S	D, CR, 41.6
30	F	2												N	S	B, CR, 41.7

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.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			Explanation
31	F	3												N	S	D, CR, 41.6
32	F	3												N	S	B, CR, 41.5
33	H	3										X		M	E	A, CR, 41.7 – Consider replacing KA to enable a better question/KA match. Replaced KA
34	F	3												M	E	C, CR, 41.11 – Reword 'A' and add 'BOTH' to 'B' Done
35	H	3												B	S	B, CR, 41.4 Bank, not Modified Bank Updated
36	H	3										X		N	U	C, CR, 41.7 – Does not focus on the operating controls for the ventilation system. It may be necessary to select a new KA. Replaced KA
37	F	3												B	S	B, CR, 41.4
38	F	3												B	S	A, CR, 41.4
39	H	3												N	S	D, CR, 41.5
40	H	3												N	S	B, CR, 41.5
41	H	3												N	S	C, CR, 41.7
42	H	3										X		B	U	D, CR, 41.10 – Does not address the "locate and determine the indications are correct" as required by the KA. Revised question
43	H	3												N	S	C, CR, 41.7
44	F	2												N	S	D, CR, 41.7
45	H	3												N	S	C, CR, 41.7
46	H	3												N	S	B, CR, 41.6
47	H	3												N	S	D, OR, 41.5
48	F	3												M	E	C, CR, 41.7 – Capitalize the word MINIMUM Done
49	F	3												N	S	A, CR, 41.4 – Confirm there is no conflict with In-Plant JPM Minor rev to JPM
50	H	3												N	S	D, CR, 41.10
51	H	3												N	E	D, CR, 41.7 – Add AOP to Tech Ref to show link from AOP to OP. Done
52	H	3												M	S	C, CR, 41.7 – Need a complete copy of the BANK question Provided
53	F	3												N	S	D, CR, 41.7

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			
54	H	3												N	S	D, CR, 41.4 – Enhance explanations Done
55	H	3												M	U	C, CR, 41.10 – This is JPM S3. Replace question. Done
56	F	3												B	S	A, CR, 41.10
57	F	3												B	S	B, CR, 41.10 – BANK, not MOD BANK Changed
58	H	3												N	S	B, CR, 41.6
59	H	3												N	S	B, CR, 41.2
60	H	3		X										B	E	C, CR, 41.10 – Remove "greater than" statements. Fixed
61	H	4												B	E	D, CR, 43.2 – Add OP as Tech Ref. (DCPP 2007 RO Exam) Done
62	H	4							X				X	B	E	D, CR, 41.10 – Is this a valid from memory question? SRO only? Licensee confirms this is RO level knowledge.
63	F	3		X										M	E	C, CR, 41.10 – Clarify difference between second and third bullets. Revised
64	F	3												B	S	B, CR, 41.10
65	H	3	X											B	E	C, CR, 41.10 – Answer A may be slow, but is it available? May need to add to stem "Per FR-H.2, which is …?" Fixed
66	F	3	X											B	E	C, CR, 41.10 – Change Fire Fighters to Fire Department. Done
67	F	3												B	S	B, CR, 41.10
68	F	2												N	S	D, CR, 41.10
69	F	2												N	S	A, CR, 41.10
70	F	2												N	E	B, CR, 41.10 – Clarify in stem that tags are being hung by Operations personnel. Done
71	F	2												B	S	D, CR, 41.10
72	F	2												M	S	B, CR, 41.10
73	H	3												N	S	D, CR, 41.5
74	F	3												N	S	A, CR, 41.10
75	H	2												N	S	B, CR, 41.10

RO TOTALS:	B= 24 (32%)	F= 34 (45%)	E= 16 (21%)
	M= 10 (13%)	H= 41 (55%)	U= 6 (8%)
	N= 40 (55%)		S= 53 (71%)

| SRO TOTALS: | | | |

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 __2.85__ on the RO exam.

4. The 10CFR55.41/43 distribution is: RO / SRO
    41.1 = 0
    41.2 = 3
    41.3 = 0
    41.4 = 5
    41.5 = 13
    41.6 = 4
    41.7 = 24
    41.8 = 2
    41.9 = 0
    41.10 = 22
    41.11 = 2
    41.12 =
    41.13 =
    41.14 =

5. The answer distribution is: RO
    A = 18 (24%)   /
    B = 21 (28%)   /
    C = 19 (25%)   /
    D = 17 (23%)   /

6. There is (are) __1 /__ question(s) with attachments provided (steam tables).

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	3												M	S	A, OR, 43.5 Hand out
2	H	3		X										N	E	B, OR, 43.2 – Do not provide TS 3.0.3 because the applicants should know from memory the TS motherhood statements. Done Hand out
3	H	3												M	S	D, CR, 43.5 – Add a reference that defines "Go To" and "Refer To". Also add reference that defines applicability of OP SD-1 in Modes 5 & 6. Done
4	H	3												N	S	B, CR, 43.5
5	H	3												B	S	D, CR, 43.5
6	H	3												N	S	C, CR, 43.5
7	F	2												B	S	C, CR, 43.2 – Revise Answer A explanation. Done
8	H	3												N	S	D, CR, 43.5 – looks like a new question, not a modified bank. Identified as NEW
9	H	3												N	S	D, CR, 43.5 – Revise Answer C explanation. Done

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.

2. Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).

3. Check the appropriate box if a psychometric flaw is identified:

   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).

4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.

5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).

6. 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 "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	Back-ward	Q= K/A	SRO Only			
10	H	3												B	S	A, CR, 43.5
11	H	3												N	E	C, CR, 43.5 – Add procedure refs to Answers A and D. Done
12	H	3				X						X		N	U	A, CR, 43.5 – Does not address the "predict the impact" part of the KA. Answer D may not be plausible. Enhanced answers; modified 'D'
13	H	3					X							B	U	D, OR, 43.2 – Change stem to read "…taken to allow entering MODE 2?" instead of "…taken to allow the startup to continue?" then make necessary changes to all answers. Also, it could be argued that completing the actions contained in B would allow the startup to continue and therefore there are two correct answers. Revised Hand out.
14	H	4												N	E	D, OR, 43.2 – Don't include P&IDs as a handout. Done Explanations for B and D are not clear. Revised Hand out.
15	H	3				X						X		N	U	A, CR, 43.5 – Answer B not plausible. Explanations not clear. Does not address the "predict the impact" part of the KA. Revised
16	F	3												N	E	D, CR, 43.7 – Reword stem to ask what indications the Refuel SRO would use. Revised
17	H	3											X	N	U	A, CR, 43.5 – This is considered an RO question in that it is testing on the entry conditions for an AP. Revised
18	H	3												N	S	D, CR, 43.5
19	F	2											X	N	U	C, CR, 43.2 – This is an RO question in that it is testing on basic rad worker knowledge. Replaced KA
20	H	2												M	E	A, CR, 43.5 – Similar to JPM S1. Select new KA if necessary. Revised with same KA
21	F	2				X								N	U	D, CR, 43.3 – Answer A is not plausible. Replaced. Explanation for Answer B is not clear. Revised
22	F	2												N	E	A, CR, 43.4 – revise explanations to address both parts of answers Done
23	H	3												N	S	A, CR, 43.4
24	H	3												N	E	D, CR, 43.5 – Revise stem to four TEC's and revise correct answer. Done
25	F	3												N	E	A, CR, 43.3 – Consider new KA. Replaced

SRO TOTALS:	B= 4 (16%)	F= 6 (24%)	E= 8 (32%)	Additional Notes: The exam review indicates greater than 60% comprehension level questions. Chief Examiner has discussed with licensee and both determined this as acceptable given randomly selected KAs.
	M= 3 (12%)	H= 19 (76%)	U= 6 (24%)	
	N= 18 (72%)		S= 11 (44%)	

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 __2.84__ on the SRO exam.

4. The 10CFR55.41/43 distribution is:
    43.1 = 0
    43.2 = 5
    43.3 = 2
    43.4 = 2
    43.5 = 15
    43.6 = 0
    43.7 = 1

5. The answer distribution is:
    A = 7 (28%)
    B = 6 (24%)
    C = 4 (16%)
    D = 8 (32%)

6. There are __4__ questions with attachments provided. Make sure hand outs don't provide cues to any other question.