

**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 to 5 (easy to difficult) rating scale (questions in the 2 to 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
  - a. The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
  - b. The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
  - c. The answer choices are a collection of unrelated true/false statements.
  - d. The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
  - e. 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:
  - a. 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).
  - b. 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).
  - c. The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
  - d. 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?  
Place the answer letter here
- Place the 55.41 or 55.43 item here
8. At a minimum, explain any Unsat ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK	2. LOD	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6	7	Ans Letter	CFR	8 Explanation
	(F/H)	(1-5)	stem focus	cueing	T/F	cred dist	partial	job link	minutia	#/ units	back-ward	K/A	SRO-only	B/M/N	U/E/S	A/B/C/D	55.41x55.43y	
1	F	2				X								N	U	A	41.6	480 v power supply is not a credible distractor. I recommend changing the answers to a 2x2 and asking what bus the breaker is on and the normal supply for DC control power. <a href="#">Changed distractors and now SAT</a>
2	H	3												N	S	C	41.2	
3	F	2												N	S	C	41.6	
4	F	2				X								N	U	B	41.5	Closing an inlet valve to a heat exchanger to lower temperature of RHR is not credible. <a href="#">Discussed Q and now SAT</a>
5	F	2												B	S	A	41.3	
6	F	2												N	S	D	41.8	
7	H	3												N	S	C	41.9	
8	H	2												N	S	A	41.1	

9	H	3												N	S	C	41.7	
10	H	2	x											B	E	C	41.5	* Change the stem to ask what parameter will trip the plant first. <a href="#">Revised stem and now SAT</a>
11	H	3												N	S	D	41.7	
12	H	3												M	S	A	41.7	
13	H	2				x								N	U	A	41.7	B is not credible. <a href="#">Discussed the questions and now SAT</a>
14	F	2												N	S	C	41.9	
15	H	2				x								N	U	B	41.9	a is not credible. <a href="#">Question rewritten and now SAT.</a>
16	F	2			x	x								N	U	B	41.5	The distractors are a combination of T/F statements. <a href="#">Question rewritten and now SAT</a>
17	H	2	x											N	E	D	41.10	Stem information needs more info to make A and B credible distractors. <a href="#">Added information to the stem and now SAT</a>
18	F	2												N	S	A	41.7	
19	F	2				x								N	U	C	41.4	RWST and CCW are not credible distractors. <a href="#">Distractors changed and now SAT</a>
20	H	2				X								N	U	D	41.7	A is not a credible distractor. It is expected that ALL AFW throttle valves open when AFW actuates. A distractor analysis is incorrect. <a href="#">OK as is after more discussion now SAT</a>
21	H	2	x											N	E	D	41.5	The question stem can be shortened. First part of 2x2 would say "The diesel generator must be rotating in the _____ direction when the output breaker is closed." This could also be changed to ask "The diesel output voltage must be higher than the _____ volts." running or incoming would be the answer choices. Rewrite will be provided. <a href="#">Rewritten and is now SAT</a>
22	F	2												N	S	B	41.7	
23	H	2												N	S	B	41.5	

24	H	3	x											N	E	D	41.11	change the question stem. What HX is the source of the leak? The question was fixed and now SAT
25	F	2												N	S	A	41.7	
26	F	2												N	S	A	41.4	
27	F	2				x								B	U	C	41.7	A and D are not credible distractors. The switch does not exist. Rewritten and now SAT
28	H	2												B	S	A	41.9	
29	H	2	x											N	E	C	41.2	get rid of the word "will". Corrected and now SAT
30	H	3				x								N	E	C	41.5	Why is distractor for B and D 2nd part wrong? If the applicant uses adverse CTMT parameters, what is the adverse consequence? Clarified distractors, added procedure reference, now SAT
31	F	2												N	S	B	41.9	*clarify explanation
32	F	2				x								N	U	D	41.7	A & B are not credible distractors. LO1403300, page 32 of 66 has a list of power supplies that would be good distractors. Replace NB01 and NB02 with NG03C and NG04C. Changed distractors and now SAT
33	H	2	X											N	E	A	41.7	Add the word "maximum" to part 1. Corrected and now SAT
34	F	2												N	S	D	41.5	
35	H	2	x			x								N	E	B	41.4	I want the 2nd part of the 2x2 edited to ask for the minimum steam pressure of sealing steam. Distractors changed and now SAT
36	H	2				x								N	E	A	41.4	Is the "protect main condenser from over pressure" a valid distractor? If it is, we should add that there was a partial loss of the circ water pumps. Additional information was added to the stem and distractors are now plausible

37	F	2				x								N	U	B	41.7	D is not credible. Would Porv or PZR safety leak by go to the RCDT? IF so, add to the stem that the unidentified leakage is 0 gpm. <a href="#">Reworked to have "PRT" source replace D and now SAT</a>
38	F	2												N	S	C	41.4	
39	F	2	x											N	E	A	41.10	Change SCM to 45 F and add to the stem that CTMT temperature is a value slightly higher than normal. <a href="#">Corrected and now SAT</a>
40	F	2				x								N	E	A	41.2	Why is B plausible? <a href="#">Discussed and now SAT</a>
41	H	3												N	S	C	41.5	verify not in scenarios and where is reference for part B. <a href="#">Overlap is not an issue because the written will be taken first. Now SAT</a>
42	H	3												N	S	A	41.10	
43	F	2				x	x							N	U	A	41.7	A and D are correct choices. The fly wheel helps maintain RCS flow to avoid DNBR. The anti-rotation devices prevent flow from being diverted through the stagnant loop to avoid DNBR. We need better distractors for B and C. <a href="#">Rewritten SAT</a>
44	F	2		x										N	E	C	41.5	eliminate the underlines in answers or add underlines to first two distractors. <a href="#">Underlines removed and now SAT</a>
45	F	2				x								N	E	D	41.8	I want to edit the distractors to be the alarm setpoints for the given parameters. <a href="#">Changed distractors and now SAT</a>
46	F	3												M	S	B	41.7	<b>modified question from 2019 NRC exam</b>
47	H	3		x										N	U	C	41.10	underlines. C & D are same action but different reason <a href="#">Rewritten now SAT.</a>
48	F	2	x											N	E	C	41.10	*all parameters stable? What about RCS tave? Borderline LOD 1. <a href="#">rewritten and now SAT</a>
49	F	2	x											N	E	B	41.7	*change direct to immediate discuss. <a href="#">Discussed and now SAT</a>

50	F	2	x											N	E	D	41.7	add "designated" before rate. <a href="#">Edited and now SAT</a>
51	H	3				x								N	E	B	41.8	can we change this to a 2x2 question? Why is a credible? <a href="#">Rewritten SAT</a>
52	H	3												B	S	D	41.5	
53	H	3												N	S	C	41.5	
54	F	2				x								B	E	C	41.9	RHR and SI are a subset of ECCS. Is choice C a good distractor? <a href="#">Rewritten SAT</a>
55	H	3	x											N	E	A	41.10	* "as necessary"? I want a rate that is wrong. "feed at full flow" <a href="#">Correction made and now SAT</a>
56	H	2	x											B	E	B	41.10	*change will to should. <a href="#">Correction made and now SAT</a>
57	H	2	x			x								N	E	C	41.1	*change will to should explain B&D credible with rising Tave? <a href="#">Changed distractors and now SAT</a>
58	H	3				x								N	E	D	41.7	why is lowering turbine load a credible distractor. <a href="#">Rewritten SAT</a>
59	H	2												N	S	D	41.11	is this not in scenario 2? <a href="#">Written exam is being taken before the OP test. SAT</a>
60	H	3				x								N	E	B	41.10	why are c&d credible? <a href="#">Rewrite SAT</a>
61	F	2				x								N	E	D	41.13	a is the same as "none of the above" and not allowed. <a href="#">Corrected and now SAT</a>
62	F	2												M	S	C	41.14	used in 2011 NRC exam
63	H	3												N	S	B	41.8	
64	F	2				X								N	E	A	41.10	C is not a plausible distractor. <a href="#">Distractor C changed and now SAT</a>
65	H	3												N	S	B	41.9	
66	H	3	x			x								B	E	D	41.1	I would like to modify this to have a MTC of 0. I would then want to replace distractor B with CCW temperature lowers by 15 F due to a malfunction in the CCW system. Distractor D fixed to make it incorrect. <a href="#">B distractor changed and now SAT</a>
67	H	3												N	S	C	41.5	

68	F	2		x										N	U	D	41.10	cuing. D is in the question. A has nothing to do with oversight
69	F	2				x								N	E	B	41.10	D is the same as "none of the above". How can A be reperformed? Explain what A means. <a href="#">Rewritten and now SAT</a>
70	H	3												N	S	D	41.2	
71	F	2												N	S	D	41.11	
72	F	2												B	S	C	41.12	
73	H	2												N	S	A	41.10	
74	F	2		x										N	U	D	41.10	add "required" in caps. D is an "if/then" and this is usually correct. <a href="#">Corrected and now SAT</a>
75	F	2					x							N	E	B	41.10	*discuss. Ensure that there are not multiple "correct" answers. <a href="#">Discussed and now SAT</a>
76	H	2												N	S	C	43.2	
77	H	3		x										N	E	C	43.2	<b>*reference provided* is the reference needed? Where is the reference. <a href="#">Reference removed</a></b>
78	H	2				x								N	E	D	43.5	Why is distractor B credible? <a href="#">Discussed and now SAT</a>
79	H	3				x								N	E	D	43.2	discuss this. Distractor D looks correct instantly. <a href="#">Discussed and now SAT</a>
80	H	3				x								N	U	A	43.2	distractors a and b don't have TS actions and easy to eliminate. I want to change this to a 2x2. <a href="#">Rewritten and now SAT</a>
81	F	2				x								N	E	D	43.3	discuss C. Do operators ever review design requirements or is this a function of engineering? <a href="#">Discussed and now SAT</a>
82	F	2									x			B	U	B	43.6	This is asking about normal procedures. Where is the link to abnormal or emergency procedures? <a href="#">Changed the K/A and rewritten SAT</a>
83	F	2				x								N	E	D	43.4	most conservative choice is the correct answer. change the time from greater than 48 hours to less than 48 hours but greater than 24. <a href="#">Changed the stem to make the distractors more plausible and now SAT</a>

84	H	3	x			x								N	U	B	43.5	Why would B ever be incorrect? You always transition to E-0 from an FR procedure. <a href="#">Discussed and now SAT</a>
85	H	3	x											B	E	A	43.5	add to the stem that the attachment is complete allowing them to enter FR procedures. <a href="#">Added information to the stem and now SAT</a>
86	H	3				x								N	U	B	43.5	why are distractors a,b,c credible? <a href="#">Removed information from the stem and now SAT</a>
87	H	3												N	S	A	43.2	
88	H	3	x									x		N	E	B	43.5	eliminate the 2nd "take". Is there an actual "temporary diesel fire pump"? Does this meet K/A of determining the cause of loss of SW. <a href="#">Discussed and modified the stem. Now SAT</a>
89	F	2				x								N	E	B	43.1	discuss "licensing personel". Can we ask what the time limit for making the written notification? <a href="#">Changed the 2nd part of question to asking about 10CFR50.73 and now SAT</a>
90	H	3												N	S	A	43.6	
91	H	3												N	S	D	43.5	
92	H	3	x			x								B	E	D	43.5	change "will" to should. Is B credible? When do you ever go from E-1 to E-2? Can we change B to go to FRZ-1 and add CET temp rising? <a href="#">Modified distractor B and now SAT</a>
93	H	3												B	E	D		we need to add cfr to the table. <a href="#">CFR added and now SAT</a>
94	F	2												N	S	A	43.7	
95	F	2												N	S	C	43.1	
96	H	3	x											B	E	C	43.2	*when is the plant FIRST required to be in mode 5. <a href="#">Modified question and now SAT</a>

97	F	2	x			x								B	E	B	43.2	PV 2018 exam. I would like to modify this question. I want to change the 2nd part to ask what time the next surveillance is due and have in the stem that the last surveillance was completed 9.5 hours (1.5 hours late) after the initial surveillance. <a href="#">Modified the question and now SAT</a>
98	F	2												B	S	C	43.4	
99	F	2	x											N	E	A	43.4	change the "to" to "into". <a href="#">Corrected and now SAT</a>
100	H	3												B	S	A	43.5	Is C explanation correct? <a href="#">Distractor analysis corrected and now SAT</a>

**Results Table**

RO LOK -H	38		Avg RO LOD	2.29333
RO LOK-F	37		AVG SRO LOD	2.56
SRO LOK - H	16		Overall LOD	2.36
SRO LOK - F	9			
		<b>%</b>		<b>%</b>
RO Bank	9	12	SRO Bank	8 32
RO Mod	3	4	SRO Mod	0 0
RO New	63	84	SRO New	17 68
		<b>%</b>		<b>%</b>
Total Bank	17	17		
Total Mod	3	3		
Total New	80	80		
		<b>%</b>		<b>%</b>
RO Sat	33	44	SRO Sat	8 32
RO Unsat	14	18.67	SRO Unsat	4 16
RO Edit	28	37.33	SRO Edit	13 52
		<b>%</b>		<b>%</b>
Total Sat	41	41	Total Unsat	18 18
Total Edit	41	41		

**Flaws**

Stem focus	22
Cues	5
T/F	1
Cred Dist	35
Partial	2
job link	0
units	0
minutia	0
backward	0
KA	2
SRO-only	0
LOD = 1	0

**10 CFR Distribution**

41.1	17	43.1	2
41.2	4	43.2	7
41.3	1	43.3	1
41.4	5	43.4	3
41.5	12	43.5	8
41.6	2	43.6	2
41.7	17	43.7	1
41.8	4		
41.9	7		
41.10	17		
41.11	3		
41.12	1		
41.13	1		
41.14	1		

**Answer Dist ( in %)**

RO-A	18	SRO-A	7
RO-B	17	SRO-B	6
RO-C	21	SRO-C	5
RO-D	19	SRO-D	7