

Facility: PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNITS 1 and 2

Exam Date: September 10 – 21, 2018

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			
																<u>General note: Majority of the questions to not provide justification for why the correct answer is correct. This is required in support of the distractor analysis.</u>
1	H	3												N	S	<u>NRC:</u> Why would Distractor B be considered plausible? <u>Response:</u> Plausible if applicant thinks Train A SI only removes power to the UV coil. Question is SAT.
2	F	2												N	S	<u>NRC:</u> 1 out-of 2 twice. Question is SAT as written.
3	H	3												N	S	<u>NRC:</u> 1 out-of 2 twice. [Reference Provided-1E-1 pg. 3] <u>Response:</u> Providing the reference requires the applicant to work through the procedure. Question is SAT as written.
4	H	3												B	S	<u>NRC:</u> Question is SAT as written.
5	H	2												N	S	<u>NRC:</u> {Correct K/A IR=4.0} <u>Response:</u> Agreed – Corrected K/A IR. Question is SAT as written.

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 (easy) to 5 (difficult); questions with a difficulty between 2 and 4 are acceptable.
- Check the appropriate box if a psychometric flaw is identified:
 - "Stem Focus": The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - "Cues": The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length).
 - "T/F": The answer choices are a collection of unrelated true/false statements.
 - "Cred. Dist>": The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
 - "Partial": One or more distractors 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:
 - "Job Link": 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).
 - "Minutia": 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).
 - "#/Units": The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - "Backward": 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. Verify 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" status ratings (e.g., how the Appendix B psychometric attributes are not being met).

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
6	F	2										N		B	U S	<u>NRC</u> : [2014 ILT Audit Exam] How does this question relate to a PZR PCS malfunction? (K/A match)? <u>Response</u> : Agreed –Modified Distractor 'A' to read "... if PRZR press is less than 2235. Question is now SAT.
7	H	2												B	S	<u>NRC</u> : [2014 ILT Exam] Removing Boron will add negative reactivity?! <u>Response</u> : Modified question to remove first part and reorder the distractors. Question is SAT.
8	H	3												N	E S	<u>NRC</u> : {Correct K/A IR=3.1} [Reference Provided-Steam Tables] <u>Response</u> : Agreed - Question is now SAT.
9	H	2												N	S	<u>NRC</u> : Question is SAT as written.
10	H	3												B	S	<u>NRC</u> : Question is SAT as written.
11	H	2												M	S	<u>NRC</u> : {Original Bank question provided} [2016 ILT Exam Significantly Modified] Question is SAT as written.
12	F	2												N	E S	<u>NRC</u> : {Correct K/A IR=3.7} <u>Response</u> : Agreed - Question is now SAT.
13	F	2												N	S	<u>NRC</u> : [K/A IR=2.2*; Justification: Important at facility because of loss of remote operating capability (from Control Room) for Safeguards equipment.] Question is SAT as written.
14	F	3												N	S	<u>NRC</u> : Question is SAT as written.
15	H	2												M	S	<u>NRC</u> : {Need to see the original Bank question to ensure modified.} <u>Response</u> : Agreed - Question is Modified and SAT.
16	H	2												B	S	<u>NRC</u> : [2017 LOR Exam] Question is SAT as written.
17	F	2												N	S	<u>NRC</u> : Question is SAT as written.
18	F	2												B	S	<u>NRC</u> : [2016 ILT Audit Exam] Question is SAT as written.
19	F	3												B	S	<u>NRC</u> : [2014 ILT Audit Exam] {Add K/A IR=3.6} <u>Response</u> : Agreed - Question is SAT as written.
20	F	3												N	S	<u>NRC</u> : Question is SAT as written.
21	H	2												N	E S	<u>NRC</u> : [Reference Provided- Fig. C1-20] <u>Response</u> : Removed the reference. Question is now SAT.
22	F	2												N	S	<u>NRC</u> : Question is SAT as written.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
23	H	3												B	S	NRC: [2017 LOR Exam] {Correct K/A IR=3.1} [Reference Provided-pg. 16 of 2C1.3 AOP1 and Fig. C1-10B] Response: References provided to permit calculation. Agreed - Question is SAT.
24	H	2												N	S	NRC: [Reference Provided-pg. 10 of 1FR-C-1] Response: Providing the reference requires the applicant to work through the procedure. Agreed - Question is SAT.
25	F	2												N	S	NRC: Question is SAT as written.
26	H	3												B	S	NRC: [2014 ILT Exam (Similar)] [Reference Provided-1E-0 pg. 5] Response: The reference is provided to preclude reference to minimum AWF flow requirements. Agreed - Question is SAT.
27	F	3												N	S	NRC: 1 out-of 2 twice. Question is SAT as written.
28	F	2												N	E S	NRC: {Correct K/A IR=3.9} Response: Agreed - Question is now SAT.
29	H	3												N	S	NRC: Question is SAT as written.
30	H	3												B	S	NRC: 1 out-of 2 twice. [2013 LOR; 2017 LOR Re-Exam] Question is SAT as written.
31	H	3												N	S	NRC: 1 out-of 2 twice. Question is SAT as written.
32	F	2												N	S	NRC: 1 out-of 2 twice. Question is SAT as written.
33	H	2												N	E S	NRC: 1 out-of 2 twice. {Correct K/A IR=2.9} Response: Agreed - Question is now SAT.
34	H	2												N	E S	NRC: [Reference Provided-1C-14 AOP 1 pg. 5] Response: Removed The reference (Immediate action.) Question is now SAT.
35	H	2												N	S	NRC: Question is SAT as written.
36	H	3												B	E S	NRC: 1 out-of 2 twice. [2014 ILT Audit Exam] {Correct K/A IR=3.6} Response: Agreed - Question is now SAT.
37	F	2												N	E S	NRC: 1 out-of 2 twice. {Correct K/A IR=3.9*} Response: Agreed - Question is now SAT.
38	H	2												N	S	NRC: Question is SAT as written.
39	H	3												M	S	NRC: 1 out-of 2 twice {Original Bank question provided} [2016 ILT Exam Significantly Modified] [Reference Provided-NF-86186-3,-4]

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
																<u>Response:</u> Applicants required to work through the logic diagrams. Agreed - Question is SAT.
40	H	3												M	E S	<u>NRC:</u> {Original Bank question provided.} {Correct K/A IR=3.9*} [2016 ILT Exam Significantly Modified] <u>Response:</u> Agreed - Question is now SAT.
41	H	3												M	E S	<u>NRC:</u> {Original Bank question provided.} [2016 ILT Exam Significantly Modified] [Reference Provided-1E-0 Attachment L pg. 4] <u>Response:</u> Remove the reference. Agreed - Question is now SAT.
42	H	2												N	E S	<u>NRC:</u> {Correct K/A IR=3.2*} <u>Response:</u> Agreed - Question is now SAT.
43	F	2												N	S	<u>NRC:</u> Question is SAT as written.
44	F	2	X				X							N	U S	<u>NRC:</u> Which comes first the reactor or the turbine trip? Is there only 1 correct answer? Is it actually 'B'? (Does the turbine trip cause the Reactor trip at power?) <u>Response:</u> Agreed – The stem was reworded to ask what the result will be of a loss of Both MFWP, therefore only one answer is correct. Question is now SAT.
45	H	2												N	S	<u>NRC:</u> 1 out-of 2 twice. Question is SAT as written.
46	H	2												N	S	<u>NRC:</u> [Reference Provided-B20.2 pg. 18] <u>Response:</u> Providing the reference requires the applicant to determine the normal line-up. Agreed - Question is SAT.
47	H	3												N	E S	<u>NRC:</u> 1 out-of 2 twice. {Correct K/A IR=2.8*} <u>Response:</u> Agreed - Question is now SAT.
48	F	2												N	S	<u>NRC:</u> 1 out-of 2 twice. Question is SAT as written.
49	F	2												N	E S	<u>NRC:</u> 1 out-of 2 twice. {Correct K/A IR=2.7*} <u>Response:</u> Agreed - Question is now SAT.
50	H	2												N	E S	<u>NRC:</u> 1 out-of 2 twice. [Reference Provided-1C20.7 pg. 12-15] <u>Response:</u> Remove reference. (Validate Stem ICs.) Agreed - Question is now SAT.
51	H	2												M B	E S	<u>NRC:</u> This question does not appear to be modified. <u>Response:</u> Agreed – This is a "B" question. Question is now SAT.
52	H	2												N	S	<u>NRC:</u> 1 out-of 2 twice. Question is SAT as written.
53	H	3												M	S	<u>NRC:</u> {Original Bank question provided.} [2014 ILT Exam Significantly Modified] Question is SAT as written.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
54	H	2												N	E S	<u>NRC</u> : 1 out-of 2 twice. {Correct K/A IR=2.8*} <u>Response</u> : Agreed - Question is now SAT.
55	H	3												B	S	<u>NRC</u> : [2015 LOR Exam] [Reference Provided-XH-1-242] <u>Response</u> : Providing the reference requires the applicant to work through the logic diagram. Agreed - Question is SAT.
56	H	3												N	S	<u>NRC</u> : [Reference Provided-C47012-0507] <u>Response</u> : Reference provided to support plausibility of distractors. Agreed - Question is SAT.
57	F	2												N	S	<u>NRC</u> : Question is SAT as written.
58	H	3												N	S	<u>NRC</u> : Question is SAT as written.
59	F	3												N	E S	<u>NRC</u> : {Correct K/A IR=2.9} <u>Response</u> : Agreed - Question is now SAT.
60	F	2												N	S	<u>NRC</u> : Question is SAT as written.
61	H F	2												N	E S	<u>NRC</u> : This appears to be a simple limit value memory question not Higher Cog. Is Distractor 'D' (30" Hg) plausible for the facility's physical location? <u>Response</u> : Agreed –changed Distractor 'D' to 25". Question is now SAT.
62	H	2												M	S	<u>NRC</u> : {Original Bank question provided.} [2016 ILT Exam Significantly Modified] Question is SAT as written.
63	F	3												N	S	<u>NRC</u> : [Reference Provided-SP1783.1A pg. 6] <u>Response</u> : Providing the reference requires the applicant to determine which annunciators are expected. Agreed - Question is SAT.
64	H	4												M	S	<u>NRC</u> : 1 out-of 2 twice. {Original Bank question provided.} [2017 LOR Exam] [Reference Provided-PINGP 0045, C25 Fig. 1] <u>Response</u> : Matches K/A! Agreed - Question is SAT.
65	F	2												N	S	<u>NRC</u> : Question is SAT as written.
66	H	3												M	S	<u>NRC</u> : 1 out-of 2 twice. {Original Bank question provided.} [2014 ILT Exam Significantly Modified] [Reference Provided-Fig. C1-8, TS 3.1.4 pg. 1] <u>Response</u> : Reference provided to allow calculation for K/A. Agreed - Question is SAT.
67	H	3												B M	E S	<u>NRC</u> : 1 out-of 2 twice. {Original Bank question provided.} [2016 ILT Exam Significantly Modified] This question is modified; why is it listed simply as a 'B' question?

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
																<u>Response:</u> Agreed - Question is now SAT.
68	F	2											X	N	U S	<u>NRC:</u> Asking the question in the "per TS 3.6.6 Bases. . ." puts this into the SRO-Only arena. Is there another RO knowledge document that also discusses why this is done? <u>Response:</u> Agreed – the purpose is referenced to the procedural requirements. Question is SAT.
69	H	3											X	N	U S	<u>NRC:</u> 1 out-of 2 twice. Again, is there somewhere else that defines what "qualified backup equipment is, other than the TS bases?" This could also be SRO-Only. <i>{Fix the grammar in the stem.}</i> <u>Response:</u> Agreed – The stem was modified to add load test of portable charger and provided the installation procedure. Question is SAT.
70	H	2												N	S	<u>NRC:</u> Question is SAT as written.
71	F	2										N		N	U S	<u>NRC:</u> How does knowing the general location of an annunciator, demonstrate knowledge of the process used to track an inoperable annunciator? (K/A match)? <u>Response:</u> Stem was modified to instruct applicant to follow required procedure. Question is SAT.
72	H	3												N	S	<u>NRC:</u> 1 out-of 2 twice. [Reference Provided-RWP 180051 Tasks 101/203] <u>Response:</u> Applicant must decide which RWP is appropriate and then implement requirements to answer the question. Agreed - Question is SAT.
73	F	3												B	S	<u>NRC:</u> [2016 ILT Exam] Question is SAT as written.
74	F	2												N	S	<u>NRC:</u> 1 out-of 2 twice. Question is SAT as written.
75	F	3												N	S	<u>NRC:</u> <i>{Fix the grammar in the stem. Remove the first 'in.'}</i> Question is SAT as written.
76	H	3										N	Y	N	U S	<u>NRC:</u> How does performing the next Step in 1ES-1.1 (which would be performed regardless) relate to verifying the existence of Natural Circulation for this question? (K/A Match)? [Reference Provided-1ES-1.1] Why is the reference required for an SRO to answer this question? <u>Response:</u> Changed distractor to include action if natural circulation is not verified, requiring the use of the reference to support the correct answer. Now matches the K/A. Question is SAT.
77	H	3											Y	N	E S	<u>NRC:</u> 1 out-of 2 twice. [Reference Provided-TSs-3.5.1 and 3.5.4] Why are the TSs provided as references for an SRO to answer this question? <u>Response:</u> Agreed – Removed the SRs from the references. Question is now SAT.
78	H	2											Y	N	S	<u>NRC:</u> Question is SAT as written.
79	H	2											Y	B	E	<u>NRC:</u> {Correct K/A Statement} for 2.2.40 vs 2.2.22}

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															S	<u>Response:</u> Agreed – Corrected. Question is now SAT.
80	H	2											Y	N	S	<u>NRC:</u> 1 out of 2 twice. Question is SAT as written.
81	H	3										N	Y	M	U S	<u>NRC:</u> How does selecting which contingency procedure to enter relate to the ability to identify post-accident instrumentation for this question? (K/A Match)? [Reference Provided-1E-1 pg. 9-12] <u>Response:</u> The applicant must diagnose the ICs, using the EOP reference to select the proper transition point. Agreed. Changed K/A to random selection – 2.4.4. Re-worked the question to match the K/A. Agreed - Question is SAT.
82	H	2											Y	N	S	<u>NRC:</u> Question is SAT as written.
83	H	2											Y	N	S	<u>NRC:</u> [Reference Provided-PINGP 1576] <u>Response:</u> Reference does not answer any additional questions and requires the applicant to review all possibilities. Agreed - Question is SAT.
84	H	3											Y	N	S	<u>NRC:</u> [Reference Provided-F5 Appendix A Zone 50] <u>Response:</u> Reference provided to better match K/A. Agreed - Question is SAT.
85	H	3											Y	N	S	<u>NRC:</u> 1 out of 2 twice. Question is SAT as written.
86	H	2												N	E S	<u>NRC:</u> Perhaps it would be better to reword the stem to state that "The Unit Supervisor will direct transition into . . ." [Reference Provided-1ES-1.2] <u>Response:</u> Removed the bases section of the reference procedure. Agreed - Question is now SAT.
87	H	3											Y	N	E S	<u>NRC:</u> 1 out-of 2 twice. [Reference Provided-PINGP 577 and F3-2.1 pg. 6-F-1 - 17] <u>Response:</u> Remove the F3 reference. Agreed - Question is now SAT.
88	H	2											Y	N	S	<u>NRC:</u> [Reference Provided-1ES-1.2] <u>Response:</u> See Question 86. (Already Provided) Question is SAT as written.
89	H	3											Y	N	S	<u>NRC:</u> [Reference Provided-1FR-H.1 pg. 3-10] <u>Response:</u> Providing the reference requires the applicant to work through the procedure. Agreed - Question is SAT.
90	H	3											Y	N	E S	<u>NRC:</u> {Correct K/A IR=4.3} [Reference Provided-1ECA-0.0 pg. 6-7] <u>Response:</u> Providing the reference requires the applicant to demonstrate how to implement the NOTE. Agreed - Question is now SAT.
91	H	2											Y	N	S	<u>NRC:</u> Question is SAT as written.
92	H	2											Y	N	E S	<u>NRC:</u> [Reference Provided-C20.3 AOP1 Fig. 5 and TS 3.8.1] <u>Response:</u> Remove the SRs. Fig. OK. Agreed - Question is now SAT.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
93	H	3											Y	B	S	<u>NRC</u> : 1 out-of 2 twice. [2016 ILT Exam] [Reference Provided-H4 Table 2.2] <u>Response</u> : Reference requires applicant to diagnose and implement corrective actions. Agreed - Question is SAT.
94	H	2											Y	M	E S	<u>NRC</u> : {Correct K/A IR=4.4} [Reference Provided-C35 AOP6] <u>Response</u> : Removed the system diagram. Agreed - Question is now SAT.
95	H	2											Y	N	S	<u>NRC</u> : [Reference Provided-PINGP 1125 pg. 20-21] <u>Response</u> : Reference provided to match the K/A. Question is SAT as written.
96	H	3											Y	N	S	<u>NRC</u> : [Reference Provided-FP-OP-RSK-01 pg. 18] <u>Response</u> : Table provided as reference required for calculating answer. Window dressing (ICs) provided for Operational validity. Agreed - Question is SAT.
97	H	2											Y	N	S	<u>NRC</u> : 1 out-of 2 twice. Question is SAT as written.
98	H	2											Y	B	S	<u>NRC</u> : [2016 ILT Audit Exam] Question is SAT as written.
99	H	3											Y	N	E S	<u>NRC</u> : 1 out-of 2 twice. [Reference Provided-C34 AOP1] <u>Response</u> : Limit the procedure provided to the first 20 pages. Agreed - Question is now SAT.
100	H	2											Y	B	S	<u>NRC</u> : [2014 ILT Audit Exam] Question is SAT as written.

RO TOTALS:		B=14 M=10 N=51	F=30 H=45	E=21 U=5	Additional Notes: 'H' = 38-45; N ≥ 8; B ≤ 56
SRO TOTALS:		B=4 M=2 N=19	F=0 H=25	E=8 U=2	Additional Notes: 'H' ≥ 13; N ≥ 3; B ≤ 18
GENERAL COMMENTS:					
1. Question numbers highlighted as xx are sample test items the facility submitted for pre-review.					
2. Bank questions are indicated by B; Modified are indicated by M; New questions are indicated by N					
3. Questions from the previous 2 NRC Exams: <u>3 (8)</u> (RO)/ <u>1 (2)</u> (SRO) [Max (without OLB concurrence) is 4 RO and 2 SRO.]					
4. Average difficulty is <u>2.44</u> on the RO exam and <u>2.44</u> on the SRO exam.					

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

41.1 =	41.8 =	43.1 =
41.2 =	41.9 =	43.2 =
41.3 =	41.10 =	43.3 =
41.4 =	41.11 =	43.4 =
41.5 =	41.12 =	43.5 =
41.6 =	41.13 =	43.6 =
41.7 =	41.14 =	43.7 =

6. The answer distribution is:

RO	/	SRO
A = 0 (17%)	/	0 (24%)
B = 0 (22%)	/	0 (28%)
C = 0 (28%)	/	0 (20%)
D = 0 (33%)	/	0 (28%)

7. There are 13 (RO)/ 16 (SRO) questions with references/attachments provided.