

Facility: Byron

Exam Date: January 2019

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			
1	H	2												B	S	2003 Beaver Valley NRC Exam
2	F	2												N	S	2X2,
3	F H	2	X											B	U	2011 Kewaunee NRC Exam <u>NRC:</u> The stem contains insufficient information to pick the correct answer. <u>Note</u> - the original Kewaunee question this was developed from contained additional relevant plant conditions. Also, this question will end up as LOK = H with all required data included. <u>Response:</u> 1.) Updated question to add more detail similar to the Kewaunee exam. 2.) NRC reviewed updates during onsite validation week of 12/10/18 a. Returned to originally submitted question as discussed instead of updating per recommendations due to the extra information not being needed. b. Maintained as Low Cog.

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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8	H	3													M	E	<p>PROVIDED REFERENCE <u>NRC:</u> Reactor is misspelled ("RECTOR") in the procedure title. Also, the pedigree is not aligned with the answers provided ("This results in RCS pressure needing to be between 425" - 450 psig - 600 vs. 450 psig). <u>Response:</u> 1.) Updated grammar issues per recommendation. 2.) Updated pedigree per recommendation. 3.) NRC reviewed updates during onsite validation week of 12/10/18</p>
9	H	2													N	S	
10	H	3													B	S	<p>PROVIDED REFERENCE, 2X2, Cert Exam 2017 1.) Added "power" after power level for consistency throughout exam.</p>
11	F	2													B	E	<p>2015 Point Beach NRC Exam <u>NRC:</u> Question could be simplified by stating: "During a Loss of Offsite Power, the purpose of the EFS Load Sequencer is to ensure all ESF loads are started within the bounds of the accident analysis and to prevent..." ALSO - GENERIC COMMENT—pedigree LOD = 0 (?) for <u>many</u> questions. <u>Response:</u> 1.) Updated per recommendation 2.) NRC reviewed updates during onsite validation week of 12/10/18</p>
12	H	3													N	S	
13	H	2	X												N	U	<p><u>NRC:</u> The information in the stem <u>could</u> IMPLY that the battery is depleting but this is not certain because no trend information is given. The applicant must assume a trend from the given state to arrive at the correct response. Also, is the annunciator response required to be known from memory? Finally, Choice 1 is a weak distractor. A more plausible distractor would be "Ability to start the 1A MFP remotely will be lost" <u>Response:</u> 1.) Updated question to add a trend to make it more clear that the battery was discharging. 2.) NRC reviewed updates during onsite validation week of 12/10/18 a. Agreed to maintaining distractor as is due to test the candidate on the differences between 125VDC and 250VDC.</p>
14	H	3													B	E	<p>2014 Callaway NRC Exam <u>NRC:</u> Picture of the pump control switches needs to be of improved clarity. <u>Response:</u> 1.) NRC discussed during onsite validation week of 12/10/18 a. Determined rearranging pictures would approve clarity. Updated per recommendations.</p>

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15	F	3													N	EU	<p><u>NRC:</u> Provide a given power level in the stem, i.e. "Unit 1 was at 100% when a complete loss of IA occurred." Overlap with Q#90.</p> <p><u>Response:</u></p> <ol style="list-style-type: none"> 1.) Updated stem per recommendation. 2.) Discussed overlap with NRC during onsite validation during the week of 12/10/18. <ol style="list-style-type: none"> a. Rewrote question to remove overlap concerns with Q90.
16	H	2													N	S	2X2
17	F	2				X								X	N	UE	<p>FREE SAMPLE</p> <p><u>NRC:</u> K/A does not match question as no transient condition and no actual plant operating characteristics are discussed which would result from a LOCA outside containment in the question stem. Also, distractor D is not credible as EOP 3 SGTR exists as a primary response EOP and therefore, it is not credible that an applicant would assess that a SGTR would be treated as a LOCA outside containment and enter BCA-1.2.</p> <p><u>Response:</u> Question was replaced</p> <p><u>NRC:</u> Replacement question is SAT.</p>
18	H	3				X									B	E	<p>2013 CPNPP ILE</p> <p><u>NRC:</u> Distractor C is not plausible - there is no procedure guidance in BCA-1.1 or BCA-1.2 to dump the AB sumps to the RWST (only contacting the TSC for guidance on filling RWST from containment sump via CS pump).</p> <p><u>Response:</u></p> <ol style="list-style-type: none"> 1.) Updated distractor to transferring water from the HUT. <ol style="list-style-type: none"> a. Verified new distractor with NRC during onsite validation week of 12/10/18.
19	F	3													M	E	<p>2010 Beaver Valley ILE</p> <p><u>NRC:</u> Enhance pedigree by specifically defining "Tave Reduction" – is this a well understood term (with a training objective, etc.)?</p> <p><u>Response:</u></p> <ol style="list-style-type: none"> 1.) Updated pedigree per recommendation. 2.) Confirmed changes during NRC onsite validations week of 12/10/18 <ol style="list-style-type: none"> a. Changed question from "Initial RCS Tave reduction" to "Initial reduction in RCS Tave" to improve clarity.
20	H	3				X									N	E	<p><u>NRC:</u> 1) Include 1BGP 100-2 in the question references.</p> <p>2) answer B should include "immediately" prior to "stop all positive reactivity..." as to match procedural / TS language.</p> <p><u>Response:</u></p> <ol style="list-style-type: none"> 1.) Updated list of references per recommendation. 2.) Updated answer 'B' and distractor 'C' to include the word "immediately" 3.) Confirmed changes during NCR onsite validations week of 12/10/18

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46	F	3																	N	E	FREE SAMPLE NRC: No correct answer is identified in the pedigree. If "D" is correct, as expected, the pedigree needs to explain why it is the correct answer. Response: Corrected pedigree as stated. NRC: Corrected question is SAT.	
47	H	3																	B	S	PROVIDED REFERENCE, 2016 Byron ILE	
48	F	2																	N	S	2X2	
49	H	3																		E	NRC: Distractor A does is not plausible. DG output breaker has tripped open and distractor A is stating that to restore power to the Bus 141 (with no offsite power), placing the sync switch to on would restore power. Distractor could be considered plausible by taking sync switch to on and then placing ACB 1413 to close. Response: 1.) Updated per recommendation. 2.) NRC confirmed changes during onsite validation week of 12/10/18	
50	F	1																			U	NRC: LOD=1 (REF: NUREG-1021 App. B, Attachment 2, page 2) Response: 1.) Updated question to add a NON-ESF bus as a distractor to raise LOD. 2.) Reviewed LOD concerns with NRC during onsite validation week of 12/10/18 a. Determined question was not LOD 1 as described in NUREG-1021 App. B, Attachment 2, page 2. With the example that is given in the NUREG, it is extremely obvious based on the options given and the bus names aligning with the RCPs as listed. In this question, the examinee must determine whether the fuel oil transfer pump is self-powered by the operation of the DG, an ESF DC bus, an ESF AC bus, or a non-ESF bus. Furthermore, the bases are not generalized to the large 4kV bus but rather the sub base.
51	F	2																			S	2013 Braidwood ILE, Overlap with question 64.
52	F	1																			U	NRC: LOD=1- these failures also seem unrelated Response: 1.) NRC reviewed LOD with the site during onsite validation week of 12/10/18 a. Failures are unrelated but both meet the K/A and is SAT as written b. Upon further review, the question is NOT LOD 1 and it was agreed upon to be maintained as written. 2.) Updated "GEN H2 TEMP HIGH LOW ALARM" a. Changed status to LIT for accuracy b. Added SER PRINTOUT for clarification and remove the possibility of 2 right answers.
53	H	2																			S	2014 Byron ILE
54	F	2																			S	FREE SAMPLE

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71	H	2													B	E	<p>2012 PINGP ILE</p> <p><u>NRC:</u> Bank question provided is PINGP 2012 Exam Q68, not Q76 as referenced in the question comments. The pedigree should be corrected.</p> <p><u>Response:</u></p> <p>1.) Updated to Q76 as the correct reference.</p> <p>2.) NRC confirmed changes during onsite validation week of 12/10/18</p>
72	F	2													N	S	
73	F	2													B	S	Byron 2010 ILE
74	H	3													N	S	
75	H	3				X									N	E	<p>2X2(Partial),</p> <p><u>NRC:</u> Provide a subcooling value such that the applicants can determine whether or not an orange path on core cooling exists (distractor A). Also, Overlap with Q76 (see below).</p> <p><u>Response:</u></p> <p>1.) Updated per recommendation.</p> <p>2.) NRC confirmed changes during onsite validation week of 12/10/18</p> <p>a. Updated objective reference.</p>
76	F	2					X								N	U	<p><u>NRC:</u> Not SRO-only due to requiring applicants to know immediate operator actions (Step 3 of 1BEP E-0 directs performing 1BOA ELEC-3 as time permits). ES-401 Att 2 Section E.</p> <p><u>Response:</u></p> <p>1.) Updated objective to SRO objective</p> <p>2.) NRC reviewed question for SRO-only requirements during onsite validation week of 12/10/18</p> <p>a. Added into stem that Step 6 was being performed to ensure the crew was past the immediate actions and ensured the question was at the SRO level by utilizing decision making skills to determine when the procedure should be directed.</p> <p>b. Changed answer from "whenever time permits" to "immediately"</p> <p>c. Reworded interrogative to clarify the decision making portion.</p>

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79	H	2	X											N	E	<p>FREE SAMPLE, PROVIDED REFERENCE</p> <p><u>NRC:</u> The picture of the PRNI indications is not acceptable. A candidate could argue that the A and D instruments read just above 5%.</p> <p><u>Response:</u></p> <p>1.) Updated picture to be clearer that all PRNIs are < 5%</p> <p>2.) NRC confirmed changes during onsite validation week of 12/10/18</p>
80	H	3									X			N	U	<p>2X2</p> <p><u>NRC:</u> The second part of the question is not relevant to the K/A. Additionally, there is no procedure guidance given NOT to transition to 1BCA-0.2 (as per the pedigree), and without the 2nd part, the question becomes RO level knowledge.</p> <p><u>Response:</u></p> <p>1.) NRC reviewed during onsite validation week of 12/10/18</p> <p>a. Updated second integrative to "The Unit Supervisor will..."</p> <p>b. Determined that 1BCA-0.2 is a plausible distractor since the procedural guidance listed as a procedure transition later in the procedure. Furthermore, with an SI it is plausible to utilize the procedure. It was determined that the transition is an incorrect answer since the step in progress does not transition AND the initial condition for the transition is to have power restored. Furthermore, transition to 1BCA-0.2 will not benefit the crew at the listed plant conditions.</p>
81	H	3	X											N	E	<p><u>NRC:</u> Reword the stem for clarity: "Unit 1 was at full power when a transient occurred which resulted in a loss of all 345kV lines"</p> <p><u>Response:</u></p> <p>1.) Updated per recommendation.</p> <p>2.) NRC confirmed changes during onsite validation week of 12/10/18</p>
82	H	2										X		N	U	<p>2X2</p> <p><u>NRC:</u> Distractors A and B are not plausible distractors - there are no identifiable differences between the three level channels shown (in contrast to the 4 SG level channels shown in Q#58).</p> <p><u>Response:</u></p> <p>1.) NRC reviewed during onsite validation week of 12/10/18</p> <p>a. Added "shown above" to the first question</p> <p>b. Added 'A' to the indicators in the answer and distractors for better clarity.</p>

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100	H	2				X									N	U	<p>PROVIDED REFERENCE</p> <p><u>NRC</u>: Distractor D is not plausible given the location of the fire (annunciator cabinet) and the lack of any impact to any Table H1 safety function. Distractor A is not plausible given that it's a HOSTILE ACTION.</p> <p><u>Response</u>:</p> <p>1.) NRC reviewed during onsite validation week of 12/10/18</p> <p>a. Rewrote question to ensure plausible distractors.</p>
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RO TOTALS:	B= 32	F= 30	E= 32	Additional Notes: At "H" limit!
	M= 3	H= 45	U= 7	
	N= 40			
SRO TOTALS:	B= 1	F= 5	E= 5	Additional Notes:
	M= 1	H= 20	U= 12	
	N= 23			
<u>GENERAL COMMENTS:</u>				
1. Bank questions are indicated by B; Modified are indicated by M; New questions are indicated by N				
2. Questions from the previous 2 NRC Exams: <u>3</u> (RO)/ <u> </u> (SRO)				
3. There are <u>3</u> (RO)/ <u>6</u> (SRO) questions with references/attachments provided.				