

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	F	2							2					N	E	2X2 NRC: State in the pedigree that this is information required to be known from memory and explain why. Response: FWLC Lesson Plan, Objective 12, covers knowledge of the effect that a total loss or malfunction of various plant systems has on the plant. The pressure at which backup nitrogen will activate, and the length of time the backup nitrogen will function is covered under this objective, which is required to be known from memory. This knowledge is important since it gives the operators knowledge of how long the backup air would be expected to be available if a loss or reduction in normal air supply pressure occurs. Added to pedigree. NRC: Question is now SAT
2	F	3							2					B	E	2013 Cert Exam NRC: State in the pedigree that this is information required to be known from memory

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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																and explain why. <u>Response:</u> Lesson Plan DRE223LN001, Objective 3, covers knowledge of the Drywell components under normal operating conditions. This knowledge, to be known from memory, includes knowledge of design limits for temperature and pressure. This is important information to an operator, since it provides the basis for knowledge of when component operating limits have been exceeded. Added to pedigree. <u>NRC:</u> Question is now SAT
3	F	2										×		B	E	2X2; 2011 Cert. Exam <u>NRC:</u> Part 1 of the question needs to apply to the K/A and to part 2. <u>Response:</u> The location of the Boron injection point has a direct effect on boron distribution, and therefore power reduction in the DEOP's. Per EPG/SAG Appendix B, Rev 3, page B-14-45: "When an amount of boron equivalent to the HSBW has been injected, RPV water level is restored to and maintained within the normal operating range. As RPV water level is increased, natural circulation flow increases and the boron which has accumulated in the lower plenum is quickly mixed and distributed throughout the core region. This phenomenon is known as "boron remixing," thereby distinguishing it from mixing that may have occurred earlier in the transient, before RPV water level was lowered." Additionally, location of boron injection applies to this K/A due to the possibility of RWCUs taking boron out of the core. From UFSAR 9.3.5.3 - In the event that the SBLC system interlock fails to isolate the reactor water cleanup system, the cleanup system would start to remove the boron from the core. This removal rate would be extremely small because of the flow path of the boron; the boron is inserted into the bottom of the vessel, moves up through the core, then to the outside of the core shroud. The K/A Justification for Part 1 of the question was added to the pedigree of the question. <u>NRC:</u> Question is now SAT
4	F	2				X								N	U S	2X2 <u>NRC:</u> It is not plausible that with the entire area from the 2B IAC to the U2 EHC pumps "engulfed in flames" and the "potential for a severe, Appendix R type fire to induce multiple shorts," that a CAUTION sign would be enough. Since this eliminates 2 distractors, this results in the question being UNSAT. and an easier question. <u>Response:</u> Revised the question. <u>NRC:</u> Question is now SAT
5	H	3										×		B	E	2017 NRC Exam , 2019 Cert Exam <u>NRC:</u> Question does not match the K/A. The question asks for scram criteria based on

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																<p>CRD position and not the interrelation between CRD pumps and accumulator pressures.</p> <p><u>Response:</u> Question <u>does</u> match the K/A due to DOA 0300-01 section D.4 stating: If CRD Charging Water Pressure can NOT be immediately restored to ≥ 940 psig, Reactor Steam Dome Pressure < 900 psig and any ACCUMULATOR TROUBLE light illuminates on the full core display for a control rod NOT at positions 00, THEN immediately scram the reactor AND enter DGP 02-03. The ACCUMULATOR TROUBLE light comes in at 1000 psig on the each individual CRD, therefore the student must know the accumulator alarm setpoint of 1000 psig is sufficient accumulator pressure to still be able to scram the reactor. Added to pedigree.</p> <p><u>NRC:</u> Question is now SAT</p>
6	H	3												B	S	2X2; 2013 Cert. Exam
7	H	3												B	E	<p>2007 NRC Exam</p> <p><u>NRC: Editorial:</u></p> <p>a) Bullets vs. “?” in stem,</p> <p>b) Remove the “a” in front of distractors A & B, and reword like distractor C,</p> <p>c) Reword stem where “is timed opened” to “is timed open.”</p> <p><u>Response:</u></p> <p>a. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p>b. Removed ‘a’ in front of answer and distractor 1 and reworded like distractor 2. Also changed “tipped” in distractor 3 to ‘trip’ to match grammar structure of the other answers.</p> <p>c. Corrected as requested.</p> <p><u>NRC:</u> Question is now SAT</p>
8	H	3												B	E	<p><u>NRC:</u> The bolded “ONE” in the stem should be deleted - it adds no value and would minimize the amount of emphasized information in the stem.</p> <p><u>Response:</u></p> <p>Correction made as requested</p> <p><u>NRC:</u> Question is now SAT</p>
9	F	4 3				X			2					M N	E	<p>2X2; Early Review Submittal</p> <p><u>NRC:</u> The choices where both sets of IRMs are either energized or deenergized are not plausible, reducing the LOD by making the probability of guessing correctly 50%. In addition, supply the original question to show the question is significantly modified.</p>

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																<p>Finally, state the learning objective and supply the lesson plan as a reference to support the requirement that this information needs to be known from memory.</p> <p><u>Response:</u> Wrote new question. For final submittal all procedures and lesson plans will be included on disk. Question is #9 on the exam.</p> <p><u>NRC:</u> (NEW) State in the pedigree that this is information required to be known from memory and explain why.</p> <p><u>Response:</u></p> <p>Lesson Plan DRE263LN003, Objective 2, covers knowledge of the inter-relationships between the 24-48 VDC system and related systems, such as the loads fed from 24-48 VDC. This knowledge is required to be known from memory.</p> <p><u>NRC:</u> New question is now SAT</p>
10	H	3												B	S	2009 NRC Exam
11	H	2												B	S	2010 NRC Exam
12	H	2				×								B	E	<p>2009 NRC Exam</p> <p><u>NRC:</u> Distractor B is not plausible. Suggest using Positive 5 VOLTS.</p> <p><u>Response:</u></p> <p>Correction made as requested. Revised order of distractors to meet psychometric requirements.</p> <p><u>NRC:</u> Question is now SAT</p>
13	F	3												B	E	<p>2012 NRC Exam, 2013 Cert Exam</p> <p><u>NRC:</u> Explain why the phase angles would be matched as stated in the pedigree for distractor D.</p> <p><u>Response:</u></p> <p>Although we do NOT parallel an EDG and the SBO due to concerns with circulating currents (as the note in the procedure states), if we did then the two diesel generators would be synchronized, and therefore the phase angles would be matched. Therefore, distractor D is not correct. This information was added to the pedigree for distractor D.</p> <p><u>NRC:</u> Question is now SAT</p>
14	H	2												B	E	<p><u>NRC:</u> <i>Editorial:</i> Revise the pedigree's Answer Explanation from "...therefor 25%of..." to "...therefore 25% of..."</p> <p><u>Response:</u></p> <p>Correction made as requested. Swapped distractor A and B due to psychometrics. Also, corrected typo in answer explanation, fixed "therefore"</p> <p><u>NRC:</u> Question is now SAT</p>

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15	H	3												B	S	2010 NRC Exam
16	H F	2												B	E	<p><u>NRC:</u></p> <p>a) Arriving at the correct answer relies on recognizing that the 30 second time delay is met (thus "F").</p> <p>b) Where is the 30 second time delay explained? (what reference)</p> <p>c) Modify distractor C to avoid 'reminding' applicants about the 30 second time delay.</p> <p><u>Response:</u></p> <p>a) Changed to Memory.</p> <p>b) DOP 1500-03, step G.1.b.9 has a note that addresses the 30 second time delay.</p> <p>c) Question was revised to change time to 40 seconds after LPCI initiation instead of 20 seconds after LPCI initiation. The answer and the distractor were changed to remove the "30 Second" portion.</p> <p><u>NRC:</u> Question is now SAT</p>
17	H	2												B	E	<p><u>NRC:</u></p> <p>a) <i>Editorial:</i> Bullets vs. "?" in stem</p> <p>b) Explain what all the different CST level low setpoints mean, and why 6 feet was given in the stem versus a different value.</p> <p><u>Response:</u></p> <p>a. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p>b. HPCI takes suction from the CST's, which are normally cross connected. If level in Tank 2/3A is less than 11.9 feet (+/- 2 inches); AND level in Tank 2/3B is less than 8.3 feet (+/- 2 inches), the HPCI suction valves will re-align to take suction from the Torus. Six feet was arbitrarily chosen because it was less than the nominal value of eight feet, which would have caused the HPCI suction transfer to occur. Added additional detail to the answer explanation.</p> <p><u>NRC:</u> Question is now SAT</p>
18	H F	2												B	E	<p><u>NRC:</u></p> <p>a) Knowing that RMCS receives a rod out block due to an APRM having less than 50% of assigned LPRMs in service is all that's required for the correct answer</p> <p>b) Correct typo in the Answer Explanation from "<i>tha</i>" to "than"</p> <p>c) If one might incorrectly think a Rod Select Block may also be correct, explain how it is caused, and how it may be appropriate to believe it may be caused by.</p>

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																<u>Response:</u> a. Question has been changed to Memory level b. Correction made. Also revised answer order to address psychometrics c. Added information from Lesson plan to pedigree to explain what will generate a Rod Select Block. <u>NRC:</u> Question is now SAT
19	H	3										2		B	E	<u>NRC:</u> Explain how this question tests the K/A's "Analog trip system" criterion in the pedigree. <u>Response:</u> The equipment listed in the question are all powered by the Analog Trip System (ATS). A knowledge of the power source, via ATS, to each item of equipment is required in order to answer the question. Updated the pedigree to state that the equipment listed in the answer and the distractors is all powered by ATS. Added this to the pedigree. <u>NRC:</u> Question is now SAT
20	F	2												B	E	2012 NRC Exam <u>NRC:</u> a) Spell out "FR" in distractors or just use the SA-AA-129 terminology b) Provide SA-AA-129 and SA-AA-116 in References. <u>Response:</u> a. Revised answer explanation to include "appropriate long sleeve outer garment (Flame Resistant clothing meets this criteria)" versus "long sleeve cotton shirt". Spelled out "Flame Resistant" in the distractor and answer. Changed location of answer for psychometrics due to changes in length of answer and distractor. b. A copy of SA-AA-129 and SA-AA-116 was provided. <u>NRC:</u> Question is now SAT
21	F	2												B	S	2008 NRC Exam, 2017 NRC Exam
22	F	2												B	E	2008 NRC Exam, 2011 Cert Exam <u>NRC:</u> Provide a copy of procedure HR-AA-07-101 in References and explain all acronyms in the pedigree. <u>Response:</u> A copy of HR-AA-07-101 was provided. Revised pedigree wording to include a definition of "No Solo", and to define QNE. <u>NRC:</u> Question is now SAT

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23	F	2												N	S	2X2
24	F	2												N	E	<p>2X2; Early Review Submittal</p> <p><u>NRC:</u> State the learning objective in the pedigree and supply the lesson plan as a reference to support the requirement that TS Bases information needs to be known by ROs. Finally, in the pedigree, include support that this question, which was selected for Tier 3, maintains its focus on plantwide generic K/As and is not an extension of Tier 2 (Systems) – See ES-401, Page 7.</p> <p><u>Response:</u> RO's are required to know tech spec actions of less than 1 hour from memory. The focus is on Reactor pressure and not on any specific systems and actions. Purely a design/ fundamental question. For final submittal all procedures and lesson plans will be included in submittal. In each lesson plan objective 7a clearly states a requirement to from memory, associated with any LCO with a duration of 1 hour or less. Added this justification to pedigree. Question is #24 on the exam</p> <p><u>NRC:</u> Question is now SAT</p>
25	H	2												B	S	2014 NRC Exam
26	F	3							?					B	E	<p>2014 NRC Exam</p> <p><u>NRC:</u></p> <p>a) Provide a copy of procedure NISP-RP-004 in References</p> <p>b) <i>Editorial:</i> Bullets vs. "?" in stem</p> <p>c) State in the pedigree that the information is required to be known from memory and explain why.</p> <p><u>Response:</u></p> <p>a. A copy of NISP-RP-004 was provided with the references.</p> <p>b. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p>c. This is required operator knowledge, as part of NGET. Added to pedigree</p> <p><u>NRC:</u> Question is now SAT</p>
27	F	2					×							B	E	<p>2x2</p> <p><u>NRC:</u> Based on the severity of the accident described in the stem, NOUE is not plausible and it could also be argued that ALERT would also be implausible too. It would be more discriminating to limit responses to GE and SAE, coupled with another consideration aligned with the K/A (Thus, a 2X2 format).</p> <p><u>Response:</u> Changed question to a 2x2 format.</p> <p><u>NRC:</u> Question is now SAT</p>

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28	H	3												N	E	<p><u>NRC: Editorial:</u> Bullets vs. “?” in stem</p> <p><u>Response:</u> The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p><u>NRC:</u> Question is now SAT</p>
29	F	2												B	S	2007 NRC Exam; <u>Reference Provided:</u> HPCI flow controller image (embedded)
30	H	3										2		B	E	<p>2012 NRC Exam</p> <p><u>NRC:</u> Explain how the K/A is met in the pedigree</p> <p><u>Response:</u> Added justification to pedigree.</p> <p><u>NRC:</u> Question is now SAT</p>
31	F H	3 2							✗					B	E	<p>2010 NRC Cert Exam; 2X2; Early Review Submittal</p> <p><u>NRC:</u> State the learning objective and supply the lesson plan as a reference to support the requirement that this information needs to be known from memory. Also, is “AEER” a known/official acronym? If not, spell it out to avoid unnecessary questions.</p> <p><u>Response:</u> Replaced question. Question is #31 on the exam.</p> <p><u>NRC:</u> New question is SAT</p>
32	H	3												B	S	2X2
33	H	3												B	S	2X2; 2012 NRC Exam
34	H F	2 4 2										✗		N	E	<p>2X2; Early Review Submittal</p> <p><u>NRC:</u> The question does not meet the K/A (Specifically, “including understanding of running and incoming voltages”) but relies on remembering often-practiced procedure steps when closing the output breaker on the EDG. The underlying reasons given in the Answer Explanation of the pedigree need to be demonstrated, versus just recalling actions taken, as it happens, because of those reasons. Also, as written, the LOK = F.</p> <p><u>Response:</u> Revised question to meet K/A requirement for incoming and running voltages. Question is #34 on the exam.</p> <p><u>NRC:</u> The revised question better meets the K/A but is now an easy memory question focusing on recalling how procedure steps are performed versus showing an understanding of running and incoming voltages. Suggest refocusing the question to answer <i>why</i> as well as <i>how</i>.</p> <p><u>Response:</u> Incorporated the comments made by RIII to address the concerns above.</p>
35	F	2												B	S	2010 NRC Exam

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36	H	3												B	S	2X2; 2013 Cert Exam:
37	H	3												B	S	2017 NRC Exam
38	H	3												N	E	2X2; NRC: There is misalignment between the overall "Answer Explanation" and the pedigree explanation for distractors C & D – please clarify. <u>Response:</u> Revised procedure number in overall "Answer Explanation" from DSSP 0010-10 (typo) to DSSP 0010-01, to match up with pedigree explanation for answers C & D. <u>NRC:</u> The question is now SAT.
39	F H	3												N	E	<u>NRC:</u> a) Stem column (DRYWELL TEMPERATURE) alignment needs to be adjusted, b) The question requires more than just recognition of EOP entry conditions and immediate action steps (LOK = H). <u>Response:</u> a. The stem column is correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal. b. Changed LOK to H. <u>NRC:</u> The question is now SAT.
40	H	3												B	S	
41	H	3												B	S	2015 Cert Exam
42	H	2												B	S	
43	H	2	×											N	E	NRC: This question is asked in a confusing way, so the answer, which is an <i>elapsed</i> time, is in-between the distractors provided. This question could be asked more directly with the answers in terms of pressure dropped versus time elapsed. <u>Response:</u> Per FacRep this question is examining system response and trend analysis, no changes made except adding "later" to the answers to show that this is elapsed time (e.g. "5 minutes later"). <u>NRC:</u> The question is now SAT.
44	H	3												N	E	2X2 NRC: Cite the specific reference where the "open pathway" prohibition is explained in the question's pedigree.

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																<u>Response:</u> Revised pedigree and references to say DOP 1200-03 versus DOP 1900-03. That is the correct reference for the open pathway prohibition. <u>NRC:</u> The question is now SAT.
45	H	2				×								B	U S	<u>NRC:</u> a) The question asks for the effect on gland seal steam system, but all the distractors fail to properly answer the question. Instead, they offer only unnecessary corrective actions. b) Distractor A has no effect (<u>not</u> affect), and "at 100% power" is already stated in the stem and does not need to be repeated. <u>Response:</u> a. Revised question wording to address actions needed to maintain adequate gland seal system, instead of effect. b. Removed affect, as part of change to question stem. <u>NRC:</u> The question is now SAT.
46	H	3												B	S	2012 NRC Exam
47	F	2												N	S	Early Review Submittal. Question is #47 on the exam.
48	F H	3												B	E	2016 CERT Exam <u>NRC:</u> LOK needs to be explained in the question's pedigree, since resultant rise in pressure will cause the Bypass Valves to open. <u>Response:</u> This was changed to a LOK=H, since it is more than just a memory question. The student needs to recognize that the fast closure of the Control valves will occur, and that the load and closing errors will also cause a fast closure of the intercept valves. Additionally, when these close, the rising RPV pressure will cause the Bypass valves to open. This was added to the pedigree. <u>NRC:</u> The question is now SAT.
49	H	3												N	E	2X2 <u>NRC:</u> In the stem, state, "...but is not indicating bad quality," to avoid questions during exam administration. A failing instrument could be considered as bad quality. <u>Response:</u> The current stem states "but is not bad quality". Capitalized and bolded "NOT" in the question stem to ensure students recognize that a bad quality condition does NOT exist. <u>NRC:</u> The question is now SAT.

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50	H	3												B	S	2X2; 2016 NRC Exam
51	H	3												B	S	2017 NRC Exam ; REQUIRED REFERENCE: 12E-6822
52	F	2												N	S	2X2
53	F	3							2					N	E	<p>2X2</p> <p><u>NRC</u>:</p> <p>a) Both sources are technically "preferred," Contaminated Condensate is the MOST preferred</p> <p>b) In the pedigree, explain why this distinction is required to be known from memory (cite the objective, etc.).</p> <p><u>Response</u>:</p> <p>a. Added "Most Preferred" instead of "Preferred" in stem.</p> <p>b. Added DRELN001, Objective 3, to the Objective list. Justification for Memory level: DRE233LN001.03j - Discuss the operation of the following components under normal operating conditions including support required from other plant systems and local indications, operations or override capability: Skimmer Surge Tanks. Added this information to the pedigree.</p> <p><u>NRC</u>: The question is now SAT.</p>
54	H	3												B	E	<p><u>NRC</u>: Add "and stabilizes" to "H2 flow makes a step change to 94 scfm." for clarity.</p> <p><u>Response</u>: Made the recommended change.</p> <p><u>NRC</u>: The question is now SAT.</p>
55	F	3												N	E	<p>2X2</p> <p><u>NRC</u>: The stem statement, "and CANNOT be reversed" is unnecessary.</p> <p><u>Response</u>:</p> <p>Made the recommended change and changed "Aux Oil Pump normally start" to "Aux Oil Pump would normally start".</p> <p><u>NRC</u>: The question is now SAT.</p>
56	H F	2												N	E	<p><u>NRC</u>: LOK = F because the question only requires recall that there are no high temperature trips on the LPCI pumps needed for injection.</p> <p><u>Response</u>:</p> <p>Changed the LOK to F. Also reviewed the exam to ensure that enough High-level questions are on the RO exam.</p> <p><u>NRC</u>: The question is now SAT.</p>

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			
57	F	3												B	S	2015 NRC Cert Exam; Early Review Submittal Question is #57 on the exam.
58	F	2				✕								B	E	2015 NRC Exam <u>NRC:</u> Distractor A, part 2, does not answer the question asked. <u>Response:</u> Changed distractor A, part 2 from "SRM response is normal for these conditions" to "No limitation on grapple operation". Revised plausibility for Distractor A. <u>NRC:</u> The question is now SAT.
59	F	2												N	S	
60	F	2												N	S	2X2
61	H	3 2										✕		N	E	2X2; Early Review Submittal ; Embedded Reference <u>NRC:</u> Explain how the question meets the K/A, specifically, "Ability to locate," when various indications are given in the distractors; i.e. answers "what lights are lit?" Also, is the reference given in the pedigree correct? DAN 903(2) vs. DAN 902(3)? <u>Response:</u> Replaced question. Question is #61 on the exam <u>NRC:</u> New question is SAT
62	F	2												B	E	2X2 <u>NRC:</u> Distractor D spacing needs to be aligned with the other distractors. <u>Response:</u> Distractor D spacing is correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. <u>NRC:</u> The question is now SAT.
63	F	2												N	S	2X2
64	F	2												N	S	<u>NRC:</u> Distractor D would be more 'visually' balanced as MCC 29-3. Would that be a plausible distractor compared to MCC 39-2? <u>Response:</u> No change made. MCC 39-2 was chosen because it is plausible, since it is the backup supply to the 2/3 battery charger. At Dresden, most power supplies were selected based on cost of copper wiring (i.e. closest to load) versus human factoring. <u>NRC:</u> The question is SAT.
65	H	3												B	E	2X2; 2007 NRC Exam

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			
																<p><u>NRC:</u> The timing of the cues provided in the stem should be clarified by referring to a clock time versus saying "XX minutes later" multiple times.</p> <p><u>Response:</u> Changed the stem of the question to include the times "0910", "0930" (i.e. 20 minutes later), and 0945 (i.e. 15 minutes later). Reworded stem to allow use of these times in a more succinct and grammatically correct fashion.</p> <p><u>NRC:</u> The question is now SAT.</p>
66	F	2												B	S	2009 NRC Exam, 2015 Cert Exam
67	H	3												N	E	<p>2X2</p> <p><u>NRC:</u> The stem statement, "and can not be turned" is unnecessary.</p> <p><u>Response:</u> Made the recommended change.</p> <p><u>NRC:</u> The question is now SAT.</p>
68	F	2				×								N	E	<p><u>NRC:</u></p> <p>a) <i>Editorial:</i> Bullets vs. "?" in stem</p> <p>b) Distractor A says Range 5, but its pedigree says Range 7, which seems more plausible.</p> <p><u>Response:</u></p> <p>a. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p>b. Range 5 is less than range 7, so the distractor is still valid. Additionally, depending on the initial power level, temperature, RPV level, etc. having IRMs fall below range 5 could occur. The key is that the fact that this does not guarantee that the reactor will remain shutdown under all conditions. No change made.</p> <p><u>NRC:</u> The question is now SAT.</p>
69	H	3												B	E	<p>NRC 2012 Exam</p> <p><u>NRC:</u> Distractors C and D should be reduced to simply state the overall reason to be like Distractors A and B. For example, Distractor C should say "NOT be performed to avoid adding positive reactivity." Distractor D should say "NOT be performed to avoid removal of boron."</p> <p><u>Response:</u> Made recommended change and moved answer from C to D for psychometric reasons.</p> <p><u>NRC:</u> The question is now SAT.</p>
70	H	3												N	S	2X2

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			
71	H	3				×								N	U S	<p>2X2</p> <p><u>NRC:</u> Distractors A(2) and B(2) are not plausible, and their plausibility is also unsupported in the pedigree. With 2 implausible distractors, the question is UNSAT.</p> <p><u>Response:</u></p> <p>Shortened and revised distractor A(2) and B(2) to say "95% of noncondensable gases have been transferred from the drywell to the torus". Also revised the stem to add "If Torus Sprays are started" and shortened the answer and distractor "D" to say "steam is bypassing the torus suppression function and entering the torus air space directly."</p> <p><u>NRC:</u> The question is now SAT.</p>
72	F H	3												B	E	<p>2008 NRC Exam</p> <p><u>NRC:</u> The question's stem misalignment (initially) made it too difficult to evaluate. The reformatted version was readable but required one to consider backfeed in addition to recognizing several preferred power supplies for specific conditions (LOK = H).</p> <p><u>Response:</u> Changed LOK to H.</p> <p><u>NRC:</u> The question is now SAT.</p>
73	H	2												N	E	<p>2X2</p> <p><u>NRC:</u></p> <p>a) Distractors A(1) and B(1) are unnecessarily lengthy – "BELOW" is sufficient</p> <p>b) Define 'ERV' when it is first used (Similar to 'DHR').</p> <p><u>Response:</u></p> <p>a. The question was left as worded, except that the word "EQUAL" was removed from the C and D distractors in order to shorten the overall answer. Per the FSAR, the power level will recover to "near" the original power level. Since this power is slightly below the original power level, it allows the potential for two correct answers if the word "BELOW" is used instead of the current wording.</p> <p>b. Defined ERV as requested.</p> <p><u>NRC:</u> The question is now SAT.</p>
74	F	2												B	S	2X2; 2009 Cert Exam
75	F	2				×								B	E	<p><u>NRC:</u> a) Distractor A is implausible and its plausibility support in the pedigree is weak b) It's also implausible that you would not always get Annunciator 902-5 D-3, so it should be included in all distractors and bought up into the stem.</p> <p><u>Response:</u></p> <p>a. Changed plausibility statement</p> <p>b. Made recommended change and re-ordered distractors A and B for</p>

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			
																psychometrics. <u>NRC</u> : The question is now SAT.
76	H	3											X	N	U S	2x2, References provided <u>NRC</u> : a) The question can be answered with RO-level knowledge; by knowing heat removal capacity of the methods in choices A, B, & D (C is not possible due to the loss of power). It does not require applicant to know how to implement DEOP-100 alternate pressure control methodologies, because these choices are valid alternate pressure control methods. b) <i>Editorial</i> : Bullets vs. "?" in stem <u>Response</u> : Replaced question. <u>NRC</u> : The replacement addressed the concerns above (SAT).
77	F	2												N	S	2x2
78	H	3												N	S	2x2, References provided <u>NRC</u> : <i>Editorial</i> : Bullets vs. "?" in stem <u>Response</u> : The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal. <u>NRC</u> : Question submittal was SAT
79	F	2												B	S	2010 NRC Exam
80	F	2												B	S	2011 Cert Exam
81	H	3												N	S U	2X2; Early Review Submittal <u>NRC</u> : Provide DOA 5750-01 as a reference file and provide more details in the pedigree to support the plausibility of those distractors where a transition to it is made. <u>Response</u> : For final submittal all procedures and lesson plans will be included in submittal. Question is # 81 on the exam. <u>NRC</u> : Question submittal was SAT, however, post-exam comments revealed that there were 2 correct answers, and the question was included in the count of unacceptable questions per ES-501.
82	H	3												N	E	Reference provided <u>NRC</u> : DOP 0500-7 was not referenced in DAN 902(3)-5 A-6, or " D-13 " (not found at all in the references provided) as stated in the pedigree. C-12 does say to reset the half

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			
																scram, though no procedural details were provided. Where is the reference to DOP 0500-7 to reset the half-scram? <u>Response:</u> There is no reference in the DAN's to DOP 0500-07. Dresden management expectation is that all equipment operations that are performed in the control room are made IAW a procedure or an equipment status tag, except those manipulations specifically excluded (for example, under OP-DR-108-101-1003, OPERATIONS CRAFT CAPABILITY ACTIVITIES, Attachment A, Approved Operations Craft Capability Activities List; or OP-DR-103-102-1002, STRATEGIES FOR SUCCESSFUL TRANSIENT MITIGATION). Clarified correct answer as to what procedures are used to reset the ½ scram and the rod block. Additionally, made grammatical corrections to the answer and distractors. <u>NRC:</u> The question is now SAT.
83	H	2												B	E	<u>NRC:</u> a) Consider removing the bolding and caps from "which" and "action" from the stem. b) <i>Editorial:</i> Bullets vs. "?" in stem <u>Response:</u> a. Made the recommended change. b. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal. <u>NRC:</u> The question is now SAT.
84	H	3										X		B	E	2017 NRC Exam <u>NRC:</u> Question does not match the K/A – K/A is asking about criteria/conditions that require making plant-wide announcements; while the question does not ask the applicant anything about plant announcements (other than stating the explanation that a mode change requires a plant-wide announcement). The generic K/A intent is not met with this question. <u>Response:</u> Replaced question <u>NRC:</u> New question is SAT
85	F	2												B	S	2012 NRC Exam
86	F	2												B	S	2012 NRC Exam
87	H	2												N	E	2X2; Early Review Submittal ; Reference provided <u>NRC:</u> Provide DOA 500-01 as a reference file and provide more details in the pedigree to support the plausibility of those distractors where a transition to it is made. Also, the

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			
																pedigree contains several typos that need to be addressed. <u>Response:</u> For final submittal all procedures and lesson plans were included in the submittal. One typo was found, please identify if there are others. Question is # 87 on the exam. <u>NRC:</u> Question is now SAT
88	H	2												B	S	2x2, 2016 Cert Exam; Reference provided
89	F	3												B	E	2013 Cert Exam <u>NRC:</u> Answer explanation should include discussion of mild post-accident EQ areas (UFSAR 3.11.1.4.2) and how 10CFR50.49 does not apply to those areas. <u>Response:</u> Added section 3.11.1.4.2 of the UFSAR to the answer explanation. <u>NRC:</u> Question is now SAT
90	H	3												N	E	Reference provided <u>NRC: Editorial:</u> Bullets vs. "?" in stem <u>Response:</u> The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal. <u>NRC:</u> Question is now SAT
91	H	3												N	E	2X2 <u>NRC: Editorial:</u> Bullets vs. "?" in stem <u>Response:</u> The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal. <u>NRC:</u> Question is now SAT
92	F	2												N	S	2x2
93	H	3												N	S	2x2
94	H	3												B	E	2X2; 2016 NRC Exam <u>NRC:</u> Clarify wording in the stem - "the latest time and action required to be directed" is confusing (Possibly - "when must the required action directed below be taken by..."). <u>Response:</u> Revised stem of question, as recommended. <u>NRC:</u> Question is now SAT
95	H	3												B	S	2019 NRC Exam; 2010 NRC Exam; Reference provided

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			
96	H	3				×								N	U S	<p>2x2, Reference provided</p> <p><u>NRC:</u> No correct answer exists - Answer/distractor C and D are the same. Part 2 of answer C should be "limit fission product barrier" as in distractor A.</p> <p><u>Response:</u> Made the recommended changes. <u>NOTE:</u> The wrong version of the question was submitted. The correct version is now in the exam. This would normally be caught during the Corporate REE review of the submittal and the review did not happen due to COVID-19 concerns.</p> <p><u>NRC:</u> Question is now SAT</p>
97	H	2												N	E	<p>2X2; Early Review Submittal</p> <p><u>NRC:</u></p> <p>1) Fix the '?' bullets in the stem.</p> <p>2) The 2nd part of distractors C and D are incomplete. What needs to be done after the interlocks clear, etc.?</p> <p>3) The pedigree's readability needs to be improved.</p> <p><u>Response:</u></p> <p>1) The bullets print normal from Vision, when the test is saved as a Word document some of the formatting is changed. It has been verified that the final version will print as desired.</p> <p>2) The SDC interlocks self-clear when the conditions warrant.</p> <p>3) Unsure what part of the pedigree readability needs to be improved.</p> <p><u>NRC:</u></p> <p>a) Explain distractor explanations once versus repeating information several times</p> <p>b) Explain that "SDC interlocks self-clear" in the pedigree when the applicable distractor applies.</p> <p>c) "?" versus bullets must be addressed in the submittal so the proposed exam in ADAMS is what the students would see (i.e. "ready to be administered")</p> <p><u>Response:</u></p> <p>a. Revised the distractor explanations to avoid repeating information and Bolded NOT in stem of question for readability.</p> <p>b. Added that the SDC interlocks self-clear in the applicable distractors.</p> <p>c. The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner and will be corrected in the next exam submittal.</p> <p><u>NRC:</u> Question is now SAT</p>
98	H	2											X	N	U	2x2

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			
															S	<p><u>NRC</u>: Question is not SRO-only. The question asks equipment location and system knowledge (i.e. the purpose of resetting the generator lockout relay).</p> <p><u>Response</u>: New question was written.</p> <p><u>NRC</u>: The replacement question is SAT.</p>
99	H	3												N	E	<p>2x2. Provided reference</p> <p><u>NRC</u>:</p> <p>a) <i>Editorial</i>: Bullets vs. "?" in stem</p> <p>b) Correct spacing formatting in answer A.</p> <p><u>Response</u>:</p> <p>The bullets are correct in the master copy of the exam. The issue is due to translation problems that occur when processing the exam to send to the Chief Examiner. This will be corrected in the next exam submittal.</p> <p><u>NRC</u>: Question is now SAT</p>
100	H	3												N	E	<p>2x2</p> <p><u>NRC</u>: Stating that "An NSO reported" is unnecessary and should be deleted from the conditions in the stem.</p> <p><u>Response</u>: Made the recommended changes.</p> <p><u>NRC</u>: Question is now SAT</p>

RO TOTALS:	B= 48 M= 0 N= 27	F= 34 H= 41	E= 43 U= 3	Additional Notes: 3/75 = 4% UNSAT
SRO TOTALS:	B= 10 M= 0 N= 15	F= 7 H= 18	E= 11 U= 4	Additional Notes: 4/25 = 16% UNSAT
<u>GENERAL COMMENTS:</u> 1. Bank questions are indicated by B; Modified are indicated by M; New questions are indicated by N 2. There are ____ (RO)/____ (SRO) questions with references/attachments provided.				