

Facility: DRESDEN NUCLEAR POWER STATION

Exam Date: April 18, 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	F	3												B	S	
2	F	2												B	S	<b>NRC Quad Cities 2002 and Dresden 2008</b>
3	F	2												B	E S	<u>NRC</u> : Consider replacing the word "exit" with "evacuate". <i>Done</i>  Pedigree sheet indicates question appeared on 2010 and 2015 NRC exams. Question appeared on the 2011 NRC Exam. <i>Fixed – Reflects only 2011 NRC</i> <b>NRC Dresden 2011</b>  <b>Reference in stem: Diagram of control board indication only</b>
4	H	2				X								N	S	<u>NRC</u> : Applicant should immediately recognize that in Mode 4 (Cold Shutdown), there is no steam pressure for bypass valves or the isolation condenser to be effective at removing heat from the reactor. Therefore, distractors B and C are not credible.

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 "SR-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	Backward	Q=K/A	SRO Only				
																	<u>Response:</u> Question determined to be Satisfactory during on site validation. RX status and water temperature in Mode 4 demonstrate knowledge of a competent candidate. Changed vessel to "RPV"
5	H	3	X					X						B	U S	NRC: The stem lacks sufficient focus to elicit the correct answer in that distractor B could be correct. In addition, the applicants are given a RBV lineup that is not in accordance with DOP 5750-02 with two RB exhaust fans and one RB vent fan running. <u>Response:</u> Changed lineup to make operationally valid stem. With a loss of one RB vent fan (3C) this will cause RB Differential Pressure to become greater.	
6	F	3												B	E S	NRC: This question only requires recall of a lesson objective and does not require higher analysis to answer, therefore it should be coded as fundamental/memory. <u>Response:</u> Now Memory	
7	H	2												B	E S	NRC: The LOD of the question could be enhanced with only one of the channels alarming. This also will result in an isolation of RBV and an auto start of SBGT. <b>NRC Dresden 2009</b> <b>Reference in stem: Diagram of control board indication only</b> <u>Response:</u> Could create double jeopardy with another question on the exam. Believe leaving as is would be appropriate.	
8	H	2												B	S	<b>NRC Dresden 2015</b>	
9	H	3												B	S	<b>NRC Dresden 2017</b>	
10	F	2					X							N	U S	NRC: <b>FREE SAMPLE.</b> Distractor B is a subset of distractor A in that if A were true then B would also require entering TS 3.8.1. In addition, distractor 'D' is implausible; it is unreasonable that an applicant would have the misconception that a higher water level would be adverse to pump operation (and thus EDG operability) since such thinking would be inconsistent with a basic understanding of pump net positive suction head relationships (which is itself a generic fundamentals-level concept). <u>Response:</u> Question revised to remove subset. Replaced distractor D. Updated pedigree for new distractors.	
11	H	3												N	S		
12	H	4												N	E S	NRC: Include 2-220-3 noun name in answer choices.	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	Response: <a href="#">Noun name added.</a>
13	F	2												N	S		
14	F	2											X	N	S		<p><b>NRC:</b> This administrative requirement to notify the TSO is a subsequent operator action in DOA 6500-12 and does not appear to be necessary RO level knowledge. Does a specific RO level learning objective exist for this?</p> <p>Response: <a href="#">This is an RO objective.</a></p>
15	H	3				X								N	S		<p><b>NRC:</b> Fuel Zone level indication is designed to accurately reflect level when water level is below TAF, a condition which will occur after reactor recirculation pumps would have tripped due to ATWS-RPT logic (&lt; -60inches). Therefore fuel zone level is expected to be accurate with no RR pumps running. As such, distractors B and D can be disregarded as this transient would not be expected to cause the difference in level indication to become larger with no RR pumps running.</p> <p>Response: <a href="#">Question determined to be Satisfactory during on site validation. Knowledge that the FZ level instruments are affected by the status of RR pumps demonstrates knowledge of a competent candidate. The stem indicates the RR pumps are tripped. FZ level instruments also reflect level prior to TAF.</a></p>
16	F	2				X								N	S		<p><b>NRC:</b> Distractor D is not credible for average air temperature in the Drywell under normal conditions when considering environmental quality of equipment in containment.</p> <p>Response: <a href="#">Distractor determined to be credible during on site validation due to 281F being the design basis for the drywell. Blowdown is not required until 338F.</a></p>
17	H	4												B	S		<b>NRC Dresden 2015</b>
18	F	2		X										N	U S		<p><b>NRC:</b> 1) Choices 2 and 3 (correct answers) can be related, and thereby choices 1 and 4 eliminated, without reading the question. 2) Question is a basic fundamentals question to recall indications of low NPSH (cavitation). 3) Recommend having applicants determine based off of given control board indications, for example.</p> <p>Response: <a href="#">Changed answer and distractors to 3 of 4 format to eliminate concern with related distractors. Revised pedigree to reflect new answer/distractor format.</a></p>
19	H	2												B	S		<b>NRC Dresden 2011 and 2015</b> <b>Reference Provided in Stem (HCTL Curves)</b>

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20	H	3				X								B	E S	<p><u>NRC</u>: Distractor C is not credible and its explanation appears to be contrary to DOA 0600-01 in that if RPV level is set as follows when level is &lt; -30; "<u>AFTER</u> one (1) second, <u>THEN</u>: ... <u>IF</u> reactor water level is &lt; -30 inches, <u>THEN</u> MASTER/Low Flow FWRV demand changes as necessary to maintain reactor water level at the setpoint setdown setpoint." Therefore, a more credible distractor would state after one second, they will position to maintain RPV level at -10 inches.</p> <p>Justification for distractor B is an incomplete thought and needs to be made more clear.</p> <p><u>Response</u>: -10" is new distractor. Completed thought for B justification</p>
21	H	2												N	E S	<p><u>NRC</u>: Spell out the word pumps in the stem.</p> <p><u>Response</u>: Revised stem as directed.</p>
22	H	3												B	S	<p><b>NRC Dresden 2012</b> <b>Reference in stem: Diagram of control board indication only</b></p>
23	H	2												B	E S	<p><u>NRC</u>: Reword "Bus 34-1 goes overcurrent" (ex. "Bus 34-1 experiences an overcurrent condition" or "An overcurrent condition occurs on Bus 34-1")</p> <p><u>Response</u>: Revised stem as suggested.</p>
24	H	3												B	S	<p><b>FREE SAMPLE.</b></p>
25	F	2												B	S	<p><b>NRC Dresden 2006</b></p>
26	F	2				X								B	E S	<p><u>NRC</u>: Distractor D is not credible as hot reactor water leaking into the IC shell or operation of the heat exchange process with a three valve leak would clearly heat up the shell water.</p> <p><u>Response</u>: Revised distractor D as agreed during on site validation.</p>
27	H	3				X								B	U S	<p><u>NRC</u>: If the applicant can determine the correct answer for Part 1 (only vortex limits are exceeded), then part 2 is irrelevant. The applicant only needs to know 1/2 of the question to determine the correct answer. A true 2x2 question would remedy this.</p> <p>Distractor analysis indicates that if both NPSH and Vortex limits were exceeded the CS pump would have to be shutdown. This appears to be contrary to EOP DEOP-</p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	TB, which states "The NPSH and Vortex Limits are implemented as a caution rather than explicit operating limits to provide necessary event-specific flexibility and to avoid potential conflicts between concurrent parameter control paths: • It is difficult to define in advance exactly when NPSH and Vortex Limits should be observed and when pumps should be operated irrespective of the limits."  <i>Reference Provided attached to exam (DEOP 100 redacted)</i>  Response: Revised part 1 of distractor A to Vortex limits ONLY. NPSH limits must be evaluated to determine correct answer. Flooding of containment would be required by the SAMGs if the pump was secured.
28	H	3	X											B	U S	NRC: If the applicant can determine the correct answer for Part 1 (what is supplying the ESS Bus), then part 2 is irrelevant. The applicant only needs to know ½ of the question to determine the correct answer. A true 2x2 question would remedy this.  In Bullet 2, the word action should not be plural.  Response: Revised to 2x2 format. Revised bullet 2. Replaced 'its' after ESS Bus with 'the'.	
29	H	2												B	S		
30	H	2												N	S		
31	F	4												B	S		
32	H	2		X										N	E S	NRC: Distractor D appears to cue that it is incorrect in that it states "rod withdrawal and insert blocks to stop erroneous withdrawal of a control rod." Perhaps wording the distractor "erroneous movement of a control rod" would serve to eliminate cuing in this instance.  Withdrawal is spelled incorrectly in all answer choices.  Response: Corrected spelling errors. Revised distractor D as suggested.	
33	F	2												N	S		
34	H	2	X											N	E	NRC: Need a comma after 902-4 C-22, for exam consistency.	

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																	Should simplify 2 <sup>nd</sup> bullet – “902-3 panel, LI 2-1602-3, Torus Narrow Range Level, indicates +1.0 inches”, for example.  K/A IR for the RO is incorrect in pedigree – RO 3.9  <u>Response:</u> Revised question as suggested. RO pedigree IR corrected.
35	H	2	X				X							B	S		<u>NRC:</u> Distractor D is not plausible in that a single IRM HI HI would affect both channels of RPS. In addition, if this were plausible, the question stem would require the condition of the mode switch to be included at the time of the startup.  <u>Response:</u> Applicant is required to deduce the position of the mode switch at this point. Which makes D plausible if the shorting links are not installed.
36	F	4	X				X			X				N	S		<u>NRC: FREE SAMPLE.</u> Knowing the panel designation where a particular indication within the control room is located represents a level of detail that is too specific for a closed-book written examination.  Will distractor D, 902-5, A-1 condition come in before IA header pressure reaches 55 psig? In addition the stem indicates that Division II bus 26 is OOS and then states that the 2B IAC tripped, should this be the 2A IAC?  <u>Response:</u> Question determined to be Satisfactory during on site validation. Immediate Operator action from DOA. It is still possible for 902-5 A-1 to come in prior to 55 psig on the gauge however, this is subsequent actions of DOA and monitoring of actual IA pressure is on the 923-1 Panel. Aligned case assignment of the word “Panel”.
37	H	3					X							B	S		<u>NRC:</u> Distractors A & B are not plausible as they are AC power supplies. Enhancement as this was a previously approved NRC exam question. <b>NRC Dresden 2011</b>  <u>Response:</u> Question determined to be Satisfactory during on site validation. Distractors are plausible because they are power supplies directly related to ERVs.
38	F	2					X							B	E S		<u>NRC:</u> Combine stem statements and reword to state: “On a loss of off-site power (LOOP) concurrent with a loss of coolant accident (LOCA), loads are sequenced onto the Emergency Busses because the ...”  Distractors C and D need better explanations for why they are credible. The explanation provided centers around the EDG not having an emergency trip for

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	OVERLOAD. This is unrelated to LPCI/CS pump performance or LPCI Loop Select logic. <b>NRC Dresden 2010</b>  <u>Response:</u> Revised distractor explanations for C and D. Revised stem as suggested.
39	H	2				X								N	E S		<b>NRC:</b> Distractor A is not credible as the stem of the question indicates that a U2/3 DIESEL GEN TROUBLE alarm has been received. It is not credible that the applicant will believe that the U2 EDG is running without cooling water and the U2/3 EDG is running normally. Indicating that the 2/3 EDG is running without cooling water and the U2 EDG is running normally is more credible.  <u>Response:</u> Revised distractor A. Revised pedigree to align. Added title of DOS 6600-08 Attachment A to stem. Added the word pumps to choices B, C, and D.
40	H	2		X		X								B	S		<b>NRC:</b> The SBTG system is the only component listed that could be impacted by the fact that one of the Reactor Building Vent Rad Monitors is out of service. Since all the other components are not affected by the RB Vent Rad Monitors it is easy to conclude that there is more to the question than simply the loss of Bus 29.  Distractor B is not a credible distractor as this pump would not be running with the plant at rated conditions. While it would certainly lose power if bus 28 were lost under these conditions, as a piece of equipment solely used during shutdown, it is not likely an applicant would be inclined to select this answer.  <u>Response:</u> Question determined to be Satisfactory during on site validation. A pump does not need to be running to lose power, in addition an RVCU isolation will occur due to HELB isolation on loss of Bus 29. No stem cueing occurred due to RB Vent Rad OOS. If the correct answer were a distractor this information would be included in the stem to make it plausible.
41	H	3												B	S		
42	H	2												B	S		<b>NRC Dresden 2010</b>
43	F	2				X						X		N	E S		<b>NRC: FREE SAMPLE.</b> Distractor B is not plausible as there is no condition that the plant would be maintained critical with no reactor recirculation pumps running.  With only one active alarm, how is the ability, to <u>prioritize</u> , tested? <u>Response:</u> Added two additional annunciators to stem. Changed distractor to address criticality with no recirculation pumps operating. Enhanced K/A justification.

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44	H	2	X										X		N	S	<p><u>NRC</u>: The question tests knowledge of the RPS trip set-point. The "cause/effect" is given in the stem and not required to answer the question.</p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation. The question tests the candidate knowledge of the cause-effect based on system actuation.</p>
45	F	2													B	S	<p><u>Response</u>: Added word "is" to stem. Removed previous choice 3, moved 4 and 5 to 3 and 4 respectively and aligned answer and distractors to new numbering scheme.</p>
46	F	2													B	S	<p><u>NRC</u>: LOD 1. Does not adequately discriminate for operator competency. Effectively asking for three inputs of 3 element level control.</p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation.</p> <p><u>NRC</u>: Question was reassessed as LOD=2.</p>
47	H	2													N	S	
48	F	4													N	S	
49	F	4						X							N	S	<p><u>NRC</u>: Some Extraction Steam AOVs will fail open and some will fail as is. Extraction steam non-return check valves have air operators, but will continue to operate normally until the turbine trips.</p> <p>In the answer explanation (B) it states that the valves fail open to prevent a turbine trip. Explain</p> <p><u>Response</u>: Turbine is designed to operate without feedwater heaters without undue stress on any part of the turbine. The valves fail open to prevent turbine trip based on feedwater heater level.</p>
50	H	3													N	E S	<p><u>NRC</u>: Applicant has to assess plant conditions (number of on-service demineralizers vs. total number and then assess how to respond to a high differential pressure across the demineralizers.</p> <p><u>Response</u>: Changed to High. Replaced damaging with channeling for choices A and D.</p>
51	F	2													B	S	<b>NRC Dresden 2012</b>
52	F	2													N	S	



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53	H	2	X											M	S	<p><u>NRC</u>: If this is an electrical ATWS, why wouldn't control rods be inserting after ARI has been initiated?</p> <p>This question was modified from a question on the 2010 NRC exam in that a significant condition in the stem changed (was not an ATWS in the original question) and therefore the answer changed.</p> <p><b>NRC Dresden 2010</b></p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation. This is possible because the failure of ARI to work does not mean the valves repositioned. Given the information the candidate can definitively determine there is an electrical atws – Example: pulling of ATWS-ARI Fuses.</p>
54	H	2												B	S	<p><u>NRC</u>: FREE SAMPLE.</p> <p><b>NRC Dresden 2010</b></p>
55	F	3									X			B	E S	<p><u>NRC</u>: Per ES 401, D.2.a Tier 3 questions should not be an extension of Tier 2 systems knowledge. In this instance, specific knowledge of the Nuclear Instrumentation Tech Spec is required. A question about the 3.0 (motherhood) TS would be acceptable in meeting the KA.</p> <p>In addition, answering this question only required memory/fundamental knowledge.</p> <p><u>Response</u>: Question determined to only require an enhancement during on site validation. LOK revised. Question covers the generic Tech Spec concept of adding a 25% grace period to late surveillance criteria.</p>
56	F	3									X			B	E S	<p><u>NRC</u>: Per ES 401, D.2.a Tier 3 questions should not be an extension of Tier 2 systems knowledge. This KA specifically asks for a system based question. As a result, it will need to be replaced. Recommend replacing with randomly selected KA 2.2.12, Knowledge of surveillance procedures.</p> <p><u>Response</u>: Question determined to only require an enhancement during on site validation. Added "stored" to stem. Required shielding for irradiated fuel considered a generic topic of Technical Specification requirements.</p>
57	F	3	X								X			B	E S	<p><u>NRC</u>: Per ES 401, D.2.a Tier 3 questions should not be an extension of Tier 2 systems knowledge. In this instance, specific knowledge of the Torus water level Tech Spec is required. 3.0 TS are appropriate for a tier 3 question.</p>

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																	The stem has two 2) bullets. The Torus water level Technical Specification should be listed as 3)  <u>Response:</u> Question determined to only require an enhancement during on site validation. Corrected the bullet numbering error.
58	F	2												B	S		<b>NRC Dresden 2006</b> <u>Response:</u> Reworded stem to include "being administered as part of their Annual Requal Exam"
59	F	2												N	S		<u>Response:</u> Reworded stem to include "due to a loss of high pressure feed". Fixed typo in pedigree to reflect D as correct answer.
60	F	3												B	S		<b>NRC Dresden 2015</b>
61	F	2												N	S		
62	H	3												N	S		
63	F	2												N	E S		<b>NRC:</b> No analysis or evaluation is required. This is an expected response for any Sec Ct area temperature above MAX NORMAL.  Second bullet is awkwardly worded.  Answer explanation for 'D' should specifically include reference to OP-DR-103-102-1001 since this response is not required by the DEOP.  <u>Response:</u> Revised second bullet as suggested. Revised LOK. Added OP-DR reference. Reworded stem to replace "to operate" with "of".
64	F	2												N	S		
65	H	3												N	E S		<b>NRC:</b> Distractor explanations incorrectly indicate D instead of C as correct answer.  The first sentence of the stem needs to specify in which system the AHU is running; e.g., the sentence should start out with "With regards to the Control Room HVAC system ..." OR "...with the Control Room HVAC 'A' AHU running."  <u>Response:</u> Added control room ventilation to stem for clarity. Revised answer explanations.

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66	F	4								X					N	S	<p><b>NRC: FREE SAMPLE.</b> Knowing the panel designation where a particular indication within the control room is located represents a level of detail that is too specific for a closed-book written examination.</p> <p><b>Response:</b> Question determined to be Satisfactory during on site validation as this is a panel/component that a licensed RO would be expected to take regular logs on as a part of their licensed duties.</p>
67	H	3	X												B	S	<p><b>NRC:</b> As the operator will have to reset a half scram once the RPS bus is reenergized, the stem should indicate "What is the initial required operator action?"</p> <p><b>NRC Dresden 2011</b></p> <p><b>Response:</b> Question determined to be Satisfactory during on site validation.</p>
68	H	3													B	S	<p><b>Response:</b> Added note to explain operation of the 1402-24A/B valves and CS Logic description.</p>
69	H	2		X		X									N	S	<p><b>NRC:</b> Distractor A is not credible with both APRM 1 and 6 having 11 out of tolerance inputs.</p> <p><b>Response:</b> Question not revised based on discussion during on site validation.</p>
70	F	3										X			B	S	<p><b>NRC:</b> Question indirectly addresses battery charging/discharging rates as it covers loss of a battery charger. Only requires fundamental knowledge of what power supply supports which battery charger.</p> <p><b>NRC Dresden 2011</b></p> <p><b>Response:</b> Question determined to be Satisfactory during on site validation. Applicant must also understand that loss of charger will cause discharge and lowering voltage of battery affected. Corrected power supply in pedigree for 3B 250 VDC BOP Battery Charger.</p>
71	F	2				X									N	E S	<p><b>NRC:</b> Distractor A is not credible as HPCI is initially aligned to the CST as a suction source, and there would be no reason to separate NPSH concerns for HPCI as compared to the low pressure ECCS pumps in distractor B. Perhaps a distractor that focuses on water level providing seismic stability for the downcomers.</p> <p><b>Response:</b> Question determined to be Satisfactory during on site validation. The candidate must have knowledge of the normal HPCI lineup. HPCI can be lined up to Torus, although not the normal line up. Enhanced distractor B plausibility.</p>

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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			
72	H	4												N	S	<u>Response:</u> Added EPNs for valves.
73	F	2										X		B	E S	<p><u>NRC:</u> Per ES 401, D.2.a Tier 3 questions should not be an extension of Tier 2 systems knowledge. In this instance, specific knowledge of the HPCI Tech Spec is required. 3.0 TS are appropriate for a tier 3 question.</p> <p>Change FRAGNET to work window or out of service period, something that will be clearly understood by the applicants.</p> <p><b>NRC Dresden 2015</b></p> <p><u>Response:</u> Replaced with randomly generated K/A provided by NRC to meet Tier 3 criteria. Question has been replaced.</p>
74	H	2												N	S	
75	H	2				X								N	U S	<p><u>NRC:</u> The stem clearly indicates a HPCI leak outside primary containment. There are no adverse primary containment conditions that exist in the stem, therefore distractors A and D are not credible for the applicant to believe that DEOP 200-1 entry conditions are met.</p> <p><u>Response:</u> Changed formatting of question to make candidates select from a series of DEOPs. Changed X-area temp and value to Drywell temp and a lower value. Changed DEOP 300-1 rad levels to below max safe. Changed pedigree to match.</p>
76	F	2										X		B	E S	<p><u>NRC:</u> <b>FREE SAMPLE.</b> KA statement listed in pedigree does not match NUREG 1123 KA for generic 2.1.40, Knowledge of refueling administrative requirements. Question is still considered a KA match.</p> <p><b>NRC Dresden 2008</b></p> <p><u>Response:</u> Wording has been corrected in pedigree</p>
77	F	2					X							B	E S	<p><u>NRC:</u> <b>FREE SAMPLE.</b> Distractor D includes the actual requirement that the performed shift activities must be under the direction of an operator or senior operator and in the position to which the individual will be assigned. The correct answer does not include this requirement. The correct answer should include this requirement to be fully accurate and distinguishable from a distractor which includes it.</p> <p><b>NRC Dresden 2008</b></p> <p><u>Response:</u> Revised correct answer to include requested information</p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
78	F	3				X								B	E S	<p><u>NRC</u>: Recalling whose permission is required for a radioactive release under certain plant conditions is fundamental knowledge.</p> <p>The justification for the SOS approval seems inadequate, as it is abnormal that the SOS would verify calculations associated with a release.</p> <p><b>NRC Dresden 2015</b></p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation. The SOS distractor has been enhanced. Revised LOK.</p>
79	F	2												B	S	<p><u>NRC</u>: The distractor analysis is confusing and seems to be inaccurate in that contrary to TS LCO Bases 3.8.1, it implies the U2 EDG is not required.</p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation. The distractor analysis I taken directly from the TS LCO Bases.</p>
80	H	2										X		B	S	<p><u>NRC</u>: With DEOP 200-1 provided, it would only require RO knowledge of DEOP entry conditions to correctly answer the question. The flow chart provides all the other information the applicant would need making this also LOD 1.</p> <p><b>NRC Dresden 2010</b> <b>Reference Provided (DEOP 200-1 with entry conditions blanked out)</b></p> <p><u>Response</u>: Question determined to be left as is during on site validation. LOD 2. Requires analysis, decision making and direction of DEOP action steps. SRO level knowledge.</p>
81	F	2										X	X	B	U S	<p><u>NRC</u>: <b>FREE SAMPLE</b>. This question is considered UNSAT as it does not meet SRO only criteria in that contrary to ES-401, Attachment 2, Figure 2-2, the question can be answered <i>solely</i> by knowing "systems knowledge" (how the system works, flowpath, logic, component location).</p> <p><b>NRC Dresden 2015</b></p> <p>NUREG-1021 ES-401, section D.2.a, states "ensure that the questions selected for Tier 3 maintain their focus on plantwide generic K/As and do not become an extension of Tier 2." Tier 2 of the written exam outline consists of plant systems topics. Eliminating the distractors and selecting the correct answer for this question</p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
																appears to require the application of knowledge that is associated with Tier 2 topic 207000 (Isolation Condenser).  <u>Response:</u> Replaced with randomly generated K/A provided by NRC to meet Tier 3 criteria. Question has been replaced.
82	H	2				X								N	S	<u>NRC:</u> Distractors A and B are not credible, as raising recirculation pump flow is not an initial action taken on a reactor power transient. In addition, with the plant initially at 100% power, 2B RR pump speed would already be near maximum demand.  <u>Response:</u> Question determined to be Satisfactory during on site validation. Recovery with QNE concurrence is allowed to exit the BSP proximity region by increasing flow per Dresden Abnormal Operating Procedures. At full power RR pump speed is approximately 85%
83	H	2												N	E S	<u>NRC:</u> Extra spacing after 902-5 A-1 alarm and "is received"  <u>Response:</u> Revised as suggested.
84	H	3												N	S	<b>Reference Provided (EP-AA-1004 Addendum 3)</b>
85	H	3												N	S	<u>NRC:</u> FREE SAMPLE. None.
86	H	2												N	E S	<u>NRC:</u> Answer choice C has the word <i>control</i> misspelled.  <u>Response:</u> Spelling error corrected.
87	H	3												N	S	
88	H	2	X											N	U S	<u>NRC:</u> Stem does not specifically ask what EOP entry criteria is met.  Question stem asks for EAL thresholds and classification, however, all distractors and answer only address EAL classification and do not address the threshold.  <u>Reference:</u> Reference Provided (DEOP 300-1 and previously provided EP-AA-1004) <u>Response:</u> Removed DEOP classification from stem. Changed one distractor to RU3. Changed references required to reflect EP-AA-1004 Addendum 3

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
89	H	3												N	S	Reference Provided (TS 3.3.1.1)
90	H	2												B	S	NRC Dresden 2015
91	H	3												N	S	
92	H	3												N	S	
93	F	3												N	S	
94	H	4	X					X						N	S	<p><u>NRC</u>: Distractor C could be correct as there is no indication in the stem with regards to whether any injection sources are operating. DEOP 100 would have the operator blowdown prior to reaching MSCWL if an injection source is running or enter DEOP 400-3 if none are running once TAF is reached.</p> <p><u>Response</u>: Question determined to be Satisfactory during on site validation. Candidates are directed to assume plant functions as designed (Appendix E). The stem provides multiple parameters that would cause an ECCS initiation signal and none that would prevent available ECCS systems from operating. Only after making these determinations can the candidate make an informed decision and arrive at the correct answer.</p>
95	H	2												N	S	
96	H	2	X											N	E S	<p><u>NRC</u>: The word <i>the</i> appears twice in the statement, "Over the next 3 minutes..."</p> <p><u>Response</u>: Stem revised as suggested.</p>
97	H	3	X											N	E S	<p><u>NRC</u>: Should the question indicate that the surveys have existed for over 60 minutes or are expected to exist for at least 60 minutes in order to trip the EAL threshold for a field survey?</p> <p><b>Reference Provided (Site map and EP-AA-1004 Addendum 3)</b></p> <p><u>Response</u>: Revised stem to provide that the dose rates are as measured by a field survey which satisfies the requirement for EAL classification.</p>
98	H	4												N	S	
99	H	3		X		X								B	U S	<p><u>NRC</u>: Is there any scenario when Automatic FWLC would by design lower RPV water level to -35 or - 55 inches? If not distractors A and C are not plausible.</p> <p>Distractor D does not indicate in manual or automatic operation of the FWLC system, serving as a cue this is not a plausible distractor.</p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
																	<a href="#">Response:</a> Revised answers and distractors to 2x2 format and to align with operating procedures and EOP basis. Added bullet to stem to indicate immediate operator actions for an ATWS have been completed to for clarity of plant conditions..
100	H	2												N	S		

<b>RO TOTALS:</b>	B= 39	F=35	E= 22	
	M= 1	H=40	U= 5	Additional Notes: 6.7% of RO Questions assessed as unsatisfactory.
	N= 35	N=18(HCL)		
<b>SRO TOTALS:</b>	B= 8	F=6	E= 8	
	M= 0	H=19	U= 2	Additional Notes: 8% of SRO Questions assessed as unsatisfactory.
	N= 17	N= 16 (HCL)		
<b><u>GENERAL COMMENTS:</u></b>				
1. There are <u>5</u> (RO) / <u>5</u> (SRO) questions with references/attachments provided.				
2. Questions from the previous 2 NRC Exams: <u>1</u> (RO) / <u>0</u> (SRO)				
3. Average difficulty is <u>2.52</u> on the RO exam and <u>2.56</u> on the SRO exam.				