

DAVIS-BESSE 2011 PROPOSED INITIAL EXAM REVIEW

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	H	3												B	S	
3	H	3												B	S	
4	H	2												N	S	
5	H	3												B	S	
6	H(F)	3												N	S	RESPONSE: LOK changed to Higher
7	F	2												N	S	
8	H	3	X									NO		B	U	<p>K/A related to how Pressurizer Pressure is affected by a failure/malfunction of controllers/positioners. Question does not address controllers or positioners.</p> <p>There is no time frame to the question. Don't like the word 'leaking' in the stem; wasn't sure if it meant leaking by or leaking into cnmt. This will result in different answers. D for leaking by and C if leaking into cnmt. (Carl)</p> <p>RESPONSE: Replaced question with one that matches K/A.</p>
8R	H	3												N	S	<p>Need more detail in distracter explanations as to why valve/heater conditions are as stated.</p> <p>RESPONSE: additional detail added.</p>
9	H	2			×	×								N	U E	<p>The last sentence in the stem in () should specify the "emergency boration" boron concentration and flowrates are the same for each case. (Carl)</p> <p>RESPONSE: The words "emergency boration" were added.</p> <p>Distracters 'A', 'B', and 'D' are false statements independent of the stem of the question stem.</p> <p>RESPONSE: After further discussion with the facility, decided that stem, with enhancements/simplification, was needed to answer the question.</p>
10	H	3												N	S	
11	H	3												M	S	

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12	H	3												B	S	
13	H	3				X								N	U	Verify identified answer with prints or vendor manual. Distracters 'B' and 'D' not very credible since applicants should readily recognize that the voltage regulator control is not used to adjust speed.
13R	F	3												N	S	RESPONSE: Second part of question rewritten to ask whether operator will be able to make physical adjustments or not instead of asking which control switch is used.
14	H											NO		N	U	There is no loss of vital AC instrument bus, and inverters continue to operate in their normal configuration since inverters are not transferred as part of the load shed in this configuration. RESPONSE: Question rewritten to establish conditions to require manual transfer to the alternate AC source.
14R	H	3												N	E	Delete first sentence from distracters 'B' and 'D' RESPONSE: First sentences deleted as requested.
15	F	3												B	S	
16	H	3										NO		B	U S	K/A asks for the effect on Nuclear Service Water (NSW) from a loss of CCW. Questions relates to impacts on loads from a partial loss of NSW. RESPONSE: Normally two trains of NSW in operation, with one train supplying essential (primary loads) and other train supplying secondary loads with no or minimal flow through the CCW Hx. With loss of operating CCW train the standby train will start and attempt to supply both primary and secondary loads resulting in a low pressure condition which isolates secondary loads from primary. If power were available Circ Water would automatically supply secondary loads. I don't think distracters A and D are plausible with Backup Service Water Pump unless it will be fed from a D/G. (Carl) RESPONSE: After discussion decided to leave distracters as is. Ambient temperature value in stem raised to 85 degrees, to eliminate potential for one train to supply both essential and secondary loads.
17	H	2												B	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
18	H	3												B	S	
19	H	3												B	S	
20	H	3				X								N	E S	Distracter 'A' doesn't seem credible given the symptoms. <i>RESPONSE: After discussion with facility no changes made to question.</i>
21	H	2												N	E	If tank curves for T10 and T59 are going to be provided, then include tank levels in the stem. <i>RESPONSE: Stem will be revised to include tank level for T59, and removed T10 from provided references.</i>
22	H	2				X						NO		B	U	Question does not match K/A; operation of charging pumps has no impact on answer. <i>RESPONSE: Replace question with one requiring operator response to a malfunction.</i> Distracter 'D' not credible since pressurizer level does not input to letdown isolation logic. Consider changing second part to "makeup flow maximized" or something similar (e.g., standby MU pump start?). <i>RESPONSE: If you assume pressurizer level drops off scale, SCM would be lost and an SFAS actuation will take place.</i> Should also provide trend info for PZR Level (e.g., trending to program) It seems like this is a very easy question because all you have to know is how far does Pzr level fail following a Rx Trip. (Carl)
22R	H	3												N	S	<i>Revise distracter 'B' explanation to state that makeup flow will lower (not rise).</i> <i>RESPONSE: Change made as requested.</i>
23	F	3	X											N	E	Add the word "compensated" after UNDER. <i>RESPONSE: Corrected by inserting the word "compensated".</i>
24	F	3												B	S	

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25	H		X					X					YES	N	U E	Don't believe 2012B is operable as long as maintenance is being performed. Question appears to be SRO only. <i>RESPONSE: As long a clutch is not engaged the valve will not move during handwheel replacement. Removes operability concern therefore not a SRO Only question.</i> <i>Stem will be revised to state that DB-OP-01001, Administrative Controls of Containment Isolation Valves has been implemented.</i>
26	H	3												B	S	
27	H	3												B	S	
28	F	2												B	S	
29	H	3												B	S	
30	F	2												B	S	
31	F	2												B	S	
32	F(H)	2												B	S	<i>RESPONSE: LOK changed to Fundamental</i>
33	H	2				X								N	U E	Distracters 'B' and 'D' not credible since can't have one part without the other. <i>RESPONSE: Pressure is at a value where there could still be a Nitrogen bubble which makes 'B' and 'D' credible.</i> Doesn't provide enough info regarding the condition of the Pzr. It should specify if the Pzr is saturated. (Carl) <i>RESPONSE: Changed Pzr Temp value to indicate saturated conditions in pressurizer.</i>
34	F	3												N	S	
35	F	2												N	S	
36	H	2												N	S	
37	H	3												B	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
38	H	2				X								N	E	Suggest listing ARTS first in distracter 'C' <i>RESPONSE: Rearranged distracters in order of expected occurrence.</i> <i>During review the facility identified that the correct answer was incorrectly identified. Issue corrected.</i>
39	F	2												B	S	
40	F	2												B	S	
41	H(F)	3										NO		B	U	K/A is related to a loss or malfunction of the Containment Cooling System. Question is written to identify effect of a steam line break which does not equate to a loss or malfunction of the Containment Cooling System.
41R	H	3												N	S	<i>RESPONSE: Question rewritten to postulate a loss of Containment Cooling without steam break.</i> <i>Change LOK to H(igher)</i>
42	H	4				X								N	E	Recommend removing the reference to the Gov Mode Select Switch from part 2 of distracter 'D' Recommend replacing part 2 of distracter 'A' with an action that is more related to EDG speed. <i>RESPONSE: Question revised to incorporate recommendations.</i>
43	F	3												N	S	
44	H	2												N	S	
45	H	3												M	S	
46	H	3												B	S	
47	H	3												N	S	
48	H	3												B	S	
49	H	2										NO		N	U	K/A is associated effects on parameters from manipulation of system controls. Question does not involve operation of controls. Question is related to automatic response to Reactor Trip.
49R	H	3												N	S	<i>RESPONSE: Revised to change loss of DC to supply breakers.</i>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
50 <i>50R</i>	F <i>F</i>	1 <i>2</i>	X											N <i>N</i>	U <i>S</i>	The second part of the question is LOD 1. <i>RESPONSE: Eliminated second part of question. First part of question rewritten to ask how capacity of battery is affected after load shedding completed.</i>
51	H	3												N	S	Typo in stem "(3) Following" <i>RESPONSE: corrected.</i>
52	F	2												N	S	
53 <i>53R</i>	H(F) <i>H</i>	2 <i>3</i>										NO		B <i>N</i>	U <i>S</i>	K/A is not related to a loss or malfunction, but asks for impacts associated with operating system controls. <i>RESPONSE: Licensee's initial position was that SFAS actuation (automatic) is an operation of the controls. After further discussion licensee agreed to rewrite question.</i>
54	H	2			X									N	U <i>S</i>	Question can be answered without the stem. Answer choices are a series of T/F statements. <i>RESPONSE: Comment withdrawn after further discussion and review with facility.</i>
55	F	2												N	S	
56	H	3												B	S	
57	F	3												N	E	Suggest rewording question – "Assuming that adequate SCM currently exists, which of the following would require you to monitor SCM using the Incore Thermocouples?" <i>RESPONSE: Question revised to incorporate recommendations.</i>
58 <i>58R</i>	F	1												N <i>N</i>	U <i>S</i>	Unless there is something unique about the power supply to these fans, this question needs to be revised so that it is not simply the recall of the power supply. Suggest replacing KA <i>RESPONSE: Reselect system and K/A. There is no CRIS system at Davis-Besse.</i>

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59	F	1										NO		B	U	K/A has two parts, location and interpretation. There appears to be nothing specific in the question related to Hydrogen Recombiner and Purge Control system. Consider replacing. <i>RESPONSE: Reselect A4 K/A and replaced with new question.</i>
59R	H	3												N	S	
60	H	3				X								N	E	What makes 'A', 'B', and 'C' wrong? Distracter 'D' is the only choice that stands out as different and unique, leading to it as the most probable answer. <i>RESPONSE: Consider reworking distractors to balance the Fuel Handling Operations. Distractors revised.</i> Will the supply fan raise pressure enough to actually raise level enough to overflow the pool? <i>RESPONSE: Yes, there is a 6.5" H2O pressure change and only about 3-4" margin to overflow.</i>
61	H(F)	3										NO		N	U S	It seems that neither valve is controlled automatically by temperature. <i>RESPONSE: There are no automatic temperature control valves associated with Spent Fuel Pool Cooling at Davis-Besse. Question retained but K/A changed to K1.02</i>
62	F	3				X								B	U	Does not appear to be any correct answer. Radiation monitor referenced in question provides indication only and does not trigger any automatic actions. <i>RESPONSE: Question revised to use a different radiation monitor which triggers automatic actions.</i>
62R	F	2												M?	S	
63	F(H)	3	X											N	U	While the O2 level is greater than the TS limit, the O2 level is not high enough to support flammability? <i>RESPONSE: Question rewritten to reflect application Tech Spec requirements.</i>
63R	F	3												N	S	
64	F	2												N	S	
65	F	2												N	S	
66	H	2												N	S	

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
67	F	2												N	S	
68	F	1												N	E	Remove the definition of "Procedure Correction" from question stem <i>RESPONSE: Definition removed.</i>
69	F	2												N	E	Recommend removing one of the three parameters from the question <i>RESPONSE: Enhanced existing distracters to eliminate trivial differences.</i>
70	H	2												B	S	
71	H	3												B	S	
72 <i>72R</i>	F <i>F</i>	4 <i>3</i>										NO		N <i>N</i>	U <i>S</i>	What is the radiological safety principle being tested? <i>RESPONSE: Question rewritten to apply knowledge of reasons for the structure of certain EOP activities as they relate to radiological conditions.</i>
73	F	2												N	S	
74	F	2												N	S	
75	H	3												B	S	
																13/75=17% Unsat
1(76)	H	2												N	S	
2(77)	H	3												B	S	

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3(78)	H	2		X		X								N	E	<p>Part (1) of the question is RO level of knowledge and matches the K/A. Part (2) which makes this a SRO level question is not related to the K/A.</p> <p>Plant conditions in question stem set up a leak or rupture of SG. In question stem, second part of question asks about UFSAR info for a Steam Generator <u>Tube Rupture</u>. Answer is a cued in question stem!</p> <p>Also, with 2 in/min drop in MUT level, 1 gpm leak rate does not seem a plausible distractor. How many gal/in in pzzr? Change 1 gpm leak rate distractor for incorrect gal/in in pzzr! (½ twice)</p> <p><i>RESPONSE: Change in MUT level in part one has no relationship to the flow rates referenced in part two, they are independent questions. Therefore no changes made to the flow rates in the distractors. Part two of the question wording changed to prevent telegraphing the answer.</i></p>
4(79)	H	2				X								N	E	<p>Multiple correct answers? Declaring Off-Site AC Sources inoperable requires performing SR 3.8.1.1? Right?? Or are you required to enter TS 3.0.3 and don't perform SR 3.8.1.1?</p> <p><i>RESPONSE: Deleted reference to perform SR 3.8.1.1.</i></p> <p>Have H2 pressure lower to 40 psig, then distractors are more plausible. Will change answer to 'D'? (½ twice)</p> <p><i>RESPONSE: Will use 40 psig H2 pressure.</i></p>
5(80)	H	3												B	E	Admin change to include procedure title and number.
6(81)	H	3												N	E	<p>Bullet 3: D2 and D1 indicate zero volts. Bullet 5: EDG 2 failed to start. Aren't these redundant to each other? (Keith)</p> <p>In stem of question delete reference to AC101 status and EDG 2 failure to start. <i>RESPONSE: No changes made to question.</i></p>
7(82)	F(H)	3												B	S	(1/2 twice) (Keith)
8(83)	H	3		X										N	E	<p>Question 83 and 82 have very similar K/As, evacuate CR, control SGWL. (Keith) <i>RESPONSE Sat as is.</i></p> <p>Suggest revising the questions and answers to "What actions are required to control SG Water Levels?" or "What actions are required to stabilize plant conditions?"</p> <p><i>RESPONSE: Changed from "raise" to "control."</i></p>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
9(84)	H(F)	2												N	E S	Don't need the first part of this question (RO knowledge) since the second part of the question alone confers SRO knowledge (1/2 twice) <i>RESPONSE: Sat as is.</i>
10(85)	F	2												N	S	(1/2 twice)
11(86)	H	3												N	S	
12(87)	F(H)	2												N	E	Lower Level cog since this is a memory question. <i>RESPONSE: Changed LOK to Fundamental.</i>
13(88)	H	3												N	S	(1/2 twice)
14(89)	H	3												N	E S	Is 1 st bullet in second half redundant to the first two bullets in first half? Suggest deleting 1 st bullet in second half! <i>RESPONSE: Sat as is.</i> SRO Only since actions for this are out of a normal operating procedure! RO's should know this? <i>RESPONSE: Sat as is. While RO's should probably know this, the actions are not immediate and would be directed by the SRO.</i>
15(90) <i>15(90)R</i>	H <i>F</i>	3 <i>2</i>				X								N <i>N</i>	U <i>E</i>	(1/2 twice) Two correct answers ? A & B? If trash was found inside the trash gate, would that be acceptable? Don't see where in procedure where distracter (1) is supported. <i>RESPONSE: Question rewritten to test understanding of testing requirements for airlock.</i> <i>Two unrelated questions suggest deleted reference to trash and debris inspection.</i> <i>RESPONSE: Changed as requested.</i>

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16(91)	H	3											NO	B	U S	Do applicants need to know BWST level since this could impact the need for LPI piggy back mode! Could make 'A' incorrect! Do you need trends for parameters listed in stem? (Keith) RESPONSE Sat as is Question can be answered at RO level based on knowledge of expected system operation. Question can be answered based on three questions: when can ECCS be throttled based on SCM, when is flow balancing performed?; and when is the piggy-back mode used? RESPONSE: Directed by SRO and EOP, done by RO.
17(92)	H	3											NO	B	U	As written, this is a diagnosis of event (AOP Entry Condition) that the RO's should know (Keith) Explanation should discuss how to differentiate a dropped rod from a position indication malfunction.
17(92)R	H	3												N	S	RESPONSE: Changed distracters to focus on procedural guidance in lieu of diagnosis.
18(93)	F(H)												NO	N	U	IR for this Q should be 4.7 on Form ES-401-2. (Keith) The expected answer is the first action in each of the Loss of IA subsections and doesn't really required any interpretation other than recognize that air pressure is below that which requires a SCRAM. I would expect that this is system related knowledge.
18(93)R	H	3												N	S	RESPONSE: Question replaced.
19(94)	F(H)	2												N	E S	Memory question? RESPONSE: Sat as is.
20(95)	F(H)	2												N	E	Memory question? Entire stem can be deleted by simple question, "Who can authorize bypassing Rod Hoist Overload?" Recommend revising answers to eliminate reference to Shift Manager and changing all to a single position. Replace VP with Unit Supervisor and make one of the choices "Plant Manager" RESPONSE: Question reworded! Answer choices reworded to provide a single choice and eliminate reference to Shift Manager. Changed LOK to F(undamental).

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21(96)	F(H)	3												N	E	Memory question? <i>RESPONSE:: Changed LOK to F(undamental)</i>
22(97)	H	3												N	E	<i>Eliminate direct reference to emergency dose limits. Change title to Shift Manager. Change members to crew members instead of emergency response organization.</i>
23(98)	H	3												N	S	
24(99)	H	3												N	S	
25(100)	H	3												N	S	
																3/25=12% Unsat

Instructions

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