

NRC COMMENTS

ON THE OPERATING TEST AND WRITTEN EXAMINATION

INCLUDING FORMS ES-401-9 AND ES-401-10

FOR THE DUANE ARNOLD EXAMINATION - NOVEMBER 2002

COMMENT AND RESOLUTION FOR THE DUANE ARNOLD NOVEMBER 2002 PROPOSED OPERATING TEST

JPM COMMENTS

- 1) COMMENT: The JPM title should be removed from the INITIAL CONDITIONS / INITIATING CUES page of the JPM's.

RESOLUTION: Done

- 2) COMMENT: In JPM A.1.b Respond to a RBM Rod Block annunciator. Change this JPM so that the core limit for are between the Technical Specification limit and the Station Administrative limit.

RESOLUTION: Done

- 3) COMMENT: In RO JPM A.4 Site Evacuation While Escorting A Visitor, this JPM should be noted to be time critical. The visitor must be evacuated within 30 minutes of the alarm.

RESOLUTION: Done

- 4) COMMENT: In JPM B. 1. e Containment vent irrespective of radioactive release, shouldn't this JPM be time critical?

RESOLUTION: No the activity would be limited by containment pressure rather than a time limit.

SCENARIO COMMENTS

Only a few requests that additional information be added to the Expected Student Response selections, which was done.

FOR WRITTEN EXAMINATION COMMENTS SEE FORM ES-401-9

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
001	H F	2				✓							✓		U S	To eliminate distracters #1/'B' and #2/'C' verses answer is recall of which valves close on turbine trip (also, are these valves normally closed following a turbine trip or do they change position). The K/A specifies "reasons" for Ext. steam/MSR isolation as applies to Turbine Trip (i.e. prevent turbine OS following trip), question as written illicit's information about "what happens" and "what causes it to happen" following a turbine trip. RESOLUTION: Author will provide a new question that meets KA. (DONE new question is at fundamental LOK)
002	F	<3													S	
003*	H	2													S	
004	H	<3													S	
005	H	2													S	
006*	H	3													E S	First sentence says see "Support Material Booklet," stem says see next page. Answer options refer to valve control switch numbers, due to angle of picture and reproduction, these numbers are not clear. Ensure applicants understand panel portion pictured represent conditions after all conditions in stem are met. RESOLUTION: Author will make changes to stem and provide clearer picture. (DONE)

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. 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).
3. 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.
 - More than one distractor is not credible.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. 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.
5. 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).
6. Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
042*	H	3													S	
043	H	2													S	
044	F	3													S	
045*	F	2													S	
046	F	2													S	
047	F	2													S	
048*	F H	<2													U S	If IPOI 5 is an off normal procedure then those immediate operator actions are required to be performed from memory, thus LOK = F. Given the Support Material Booklet item for question #48 that clearly shows SRM detectors have not been inserted into core, LOD is <2 RESOLUTION: These actions are not required to be performed from memory, the candidate will need to analyze information in the stem and the picture provided to answer the question.
049	F	<2				✓									U S	Can not consider distractors #1/'A' and #3/'B' as credible for discriminating competent operator. Is RWM still enforcing @ 85% power, plus RWM does not interface with APRM power, RBM does. RESOLUTION: Author will change distractors #1/'A' and #3/'B' or explain the tie between the RWM an the APRMs. (DONE distractors changed to refer to RBM rather than RWM)
050	H	2													S	
051*	H	<3													S	
052	F H	3													U S	LOK = F, straight memory/recall for the identified failure. The stem could be reduced to 1) statement of annunciator in alarm and 2) chose correct impact on RCIC. RESOLUTION: OK as is candidates will need to analyze information in the stem to eliminate answers that would be correct if RCIC was operating in a different mode.
053	H	2													S	
054*	H	3													S	
055	H	3					✓								U E S	Picture in Support Material Booklet shows a failure to restore the Group 3 isolation (N2 supply to SRVs & MSIVs). Is distractor #1/'A' also true if N2 is NOT available (relief function verses safety function)? RESOLUTION: This was an editorial error by the author the word "relief" should be "safety" when this change is made question will be sat. (DONE)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
056	H	2													E S	LOD rated as 2 because of lower probability of selection of distractors. What would the impact be of changing distractor #1/'A' to read "Drywell pressure dropped below 1.8 psig but currently is indicating 2.1 psig." RESOLUTION: OK as is author provided more insight as to why distractors were credible.
057*	F H	3				✓									U S	LOK = F, straight memory/recall for the identified failure. E on this issue because previous NRC exam. Why is 'D' not correct, reference AOP 358 "Automatic Actions" lists 'A' SBTG Initiation, all other items on this list are true for the given condition. RESOLUTION: Not memory the correct answer is not as obvious as first though candidate will need to understand PCIS logic. Also distractor "D" references SBDG not SBTG.
058	H	3					✓								U S	Agree distractor #3/'D' is not a correct answer because it states LLS is cycling normally and PSV 4407 is not open. If I read things correctly distractor #2/'C' is correct except for the fact that PSV 4407 is not open. #2/'C' does not contain enough information to prevent the applicants from choosing it and being correct though not completely correct for the conditions. Bottom line 'A' is the most correct but 'C' is also correct though it does not express the complete situation. RESOLUTION: Author will add the phrase "and LLS is cycling normally." to distractor C. (DONE)
059	H	2													E S	Stem should state "As reactor power is raised to full power, ..." Distractor #1 and #3 minimally credible, suggest #3 read "When Turbine load reaches 550 MWE reactor pressure will continue to increase and an RPS Scram will occur." RESOLUTION: Author will do. (DONE)
060*	F	2													S	
061	F	2													S	
062	F	2				✓									U S	Find distractors #2 and #3 minimally credible due to placing SBTG in manual then expecting an action to initiate an auto start. Replace one of the two. Suggest "trip RB ventilation and SBTG auto start on bldg Dp." Also add to 'A' "Take or verify HS 5814B in AUTO and ..." for symmetry. RESOLUTION: Distractors 2 and 3 ok since similar to actions taken in other situations. Author will add phrase "Take or verify HS 5814B in AUTO" to distractor A.(DONE)
063*	F	2													S	
064	F	2				✓									U S	Find distractors #2 and #3 minimally credible due to placing Governor Mode (Droop) Switch to "PARALLEL" in both cases with a "loss of off site power" given in the stem. Suggest 1) dispatch an operator to investigate 2) check gov oil level, 3) fuel supply, 4) ok as long as engine is not black stacking. RESOLUTION: Author will replace distractor C. (DONE)

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
092	F	2												S	
093	H	<2				✓								U S	LOD is <2 due to ability of distractors to discriminate competent operator. RESOLUTION: Can not develop a question with LOD >1 author will pick new KA and provide new question. (DONE)
094	H	2												S	
095	F	2												S	
096	F	2												S	
097	F	3												S	
098	F	2					✓							E S	On 1999 RO NRC Exam. Distractor #2, looking at reference seems reason for 'C' is to allow 'B' under all conditions. Plus A also correct. RESOLUTION: EOP bases clearly makes B wrong. Author will take another look at distractor A to see if it needs changing. (DONE distractor A changed)
099	F	2												S	
100	F	2												S	

Currently LOK H =

Currently "U's" =

Currently "E's" =

* Questions used for initial review

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
72	H	4												S	
73*	H	3												S	
74	H	2												S	
75	H	2												S	
76*	H	3						✓				✓	✓	U S	This does not appear to be an SRO level question. This level of system knowledge could also be expected of ROs. Also answers do not KA no "EXPLANATION" provided. RESOLUTION: A new SRO question that addresses KA will be provided. (DONE)
81	H	3												S	
82	F	2												S	
83*	F	2												S	
85	F	2												S	
86	F	2												S	
89*	H	2												S	
90	F	2												S	
91	F	2 ✓												U S	LOD for this question is too low. This is a simple lookup question with little discriminating value. RESOLUTION Because this is a judgment call and because this question is a bank question that was excepted for the 1998 exam the question was accepted.
94*	F	2												S	
98	F	2												S	
37	H	3												S	

* Questions used for initial review

