

Notes: Comment Resolution listed in ***Bold & Italics print***. Eight questions were unsat (10.7%). Exam Review conducted by B. Fuller & J. Caruso. All comments provided to licensee on 4/28/08 comments resolved by 5/2/08

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				X							Y		B	U	Distractors not plausible e.g. trips of recirc and CRD pumps not plausible <i>Q replaced with a new Q using same K/A</i>
2	H	3											Y		N	E	<i>Licensee added a bullet to stem "HPCI Aux Oil Pump in Auto based on reviewers comment.</i>
3	F	2											Y		N	S	
4	F	3											Y		B	S	
5	H	4											Y		N	S	
6	H	3											Y		B	S	
7	F	2											Y		N	S	
8	F	2											Y		N	S	

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.
 - 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).
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. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. 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?
8. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

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			
9	F	3				X						Y		B	E	"B" not credible - immediate 1/2 scram with battery power. "B" revised
10	H	3										Y		N	S	
11	H	3										Y		N	S	
12	H	4										Y		N	S	
13	F	2										Y		N	S	
14	F	2										Y		M	E	Licensee requested change to stem to add "Unit 2 Standby.."based on validator's comment
15	H	3										Y		N	S	
16	F	3										N		N	U	The K/A testing relationship between RPS and process monitor no direct relationship to Rx sample line and process monitor. Replaced this new Q with a modified bank Q using testing same K/A.
17	H	4				X						Y		M	U	C&D not plausible feed pump speed increases with total steam signal fails downscale. Replaced with a new Q testing the same K/A revise "D" no change in level
18	H	3										Y		N	E	Higher order must know reactor level requirement and power supplies. Changed to Higher Order
19	H	4										Y		B	S	
20	H	4	X									Y		M	E	First sentence of stem has errors. Justification for answer D is incomplete Fixed
21	F	2										Y		N	S	
22	H	3										Y		N	S	
23	F	4										Y		N	S	Note: May be SRO level question – licensee said no appropriate for RO and LO. Licensee cautioned not to link references to questions directly i.e., applicants must know which reference to use to answer the Q. The one exception is the ON for level instruments used on 2 questions. LO provided for Q.
24	F	3										Y		B	S	

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			
25	H	3										Y		N	S	Typo in stem <i>Fixed</i>
26	H											N		B	U	Not a K/A match?? <i>Licensee replaced the Q with a bank Q using a different K/ A since LP core spray was already tested on 3 other Qs.</i>
27	H	3										Y		M	S	
28	H	3										Y		N	S	

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				
29	F	2											Y		B	E	Typo Fixed
30	H	2											Y		M	S	
31	H	3											Y		N	E	Typo in answer D Fixed
32	F	3											Y		N	S	
33	F	2		X									Y		B	E	Only one answer has condensate recirc controller (correct answer) Replaced with a new Q same K/A.
34	H	2											Y		M	S	
35	H	2											Y		N	S	
36	H	1											Y		B	U	Direct lookup – with graph just plot points for A&B – D okay Replaced with a modified bank Q same K/A.
37	H	4											Y		B	S	
38	H	4											Y		B	E	Licensee revised wording of distractors based on feedback from validation.
39	F	3				X							Y		B	E	“C” doesn’t seem plausible with SP level normal – revised SP to 19” makes more plausible. Changed to memory level
40	F	2											Y		B	S	Typo extra question mark in the first sentence of stem Fixed
41	F	2											Y		B	S	
42	H	3											Y		B	S	
43	H	2											Y		M	E	Problem with justification of correct answer – Delete last sentence.
44	F	3											Y		B	S	
45	H	2											Y		N	S	
46	F	3				X							Y		N	U	Distractor C not credible and justifications for C&D reversed. Distractor C replaced and justifications fixed
47	H	1-2				X							Y		N	U	Distractors A and B are not credible Revised stem and answer choices

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			
48	H	3	X									Y		B	E	Possible partial correct answer <i>Cap the word "NEXT" in stem</i>

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			
49	F	2										Y		N	E	May not be a full K/A match. K/A is for system valves Added explanation for K/A justification that Instrument Air is monitored in this case and effectively scram air inlet and outlet valves are like IA system valves.
50	H	2										Y		N	S	
51	H	3										Y		N	E	Licensee added to stem Main Turbine is tripped based on validation comment and RPV pressure is stable on 6th bullet.
52	F	3										Y		N	E	"C" justification incomplete sentence. Fixed
53	F	2										Y		B	S	
54	H	3										Y		B	S	Yes this Q is appropriate for ROs – EOP strategy fair game with EOP in hand.
55	H	2										Y		N	E	Licensee added Control Panel number to stem based on validation comment.
56	F	1-2				X						Y		B	U	A&B not plausible answer "C" obvious simple logic – Licensee replaced with a modified bank Q using same K/A.
57	F	2										Y		N	E	Licensee added the word "below" to choice "B" based on validation comment.
58	H	2										Y		M	S	
59	H	3										Y		N	S	
60	H	2										Y		B	E	Recommended - Reactor pressure is "fluctuating between".. rather than "changing from" Change made.
61	F	3										Y		B	S	
62	H	3										Y		N	S	
63	H	3										Y		N	S	
64	H	3										Y		N	S	
65	H	3										Y		N	S	

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				
66	F	3											Y		B	S	
67	H	3											Y		M	S	
68	F	2	X										Y		B	E	<i>Clarify stem "feed and bleed of the jacket water cooling system" and "assume SO concurrence given"</i>

TO: John Caruso, Chief Examiner

FROM: Chris Michaels, SSES Exam Developer



SUBJECT: Summary of Changes for SSES 2008 RO Written Exam

DATE: 5/7/08

The following is a summary of changes to the written exam following operator exam validations and NRC Reviews.

RO Written Exam Outline, rev 5

Question #26: LPCS oversampled. K/A reselected based on discussion with Chief Examiner. Refer to ES-401-4, Record of Rejected K/As, attached.

Incorporated Chief Examiner's comments on ES-401-4, Record of Rejected K/As.

Question #1

Comment:

Plausibility of Choices C and D.

Resolution:

Question replaced with a NEW question.

Question #2

Comment:

Validator comments.

Resolution:

Added 3rd bullet "HPCI Aux Oil Pump Handswitch 1P213 in AUTO."

Question #9

Comment:

Plausibility of Choice B

Resolution:

Revised Choice B to separate the instruments.

Question #14

Comment:

Validator Comments.

Resolution:

Add words "Unit 2" before Standby Liquid Control...

Question #16

Comment:

Concern for K/A match. No direct relationship between RPS, F019 and Process Rad systems in the question.

Resolution:

Question replaced with a MODIFIED bank question.

Question #17

Comment:

Concern for Choice C and D plausibility with this “total” failure.

Resolution:

Replaced with a NEW question.

Question #18

Comment:

Question is at the High Cognitive level.

Resolution:

Changed classification from Low to High Cognitive level (Comprehensive / Analysis).

Question #20

Comment:

Validator comments.

Resolution:

Revised last bullet to

- Five minutes later, ENGINE LUBE OIL PRESSURE LOW (LA-0521-A01) alarm received at local Panel 0C521A and the NPO reports lube oil pressure is lowering.

Revised Choices A and B from “will immediately Shutdown” to “will trip”.

Question #23

Comment:

Chief Examiner requires a learning objective.

Resolution:

Learning objectives provided for this K/A.

Question #25

Comment:

Typo levels and add “and”

Resolution:

Typos corrected.

Question #26

Comment:

Question is OK but is a poor K/A match.

Resolution:

K/A reselected and question replaced with a MODIFIED bank question.

Question #29

Comment:

Typo is 3rd bullet.

Resolution:

Typos corrected.

Question #31

Comment:

Typos in choices and need spaces with the ≤ symbol.

Resolution:

Added spaces.

Question #33

Comment:

Choice C is always correct. Plausibility of Choices A and B.

Resolution:

Replaced with NEW question.

Question #36

Comment:

Could be considered a direct lookup on two choices.

Resolution:

Replaced question with MODIFIED bank question.

Question #38

Comment:

Validator comments. Reasons in the choices are misleading. Consider deleting reasons e.g., "to control RPV pressure".

Resolution:

Deleted reasons in all four choices.

Question #39

Comment:

Concern for plausibility of Choice C due to normal SP level.
Also, cognitive level on this is LOW.

Resolution:

Supp Pool level changed in the stem to value below normal but above that which maintains choice C incorrect.
Changed cognitive level to Memory /Fundamental knowledge.

Question #40

Comment:

Typo extra question mark.

Resolution:

Typo corrected.

✓ **Question #41**

Comment:

Validator comment. Change first statement to "...a blown fuse results in a loss of all 125 VDC control power to..." to prevent confusion with 1B CRD pump which has alternate tripping power (and internal ATS).

Resolution:

Change first statement to "...a blown fuse results in a loss of all 125 VDC control power to..."

Question #43

Comment:

Delete last statement in Choice D justification.

Resolution:

Last sentence in Choice D deleted.

Question #46

Comment:

Plausibility of Choice C.

Resolution:

Choice C replaced.

Question #47

Comment:

Plausibility of Choices A and B.

Resolution:

Revised all choices to improve operational validity and plausibility.

Question #48

Comment:

Capitalize and underline NEXT.

Resolution:

Next capitalized and underlined.

Question #49

Comment:

Question OK but correct answer has components not directly supplied by Instrument Air as identified in the K/A. Provide justification for this plant specific reason.

Resolution:

Added justification to K/A to provide basis for the components included in Instrument Air System components.

Question #51

Comment:

Validator comments. Add bullet to focus on status of MSIVs or Turbine. Also, change "RPV pressure is rising slowly" to "RPV pressure is stable" since rising pressure implies that power is higher than the capacity of the open SRVs.

Resolution:

Added 2nd bullet "The Main Turbine is tripped."

Changed 6th bullet to 4 SRVs automatically OPENED and RPV pressure is stable.

Question #52

Comment:

Complete statement in Choice C justification.

Resolution:

Statement in Choice C justification completed. Statement supports the plausibility since high radiation on the Refuel Floor affects SPING operability.

Question #55

Comment:

Validator comments. Add the panel location of the indications.

Resolution:

Added "at panel 1C651" to enhance stem focus.

Reviewed and approved by Chief Examiner.

Question #56

Comment:

Simple knowledge question. Not sufficiently discriminating.

Resolution:

Question replaced with a MODIFIED bank question.

Question #57

Comment:

Change approx. to below.

Resolution:

Changed to below.

Question #60

Comment:

Suggest editorial comment “changing from” to “fluctuating between”.

Resolution:

Changed to “fluctuating between”.

Question #64

Comment:

Typos – add dashes to alarm response procedures.

Resolution:

Typos corrected.

Question #66

Comment:

Validator comments. Underline PCO on the On-coming Shift. Also revise the stem to focus on the on-coming shift not the current shift.

Resolution:

Changed stem to:

Due to staffing issues, the on-coming shift complement will be at MINIMUM staffing levels required by Tech Specs.

Prior to turnover, a PCO on the on-coming shift has called off due to a personal emergency and cannot report to work.

Question #68

Comment:

Editorial comment to revise feed and bleed portion of the work instructions.

Add words “as approved by the SO rep” for consistency with the admin procedure.

Resolution:

Revised to “...feed and bleed of the jacket water cooling system as approved by the SO Rep.”

Question #69

Comment:

Validator comments. Enhance choices A and B to reflect the direction of travel.

Resolution:

Choices A and B enhanced as stated.

Reviewed and approved by Chief Examiner.

Question #70

Comment:

Editorial comment that bullets are confusing and needs stem focus for the additional dose.

Resolution:

Bullets revised and stem focus enhanced. Additional dose allowance has its own statement.

Question #71

Comment:

Validator comments. Underline Lifesaving.

Resolution:

Lifesaving underlined.

Question #72

Comment:

Validator comments. Consider a qualifying statement to support that the isolation cannot be reset.

Resolution:

Revised statement to "...FIN report the isolation logic relay is failed and must be replaced."

Question #74

Comment:

Typo on value of Cond Demin Inlet conductivity.

Resolution:

Corrected typo on CDI value.

Question #75

Comment:

Potential Cue on Choices A and C with time frames in years.

Resolution:

Time frames deleted on Choices A and C.

- End of Summary -