

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		
1	F	2										✓		S	K/A 005AK1.05 Should be 005AK3.01
2	F	2										✓		E	Missing answer, annunc. 2K11-F3
3	H	3	X									✓		E	Make sure question is put into format suitable for exam.
4	F	2	X									✓		E	Stem wording. K/A should be 008A3.08
5	H	3	X									✓		E	Stem structure
6	F	2										✓		S	
7	H	3				X						✓		E	D may also be correct
8	F	2										✓		E	Include ann. Window text. K/A OK
9	H	3										✓		E	What is nature of 2EDG failure?
10	F	#						X				✓		U	How difficult is this question, i.e. are ROs expected to know?

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.
 - 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).
- 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).
- 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?
- 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. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
11	F	2				X						✓		E	C may also be correct
12	F	2						X				✓		U	Is this RO level knowledge, in that it is immediate action step?
13	F	2										✓		S	
14	F	2						X				✓		U	RO level?
15	H	3										✓		E	ORP should be EOP. K/A 074EK3.11
16	F	2										✓		S	
17	F	2							X			✓		U	GFES level? It may appear operationally oriented, but is it?
18	F	2										✓		S	
19	F	2										✓		S	K/A OK
20	H	3										✓		S	Will they have steam tables?
21	F	3										✓		S	
22	H	3										✓	X	U	This would appear to be SAMG level for SROs
23	F	3	X									✓		E	IS 100 amps reasonable? Seems high to me. (100 amp X 480V = 48Kva)
24	F	2				X						✓		U	Need to spell out more about what is occurring for each distractor.
25	F	2				X						✓		E	Are the any of the distractors credible?
26	F	2										✓		S	K/A Should be 015A2.02
27	F	3										✓		S	K/A Should be 015A3.03
28	F	2										✓		S	
29	F	3										✓		S	
30	F	2										✓		S	K/A 2.1.12 should be 063K3.02 or 061A2.03
31	H	3										✓		S	K/A 2.1.27 should be either 002A2.01 or 009EA2.03 or 009EA1.05
32	F	3										✓		S	

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		
33	H	3										✓		S	K/A 040AK3.02 should be AA2.03
34	H	#			X							✓		U	True/false. What is the question? Distractors too long.
35	H	3										✓		S	K/A 056AK1.01 should be AA2.07
36	H	3				X						✓		U	What is the answer? Distractors too varied in length/content
37	F	2										✓		S	
38	H	3										✓		S	K/A 2.2.1
39	H	3										✓		S	
40	F	2										✓		S	K/A 002A1.05
41	H	3										✓		S	K/A 011K1.04 should be K4.02
42	H	2										✓		S	
43	H	3										✓		U	K/A what is it? Also is 2203.040 appropriate for this condition?
44	F	2		X								✓		U	Answer is only one that does not describe a preventative action.
45	F	2										✓		S	
46	F	2										✓		S	K/A 015A1.03 should be 015A2.05
47	F	2										✓		S	K/A should be 009EK1.01
48	H	3										✓		S	Steam Tables needed
49	H	2										✓		E	Place question before choices
50	F	3										✓		E	Has this been modified? K/A 056K1.03
51	H	2	X									✓		E	Stem needs edit .
52	H	3	X									✓		E	Stem needs edit. K/A 013K4.02 should be K4.04
53	F	2										✓		S	
54	H	#	X	X								✓		U	Distractors are longer than answer. Stem needs edit.
55	F	2				X						✓		U	Seems too much a T/F by exception, not a good practice.
56	H	#	X			X						XX		U	Can't follow. Needs overall rewrite.
57	F	3										✓		S	K/A 071A3.03 should be K6.08 or K6.10
58	F	2		X		X						✓		U	Distractors should have similar format/length and be more succinct.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only		
59	F	3				X						✓		U	Are the distractors also correct?
60	F	1							X			XX		U	GFES
61	F	3						X				✓		U	Operability call SRO
62	H	3										✓		E	Edit stem.
63	H	3										✓		S	K/A 002K5.15
64	F	2										✓		S	
65	F	2										✓		S	
66	H	3										✓		S	K/A 041K6.01 should be K6.02
67	H	2										✓		S	
68	F	3										✓		S	K/A 029A3.01
69	H	3										✓		S	
70	F	2										✓		S	
71	F	2										✓		S	K/A 039A1.06 should be 039K4.08
72	H	3										✓		S	K/A 055A3.01
73	F	2										✓		S	
74	F	3										✓		S	
75	F	2										✓		S	K/A 064A4.06 is for manual vice auto. Should be A3.06
76	F	2										✓		S	
77	F	2										✓		S	
78	H	2										✓		S	
79	F	2										✓		S	K/A 086A4.05
80	H	3										✓		S	
81	F	2										✓		S	
82	H	2										✓		S	K/A should be 034K6.01 not 6.02
83	F	2										✓		S	K/A 041A4.08
84	F	2										✓		S	

[illegible]

[illegible]

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		
2	F	2	X			X						N	N	E	STEM NEEDS REVISION - SEE MARK-UP. DISTRACTOR D NOT CREDIBLE. NEED PROCEDURE REFERENCE SO THAT KA AND 55.43(B)(5) MATCHES.
3	H	4	X									Y	Y	E	Q REPEATS RX PRESSURE INITIAL CONDITION. IS PRESSURE INCREASING OR STABLE?
5	F	2	X			X						Y	N	E	RCS PRESSURE IS 1300 PSIA - WILL SIT DISCHARGE AT THIS PRESSURE?? NEED TO STATE IN STEM WHAT KIND OF LOCA (I.E., SMALL OR LARGE BREAK) HAS OCCURRED. NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES.
6	F	3				X						N	Y	E	DISTRACTOR D NOT CREDIBLE. APPEARS THAT KA SHOULD BE EA2.2 UNDRER CE 4.4. NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES. Q TOO SIMILAR TO Q40.
7	F	2		X		X	X					N	N	U	SEE DISTRACTOR MARK-UP. ONE OR MORE DISTRACTORS ARE PARTIALLY CORRECT. WORDING OF DISTRACTOR "C" PROVIDES CUE. IS "C" THE RIGHT ANSWER? NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES. KA CANNOT BE IDENTIFIED.
10	H	3		X								N	N	E	DISTRACTOR "C" MENTIONS STARTING A BAM PUMP. THIS PROVIDES AN ANSWER CUE. APPEARS THAT THE CORRECT KA IS AA2.03 FOR SYSTEM 005. NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES.
12	H	3		X								Y	Y	E	DISTRATOR "D" SHOULD BE MODIFIED (SEE MARKUP) TO ELIMINATE CUE.
18	F	3										Y	Y	S	
23	H	3				X						Y	Y	E	DISTRACTORS TOO SIMILAR (I.E., DIFFERENCE BETWEEN "ESTABLISH" AND "TRANSITION".
30	H	3					X					Y	Y	E	ONE OR MORE DISTRACTORS APPEAR TO BE CORRECT.
32	F	2										N	N	U	KA3.21 CANNOT BE FOUND IN CATALOG. WHICH 55.43 IS APPLICABLE?

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			
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: <ul style="list-style-type: none"> · 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: <ul style="list-style-type: none"> · 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.	<u>Check questions that are sampled</u> for conformance with the approved K/A and those that are <u>designated SRO-only</u> (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).															

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		
35	H	3				X						N	N	U	EXCESSIVE INFORMATION IN STEM. DISTRACTOR "B" NOT CREDIBLE. NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES. COULD NOT LOCATE APPROPRIATE KA.
40	F	3										N	N	U	Q TOO SIMILAR TO Q6. NEED PROCEDURE REFERENCE SO THAT KA AND 55.43(B)(5) MATCHES.
43	F	3	X									Y	Y	E	SEE MARKUP FOR STEM REVISION RECOMMENDATION.
47	F	2					X					Y	N	E	APPEARS TO BE A SYSTEM Q INSTEAD OF SRO ONLY. SEE STEM MARK-UP SUGGESTION.
49	F	2		X								Y	Y	E	SEE MARKUP SUGGESTIONS ON DISTRACTORS TO MINIMIZE CUING.
51	F	3	X					X				N	N	U	APPEARS TO BE A SYSTEM Q IN LIEU OF A SRO ONLY Q. KA COULD NOT BE IDENTIFIED. IF PROCEDURE REFERENCES ARE ADDED, KA015/A2.05 WOULD BE A GOOD FIT AND WOULD BE CONSISTENT WITH 55.43(B)(5).
54	H	2										Y	N	E	NEED PROCEDURE REFERENCE SO THAT KA AND 55.43(B)(5) MATCHES.
57	F	2				X						Y	N	E	A & B ARE NOT CREDIBLE DISTRACTORS. APPEARS TO BE A SYSTEM Q. NEED PROCEDURE REFERENCE SO THAT KA AND 55.43(B)(5) MATCHES
59	F	2										N	N	U	KA STATED DOES NOT MATCH, HOWEVER, KA 064-K1.04 COULD BE A GOOD MATCH. APPEARS TO BE A SYSTEM Q. NEED PROCEDURE REFERENCE SO THAT 55.43(B)(5) MATCHES.
91	F	2										N	Y	E	KA COULD NOT BE LOCATED IN CATALOG.
93	F	2										Y	Y	S	
94	F	2	X									N	Y	U	STEM NEEDS TO HAVE RX STATUS ADDED. CHANGE (OR DELETE) LOW RANGE RAD MONITOR STATEMENT SINCE HIGH RANGE IS ON-SCALE AND INCREASING.

[illegible]

APPENDIX F - REGION IV OPERATING TEST QUESTION QUALITY REVIEW MATRIX													
Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Errors					4. Job Content Errors				5. U/E/S	6. Explanation (See below for instructions)
			Stem Focus	Direct L/U	One Ans	Min Resp	Scope (TS?)	Job- Link	Minu- tia	SRO Only	Back- wards		
A4-1	F	2										S	
A4-2	F	2										S	

Instructions for Completing Matrix

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- Classify level of knowledge (LOK) as either (F)undamental or (H)igher cognitive level.
- Determine level of difficulty (LOD) using established 1-5 rating scale. Levels 1 and 5 represent inappropriate (low or high) discriminatory level for the license being tested.
- Check the appropriate box when a psychometric error is identified:
 - Stem lacks sufficient focus to solicit only the answers listed (e.g., unclear on intent, answer needed, or unnecessarily negatively phrased)
 - Direct lookup (e.g., desired answer contained in obvious reference),
 - Question does NOT solicit single demonstrably correct answer,
 - Minimum response for passing credit NOT described in key,
 - Scope of question outside guidance of NUREG (e.g., why not how, TS bases not system, emergency not emergency plan),
- Check the appropriate box when a job content error is identified:
 - Topics not linked to job content (e.g., disguised task, not required in real job, invalid K/A).
 - Recall of too specific knowledge,
 - RO test items test at the SRO job level or vice versa,
 - Reverse logic or application compared to job.
- 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?
- Provide a brief description of problem in the explanation column.

APPENDIX E - REGION IV OPERATING TEST JOB PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Dyn (D/S)	2. LOD (1-5)	3. Attributes					4. Job Content Errors		5. U/E/S	6. Explanation (See below for instructions)
			IC Focus	Cues	Critical Steps	Scope (N/B)	Over- lap	Job- Link	Minutia		
A1aRO	S	3								S	
A1aSRO	S	2								S	
A1bRO	S	2								E	DURING VALIDATION, CHECK TO SEE IF THE HTEX SHOULD ALSO BE DRAINED AND VENTED.
A1bSRO	S	2								S	
A2RO	S	3								S	
A2SRO	S	3								S	
A3	S	2								S	EXPECTATION SHOULD BE CLEAR AS TO DONNING PCs OR NOT.
A4SRO	S	2								S	JPM SHOULD IDENTIFY THAT THIS IS A TIME DEPENDENT TASK.

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- Determine whether the task is dynamic (D) or static (S). A dynamic task is one that involves continuous monitoring and response to varying parameters. A static task is basically an system reconfiguration or realignment.
- Determine level of difficulty (LOD) using established 1-5 rating scale. Levels 1 and 5 represent inappropriate (low or high) discriminatory level for the license being tested.
- Check the appropriate box when an attribute weakness is identified:
 - The initiating cue is not sufficiently clear to ensure the operator understands the task and how to begin.
 - The JPM does not contain sufficient cues that are objective (not leading).
 - All critical steps (elements) have not been properly identified.
 - Scope of the task is either too narrow (N) or too broad (B).
 - Excessive overlap with other part of operating test or written examination.
- Check the appropriate box when a job content error is identified:
 - Topics not linked to job content (e.g., disguised task, not required in real job).
 - Task is trivial and without safety significance.
- Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- Provide a brief description of problem in the explanation column. Provide conclusion on whether JPM SET criteria satisfied (i.e., number/distribution of safety functions, A.3 and A.4 integrated with parts B/C, Admin topics per section meet ES).

APPENDIX E - REGION IV OPERATING TEST JOB PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Dyn (D/S)	2. LOD (1-5)	3. Attributes					4. Job Content Errors		5. U/E/S	6. Explanation (See below for instructions)
			IC Focus	Cues	Critical Steps	Scope (N/B)	Over- lap	Job- Link	Minutia		
B1a	D	3								S	
B1b	D	2								S	
B1c	D	2								S	
B1d	D	2								E	DELETE THE PRESCRIPTED QUESTIONS.
B1e	D	3								S	
B1f	D	3								E	NEED TO IDENTIFY WHAT MODE CANDIDATE IDENTIFIES IN STEP 4 STANDARD
B1g	D	2								E	DELETE THE PRESCRIPTED QUESTIONS.
B2a	S	3								S	
B2b	S	2								S	
B2c	S	2								S	

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- Determine whether the task is dynamic (D) or static (S). A dynamic task is one that involves continuous monitoring and response to varying parameters. A static task is basically an system reconfiguration or realignment.
- Determine level of difficulty (LOD) using established 1-5 rating scale. Levels 1 and 5 represent inappropriate (low or high) discriminatory level for the license being tested.
- Check the appropriate box when an attribute weakness is identified:
 - The initiating cue is not sufficiently clear to ensure the operator understands the task and how to begin.
 - The JPM does not contain sufficient cues that are objective (not leading).
 - All critical steps (elements) have not been properly identified.
 - Scope of the task is either too narrow (N) or too broad (B).
 - Excessive overlap with other part of operating test or written examination.
- Check the appropriate box when a job content error is identified:
 - Topics not linked to job content (e.g., disguised task, not required in real job).
 - Task is trivial and without safety significance.
- Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- Provide a brief description of problem in the explanation column. Provide conclusion on whether JPM SET criteria satisfied (i.e., number/distribution of safety functions, A.3 and A.4 integrated with parts B/C, Admin topics per section meet ES).

APPENDIX N - REGION IV OPERATING TEST SCENARIO REVIEW MATRIX										
Scen Set	1 ES	2 TS	3 Crit	4 IC	5 Pred	6 TL	7 L/C	8 Eff	9 U/E/S	10 Explanation (See below for instructions)
1	X								E	NEED 301-6 FORM
2	X								E	NEED 301-6 FORM
3									S	
4									S	

Instructions for Completing Matrix

This form is not contained in or required by NUREG-1021. Utilities are not required or encouraged to use it. The purpose of this form is to enhance regional consistency in reviewing operating test scenario sets. Additional information on these areas may be found in Examination Good Practices Appendix D. Check or mark any item(s) requiring comment and explain the issue in the space provided.

- ES: ES-301 checklists 4, 5, & 6 satisfied.
- TS: Set includes SRO TS actions for each SRO, with required actions explicitly detailed.
- Crit: Each manipulation or evolution has explicit success criteria documented in Form ES-D-2.
- IC: Out of service equipment and other initial conditions reasonably consistent between scenarios and not predictive of scenario events and actions.
- Pred: Scenario sequence and other factors avoid predictability issues.
- TL: Time line constructed, including event and process triggered conditions, such that scenario can run without routine examiner cuing.
- L/C: Length and complexity for each scenario in the set is reasonable for the crew mix being examined, such that all applicants have reasonably similar exposure and events are needed for evaluation purposes.
- Eff: Sequence of events is reasonably efficient for examination purposes, especially with respect to long delays or interactions.
- Based on the reviewer's judgment, is the scenario set as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- Provide a brief description of problem in the explanation column