

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		
SROA1		3								E	Provide key. <i>Done</i>
SROA2		3								E	Steps 4 and 8 have blank cues. Need to develop key and provide more definitive cues on meter readings. Also need answer. <i>Done</i>
SROA3		3								E	Need copy of clearance order to be provided to applicant. <i>Provided</i>
SRO/ROA4		3								E	Need to provide survey map and key. What is a faulted survey map? <i>Provided</i>
SROA5.1/ 5.2/5.3		3								S	
ROA1		3								E	Need key and answer. <i>Provided</i>
ROA2		3								E	Need data sheets and key. <i>Done</i>
ROA3		3								E	Need copy of clearance order to be provided to applicant. <i>Provided</i>
ROA5		2								E	Provide specific information in standard for critical steps. <i>Had to revert to using two questions since RO's are not tasked with any EP responsibilities at CPSES</i>

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 tests. 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.

- 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).

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			IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
S1	D	3								S	
S2	S	3								S	
S3	D	3								S	
S4	D	3								S	
C1	S	3								E	Change designation to S5. We will run this JPM on a dynamic simulator. <i>Resolution: changed to S5.</i>
C2	D	3			✓					E	Step 12, filling to the proper level (give range), should be critical. Change designation to S6. We will run this JPM on a dynamic simulator. <i>Resolution: step 12 made critical, and changed to S6.</i>
C3	S	3								E	Change designation to C1. <i>Resolution: changed to C1</i>
P1	S	3								S	
P2	S	3								S	
P3	D	3								E	In Step 1, complete statement in standard. Is Step 7 critical? <i>Resolution: fixed step-1 standard; step 7 question to be during licensee review on 9/24/02.</i>

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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 - Comanche Peak - November 2002										
Scen	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			✓							In Event 2, reference to ABN-706 is not critical. Also, need time frame for transferring LS-459D to alternate control channel. <i>Resolution: indicated reference to ABN-706 as non-critical step in Event 2; indicated transferring LS-459D must be done prior to RX trip.</i>
2	✓		✓				✓			Critical steps should be manually tripping turbine, performing emergency boration, and isolating ruptured steam generator. <i>Resolution: adjusted critical step annotations to match above list.</i>
3										Suggest changing initial conditions to 20% power and replace Event 1 with Event 1 from Scenario 4. Modify turnover as appropriate. <i>Resolution: made IC switch to 20%</i>
<p>Instructions for Completing Matrix</p> <p>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.</p> <ol style="list-style-type: none"> 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 										

COMANCHE PEAK - NOVEMBER 2002

ES-401

Written Examination
Review Worksheet

Form ES-401-9 (R8, S1)

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	H	3													E	Choice D is correct answer. References should be 55.41(10) and 55.43(5) <i>Choice A is, in fact, correct; references changed.</i>
2R	F	2													E	Indicate RO only. <i>Done</i>
3	H	3													S	References should be 55.41(10) and 55.43(5) <i>changed</i>
4	H	2													E	Delete "due to too much time operating on recirc" from each choice <i>done</i>
5	H	3													S	
6	H	3													S	
7	H	3													E	Does not qualify as a modified question <i>made further modifications</i>
8	H	3													S	
9	H	3													E	Does not qualify as a modified question <i>made further modifications</i>
10	H	3													E	Does not qualify as a modified question <i>made further modifications</i>

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	Backward	Q=K/A	SRO Only		
11	F	3												E	Answer needs licensee reference <i>reference provided</i>
12	H	4										✓		U	Does not match K/A. Replace K/A and find matching question <i>Replaced and matched</i>
13	H	3												E	Does not qualify as a modified question <i>made further modifications</i>
14R	H	2												E	Indicate RO only. <i>Done</i>
14S	H	3											✓	E	Indicate SRO only. Need to supply TS 3.3.4. <i>Done</i>
15	H	3												E	Provide specific reference. C-9 interlock should be satisfied at these pressures <i>Added reference and changed correct answer to "D"</i>
16	H	3												S	
17	H	3												S	
18	H	4												S	Also responsive to 55.41(10) and 55.43(5) <i>Added (10) and (5)</i>
19R	H	4												E	Indicate RO only. Validate answer. Values given do not indicate an entry point to FRH-0.1A. Also responsive to 55.43(5). <i>Done</i>
19S	H	3											✓	E	Indicate SRO only. <i>Done</i>
20	H	2												E	Does not qualify as a modified question <i>made further modifications</i>
21	F	3										✓		E	Does not qualify as a modified question. Does not match K/A closely in that applicant could get question correct without stated knowledge. <i>Wrote new question to match KA</i>
22	H	3												S	
23	F	3												S	
24	F	3												S	
25	F	3												E	Does not qualify as a modified question <i>made further modifications</i>
26	F	3				✓								E	Distractor C is not valid. If C were the answer, A would also have to be correct. <i>Answer no correct wither; Wrote a new question</i>
27	H	3												S	Also responsive to 55.41(10) and 55.43(5). <i>Done</i>
28	H	3										✓		U	<i>Modified question stem to better match KA.</i>
29	F	3												S	
30	H	3										✓		U	<i>Replaced the irrelevant distracter with a relevant one.</i>
31	F	3										✓		U	<i>Replaced question with a bank question appropriately related to the KA</i>

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		
32	F	3												S	
33	H	4												S	Also responsive to 55.43(5) <i>Done</i>
34	H	3												S	
35	H	3												S	
36	F	4												S	This information is deep in procedure. Take close look during validation.
37	F	3												E	Wrong answer. Stem is not worded correctly to solicit desired response. <i>Modified stem and corrected answer.</i>
38R	F	3												E	Indicate RO only. Does not qualify as a modified question. <i>made further modifications</i>
38S	F	3											✓	E	Indicate SRO only. Should refer to 55.41(9) vice (5). <i>Done</i>
39	F	3												S	
40	F	3												S	
41R	F	3												E	Indicate RO only. Reference should be to 55.41(11) <i>Done</i>
42	F	3										✓		U	Does not match K/A <i>Wrote a new question to match KA</i>
43	H	3												S	
44	F	3												S	
45R	H	3												E	Indicate RO only, Reference should also be to 55.41(10) <i>Done</i>
46	F	3												S	
47	F	3												E	Reference to 55.41(13). <i>Done</i>
48	H	3												S	
49R	F	3												E	Indicate RO only. Delete reference to 55.41(9). <i>Done</i>
50	H	3												S	
51R	H	3											✓	U	Does not match K/A. Should indicate RO only. <i>New Question to match</i>
52	F	2											✓	U	Does not match K/A. <i>Wrote a new question to match KA</i>
53R	H	3												E	Indicate RO only. Delete reference to 55.41(9) and reference 55.41(1). <i>Done</i>
54	H	3												S	
55	F	3											✓	U	Does not match K/A <i>Found a new question to match KA</i>

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		
77R	H	3												E	Indicate RO only. <i>Done</i>
78	F	3												S	
79	H	3												S	
80	H	3												E	Reference should be to 55.41(11) <i>Done</i>
81	F	3												E	Reference should be to 55.41(7) <i>Done</i>
82R	F	3										✓		U	Does not match K/A. Indicate RO only. Reference should be to 55.41(4). <i>Got a new K/A and a matching question</i>
83	F	3												E	Reference should be to 55.41(4) <i>Done</i>
84R	F	3												E	Indicate RO only. <i>Done</i>
84S	F	3					✓						✓	E	Indicate SRO only. Choice D is probably correct. <i>Modified distracters and indicated D as correct answer IAW TS 3.3.2 Bases</i>
85R	F	3												E	Indicate RO only. Reference should be to 55.41(4). <i>Done</i>
86	H	2										✓		U	Does not match K/A. <i>Found better question to match KA</i>
87	F	3										✓		U	Does not match K/A. <i>Wrote new question to match K/A</i>
88	F	2				✓								E	Validate reference for CPSES. Do they have CENTREX equipment? <i>Changed distracter to eliminate reference to CENTREX equipment</i>
89	F	2												S	
90	H	3												S	
91	F	3												S	
92R	H	3												E	Indicate RO only. <i>Done</i>
92S	H	3											✓	E	Indicate SRO only. <i>Done</i>
93R	F	3												E	Indicate RO only. <i>Done</i>
93S	H	4											✓	E	Indicate SRO only. <i>Done</i>
94R	F	3												E	Indicate RO only. Choice A is repeated. <i>Typo corrected</i>
94S	F	3											✓	E	Indicate SRO only. <i>Done</i>
95R	H	3												E	Indicate RO only. <i>Done</i>
95S	H	3											✓	E	Indicate SRO only. <i>Done</i>
96R	F	2												E	Indicate RO only. Validate answer for CPSES. <i>Answer verified correct</i>

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
96S	F	3											✓	E	Indicate SRO only. <i>Done</i>
97	F	2												S	
98R	H	3												E	Indicate RO only. <i>Done</i>
98S	H	3											✓	E	Indicate SRO only. <i>Done</i>
99	H	2												E	Reference should be 55.41(1) <i>Done</i>
100R	F	3												E	Indicate RO only. <i>Done</i>
100S	H	3											✓	E	Indicate SRO only. <i>Done</i>
2S	F	3											✓	E	Indicate SRO only. Should reference 55.41(3) vice 55.41(7) <i>Done</i>
41S	H	3											✓	E	Indicate SRO only. <i>Done</i>
45S	F	2										✓	✓	U	Does not match K/A. <i>Found a new K/A and matching question</i>
49S	H	3											✓	E	Indicate SRO only. <i>Done</i>
51S	F	3										✓	✓	U	Does not match K/A <i>Found a new K/A and matching question</i>
53S	H	3											✓	E	Indicate SRO only. <i>Done</i>
63S	F	3											✓	E	Indicate SRO only. 55.43(2) N/A. <i>Done</i>
73S	F	3											✓	U	Not SRO level <i>SRO Level now</i>
74S	H	3											✓	E	Indicate SRO only. <i>Done</i>
77S	H	2											✓	E	Indicate SRO only. <i>Done</i>
82S	H	3											✓	E	Indicate SRO only. <i>Done</i>
85S	F	1				✓							✓	U	Question can be made more challenging by making it a lower level upgrade, e.g. NOUE to ALERT. Distractors could play on 15 minutes and the 4 hour and 8 hour reports. <i>Recommended modifications made</i>

General Comments:

1. Validate all INPO bank questions for CPSES.
2. Indicate on work sheets where questions are SRO or RO only.
3. Type reference numbers on work sheets and indicate RO/SRO exam question numbers or provide a separate reference list of exam question numbers vs. work sheet numbers.
4. Several of the common questions verge on being out-of-scope for ROs.