

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			
60	H	2											Y		S	Distractor (a), (b) are implausible because with a loss of off site power a reactor trip will occur and all power will be lost until the EDG start and load. <i>The motors on the refuel bridge are variable powered DC motors and therefore could be supplied from station batteries. (a) and (b) are not implausible.</i>
70	F	2											Y		S	
90	H	2											Y	Y	S	K/A Mismatch The K/A is knowledge of system purpose and / or function. <i>We reviewed the question and determined that an applicant must understand the function of the system specifically that SGBT could be damaged due to 2A/B valves opening before the DW isolation valves close on a LOCA signal.</i> The applicants are expected to know the 90 hours from memory. Is this a direct lookup in TS 3.7 which they will have? <i>This is not in TS.</i>

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.
 - One or more ~~than one~~ distractors 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).

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		
100	F	2										Y	Y	S	
1 N	H	3				X						Y		E	Distractor b, implausible due to decrease in Mwe. <i>Modified distractor "b"</i>
2 N	H	2										N		U	K/A Mismatch K/A is for immediate actions and entry conditions, not what systems are operating based on plant conditions. May have more than one correct answer based on stem wording. <i>Modified distractors to cover both parts of K/A and ensure one correct answer.</i>
3 N	H	2										Y		S	
4 N	H	3										Y		S	
5 N	L	2										Y		S	
6 N	H	2										Y		S	Answer must be more definite or stem must be more clear, remove may be from c & d. <i>Answer c and distractor d made more definite to correct.</i>
7 N	H	2										Y		S	
8 N	H	2										Y		S	
9 N	H	2										Y		S	
10 N	F	2										Y		E	Editorial on last sentence of stem, use expect. <i>Stem Changed.</i>
11 N	H	3										Y		S	
12 N	F	2										Y		S	K/A Mismatch the K/A is for high reactor pressure, the question does not address high reactor pressure. <i>Editorial change in stem to make K/A match obvious and added per procedure.</i>
13 N	H	2										Y		E	Distractor a, b must contain "only". <i>Changed distractors a, b.</i>
14 N	H	2										Y		U	Question not technically correct. <i>Changed answer to make correct.</i>
15 N	L	2										Y		S	
16 N	H	2										Y		S	Verify Question technical accuracy. -19 could be the band as well. <i>Upper level band is +6", not - 19".</i>
17 N	H	2										Y		S	
18 N	H	2										Y		S	
19 N	L	2										Y		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	Backward	Q=K/A	SRO Only			
20 N	F	2											Y		S	May use this one for reducing MCPR questions?
21 N	H	3											Y		S	
22 N	H	2											Y		E	K/A mismatch Question should address the reason. <i>Must know reason to answer question correctly - must know added work resulted in thermals tripping. Changed stem to make more clear.</i>
23 N	F	2											N		U	K/A mismatch Question should address knowledge of the reason, not the time limit. <i>The question was modified to address knowledge of the reason.</i>
24 N	F	2											Y		E	Distractor a, c do not have safety limits, should use reactor pressure. <i>Distractors change to be all safety limits.</i>
25 N	H	3											Y		S	
26 N	F	2											Y		E	Distractor b, d are not credible. <i>Modified distractors b, d.</i>
27 N	H	2											Y		S	Change noun names of the radiation monitors to make them agree. <i>Done</i>
28 N	H	2											Y		S	
29 N	F	2				b, d							Y		E	b, d are implausible because as pressure increases, cavitation will decrease. <i>Changed to saturation temperature for the pressures - same question just asked differently.</i>
30 N	F	2											Y		S	
31 N	F	2											Y		S	
32 N	F	2											Y		S	
33 N	H	3											Y		S	
34 B	F	2	X				X						Y		U	All distractor are correct - revise stem to include "by procedure". <i>Stem revised.</i>
35 N	H	2											Y		S	
36 N	F	2											Y		E	<i>added and to distractor a, b, to ensure they are incorrect.</i>
37 N	H	2											Y		S	
38 N	F	2											Y		S	
39 N	H	3				d							Y		E	Distractor d not credible. <i>Changed to APRM "E" to make more discriminating and correct distractor "d".</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	Back-ward	Q=K/A	SRO Only			
40 N	F	2											Y		S	
41 N	F	2											N		U	K/A mismatch Question does not discuss the effect of the loss of ADS. <i>Question replaced.</i>
42 N	H	2											N		U	K/A mismatch Question should address part one of the K/A to predict impact. <i>Question revised.</i>
43 N	H	2											Y		S	
44 N	H	2				a, c							Y		U	Distractors a, c are not credible, one steam line failing to 0 will not increase overall steam flow. <i>Change stem to dp instrument failing to 0.</i>
45 N	H	2											Y		S	
46 N	H	2											Y		S	
47 N	H	2	X										Y		E	Remove "must be" from stem and place in distractors. <i>"Must be" placed in distractors.</i>
48 N	F	3											Y		S	
49 B	F	2											Y		E	Reword the distractors b and d. <i>B & d reworded.</i>
50 N	H	2											Y		S	
51 N	F	2											Y		S	
52 N	F	3											Y		S	Fundamental because only need to know set point of 600 and reactivating. <i>Changed to Fundamental.</i>
53 N	F	2											Y		S	LOD=1 because knowing manual vs auto is non discriminating and simple set point question. <i>LOD not 1 because recently normally operated in manual due to system problems.</i>
54 N	F	3											Y		S	<i>Revised distractors c & d to make more discriminating.</i>
55 N	F	2					b						Y		U	LOD=1 if COLR provides correct answer then direct look Distractor b is also correct Stem should be changed to prevent cueing. <i>All distractors were changed to correct problems. Not in COLR</i>
56 M	H	3											N		U	K/A address impact of rod pull on RBM. <i>Question replaced.</i>
57 N	H	2											N		U	K/A Mismatch does not predict the impact of heat up or cooldown. <i>Question revised.</i>
58 N	F	2											Y		S	
59 N	F	2											Y		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			
61 N	H	2							RO				Y		U	Are the RO required to know this from memory? Does the COLR report give answer away. <i>New question written to replace - K/A reselecte.</i>
62 N	H	2											Y		S	F - Just know the procedural action / memory. <i>Changed the question so the applicant has to describe the expected system response, this resulted in a LOK of H.</i>
63 N	H	3											Y		S	
64 N	H	2						b					Y		E	Distractor b is may be correct based on the stem. <i>Added per procedure to stem to ensure that b is incorrect.</i>
65 B	F	2											Y		S	<i>Added per procedure to stem to ensure no other correct answers.</i>
66 N	F	2						d					Y		E	Distractor d may also be correct. <i>Changed all distractor to make d more incorrect.</i>
67 N	F	2	X										Y		S	<i>Stem focused better by providing the procedure reference.</i>
68 N	F	2	X										Y		S	
69 B	F	2							RO				Y		S	<i>Would RO know this information. The RO would know this information because he controls these items and prepares the list for the 6 month meeting.</i>
71 N	F	2											Y		S	
72 N	H	2	X										Y		E	<i>Focus stem - auto closure. Added auto closure for additional stem focus.</i>
73 B	F	2				d							Y		E	<i>Implausible to open to increase off site release via the MSIVs. Replaced question.</i>
74 N	H	2											Y		S	
75 N	F	2											Y		S	
76 B	H	3											Y	Y	S	
77 N	H	4				b							Y	N	U	<i>SRO criteria (b) (5) does not address the mitigating actions. Revised distractors to cover both parts of (b) (5).</i>
78 N	F	2											Y	Y	S	
79 N	H	3											Y	Y	S	
80 N	H	2											Y	Y	S	
81 N	H	3											Y	Y	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	Backward	Q=K/A	SRO Only			
82 B	H	2											Y	Y	S	
83 N	H	2											Y	Y	S	
84 N	F	2											Y	Y	S	
85 N	H	2											Y	Y	U	Stem is not specific enough to make distractor c completely incorrect. <i>Stem modified.</i>
86 N	H	2											Y	N	U / not counted	Not SRO only does not have the applicant diagnose and take appropriate actions. <i>Question changed. This does not count against the total number of UNSAT because this was taken out of the INPO bank.</i>
87 B	F	2											Y	Y	S	
88 N	H	3				b							Y	Y	E	Distractor b says to increase flow to 3250 gpm and the stem says flow is already greater than 3250 (4500 gpm). <i>Changed to 5500 gpm.</i>
89 N	H	2				d							Y	Y	E	The stem needs to be focused more to make d more incorrect. The question does not specify the needed flow to the torus. <i>Stem focused.</i>
91 N	H	2											Y	Y	E	Seven day LCO straight TS lookup / better distractors. <i>The distractors and stem were changed to increase the level of difficulty.</i>
92 N	H	2											Y	Y	E	The applicant only has to look at TS and the third blank does not matter once you look at TS. <i>Changed distractors so that the basis of 12" would have to be correctly identified to get the correct answer in addition to reviewing TS.</i>
93 N	F	2											Y	Y	E	Distractor b, d should have a temperature greater then that in the stem. <i>Distractor b & d were changed.</i>
94 N	F	2											Y	Y	S	

EXAMINATION
LICENSED OPERATOR INITIAL TRAINING PROGRAM

Course: SRO NRC Exam 2003

Unofficial summary of revisions for Alan

Date Exam Taken: 3 October 2003

Exam Questions

No.	Revision Summary
1.	Modified distractor B
2.	Editorial change to the stem. Modified all distractors to cover both parts of K/A
3.	No change
4.	No change
5.	No change
6.	Editorial changes to two distractors to make the action "more definite"
7.	No change
8.	"Actions per procedure" added to the stem
9.	No change
10.	Stem editorial change to make "more definite"
11.	No change
12.	Actions per procedure. Editorial change to stem to better cover the K/A
13.	Added "only" to distractors A & B so they were not part correct
14.	Changed correct answer based on NRC lead examiner question of a fact that had not been considered before
15.	No change
16.	No change
17.	No change
18.	Wrote justification for correct answer
19.	No change
20.	No change
21.	No change
22.	Editorial change in stem. Changed the sequence of some words K/A asked for reasons for an action. I chose time to complete the action, you wanted
23.	why would you complete the action. We modified all distractors to satisfy both of our desires
24.	Modified distractors A & C from LSSs to SLs. I changed the first word in the second sentence of the stem from NO to SOME after the prep week because I was concerned with peak pressure during the transient.
25.	No change
26.	Editorial changes to distractors B & D
27.	Added the word "Ventilation" to the stem
28.	No change
29.	Changed distractors B & D pressures to saturation temperatures for the same pressures
30.	No change

No.	Revision Summary
31.	No change
32.	No change
33.	No change
34.	“Actions per procedure” added to the stem
35.	No change
36.	Added the word “and” to distractors A & B
37.	No change
38.	No change
39.	Revised distractors C & D to be more discriminating
40.	No change
41.	Replaced question at your request to cover ADS LOGIC instead of Valves Look at this question. We changed it during the prep week twice. When I did the
42.	exam review with my boss he changed it back to your first option. I agree with the way it is now after re-thinking all of our discussions on this question
43.	No change
44.	Changed “flow signal fails to zero” to “ D/P fails to zero, to agree with Pilgrims rev to this question
45.	No change
46.	No change
47.	Moved “must be” from stem to distractors A & C
48.	No change
49.	In distractors A & D changed the word “Quickly” to “In”
50.	No change
51.	No change
52.	Changed LOD from COMP to Knowledge. Changed distractors A & D from “In service” to “ Reactivating, one each way. Really editorial
53.	Editorial change to stem
54.	Revised distractors C & D to make the question more discriminating
55.	Modified all distractors
56.	Replaced with a modified question from our bank at your request
57.	Revised all distractors so the question is a higher LOD and more discriminating
58.	Editorial change to stem
59.	No change
60.	No change
61.	K/A deselected at your request. NEW K/A selected. NEW question written
62.	No change
63.	Editorial change to stem
64.	“Actions per procedure” added to the stem
65.	“Actions per procedure” added to the stem
66.	Revised all distractors
67.	“Actions per procedure” added to the stem
68.	Stem editorial change
69.	No change
70.	No change
71.	No change

No.	Revision Summary
72.	Added the word "Automatic " to the stem
73.	Replaced with question from bank at your request. LOD lowered from COMP to Memory
74.	No change
75.	No change
76.	No change
77.	Revised all distractors to cover both parts of the K/A
78.	Typo correction
79.	No change
80.	No change
81.	No change
82.	No change
83.	No change
84.	No change
85.	Added to the stem "as a minimum" and "Actions per procedure"
86.	Revised stem and all distractors to more clearly examin the K/A
87.	No change
88.	Editorial change to distractor B 3250 GPM increased to 5500 GPM
89.	"Actions per procedure" added to the stem
90.	No change
91.	Revised stem and distractors to improve LOD
92.	Revised stem and distractors
93.	Revised distractors B & D to make the numbers more discriminating
94.	Changed 55.43 reference NUREG 1123 Rev 2 is not correct
95.	Rounded off to two places distractors C & D
96.	No change
97.	Changed 55.43 reference NUREG 1123 Rev 2 is not correct
98.	No change
99.	No change
100.	No change

July 18, 2003

MEMORANDUM TO: Exam File
Vermont Yankee
RO / SRO - Vermont Yankee

FROM: Alan Blamey
Senior Operations Engineer

SUBJECT: COMMENTS ON VERMONT YANKEE REACTOR OPERATOR /
SENIOR REACTOR OPERATOR EXAM OUTLINE.

The purpose of this memorandum is to document comments on the Vermont Yankee exam outline received on Monday afternoon July 14, 2003. The exam outline was reviewed by A. Blamey and J. D'Antonio. The comments were provided to S. Brown, Vermont Yankee on July 18, 2003. The comments are as follows.

FORM ES-201-2, Examination Outline Quality Checklist

Section 1. Written

- a. ES-401-1, "BWR Exam Outline," contains a total of five SRO-Only K/A other than A2 and G. Provide additional justification as to why the questions are SRO only level for those that are (1) not in the A2 category and (2) do not have a reference to 55.43. This should be done on the question sheet ES-401-5 and can be done simply by noting a SRO specific learning objective. This requirement is based on ES-401 D.1.c. *These questions were reviewed and found to be at an SRO level during the exam review.*
- b. Verify that the outline was developed in accordance with the method specified in the ES-401, Attachment 1. *The outline was developed in accordance with the standard. This was verified through an interview with S. Brown the exam developer.*

Exam Overlap: July 2002 There were four K/A matches between exams (4%). No Issue.

Sept. 2000 NRC developed - no outline found.

Section 2. Simulator

Scenario 1 This scenario should be modified in accordance with ES-301, D.5.b, "any other scenarios that are extracted from the facility licensee's bank must be altered to the degree necessary to prevent the applicants from immediately recognizing the scenarios based on the initial conditions or other cues." *The standard met the requirements for medication in accordance with the standard.*

This scenario is being performed from 40% power. The power level is too high for a low power scenario. *Allowed Entergy to use scenario, but discussed the low power criteria with them. See email attached.*

HPCI is utilized in scenario 3 as well. Try to use RCIC / condenser instead of HPCI in one of the scenarios. *RCIC was used.*

What actions will CRO have in event 2, 3. What manipulations? *Monitor level and may assist in starting pump. In some of the cases the CRO or ACRO actually performed the tasks.*

Scenario 2 *What actions, not verifications, will the operator have to perform on event 2, 3, 4, and 5 and what operator will be taking the actions? *The operator actions were satisfactory after reviewing the actual scenarios.*

Scenario 3 *What action will the CRO take in event 2? *Scenario 3 was replaced during prep week due to a security issue.*

This scenario should contain different systems to have diversity from scenario 1. (Feedwater controller / HPCI).

*Form ES-301-5 note (3) states "only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum required requirement."

Section 3. Walk Through - Job Performance Measures (JPM)

- a. (3) No JPMs are duplicated from the applicant's audit exam.

Since the audit exam has not been developed this must be verified prior to administering the exam. VY is aware that the JPMs can not be duplicated from the audit exam. *No JPMs were duplicated from the audit exam.*

- b. (1) The Control Room System group has two JPMs with the same safety function (2). Change one of the JPMs to prevent duplication of safety functions in this group. *These JPMs were changed to have the appropriate number of safety functions.*

JPM (a) Manually start HPCI in pressure control mode
JPM (g) Transfer reactor feed pumps at power

ES-301.D.4.a states "Each of the control room systems and evolutions selected for RO and SRO-I applicants should evaluate a different safety function." This means there should be no duplication within the Control Room Systems and within the In-Plant Systems. However, there may be duplication of safety functions between the groups.

In addition, as noted below in 4.c, the importance values should be noted on Form ES-301-2. Also if there are E/APE used then the safety function should come from the written exam outline tier 1 / group 1.

- c. RO Administrative JPM A.4 must be a JPMs. ES-301.D.3.b no longer allows 2 questions instead of a JPM. *Changed to JPM.*

RO Administrative JPM A.4 must focus on the Emergency Plan procedures, not EOPs. ES-301.D.3.b states, "For the emergency plan topic only those K/As related to the emergency plan and implementing procedures (not those associated with the EOP) are applicable." *Based on our review the use (testing) of the emergency communication phones and plant alarms / pages meet this requirement.*

Section 4. General

- c. Ensure that K/A ratings are at least 2.5. Must add the K/A importance on Cat. B of the JPMs. *All greater than 2.5.*
- d. Check for duplication and overlap among exam sections. *Overlap is sufficient.*
 - 1. HPCI operation is in two scenarios and one JPM.
Consider using RCIC instead of HPCI in one of the scenario / JPM.
 - 2. Feedwater is in two scenarios.
- e. Check the entire exam for balance of coverage.

The outline appears balanced ; however, can not make a final determination until the exam is drafted and the individual questions can be reviewed.

From: John Munro
To: Alan Blamey
Date: 7/30/03 2:34PM
Subject: Re: Low Power Scenario

Alan - after receiving your message I talked with Fred with the following results:

(1) Our view is that 30% is not a low power scenario. Understand that the startup and low power scenario guideline was OL's response to the 1990s NRC "shutdown and low power Ops" task force. The NUREG-1449 definition was referenced in ES-602 because it was the only one that OL could find in print and it appeared relevant since the criteria was placed in the ESs in response to the task force. Also, I am not clear on the rationale for selecting 30%. In other words, why would 30% be a low power scenario and 40% power not be?

(2) Notwithstanding (1) above, ES-301 D.5.c states that "The initial conditions ... **should** be varied ... and **should** include startup, low-power, and full-power situations." In other words, startup and low power scenarios as part of the examination is clearly a preference and goal but it is not a requirement. Therefore, if the scenarios are already written and validated, and it would take significant resources to add a low-power scenario and it is late in the examination prep and review process, then it is probably not advisable to develop a new scenario or modify an existing scenario. That being said, it may also be advisable to counsel the facility that they should more carefully consider development of low power scenarios for future examinations. Another suggestion is that if the # of scenarios for any one exam are limited in number, consider if there has been variation among the IC power levels per ES-301 for the last exam.

(3) We will consider clarification to final rev 9 BUT this is not a commitment. In any case, there may be some logic to expanding the low power range to >5% but likely only up to the point of TG synchronization which is typically at a power significantly less than 30% power.

>>> Alan Blamey 07/30/03 10:40AM >>>
John,

Based on previous discussions of low power scenarios we concluded the definition of low power to be 30% power or less. However, during a recent review of form ES-601-2, page 36 of 36, foot note 2 it states that low power is defined as "criticality to 5% power," (NUREG 1449). Based on this information I have the following question.

ES-301-D.5.c, states "The initial conditions, normal operations, malfunctions, and major transients should be varied among the scenarios and should include startup, low-power, and full-power situations." Based on this requirement should one of the scenarios' initial condition be at a maximum of 30% or 5% power?

Based on my past experience I believe that 30% power or less is more appropriate for initial operator license examinations. If we limit power to be 5% or less then we have effectively limited the equipment malfunctions and technical specification requirements since the plant is not in the RUN mode. However, in either case we should also revise the standard to clearly define the low power condition.

Let me know what your thoughts are,

Thanks

AJB

CC: David Trimble; Richard Conte; SXg

MEMORANDUM TO: Exam File
Entergy
Vermont Yankee

DATE: September 4, 2003

FROM: Alan Blamey
Senior Operations Engineer

SUBJECT: COMMENTS ON VERMONT YANKEE EXAM.

The purpose of this memorandum is to document comments on the Vermont Yankee (VY) exam received on Thursday, August 21, 2003. The written exam was reviewed by A. Blamey, Senior Operations Engineer, S. Barr, Operations Engineer. The operational portion was reviewed by P. Bonnett and A. Blamey. The comments are as follows.

ES-401-7 Written Examination Quality Checklist

B

See ES 401-9, "Written Exam Review Worksheet," for comments.

B

Subject Areas Over Sampled

MCPR 4 questions 4 questions selected MCPR for generic topics
Changed to 1 question for RO and 2 questions for SRO.

B

Must get a copy of the ES-401-6, "Written Examination Quality Checklist." One was not in the submitted package.

ES-301-3 Operating Test Quality Checklist

Administrative Section

Reactor Operator Administrative JPM Comments

B

Emergency In functional test

This JPM has the operator perform nearly the same steps as JPM (a) Weekly Operable Control Rod Check. The only difference is that the operator uses emergency rod in. Both withdraw / insert / perform coupling check. There are not enough difference between these two JPMs. *This JPM was replaced with a secondary containment test JPM.*

B

Control Room Emergency Communication Check

This task requires an RO to call and test alarms - look at making announcement for ALERT w/o alarm. *This was determined to be sat. after review. There would be less for the operator to perform if he only made an announcement. This tested his use of the group calling phones, station alarms for evacuation and plant page in the alarm mode, all these tasks are required during an E-Plan event.*

Senior Reactor Operator Administrative JPM Comments

B

Inadequate Shift Staffing

Change the Cue

Verify time limits - No time limit given for staffing. *The cue is adequate there is no time limits for restoring a chemistry person to shift.*

B

Removal of pump for unscheduled maintenance.
Critical tasks for step 5 and 6 not needed. *Critical task removed from 5.*
Verify time validation and need better focus on the task in the cue. (SM has completed review is it ok). *The time validation was accurate and Initiating cue changed to reflect TS question.*

B

Emergency plan allowed exposure
Need better cue. *The cue was change to better focus the JPM.*
How do you concluded what dose limit is acceptable, for this emergency condition - more details / cues? *The cue was change to better focus the JPM.*

Simulator / In Plant Job Performance Measures (JPM)

General Comments

B

Safety Functions JPM (b) has a safety function of 4, not 1. *The JPMs were changed to meet this criteria.*

JPM (c) has a safety function of 1, not 4.

Each safety function within the control room systems must have a different safety function. Replace JPM (a) or (c) to with a JPM that has a safety function of 3 or 8 (RO) and 3, 8, 9 (SRO).

B

Verify that one JPM is performed at a low power / S/D condition. *JPM b, c, and d are all low power or S/D conditions.*

B

Verify no overlap with the audit exam. *No overlap with Audit Exam.*

B

JPM (a) Markup procedure VYOPF 4111.02 to show that the first control rod to test is 06-15. *Provided for exam.*

B

JPM (c) Need a completed copy of VYOPF 0150.03, Page 7 of 27, with correct numbers. *Provided for exam.*

B

JPM (g) This JPM is to bypass all scrams, allow the scram discharge volume to drain down and then inert a manual scram. This activity could be performed in scenario 2 NOT ACCEPTABLE unless you can guaranty it will not occur in scenario 2. Specifically, ES-301 D.4.b states "*For each system selected for evaluation, select from the applicable K/A catalog or the facility licensee's site-specific task list one task for which a JPM exists or can be developed. Review the associated simulator outline if it has already been prepared (refer to Section D.45), and avoid those tasks that have already been selected for evaluation on the dynamic - simulator test*" In addition, D.4 states that "*The selected task are in addition and should be different from the events and evolutions in the simulator operating test. This JPM is different from the Scenarios.*

This JPM required the bypass of scrams, install jumpers, bypass scram discharge volume and then scrambling and resetting. The one performed during the simulator was just closing the CRD 56 valve.

B JPM (k) Need a K/A System number for the task. 212000

ES-301-4 Simulator Scenario Quality Checklist

General Comments

- R Verify that the simulator modeling is not altered for the exam.
- B Provide "Conduct of Operations," procedure that provides standards for soft skills (communication / verification / self check).
- B Review the audit exam to ensure that none of the scenarios are repeated.

Scenarios

B Scenario 1 Add additional guidance to the following actions, if warranted during validation. *Additional detail was added prior to prep week and after prep week.*

- Event 3 Event 6
- Event 4 Event 7
- Event 5

What is the basis for making the initiating of Torus Spray a critical task? If not performed would there be a degradation of the primary containment? *Critical task was removed from torus sprays.*

Verify that this scenario was altered to meet the following criteria. "A significant modification means that at least one condition or event has been substantively changed to alter the course of action in the scenario. Furthermore, any other scenarios that are extracted from the facility licensee's bank must be altered to the degree necessary to prevent the applicants from immediately recognizing the scenarios based on the initial conditions or other cues." *The scenario was modified to change the flow path and it will not be noticeable from the initial conditions.*

B Scenario 2 Add additional guidance to the following actions, if warranted during validation. *Additional detail was added prior to prep week and after prep week.*

- Event 2 Event 6
- Event 3 Event 7
- Event 4 Event 8
- Event 5

B Restore the "A" APRM to service for this scenario. This may cue the operator to this issue. This is a TRM requirement and the SRO already has a TS call for the loss of the

startup transformer. After review it was determined that it should be left in to provide better evaluation of the SRO's ability to use TRM.

8 Spare

Add additional guidance to the following actions, if warranted during validation. *This scenario was replace due to a security issue. The issue was discovered during validation week and was replaced before the exam was administered.*

- Event 1 Event 5
- Event 2 Event 7
- Event 3 Event 8
- Event 4 Event 9

N/A The scenario should have a different system malfunction than Feedwater (FW) controller failing to 0. FW malfunction (stuck FW Reg. Valve) in scenario 2.

N/A The scenario should have a different system malfunction than a level instrument failure. Scenario 1 had a level instrument fail low. (Different instrument?)

N/A The scenario should have a different system malfunction than a break inside containment. This is very similar to scenario 1. Should have used secondary containment control.

N/A What is the basis for making the initiating of Torus Spray a critical task? If not performed would there be a degradation of the primary containment?

ES-301-5 Transient and Event Checklist

For Scenario 3 Item 2, Condensate Pump Trip and Item 3, power reduction because of the pump trip can not be counted twice for the same applicant. The standard states:

"Each event should only be counted once per applicant; for example, a power change can be counted as a normal evolution OR as a reactivity manipulation, and, similarly, a component failure that immediately results in a major transient counts as one or the other, but not both.

Any normal evolution, component failure, or abnormal event (other than a reactor trip or other automatic power reduction) that requires the operator to perform a controlled power or reactivity change will satisfy the requirement for qualify as a reactivity manipulation. This includes events such as an emergency boration, a dropped rod recovery, a significant rod bank realignment, or a manual reactor power reduction in response to a secondary system upset. Such events may produce a more timely operator and plant response than a normal power change."