

Salem Op Test Outline Comments

Op Test

JPM b. "Calculate" sounds like an Admin JPM - replace

Also appears to be more like an SF 3 vs SF 2 system (pressure vs inventory control wrt
RCS subcooling) – swap JPM c to Safety Function 2, replace JPM b

JPM k. Used on previous exam (2008) – indicate with "P"

Scenarios

1.1 R for the RO. N for CRS & PO

1.4 Change M to C for RO

1.6 change C to M for all

2.1 R for RO. N for CRS & PO

3.1 R for RO. N for CRS & PO

3.5 C for CRS and RO

4.2 & 4.3 Combine events 2 & 3

4.4 C for RO

Add event for PO

Changes Made to Salem May 2010 NRC Exam Job Performance Measures Following Prep Week

Sim a

No changes

Sim b

Placed space between portions of standard associated with manually initiating SI.

Modified note right below SI initiation standard to state..." **Note:** There is no requirement to identify specific condition which is causing the excessive steam flow. However, candidate MAY identify Main Steam Dump valves all 100% open and attempt to shut them by turning steam dumps off or initiating a MSLI to close the MSIVs. (Will not work).

Re-printed and placed in Master Folder in Exam Room Cabinet.

Sim c

No changes

Sim d

Added "in MODE 4" to Initial conditions following "Reactor is shutdown".

Added cue "IF operator enters AB.RC-0001, **THEN** CUE that the CRS will monitor CAS of AB.RC-0001." on second page standard.

Made closing 2CV7 and 2CV8 at step 3.2 critical steps.

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Sim e

Removed required performance of step 5.2.1, and changed initiating cue to start at step 5.2.2 vs. perform Section 5.2. Initialed step 5.2.1 as complete in procedure.

Added time compression to JPM, by putting in malfunction to open 21MS167 tied to a trigger that the Simulator Operator will insert after cue is given by evaluator that time compression will be used. Added cue that the valve stroke time was 3 minutes 50 seconds. Added direction to Simulator operator to remove malfunction once valve is open between steps 5.2.7 and 5.2.8.

Added malfunction to Simulator Setup.

Added "No other testing is being performed in the inner penetration area." to Initial Conditions.

Signed off all Precautions and Limitations in procedure.

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Sim f

No changes

Sim g

Made step 5.3.1 a critical step.

Filled out all Precautions and Limitations in procedure.

Added "Local alarms associated with the J-12 2B EDG URGENT TRBL are expected for the current conditions, and do not affect the 2B EDGs ability to be started." to Initial Conditions.

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Sim h

No changes

SRO Admin A1-1

No changes

SRO Admin A1-2

Removed "in the Salem Café" from Initial Conditions. Changed the candidates briefing sheet to match evaluators briefing sheet on page 2 of JPM.

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SRO Admin A2 (static)

No changes

SRO Admin A3

Replaced with different JPM. Sent to NRC on 4/8/10.

SRO Admin A4's

A4-1 (ESG-1) No change

A4-2 (ESG-2) No change

A4-3 (ESG-3) Step 3 changed Attachment 2 to Attachment 3 (ECG call is SAE which is attachment 3, not Attachment 2 which is ALERT. The Standard had correct attachment listed, the Step did not.

A4-4 (ESG-4 Spare) Step 3 changed Attachment 2 to Attachment 3 (ECG call is SAE which is attachment 3, not Attachment 2 which is ALERT. The Standard had correct attachment listed, the Step did not.

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RO Admin A1-1

On page 22 of procedure key, changed Final Data Time from "100" to "1000".

On page 28 of key, 7.0 Acceptance Criteria, the third Parameter is "Primary to Secondary Leak Rate Line 2E". The key originally had "2.0" as the correct answer, since the Acceptance Criteria is in GPD. I added the corresponding GPM, since Line 2E on page 27 has the candidate turn the GPD number, provided on their copy of the procedure, into GPM to add to the Total Leak Rates, whose Acceptance Criteria are also contained in Section 7.0

The actual JPM paperwork, on page 6 of 8, in the Standard for 7.0, already stated... "(Line 2E may be in gpm)" but since I added the 0.001 to the procedure key, I changed this to remove the statement in parentheses, and added (or 0.001) after the 2.0 for Line 2E.

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RO Admin A1-2

No Changes

RO Admin A2

Changed Task Standard for 2.7.3.A to say..." because it was not divided by 2."
Added "Rx Engineering has provided a Predicted Critical Boron Concentration of 1275 ppm." to initial conditions.

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RO Admin A3

Removed, "(Note: This does NOT include the RHR HX Room.)" from evaluators initiating cue. Added procedure NC.EP-EP.ZZ-0304, Operational Support Center (OSC) Radiation Protection Response (see page 3 NOTE) to references, and added that this procedure will be provided along with Survey Maps, and RP-AA-203. Added survey maps from 12 RHR HX Room and Aux Building 84' Pipe Tunnel. (Only maps which look anything like correct map)

Removed the word "and" from between "exposures" and "calculate" in the Initiating Cue.

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In-Plant - i

Added "and there are no AUTO start signals present for 23 AFW pump." to Initiating Cue. Changed "Pp" to pump" in first sentence of Initiating Cue. Removed Critical Task designation from Step 1.8. Removed steps for PPE and 2 minute drill card performance.

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In-Plant - j

Removed Critical Task designation from Step 5.1.8. Removed "and reviews 2 minute drill card at the job site." from the third standard on page 3.

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In-Plant - k

Added "Note: Max Release Rate from Att. 2, Step 2.2.2 is 150 gpm." to Standard for Step 5.5.4 on page 3.

Added "Cue: Chemistry paperwork indicates dilution water flowrate is 200,000 gpm." to Standard for Step 5.5.8 on page 4.

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Changes Made to Salem May 2010 NRC Exam Examination Scenario Guides Following Prep Week

ESG-1

- Attachment 1-Plant Status, Initial MWe changed from 1100 to 1110. Scenario Summary, F., Capitalized “additionally”.
- Remote/Malfunction Summary, re-numbered starting from “1” not “2”.
- Initial Conditions, page 5, changed “equilibrium Xe”, to “Xe burning out at 3 pcm per hour” to match actual conditions as stated on Attachment 1.
- Page 13, un-bolded the delay under remote SW43D.
- CT#3 in body of ESG, changed time requirement from “prior to 2A EDG tripping”, to “prior to end of scenario” to match actual critical task performance criteria as stated on Attachment 5, ESG Critical Tasks.
- Top of page 14 Note, added “If asked, respond that the release for 23 SW pump is in the field.” to provide direction for Simulator operator response to possible inquiry from crew about status of 23 SW pump.
- Page 19, second bullet opposite CT#3, removed 22 RHR pump and 22 SI pump from list of pumps to re-start since they have already been re-started previously on page 18 when 2B and 2C SECs were blocked and reset.
- Page 21, added note in middle of page regarding the criteria used to transition to LOCA-1 if the “A” vital bus has been restored prior to reaching the decision step.
- Page 15 second bullet, changed response to include that seal leakoff may be stable. “RO reports 24 RCP seal leakoff 5 gpm and **stable or** rising very slowly.”
- Page 15 last bullet, modified sentence to make sense.
- Page 17 last bullet, added “and crew re-enters TRIP-1.”
- Role play at bottom of original page 18, now on top of page 19, changed “2B local MCC” to “2A local MCC”.
- Page 22 last bullet, changed “Resets B & C SECs” to “Resets any SECs if not previously reset.”

ESG-2

- Page 5, Prep for Training, added 21 Heater Drain Tank Pump O/S (clear bezel cover), and 2PT-505 calibration (clear bezel cover)
- Page 14, 3rd bullet, added “Places 2CV18 in auto.” to steps for restoring letdown. Removed TSAS 3.1.2.2 from second bullet from bottom.
- Page 15, 4th bullet from bottom, changed 2CN47 from closed to open. Changed incorrect valves GB184s to GB185s.

ESG-3

- Page 5, Event Triggers, removed ET-5 which inserted the Rod Control malfunction when the Rx Trip Handle was used.
- Page 5, Malfunction Summary, changed malfunction 9, RD0057, to insert upon insertion of Remote Trigger (RT) 1, which already inserts the PZR pressure channel 1 malfunction.
- Also removed the Simulator operator step at top of page 13 about ensuring ET-5 was true since it is not activated on RT-1.
- Modified instructions on page 8 to delete the action regarding having power as high as possible since it was there to make sure that rods/power couldn't be lowered.
- Page 9, added the rod control malfunction to the Simulator operator step to insert RT-1.
- Added second note on page 10 regarding rod movement and event timing.
- Page 12, changed the Final Value for the CN0086 malfunction from 100 to 50 as listed on the Malfunction Summary on page 5.
- Page 12, added, Final Value: 100 to VL0115 malfunction.
- Pages 15 and 16. Moved the initiation of the 2PR2 failure from step 15 of TRIP-2 to shortly after transition to TRIP-2.
- Removed (8) TRIP-2 steps after CRS briefs crew.
- Removed steps to continue in TRIP-2 and changed termination of scenario to when after 2PR6 is shut.
- Page 14, 6th bullet, removed extra space on 2SJ4 and 2SJ12.
- Changed wording of CT#1 on Attachment 5, page 23 to match the wording contained in body of scenario on page 14.

ESG-4 (Spare)

- Page 5, Malfunction Summary, #7, changed to RT-7 from TR-7.
- Added 2 malfunctions to Malfunction Summary page 5. #11, AN3540, which in conjunction with #1 Remote AF25D removes control power from 22 AFW pump to prevent it starting. Additionally direction is provided in body of Sim Guide on page 13 to delete the malfunction when the PB to start 22 AFW pump is depressed to allow the pump to start. Added Malf #12 RP0059A to prevent the Rx Trip Handle from initiating a Rx trip, but the manual opening of the Rx Trip Breakers on the control Console will trip the rx, and added the attendant steps for this ATWT on page 11.

****All ESGs were modified as required to align the Event Numbers on the ES-D-1 forms with the Event Numbers contained in the ESGs.

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			
1	H	3												N	S	
2	F	3												N	S	
3	H	4	X											B	E	Change "is" to "was" for clarity.
4	F	2												N	S	
5	H	3												N	S	
6	H	2												N	S	
7	F	3	X											B	E	Replace "-" with "is"
8	H	4										X		B	E	Q appears to be SRO level but is similar to scenario item - <u>replaced</u> .

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.
 - 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).
- 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).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- 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?
- 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	Back-ward	Q=K/A	SRO Only			
9	H	2												B	S	
10	F	3	X											M	E	Crew's vs crews
11	H	3												N	S	
12	F	2												N	S	
13	H	2												N	S	
14	F	3	X											N	E	Added "If" to beginning of distractors C & D.
15	F	2	X											B	E	Add IAW procedure to stem.
16	F	2	X											M	E	Capitalize beginning of distractors
17	F	2				A								N	E	Distractor A to be modified to be more plausible.
18	H	3												N	S	
19	F	2	X				B							N	E	Modify/replace B to be clearly incorrect.
20	F	1							X					B	U	Q <u>replaced</u> to be operationally oriented.
21	H	2	X											B	E	Reworded question stem for clarity.
22	H	3	X											N	E	Add "to" to third item.
23	F	2												M	S	
24	H	3												B	S	
25	H	2												N	S	
26	F	3												B	S	
27	H	3												B	S	
28	H	3	X??											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			
29	H	2												N	S	Clarify explanation for b.
30	F	2												B	S	
31	H	3												M	S	
32	H	2												M	S	
33	F	2												N	S	
34	H	2												M	S	
35	F	4												M	S	
36	H	2	X											M	E	Combine 2 nd & 3 rd items
37	H	2												N	S	
38	H	3												B	S	
39	F	2												N	S	
40	H	3	X											N	E	Edit – add "be" to Q
41	H	3												M	S	
42	H	4												M	S	
43	F	2	X											B	E	Add "only" to A & B to preclude confusion among distractors
44	H	3												N	S	
45	H	3	X											N	E	Capitalize distractor sentence beginnings.
46	H	3					A							N	E	Modify A to clarify only one correct answer – "just received".
47	H	2	X			A,C								N	U	State IC. Add "22CS pump will not start" make A & C more plausible
48	F	2	X											B	E	Add "The CIRUs are" to lead-in statement.

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	X			D						X		N	U	K/A include H2 recombiner – not mentioned in Q stem. .
50	H	3												N	S	
51	F	2												B	S	Correct explanation page.
52	F	2												N	S	
53	H	3	X											N	E	Delete last phrase of distractor D.
54	H	2												N	S	Reference provided.
55	H	2												N	S	
56	H	2												N	S	
57	H	2	X											B	E	Replace "1X" with "once" in distractor C.
58	F	2												B	S	
59	F	2	X			D								B	E	"receiver" misspelled. Delete "start" in last sentence. Make D "4".
60	F	2	X											N	E	Typo – "is" vs "in" in distractor D.
61	H	3				C								N	E	Replace distractor C.
62	F	2												M	S	
63	F	2												M	S	
64	F	2												N	S	
65	H	4											X	M	U	K/A mismatch. <u>Replace Q.</u>
66	F	2												N	S	
67	F	2												B	S	
68	H	3												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			
69	H	3												N	S	Reference provided.
70	F	3												M	S	
71	F	2												B	S	
72	H	3												N	S	Reference provided.
73	F	3												N	S	
74	H	3											X	N	E	Beyond required knowledge for RO. <u>Replace Q.</u>
75	H	3												B	S	
76	H	2												N	S	
77	H	3		X										N	E	Replace D - Need parallel distractor for operator action
78	H	2												N	S	Correct explanation – A or B correct.
79	H	3	X											N	E	Modify stem to clarify SRO assessment & direction. Capitalize ONLY
80	H	2	X											B	E	Add "the" to second item (...RWST to <i>the</i> Unit 1...)
81	H	3												N	S	Correct explanation for correct choice
82	H	3												M	S	Reference provided. Limit the reference material????
83	H	3	X											M	E	Reference provided. Add "At this time" to beginning of Q
84	M	2											X	M	U	Does not meet 55.43 for SRO. Revise Q
85	H	3												N	S	
86	H	2	X											N	E	Delete "normally"

