

Facility: Comanche Peak		Exam Date: August 9 - 13, 2021											
Admin JPMs	1 ADMIN Topic and K/A	2 LOD (1-5)	3 Attributes							4 Job Content		5 U/E/S	6 Explanation
			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
RA1	2.1.25	2										E S	Make the MINUS error band -270. That's the result if one rounds ln(1600/1292) to 0.21. Changed error band. JPM now SAT
RA2	2.1.26	2										S	
RA3	2.2.13	3										S	
RA4	2.3.7	2										S	
SA1	2.1.42	3										S	
SA2	2.1.2	1										U S	I believe this to be LOD 1, since the correct answers are the only three sub-steps to section 2.0. Is there any way to add time to closure or something else to this JPM? Based on modifications to the written exam, the original JPM submitted is now overlap so I used your suggestion and pulled a JPM from the bank on determining time after shutdown, time to saturation, heat up rate, time to core uncover, and time to containment closure (all modified). I then further modified that JPM to add an SRO element to determine if an adequate Hot Leg Vent Path exists to place RCPs on Backseat. JPM now SAT
SA3	2.2.42	2										E S	Rather than the cue stating 31 days, use dates. Start with the vendor notification on August 10 and have the second tech spec question be September 12 or something like that. Feels a little more challenging. Changed to dates. JPM now SAT
SA4	2.3.14	2										E S	Change initiating cue to "... a Shallow Dose Equivalent (SDE) Exposure ..." Added word Exposure. JPM now SAT.
SA5	2.4.41	1										U S	Since there is only one containment EAL in the entire flow chart, would like you to find some other event. Otherwise, this is LOD 1. Changed to a loss of Fission Product Barrier Classification. JPM now SAT
Simulator/In-Plant JPMs	1 Safety Function and K/A												

Form ES-301-2 attributes for RO and SRO(I) indicate 6 new or modified from the bank. There are actually 7 for each. **Changed to 8 New or Modified for RO and SRO(I) and 5 New or Modified for SRO(U) based on modifying S-5 JPM as directed below**

S1	001 A4.03											ES	The examiner note on step 9 is unnecessary since the rods are being moved back to pre-test position. Deleted examiner note. There should be an examiner note associated with step 14. If T_{ave} / T_{ref} deviation is not within 1° of each other, step 14 should be critical. Added examiner note. Change second bullet of initiating cue to something like "Initial direction of rod movement for Control Bank D rods should be OUT per Shift Manager." Changed bullet. JPM now SAT
S2	004 A2.14											S	
S3	WE05 EA1.1											ES	Step 3 COULD become critical if the applicant first attempts MDAFWP 1-01. Then using the TDAFW pump will be successful. In that case, if step 3 is not performed, SSW would be provided to all four steam generators through the B FWIVs. Added note to Step 3. Step 9 should be critical. Made Step 9 critical. Ensure keys are available to operate Key-Operated Valves. Change examiner cue associated with step 8 to indicate the valve will not open and move cue to after the step. Change validation time to 15 minutes. Changed validation time. JPM now SAT
S4	WE09 EA1.1											ES	Step 7 should be critical. Made step critical. JPM now SAT
S5	064 A4.06											ES	Change the alternate path such that the first EDG they try to use will not work. Tripping the reactor as the RNO on the first step is not much of an alternate path. Changed JPM so the first selected DG output breaker fails to close requiring examinee to utilize the remaining DG to energize the remaining safeguards bus. JPM now modified. Steps 9 and 10 should be critical. Made steps critical. JPM now SAT
S6	015 A2.02			X								UES	The NRC cannot direct performance of a procedure. Is there anything in the alarm response procedure that will direct them to ABN-701? No alarm response procedure directs entry into ABN-701 for this condition. Since JPM is not Alternate Path, changed initial conditions to state the SR Channel has energized at power and directed examinee to implement ABN-701, Section 4 in the initiating cue. Change validation time to 5 minutes. Changed validation time. JPM now SAT
S7	008 A2.01											ES	For the task standard, delete "Utilizing ABN-502," from the last sentence, since they may start the A CCW pump IAW ODA-102. Removed Utilizing ABN-502 from task standard. Add at the end of the last sentence of the task standard, "without tripping the reactor." As written, if they tripped the reactor then started the A CCW pump, that would result in a PASS for the JPM, and they should not resort to tripping the reactor. Added statement to task standard. Change validation time to 12 minutes. Changed validation time. JPM now SAT

S8	071 A4.09											S	
P1	013 A3.02											S	
P2	2.3.14											S	
P3	067 AA2.17											E S	Mark steps 1 through 3 on examinee's procedure as complete and change initiating cue to direct starting at step 4 to eliminate entering and exiting the RCA. Change validation time to 15 minutes. Made all requested changes. JPM now SAT.

Instructions for Completing This Table:

Check or mark any item(s) requiring a comment and explain the issue in the space provided using the guide below.

1. Check each JPM for appropriate administrative topic requirements (COO, EC, Rad, and EP) or safety function requirements and corresponding K/A. Mark in column 1. (ES-301, D.3 and D.4)
2. Determine the level of difficulty (LOD) using an established 1–5 rating scale. Levels 1 and 5 represent an inappropriate (low or high) discriminatory level for the license that is being tested. Mark in column 2 (Appendix D, C.1.f)
3. In column 3, “Attributes,” check the appropriate box when an attribute is **not met**:
 - The initial conditions and/or initiating cue is clear to ensure the operator understands the task and how to begin. (Appendix C, B.4)
 - The JPM contains appropriate cues that clearly indicate when they should be provided to the examinee. Cues are objective and not leading. (Appendix C, D.1)
 - All critical steps (elements) are properly identified.
 - The scope of the task is not too narrow (N) or too broad (B).
 - Excessive overlap does not occur with other parts of the operating test or written examination. (ES-301, D.1.a, and ES-301, D.2.a)
 - The task performance standard clearly describes the expected outcome (i.e., end state). Each performance step identifies a standard for successful completion of the step.
 - A valid marked up key was provided (e.g., graph interpretation, initialed steps for handouts).
4. For column 4, “Job Content,” check the appropriate box if the job content flaw **does not meet** the following elements:
 - Topics are linked to the job content (e.g., not a disguised task, task required in real job).
 - The JPM has meaningful performance requirements that will provide a legitimate basis for evaluating the applicant's understanding and ability to safely operate the plant. (ES-301, D.2.c)
5. Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 5.
6. In column 6, provide a brief description of any (U)nacceptable or (E)nhancement rating from column 5.

Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a (S)atisfactory resolution on this form.

Facility: Comanche Peak		Scenario: 1					Exam Date: August 9 – 13, 2021			
1	2	3	4	5	6	7	8	9	10	
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation	
1								S	2019 Spare Scenario	
2					✓			E S	Remove RO from "Bean count". Removed. Page 9 simulator operator, if requested, Attachment 1 mode change completion checklist complete and will be completed by an extra operator. Added. Add to RO task that rods will be withdrawn to raise power. Added. Element now SAT.	
3								E S	Change BOP to RO in "Bean count." Changed. Element now SAT.	
4					✓			E S	Page 16; change that PT-507 fails LOW. Changed. Element now SAT.	
5					✓			S		
6						✓		E S	Page 26 note what page attachment 2 starts on Noted. Element now SAT.	
7						✓		S		
					3	2		E S		

Facility: Comanche Peak			Scenario: 3				Exam Date: August 9 – 13, 2021			
1	2	3	4	5	6	7	8	9	10	
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation	
1					✓			E S	Page 11 add steps to reset C-7. Added. Element now SAT.	
2					✓			E S	Scenario Summary (page 2) should place DG 1-01 in pull-out. Changed. Page 17 remove simulator operator role play. Removed. Page 18 add examiner note that may proceed after TDAFW pump is stopped, CCP 1-02 is started, and DG 1-01 placed in pull out, and consider adding attachment 4 steps. Changed and added. Page 19 simulator operator role play should be chiller X-01. Deleted. Element now SAT.	
3					✓			E S	Page 25 change SMART Form to an issue report. Changed. Element now SAT.	
4					✓			E S	Eliminate placing Excess Letdown in Service as part of event 4. Eliminated. Page 27 add examiner note that may proceed to next event after actions to reduce charging flow to seals only are completed. Added. Element now SAT.	
5						✓		E S	Add page number that Attachment 2 steps begin to examiner note on page 38. Added. Element now SAT.	
6								S		
7								S		
8								E S	Change delay on starting LBLOCA (pages 7 and 35) to 180 seconds after DG 1-02 starts. Changed. Element now SAT.	
9						✓		E S	Change binding criteria of CT2 to “prior to completion of EOP-0.0A, Attachment 2.” (D1, and pages 4 and 50.) Changed. Note at bottom of page 49 is when the US has evaluated whether a transition to EOS-1.3A is required. Changed. Element now SAT.	
					4	2		E S	Specific comments to follow validation	

Facility: Comanche Peak			Scenario: 4				Exam Date: August 9 – 13, 2021		
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
								E S	Change turnover (page 6) to MDAFW 1-02 tagged out for bearing replacement. Changed. Element now SAT.
1					✓			S	
2								E S	Change examiner note to fan tripped on overcurrent on page 16. Changed. Element now SAT.
3					✓			S	
4								E S	Add examiner note on page 23 that the crew may initiate a 50 MW power reduction if reactor power exceeds 100%. Added. Element now SAT.
5						✓		S	
6								S	
7						✓		S	
8						✓		E S	Change TDAFW pump trip to a time delay after the reactor trip (page 3, examiner note on page 29 and simulator operator note on page 33.) Changed. Page 33 delete alarm 1-ALB-8B, Window 4.6. Deleted. Element now SAT.
					2	3		E S	

Instructions for Completing This Table:

- 1 Use this table for each scenario for evaluation.
- 2 Check this box if the events are not related (e.g., seismic event followed by a pipe rupture) **OR** if the events do not obey the laws of physics and thermodynamics.
- 3, 4 In columns 3 and 4, check the box if there is **no** verifiable or required action, as applicable. Examples of required actions are as follows: (ES-301, D.5f)
 - opening, closing, and throttling valves
 - starting and stopping equipment
 - raising and lowering level, flow, and pressure
 - making decisions and giving directions
 - acknowledging or verifying key alarms and automatic actions (Uncomplicated events that require no operator action beyond this should **not** be included on the operating test unless they are necessary to set the stage for subsequent events. (Appendix D, B.3).)
- 5 Check this box if the level of difficulty is **not** appropriate.
- 6 Check this box if the event has a TS.
- 7 Check this box if the event has a critical task (CT). If the same CT covers more than one event, check the event where the CT started **only**.
- 8 Check this box if the event overlaps with another event on any of the last two NRC examinations. (Appendix D, C.1.f)
- 9 Based on the reviewer's judgment, is the event as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 9.
- 10 Record any explanations of the events here.

In the shaded boxes, sum the number of check marks in each column.

- In column 1, sum the number of events.
- In columns 2–4, record the total number of check marks for each column.
- In column 5, based on the reviewer's judgement, place a checkmark only if the scenario's LOD is not appropriate.
- In column 6, TS are required to be ≥ 2 for each scenario. (ES-301, D.5.d)
- In column 7, preidentified CTs should be ≥ 2 for each scenario. (Appendix D; ES-301, D.5.d; ES-301-4)
- In column 8, record the number of events not used on the two previous NRC initial licensing exams. A scenario is considered unsatisfactory if there is < 2 new events. (ES-301, D.5.b; Appendix D, C.1.f)
- In column 9, record whether the scenario as written (U)nacceptable, in need of (E)nhancement, or (S)atisfactory from column 11 of the simulator scenario table.

Facility: Comanche Peak		Exam Date: August 9 – 13, 2021								
Scenario	1 Event Totals	2 Events Unsat.	3 TS Total	4 TS Unsat.	5 CT Total	6 CT Unsat.	7 % Unsat. Scenario Elements	8 U/E/S	11 Explanation	
1	7	0	2	0	2	0	0	E S	All changes made.	
3	9	0	3	0	2	0	0	E S	All changes made.	
4	8	0	2	0	3	0	0	E S	All changes made.	

Instructions for Completing This Table:

Check or mark any item(s) requiring comment and explain the issue in the space provided.

1, 3, 5 For each simulator scenario, enter the **total** number of events (column 1), TS entries/actions (column 3), and CTs (column 5).

This number should match the respective scenario from the event-based scenario tables (the sum from columns 1, 6, and 7, respectively).

2, 4, 6 For each simulator scenario, evaluate each event, TS, and CT as (S)atisfactory, (E)nhance, or (U)nsatisfactory based on the following criteria:

- a. Events. Each event is described on a Form ES-D-2, including all switch manipulations, pertinent alarms, and verifiable actions. Event actions are balanced between at-the-controls and balance-of-plant applicants during the scenario. All event-related attributes on Form ES-301-4 are met. Enter the total number of unsatisfactory events in column 2.
- b. TS. A scenario includes at least two TS entries/actions across at least two different events. TS entries and actions are detailed on Form ES-D-2. Enter the total number of unsatisfactory TS entries/actions in column 4. (ES-301, D.5d)
- c. CT. Check that a scenario includes at least two preidentified CTs. This criterion is a target quantitative attribute, not an absolute minimum requirement. Check that each CT is explicitly bounded on Form ES-D-2 with measurable performance standards (see Appendix D). Enter the total number of unsatisfactory CTs in column 6.

7 In column 7, calculate the percentage of unsatisfactory scenario elements: $\left(\frac{2 + 4 + 6}{1 + 3 + 5}\right) 100\%$

8 If the value in column 7 is > 20%, mark the scenario as (U)nsatisfactory in column 8. If column 7 is ≤ 20%, annotate with (E)nhancement or (S)atisfactory.

9 In column 9, explain each unsatisfactory event, TS, and CT. Editorial comments can also be added here.

Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario is marked by a (S)atisfactory resolution on this form.

Site name: Comanche Peak			Exam Date: August 9 – 13, 2021			
OPERATING TEST TOTALS						
	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	2	3	4		All changes made.
Sim./In-Plant JPMs	11	1	6	4		All changes made.
Scenarios	3	0	3	0		All changes made.
Op. Test Totals:	23	3	12	8	13%	

Instructions for Completing This Table:

Update data for this table from quality reviews and totals in the previous tables and then calculate the percentage of total items that are unsatisfactory and give an explanation in the space provided.

- Enter the total number of items submitted for the operating test in the "Total" column. For example, if nine administrative JPMs were submitted, enter "9" in the "Total" items column for administrative JPMs. For scenarios, enter the total number of simulator scenarios.
- Enter the total number of (U)nsatisfactory JPMs and scenarios from the two JPMs column 5 and simulator scenarios column 8 in the previous tables. Provide an explanation in the space provided.
- Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.
- Total each column and enter the amounts in the "Op. Test Totals" row.
- Calculate the percentage of the operating test that is (U)nsatisfactory (Op. Test Total Unsat.)/(Op. Test Total) and place this value in the bolded "% Unsat." cell.

Refer to ES-501, E.3.a, to rate the overall operating test as follows:
 - satisfactory, if the "Op. Test Total" "% Unsat." is $\leq 20\%$
 - unsatisfactory, if "Op. Test Total" "% Unsat." is $> 20\%$
- Update this table and the tables above with post-exam changes if the "as-administered" operating test required content changes, including the following:
 - The JPM performance standards were incorrect.
 - The administrative JPM tasks/keys were incorrect.
 - CTs were incorrect in the scenarios (not including postscenario critical tasks defined in Appendix D).
 - The EOP strategy was incorrect in a scenario(s).
 - TS entries/actions were determined to be incorrect in a scenario(s).