

+ Facility: Indian Point Energy Center, Unit 2										Exam Date: Weeks of February 4 and February 11, 2019			
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		
RO CO1		3										E	Added start and stop time blocks. Improved JPM task standard. Deleted extraneous data from step 2.. Recalculated boric acid volume using 2.15. Added and acceptable range.
RO EC1		3										E	Added start and stop time blocks. Improved JPM task standard. Revised reference to PW-115 to either open or closed. Not a critical valve.
RO RC1		3										E	Added start and stop time blocks. Improved JPM task standard. Revised isolation date to be > 7 days. Added chemistry management approval to initial conditions. Added procedure step reference to JPM step 3. Revised JPM step 5 result to 7.14E-3. Revised JPM step 6 result to 49.4. Revised JPM step 7 result to 5.45E-4.
RO EP1		3										E	Added start and stop time blocks. Improved JPM task standard. Added critical task start time to JPM step 3.
SRO CO1		3										E	Added start and stop time blocks. Improved JPM task standard. Removed Region 1-1 as answer for Fuel Assembly 3.
SRO CO2		3										E	Added start and stop time blocks. Improved JPM task standard. Removed BAST level information from initial conditions. Added +5 gallons allowable value to calculation. Removed JPM step 7 for determining TRM actions.
SRO EC1		3										E	Added start and stop time blocks. Improved JPM task standard.
SRO RC1		3										E	Added start and stop time blocks. Improved JPM task standard. Added +1 minute to standard for JPM step 6.
SRO EP1		3										E	Revised answer key to correct Unit 3 status.
Simulator/In-Plant JPMs	1 Safety Function and K/A												
a		3										E	Added start and stop time blocks. Improved JPM task standard. Removed JPM Steps 1 through 3. Started JPM at Procedure Step 4.70 vice 4.67. Tied JPM to different KA.
b		3										E	Added start and stop time blocks. Improved JPM task standard. Revised initial conditions to initiate excess L/D to VCT, not RCDT. Corrected procedure step reference. Added JPM steps due to change of initial conditions.

													Corrected typo in JPM step 4. Changed original step 6 (final step 10) to not critical.
c		3										E	Added start and stop time blocks. Improved JPM task standard. Revised initial conditions to move procedure starting step to the initiating cue. Added comment that applicant may secure 1 or 2 charging pumps to JPM step 5. Revised JPM step 6 (204B is not critical). Added valve number 212 to JPM step 8. Added comment that pressurizer level will come on scale at approximately 980 psig. Revised JPM step 12. Closing either 142 or 212 will stop depressurization.
d		3										E	Added start and stop time blocks. Improved JPM task standard. Revised initial conditions to state LBLOCA with Phase A&B. Revised Initiating Cue to perform step 18. Added cue to inform applicant that RCP support conditions could not be established if asked. Revised cue for JPM step 3 to "the lowest CETs are > 1260°F." Revised cue for JPM step 7 to "the lowest CETs are > 1245°F." Removed steps for starting third RCP.
e		3										E	Added start and stop time blocks. Improved JPM task standard. Revised JPM step 10 to close Phase B valves and include the 4 switches.
f		3										E	Added start and stop time blocks. Improved JPM task standard. Revised initiating cue to include procedure identification. Added procedure ID to JPM step 1. Added procedure steps to JPM steps 2 and 3. Corrected typo JPM step 4. Corrected typos JPM steps 6 and 7.
g		3										E	Added start and stop time blocks. Improved JPM task standard. Increased validation time to 25 minutes. Revised initiating cue. Removed initial condition Loop 23 Tcold previous failure. Expanded JPM to include actions in AOP-INST-1. Added references to procedure steps. Added cue JPM step 11 for STA to evaluate TS.
h		3										E	Added start and stop time blocks. Improved JPM task standard. Added RO and SRO KA rating values. Revised JPM step 5 standard to rotate switch to close.
i		3										E	Added start and stop time blocks. Improved JPM task standard. Corrected typo valve number IA-862 to IA-872 on page 3.
j		3										E	Added start and stop time blocks. Improved JPM task standard. Added flashlight to required materials.
k		3										E	Added start and stop time blocks. Improved JPM task standard. Revised cue JPM step 2. Added green light on to JPM step 7 cue. Added red light on to JPM step 8 cue.

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: IPEC Unit 2		Scenario: 1						Exam Date: February 2019	
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1					x			S	
2					x			E	Changed to NI-41 channel to improved discriminatory value of event.
3								E	Editorial change
4						x	x	S	2014 Scn 1, Event 6
5						x	x	S	Similar to 2016 Scn 3 Event 5
6								S	
7						x	x	S	2016 Scn 4 Event 8
7	0	0	0		2	3	4		

Facility: IPEC Unit 2		Scenario: 2						Exam Date: February 2019	
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1					x			S	
2							x	S	2016 Scn 3 Event 1
3					x			S	
4						x		S	
5						x	x	S	2014 Scn 1 Event 8
6								S	
7								S	
8								S	Removed CT for RCS cooldown.
8	0	0	0		2	2	6		

Facility: IPEC Unit 2		Scenario: 3			Exam Date: February 2019				
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1					x			S	
2					x			S	
3								E	Clarified to occur at 49% power
4						x		S	
5								S	
6						x	x	S	2014 Scn 2 Event 7
7							x	S	2016 Scn 3 Event 6
8	0	0	0		2	2	5		

Facility: IPEC Unit 2		Scenario: 5			Exam Date: February 2019				
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1					x			S	
2								S	
3								E	Removed TS for SRO in Event 3.
4					x			S	
5								S	
6						x		S	
7						x		S	
8	0	0	0		2	2	7		

Instructions for Completing This Table:

- 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: Indian Point Energy Center, Unit 2

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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	3	0	0	E	Added some additional detail to the D-2 forms.
2	8	0	2	0	2	0	0	E	Added some additional detail to the D-2 forms.
3	7	0	2	0	2	0	0	E	Added some additional detail to the D-2 forms.
5	7	0	2	0	2	0	0	E	Added some additional detail to the D-2 forms.

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:

- 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.
- 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)
- 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: IPEC, Unit 2

Exam Date: Weeks of February 4 and February 11, 2019

OPERATING TEST TOTALS

	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	0	9	0		
Sim./In-Plant JPMs	11	0	11	0		
Scenarios	4	0	4	0		
Op. Test Totals:	24	0	24	0	0	

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 ($\text{Op. Test Total Unsat.} / (\text{Op. Test Total})$) 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).