

Facility: Quad Cities												Exam Date: July 2018	
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 Admin 1	Conduct of Operations 2.1.43	2	X									E	<p>NRC: Provide examinee copy of OD-5 printout should be indicated on page 5 for examiner readiness to administer the JPM.</p> <p><i>Response: Cue within body to provide printout when OD is demanded.</i></p> <p>NRC: Will a visual cue be given to examinee for % flow or will examiner simply state what they should be reading? Will we do this for each APRM or provide them data after they read APRM 1?</p> <p><i>Response: Yes visual cues (picture) will be provided.</i></p>
RO Admin 2	Conduct of Operations 2.1.26	3										S	
RO Admin 3	Equipment Control 2.2.12	3	X									E	<p>NRC: In simulator setup section, incorrect instructions are given to enter 52 psig into step H.6.f. It should be 52 gpm.</p> <p><i>Response: Correction made.</i></p>
RO Admin 4	Radiation Control 2.3.5	2		X								E	<p>NRC: On page 6 the steps to perform a whole body frisk are incorrectly indicated as coming from RP-AA-350, Attachment 3. They should be noted as coming from RP-AA-350, Attachment 6.</p> <p><i>Response: Attachment 3 is correct (procedure has been revised such that there is no longer an Att 6.)</i></p>
SRO Admin 1	Conduct of Operations 2.1.18	2									X	E	<p>NRC: References indicated do not list specific requirements for what is to be identified as inadequate by the examinee.</p> <p><i>Response: Requirements are generically identified.</i></p>
SRO Admin 2	Conduct of Operations 2.1.37	3	X									E	<p>NRC: Materials needed listed on page 4 indicates a copy of QCGP 1-2, Normal Unit 2 Startup. JPM cues do indicate providing this reference to the candidates.</p> <p><i>Response: Copy will be available if requested.</i></p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
SRO Admin 3	Equipment Control 2.2.17	2										S	
SRO Admin 4	Radiation Control 2.3.4	3	X									E	<p>NRC: In the Initial Conditions section on page 5, the ED dose alarm is incorrectly listed as being set to 80 mrem instead of 81 mrem.</p> <p><i>Response: corrected to state 80 mrem.</i></p>
SRO Admin 5	Emergency Plan 2.4.38	3										S	
Simulator/In-Plant JPMs	1 Safety Function and K/A												
2018 ILT NRC JPM a	SF1 202002 A2.04	2	X									E	<p>NRC: Initial power level not indicated in initial conditions of JPM.</p> <p><i>Response: Power level to be written in following setup.</i></p>
2018 ILT NRC JPM b	SF2 217000 A4.04	3										S	
2018 ILT NRC JPM c	SF9 261000 2.1.31	2	X									E	<p>NRC: Initial Conditions do not include a value for reactor power.</p> <p><i>Response: Power level to be written in following setup.</i></p>
2018 ILT NRC JPM d	SF5 290001 A4.01	2										S	
2018 ILT NRC JPM e	SF4 205000 A2.09	3		X								E	<p>NRC: An Equipment Status Tag is called for in procedure step F.2.f.(1) for MO 1-1001-16A, but is not listed as a cue to provide the examinee.</p> <p><i>Response: Tag will be placed during setup.</i></p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
2018 ILT NRC JPM f	SF3 295007 AA1.02	3										E	<p><u>NRC</u>: Incorrect K/A and associated rating factors listed. Should be AA1.02 3.5/3.7.</p> <p><i>Response: Corrected.</i></p> <p>'Momentarily' spelled incorrectly in cue following start of alternate path.</p> <p><i>Response: Corrected.</i></p>
2018 ILT NRC JPM g	SF7 215002 A2.05	2			X			X				E	<p><u>NRC</u>: Standard for step B.2.d incorrectly indicates that rod M-10 is reselected, should indicate rod F-12. corrected</p> <p>Step 09 is listed as a critical step with no verifiable action associated with it.</p> <p><i>Response: corrected</i></p>
2018 ILT NRC JPM h	SF6 262001 A4.04	2										S	
2018 ILT NRC JPM i	SF6 263000 2.1.29	2										S	
2018 ILT NRC JPM j	SF9 290003 2.1.23	2										S	
2018 ILT NRC JPM k	SF8 400000 2.1.30	2										S	

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: Quad Cities			Scenario: 1						Exam Date: July 2018	
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		
2							X	S		
3			X		X			S	NRC: This is an acceptable Tech Spec only SRO call for a failed level instrument.	
4					X			S		
5								S		
6								S		
7								S		
8						XX		S		
9			X					E	<p>NRC: There is no verifiable action to specifically recover HPCI, but this will require an eventual emergency depressurization due to the inability to maintain to reactor water level above TAF with no HPCI and no RFPs.</p> <p>D-1 and D-2 are not in alignment as to the cause of the failure of the HPCI pump. Correct D-1 to match D-2 for HPCI failure.</p> <p><i>Response: D1 corrected to match D2</i></p>	
10						XX		S		
10	0	0	2		2	4	9	E	See above.	

Facility: Quad Cities			Scenario: 2						Exam Date: July 2018
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	
2								S	
3					X			S	
4								S	
5					X			E	<u>NRC</u> : D-1 and D-2 do not match for required Technical Specification entries. <i>Response: LCO reference removed from D1.</i>
6								S	
7						XXX	X	S	<u>NRC</u> : Initiator for hydraulic ATWS different than previous exam initiator.
8						X		S	
8	0	0	0		2	4	7	E	See above.

Facility: Quad Cities		Scenario: 3							Exam Date: July 2018
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	
2								S	
3							X	S	
4					X		X	S	
5					X		X	S	
6						X		S	
7						X		S	
7	0	0	0		2	2	4	S	

Facility: Quad Cities		Scenario: 4							Exam Date: July 2018
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					X			E	<p><u>NRC:</u> D-2 needs to indicate that crew is expected to enter TS 3.8.1.b when the speed droop of the 1/2 EDG governor is taken to 50.</p> <p><i>Response: Required information added the D2</i></p>
2					X			E	<p><u>NRC:</u> D-1 and D-2 do not agree on proper LCOs for crew to enter.</p> <p><i>Response: LCO reference removed from D1.</i></p>
3					X			E	<p><u>NRC:</u> D-1 and D-2 do not agree on proper LCOs for crew to enter.</p> <p><i>Response: LCO reference removed from D1.</i></p>
4						X	X	S	
5						X		S	
6						X	X	S	
7						X		S	
7	0	0	0		3	4	5	E	See above.

Facility: Quad Cities			Scenario: 5						Exam Date: July 2018
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	
2					X			S	
3							X	S	
4					X		X	S	
5					X		X	S	
6								S	
7						XX		S	
7	0	0	0		3	2	4	S	

Facility: Quad Cities			Scenario: 6 (Spare)						Exam Date: July 2018	
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		
2					X			E	<u>NRC:</u> D-1 and D-2 do not agree on proper LCOs for crew to enter. <i>Response: LCO reference removed from D1.</i>	
3								S		
4								S		
5					X			E	<u>NRC:</u> D-1 and D-2 do not agree on proper LCOs for crew to enter. <i>Response: LCO reference removed from D1.</i>	
6								S		
7								S		
8						X		S		
9						X		S		
9	0	0	0		2	2	9	E	See above.	

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: Quad Cities									Exam Date: July 2018
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	10	0	2	0	4	0	0	S	
2	8	0	2	0	4	0	0	S	
3	7	0	2	0	2	0	0	S	
4	7	0	3	0	4	0	0	S	
5	7	0	3	0	2	0	0	S	
6	9	0	2	0	2	0	0	S	

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: Quad Cities					Exam Date: July 2018	
OPERATING TEST TOTALS						
	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	0	6	3		
Sim./In-Plant JPMs	11	0	5	6		
Scenarios	6	0	4	2		
Op. Test Totals:	26	0	15	11	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 (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).