

+ Facility: Three Mile Island, Unit 1										Exam Date: Week of June 10, 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 an acceptable range of ± 30 ppm to initial conditions.
RO CO2		3										E	Removed requirement for verifying temperature in spec from the task standard.
RO EC1		3										E	Clarified specific leak location on the valve. Added a print. Specified in initiating cue to identify the mechanical isolation points "to allow for maintenance." Changed performance steps 3, 4, 5 to non-critical. Clarified that only either Step 10 or Step 11 is critical (not both).
RO EP1		3										E	Clarified Initial Conditions. Added Step Number in Imitating Cue. Swapped Evaluator Cues prior to Performance Step 9.
SRO CO1		3										E	Changed Cue so it did not identify procedures. Added to Examiner Cues to support flow of JPM. Matched CDA Key# to procedure requirements. Step 6: removed 2 steps as being critical
SRO CO2		3										E	Step 18 added to examiner note.
SRO EC1		3										E	Added Cue to solicit information expected by task standard. Signed missed step in procedure handout.
SRO RC1		3										E	Added to Cue to solicit reasons for volunteer rejection. Added Signatures of volunteers to EP-AA-113-F-02.
SRO EP1		3										E	Modified Cue so it did not reference procedures. Changed Critical time to 12 Minutes.
Simulator/In-Plant JPMs	1 Safety Function and K/A												
a	SF1 003AA1.02	3										E	Removed alternate path. Added 2 sections. Clarified 1102-4 initiation. Changed task standard to the examinee must complete the actions in one of the two sections. Editorial Changes.
b	SF2 013A4.01	3										E	Tripped MU-P-1B to clarify tricky steps. Added steps that are N/A as procedure notes to help examiner follow in the procedure. Edited task standard to ensure it is clear that MU-P-1C operating and MU-V-16C/D is the required task. Lowered leak because we tripped MU-P-1B in the ICs.
c	SF3	3										E	Changed the task standard to clear MAP-D0308

[illegible]

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: TMI Unit 1		Scenario: 1						Exam Date: June 2019	
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			S	
2								S	
3					x			E	Added clarification on breaker trip
4								S	
5						x	x	S	2015 Scn 1 Event 7
6						x		E	Added clarification on pump breaker trips and edited CT-2 and CT-3
7						x		S	
7	0	0	0		2	3	1		

Facility: TMI Unit 1		Scenario: 2						Exam Date: June 2019	
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	Changed RC-P-1B oil pump configuration in setup to match OP-TM-226-102 conditions.
2								E	Changed description in Event #2 to RC-V-1 will close at 2000 psig
3					x			E	Changed T.S. to 3.5.1.3
4					x			E	Moved notification of ability to recover the control rod in automatic until after the crew CRS has a chance to determine the tech specs. Added the tech spec.
5								S	
6						x		S	
7						x		S	
7	0	0	0		2	2	0		

Facility: TMI Unit 1

Scenario: 3

Exam Date: June 2019

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								E	Change description of Event 3 to Pressurizer Level fails low (vice saying what the transmitter does).
4					x			S	
5								S	
6								S	
7						x		S	Added CT Start and End times for CT-1.
8						x		S	
8	0	0	0		2	2	0		

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: Three Mile Island, Unit 1			Exam Date: Week of June 10, 2019						
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	7	0	2	0	2	0	0	E	Added some additional detail to the D-2 forms.
3	8	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: TMI, Unit 1

Exam Date: Week of June 10, 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	9	2		
Scenarios	3	0	3	0		
Op. Test Totals:	23	0	21	2	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).