

Facility: Fermi Unit 2												Exam Date: February 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		
RA-1.1 JP-OP-802-3006-401	Conduct of Operations 2.1.45	2			X	B						E	<p><u>NRC:</u> Steps 1 and 2 should NOT be Critical Steps, since these steps are answered directly from information in the Initial Conditions of the JPM.</p> <p><u>Licensee Response:</u> Corrected</p> <p><u>NRC:</u> Licensee deleted Torus water level and SRV operation status from initial conditions and information will be provided when asked for; therefore steps 1 and 2 will remain designated as "critical" steps.</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>
RA-1.2 JP-OP-802-4101-421	Conduct of Operations 2.1.45	2			X	B						E	<p><u>NRC:</u></p> <p>1) Steps 1, 3, 8, and 10 should NOT be Critical Steps, since these steps are answered by just recording indications from the Control Board.</p> <p>2) In step 6, it refers to steps 1.2.1 through 1.2.5. These steps are NOT in procedure 24.000.01, Attachment 28b. Suspect that the Attachment 28b that was provided in NOT the latest version of the procedure.</p> <p><u>Licensee Response:</u> Critical Step designation corrected and JPM Step 6 was deleted and remaining steps renumbered.</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>
RA-2 JP-OP-802-4101-418	Equipment Control 2.2.13	2				N						E	<p><u>NRC:</u></p> <p>In the "Tools and Equipment Required," it mentions "Two partially completed STR Indexes (attached)". These were NOT provided with the JPM that was submitted for review.</p> <p><u>Licensee Response:</u> Corrected - STR reference removed, changed focus to identify isolations.</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>

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RA-3 JP-OP-802-4101-435	Radiation Control 2.3.13	3										E	<p><u>NRC</u>: Step 4, it refers to "Mercy Memorial Hospital." This should be "ProMedica Monroe Hospital" as identified in procedure EP-225.</p> <p><u>Licensee Response</u>: Corrected</p> <p><u>NRC Final Resolution</u>: JPM acceptable with the described changes.</p>
SA-1.1 JP-OP-802-4101-419	Conduct of Operations 2.1.45	3										E	<p><u>NRC</u>: In the "Terminating Cue(s)" and the "Task Standard", it refers to procedure "MOP07." This should be "MOP1003."</p> <p><u>Licensee Response</u>: Corrected</p> <p><u>NRC Final Resolution</u>: JPM acceptable with the described changes.</p>

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SA-1.2 JP-OP-802-4101-460	Conduct of Operations 2.1.45	2										E	<p><u>NRC</u>: Step 3 should be designated as a Critical Step, similar to step 3 in the RO Admin JPM JP-OP-802-3006-401.</p> <p><u>Licensee Response</u>: Critical - changed steps to critical per OV.</p> <p><u>NRC</u>: Except for specific values, JPM steps 1-4 should be the same as JPM steps 1-4 of RO Admin JPM JP-OP-802-3006-401 (including the "critical" step designations).</p> <p>The Cue and Data sheets refer to JPM JP-OP-802-3006-401. Update appropriately to avoid confusion.</p> <p><u>Licensee Response</u>: Corrected</p> <p><u>NRC Final Resolution</u>: JPM acceptable with the described changes. In addition, several enhancements were made on the as-administered JPM for clarity/accuracy::</p> <ul style="list-style-type: none"> • Performance Step 1 deleted. Since initial conditions, as given, do not indicate any emergency or abnormal condition other than a faulty temperature instrument, there is no reason to believe that Torus Water Level is not normal. • Added NOTE to clarify performance references and changed previous NOTE into a provisional CUE. • Deleted Bracketed information in Performance Step 2 which refers to Section 15.0 in 29.ESP.01. Since initial conditions, as given, do not indicate any emergency or abnormal condition other than a faulty temperature instrument, use of 29.ESP.01 is not warranted in accordance with facility's procedure usage guidelines.

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SA-2 JP-OP-802-4101-102	Equipment Control 2.2.36	2										E	<p><u>NRC</u>: For step 6 of the JPM, a marked up copy of MOP05003 should be provided to the examiners that shows what is expected to be documented on the LCO Sheet.</p> <p><u>Licensee Response</u>: Corrected - Updated JPM to use the CUE sheet to record LCO vice LCO sheet so focus is on TS call vice filling out admin sheet,</p> <p><u>NRC Final Resolution</u>: JPM acceptable with the described changes.</p>
SA-3 JP-OP-802-4101-409	Radiation Control 2.3.6	2										S	
SA-4 JP-OP-802-4101-434	Emergency Plan 2.4.41	3										E	<p><u>NRC</u>: In the "Task Standard", it refers to "HS4" as the classification for the Site Area Emergency." This should say "HS1.1".</p> <p><u>Licensee Response</u>: Corrected</p> <p><u>NRC Final Resolution</u>: JPM acceptable with the described changes.</p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
Generic comments													<u>NRC:</u> Five of the eight "Control Room" systems JPMs list a "Type Code" of 'E.' The 'E' type code is only applicable to "In-Plant" JPMs. <u>Licensee Response:</u> Corrected, new ES-301-2 submitted
CR-a JP-OP-315-0110-407	SF1 20100 3 A2.02	3	X					X				E	<u>NRC:</u> 1. Establish initial position of Control Rod 22-39 at a position between notch 40 and 46. The task is to perform a coupling check not control rod withdrawal. 2. Terminate JPM when control rod is fully inserted. Actions to disable the control rod are not part of the task. 3. How far is Control Rod expected to be inserted before NIs indicate a response? Specify a range. 4. This JPM is marked Direct from Bank, but the only difference between this and one used on last exam is that Control Rod recouples. [<u>NRC:</u> Different enough NOT to be considered a repeat.] <u>Licensee Response:</u> JPM design accepted during prep week/validation. Enhancement notes added, per the direction of the examiner. <u>[NRC:</u> Note to evaluator added regarding expected NI response.] <u>NRC Final Resolution:</u> JPM acceptable with the described changes.

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
CR-b JP-OP-315-0118-002	SF2 25900 1 A4.02	3	X	X				X	X			E	<p><u>NRC:</u></p> <ol style="list-style-type: none"> Used in 2015 NRC Exam If the candidate elects to use Section 6.0 of the procedure, the JPM step sequence will not match. Additionally referenced step numbers in JPM do not match the procedure. JPM Step 6 should not be marked as "critical," since valve fails to open. Standard for JPM Step 7 should state "FULLY opens...." Modify cue prior to JPM Step 7 to: "Acknowledge report. If necessary ask candidate for recommended action." Modify NOTE prior to JPM Step 1 to state that JPM step sequence is based on Enclosure A (hard card), and that if task is performed without using the hard card, JPM steps 2 and 4 may be delayed until candidate makes the determination that desired flow cannot be obtained with one pump. <p><u>Licensee Response:</u> Corrected per comments above.</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>

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CR-c JP-OP-315-0105403	SF3 24100 0 A4.02]	4		X								U	<p><u>NRC:</u></p> <ol style="list-style-type: none"> ARP 3D168 guidance is vague. <ol style="list-style-type: none"> Initial Response step 4 directs verification of Reactor Flow Limiter setting but gives no guidance/reference on required value or how to adjust. [Limiter is normally positioned up-scale; it should be obvious that indicated value is not as expected.] Subsequent Action Step 1 directs reducing pressure with no guidance/reference on how - infers power reduction with RR flow, but it could also be done with rods. Provide a cue concurring with candidate's recommendation to reduce power or asking for a recommendation for lowering pressure. JPM Steps 5 and 6 should be combined into one step. JPM Step 7 should be deleted. JPM should be UNSAT if operator has to resort to a "Rapid Power Reduction." <p><u>Licensee Response:</u> Corrected. Changed to 3D168 is already in ALARM for the JPM with cue to respond to the Alarm. Combine critical steps [5&6] into one. One Critical step was accepted with a required follow-up question if the candidate uses Rapid Power Reduction. The scripted question was provided and Note added to the critical step indicating the use of the question.</p> <p><u>NRC:</u> Provide a conditional cue prior to step 5 to respond to any request by the examinee for guidance on reducing pressure/power. The response would be to ask for their recommendation and provide concurrence.</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
CR-d (OLD) JP-OP-315-0141413	SF4 20500 0 A4.06	3	X	X								U	<p><u>NRC:</u></p> <ol style="list-style-type: none"> Initial Conditions should include RPV Level and Temperature control bands. Initial Conditions should specify that RHR Pump B is in operation. Initiating Cue should state to specifically respond to 2D26. JPM Step 3 should specify closure of both F018B and D. Terminating Cue needs to include "...and when RPV level is stable..." <p><u>Licensee Response:</u> Corrected with exception Correction 4. System drawing shows that this is not required.</p> <p><u>NRC Interim Resolution:</u> JPM was initially deemed acceptable with the described changes.</p> <p><u>NRC Final Resolution:</u> This JPM was found to be flawed during the exam. Critical steps would be met automatically IF corrective actions were delayed beyond the nominal times expected (as occurred during the OV). This JPM was replaced.</p>
CR-e JP-OP-315-0139-005	SF5 22300 2 A2.03	3										E	<p><u>NRC:</u></p> <ol style="list-style-type: none"> For JPM Step 13: Is "simultaneous" operation necessary to satisfy a logical interlock, or is it simply a procedural requirement to ensure prompt operation? Add a note for the evaluator explaining the reason. Combine JPM Steps 15 and 17 into one JPM step. <p><u>Licensee Response:</u> simultaneous could be removed from step 13 element, but this matches the procedure – it was removed from the "standard." Steps were 15-17 kept as is.</p> <p><u>NRC Final Resolution:</u> JPM acceptable as described.</p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
CR-f JP-OP-315-0158-402	SF6 26200 1 A2.04		X		X							E	<p><u>NRC:</u></p> <ol style="list-style-type: none"> Revise last bullet of Initial Conditions to state that a transient occurred resulting in the indicated plant conditions. Revise the Initiating Cue to direct the candidate to evaluate and report the status of the electrical distribution system. Revise JPM Step 1 STANDARD to include report that Bus 64C is locked out and that bus 72C is de-energized. <ol style="list-style-type: none"> Does EDG 12 not start or simply not close in on the bus due to the bus fault? [NRC-DWR: EDG does not start.] JPM steps do not reflect current revision of AOP 20.300.72C <ol style="list-style-type: none"> CUE before JPM Step 1 needs change to direct candidate to perform ACTIONS associated with CONDITIONS A, B, and C JPM Steps 2-5 need to be changed to indicate procedure Steps A.1, A.2, B.1, C.1 and C.2 STANDARD for JPM Step 2 should include action for candidate to dispatch an operator to take local control of RR MG Set. Terminating CUE needs to be changed to reflect correct step numbers also. <p><u>Licensee Response:</u> Corrected as described. 4, Cue now states "Direct the examinee to perform Conditions B.1, C.1 and H of AOP 20.300.72C. If asked, other control room operators will be performing other AOP steps." So that the RRMG Set is addressed</p> <p><u>NRC Final Resolution:</u> JPM acceptable with the described changes.</p>

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
CR-g JP-OP-802-2104-212	SF7 21200 0 A2.16	2				X	X					U	<u>NRC:</u> 1. K/A is associated with RPS, but 1 st half of JPM deals with drifting a single control rod. 2. Consider replacing JPM due to similarity to Scenario 1 ATWS event. <u>Licensee Response:</u> Replaced with JP-OP-315-0127-004, Restore Power to RPS Bus B. JPM was validated during prep week <u>NRC Final Resolution:</u> Replacement JPM is acceptable.
CR-h JP-OP-315-0166-404	SF9 29000 1 A4.12	3										E	<u>NRC:</u> 1. JPM Step 5 should not be "critical;" data recording is not necessary to complete the assigned task. 2. JPM Step 6 and 17 should not be "critical;" fans trip automatically. 3. JPM Step 6 STANDARD should list the associated fan CMC switches 4. JPM Steps 7&8 should not be "critical;" unnecessary to complete assigned task. 5. JPM should be terminated after completion of JPM Step 8; all remaining steps simply verify that systems are aligned for restoration and could be completed using either section 7.1 or 8.1 of SOP 23.426. <u>Licensee Response:</u> Corrected as listed and ended at step 7 per examiner during prep week. Some enhancement notes added per examiner during prep week. <u>NRC Final Resolution:</u> JPM acceptable with the described changes.
IP-i JP-OP-802-3006-305	SF1 295037 EA1.03	3										S	2015 NRC Exam
CR -d (New) JP-OP-315-0043-016	SF4 217000 A4.04	3										S	This JPM was developed, validated, and replaced a flawed JPM discovered during the exam administration (JP-OP-315-0141-413).

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			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
IP-j JP-OP-802-3006-321	SF8 295024 EA1.07	3										S	
IP-k JP-OP-315-0150-001	SF9 272000 A1.01	2										E	<u>NRC:</u> JPM Steps 1 and 2 are the same step; a. Replace STANDARD for JPM Step 1 with STANDARD from JPM Step 2 b. Delete JPM Step 2 c. Renumber remaining steps. <u>Licensee Response:</u> Corrected as described <u>NRC Final Resolution:</u> JPM acceptable with the described changes.

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.

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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/N								S	
2/I&TS					X(2/3)			S	<p><u>NRC</u>: These TS Evaluations are passive, no actions required (<u>tracking</u> LCOs).</p> <ul style="list-style-type: none"> Requires recognition of TS applicability (2 TSLCOs and 2 TRLCOs) Requires determination that LCO is still met NO implementation is required. <p><u>Licensee Response</u>:</p> <ul style="list-style-type: none"> During onsite validation week, it was decided to leave this event as-is. Event 3 will require two different TS LCOs to be evaluated, which satisfies the requirements of ES-301. Additionally, a TS evaluation is still required. An SRO declaring an LCO NOT MET would show a significant weakness in Skill/Knowledge and can be used to evaluate Competency 6. ES-303, Page 3, paragraph d supports this by stating: <i>"If an applicant incorrectly determines that an inoperability exists for an operable component or identifies and enters a TS that does not apply, these represent performance deficiencies that must be graded accordingly."</i> <p><u>NRC Final Resolution</u>: When coupled with the TS evaluation and implementation of Event 3, there sufficient opportunities to evaluate the TS competency. This event is evaluated as SATISFACTORY.</p>
3/C					X(2)		X	S	<p><u>NRC</u>: Repeat of event 1 in reverse. Is this adequate? Determined to be acceptable at OV. 2015 NRC Exam, Scenario 1 Event 5; same event used but in the other division.</p> <p><u>Licensee Response</u>:</p> <ul style="list-style-type: none"> During onsite validation week, it was decided to leave this event as-is. The chief examiner found that having this fan malfunction, after just starting this division of CCHVAC in Event 1 above, added realism to the scenario by creating linked events. Additionally, this event resulted in an AOP entry and TS evaluation by the SRO that Event 1 did not. <p><u>NRC Final Resolution</u>: Event requires entry, evaluation, and implementation of 2 separate LCOs (see comment for Event 1. Event found SATISFACTORY.</p>

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4/C								S	
5/C&R								S	<p><u>NRC</u>: Exercises the same AOP as Event 5 of Scenario 1; but different section. Is this adequate?</p> <p><u>Licensee Response</u>: During onsite validation week, it was decided to leave this event as-is. The chief examiner determined that the actions taken for this event, although from the same AOP as Event 5, Scenario 1, are significantly different and required different actions. Also, this event results in a reactivity manipulation (R).</p> <p><u>NRC Final Resolution</u>: Event evaluated as SATISFACTORY.</p>
6/M						X		E	<p><u>NRC</u>: SRO direction to insert manual SCRAM should be marked as contributing to the CT.</p> <p><u>Licensee Response</u>: Discussed during onsite validation week and decided to modify the wording of the Critical Task (CT) and add a Note that the SRO should direct the Mode Switch be placed in Shutdown prior to reaching 200°F in the Steam Tunnel.</p> <p><u>NRC Final Resolution</u>: Event evaluated as SATISFACTORY with the described changes.</p>
7(6)								E	<p><u>NRC</u>: Events 6 and 7 should be listed as single event (MSL break with failure to isolate).</p> <p><u>Licensee Response</u>: Combined Events 6 and 7 into one event. Renumbered events and updated forms accordingly.</p> <p><u>NRC Final Resolution</u>: Event evaluated as SATISFACTORY with the described changes.</p>

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8/9 (7)	X					X	X(2)	E	<p><u>NRC</u>: Multiple low probability steam line breaks with isolation failures to force ED? 2017 NRC Exam Scenario 3 Event 7 – ED on 2 Secondary Containment Area Temps exceeding MSO. [2017 Event involved failure to close HPCI room watertight door instead of 2 separate steam leaks.] 2017 NRC Exam; Scenario 3 Event 4 – Similar malfunction (unisolable HPCI leak using different Malfunction numbers but with same outcome). SRO decision and direction to ED needs to be marked as contributing to CT.</p> <p><u>Licensee Response</u>:</p> <ul style="list-style-type: none"> This is now Event 7. Added Seismic Event indications to aid in scenario realism at recommendation of NRC examiners. Scenario was run, with the seismic event, during onsite validation week. <p><u>NRC Post Validation Review Comment</u>: Need criteria for when opening the 5 SRVs is required to be completed. Possibly area temperatures exceed a given value or within a certain period of time?</p> <p><u>Licensee</u>: Actions taken following phone conversation with D. Reeser on 2/14/2018:</p> <ul style="list-style-type: none"> The second CT did not contain any objective criteria. A statement was added to the CT that the MNSRED of 5 SRVs must be opened prior to any other secondary containment area reaching its MSO value. This criterion was developed from the BWROG Appendix B bases for performing an ED when more than one area exceeds its MSO temperature: <i>"Should Secondary Containment temperatures exceed their MSO value in more than one area, the RPV must be depressurized to preclude further temperature increases. The basis for performing the ED is because the rise in secondary containment temperature is a wide-spread problem which may pose a direct and immediate threat to secondary containment integrity, equipment located in the secondary containment, and continued safe operation of the plant."</i> If the candidates did not ED prior to a third area exceeding its MSO value, then the objectives of the EPG would not be met. A table was added at the end of the scenario, on the ES-D-2 form, that describes the Critical Task Evaluation Criteria and their bases. <p><u>NRC Final Resolution</u>: Event evaluated as SATISFACTORY with the incorporated changes.</p>	
8	1	-	-	-	2 2/3	2	3/5	E		

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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/R								S	
2/I&TS					X(2/3)			E	<p>NRC: Applicant Actions for ATC states that ATC stops withdrawing Control Rods; Failure should cause a Rod Block preventing rod withdrawal until failed IRM is bypassed.</p> <p>TS Evaluations are passive, with no actions required (tracking LCOs).</p> <ul style="list-style-type: none"> Requires recognition of TS applicability (1 TSLCO and 1 TRLCO) Requires determination that LCO is still met NO implementation required. <p>TRM 3.3.2.1 (Control Rod Block Instrumentation) evaluation needs to be included for the event.</p> <p>Control Rod withdrawal should resume after IRM is bypassed.</p> <p><u>Licensee Response:</u></p> <ul style="list-style-type: none"> At OV, chief examiner agreed to leave the instrument malfunction as-is. TS evaluation was satisfactory. [NRC: The action to stop rod motion is the ARP step to ensure that rod motion is stopped if the automatic action (rod block) does not occur.] Added plan to continue Control Rod Withdrawal after IRM is bypassed. Added TRM 3.3.2.1 evaluation. <p><u>NRC Final Resolution:</u> When coupled with the TS evaluation and implementation of Event 3, there are adequate opportunities to evaluate the TS competency. Event 3 requires entry, evaluation, and implementation of 2 separate LCOs Event evaluated as SATISFACTORY with incorporated changes.</p>
3/TS			X		X(2)			E	<p><u>NRC:</u> No verifiable operator actions; TS event only.</p> <p><u>Licensee Response:</u></p> <ul style="list-style-type: none"> At OV, the chief examiner agreed to leave the instrument malfunction as-is. TS evaluation was satisfactory. Removed the Instrument (I) classification from Event 3 - it is still a TS evaluation for the SRO. <p><u>NRC Final Resolution:</u> Event deemed SATISFACTORY with the described changes.</p>

[illegible]

Facility: Fermi Unit 2			Scenario: 3					Exam Date: February 2018	
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
8	X					X(2)	X	E	<p>2015 NRC Exam, Scenario 2, Event 11</p> <p><u>NRC:</u> What is the mechanistic basis for the loss of level indication? It is not realistic for all level indications to simultaneously fail without some predecessor.</p> <p><u>Licensee Response:</u> Added Seismic Event conditions as a precursor to the loss of RPV Level Indication.</p> <p><u>NRC Post Validation Review Comment regarding CRITICAL TASKS (CT):</u></p> <ul style="list-style-type: none"> Per EOP Sheet 3 the minimum number of SRVs required to be open for RPV Flooding is 2 (Minimum Number of SRV Required for Decay Heat Removal [MNSRDHR]) instead of 5 [MNSRED]). Need criteria for when flooding to the steam lines is required to be completed. Possibly before transfer to SAGs is required (Indications of Core Damage)? <p><u>Licensee:</u> Actions taken following phone conversation with D. Reeser on 2/14/2018:</p> <ul style="list-style-type: none"> Changed wording of first Critical Task (CT) to specify opening the MNSDHR number of SRVs (this is "2" for Fermi). The first CT was modified to require that the action be performed within 6 minutes of the crew recognizing indications requiring the action. This expectation was determined by doubling the time recorded during the validation of the scenario - a crew of fully qualified Licensed Operators observed indications and took action 3 minutes later. The second CT was modified to specify that RPV flooding conditions must be established prior to scenario termination. Scenario termination will occur when the indications are met to perform RPV Flooding (loss of all RPV level indications) and RHR is placed in Torus Cooling / Torus Spray. <p><u>NRC Final Resolution:</u> Event deemed SATISFACTORY with the incorporated changes.</p>
8	2	-	1	-	2 2/3	2	1/7	E	

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:									Exam Date:
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
4	8	N/A	3	0	3	0	N/A	N/A	SPARE – Not Used
2	8	0	2.66	0	2	0	0	E	Early submittal scenario
3	8	0	2.66	0	2	0	0	E	Low Power scenario

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:					Exam Date:	
OPERATING TEST TOTALS						
	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	0	8	1		
Sim./In-Plant JPMs	12	3	9	3		One scenario was replaced during the exam, and 2 were corrected prior to the exam.
Scenarios	2	0	2	0		3 scenarios were reviewed at OV, but the designated spare scenario was not considered part of the submittal and was not put into ADAMS so it can be used in the next exam.
Op. Test Totals:	23	3	19	4	13.1	Satisfactory Operating Test overall ($\leq 20\%$).

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.

1. 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.
2. 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.
3. Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.
4. Total each column and enter the amounts in the "Op. Test Totals" row.
5. 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 $> 20\%$
6. 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).