Form 2.3-3 Operating Test Review Worksheet (JPMs)

Facility: Fermi												**Exam Date: 06/19/2023 – 06/23/2023**
1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
R1 **Determine stay time for work in hot and/or cold environments**	**A**	**N**	**2**								**E**	New NRC: 1) Where did the +/- 2 minutes come from? It appears the closest incorrect answer will be approx. 4 minutes difference (using either 25 or 35 min stay time). Since there's no interpolation, there is no reason the applicant shouldn't get the calculated value to within a more accurate window (any value between 20 and 21 would be acceptable, as this would accommodate even the largest rounding error). Licensee: 1) Changed acceptance criteria throughout to allow an acceptable response between 20 and 21 minutes. NRC: 1) JPM is SAT.
R2 **Verify offsite electrical lineup**	**A**	**N**	**2**								**S**	Bank – 2018 Exam NRC O/V Week: 1) Change Duration to 8 minutes. Licensee: 1) Duration changed to 8 minutes. NRC: 1) JPM is SAT
R3 **Obtain and interpret electrical drawings**	**A**	**N**	**3**								**S**	Bank – 2019 Exam
R4 **Notify hospital of contaminated, injured worker**	**A**	**N**	**3**								**E**	Bank – 2018 Exam NRC: 1) RO and SRO JPMs should be separate and not both contained in one JPM. 2) Steps 1, 3, and 5 are marked critical, however, only parts of the forms that are marked critical with a CT are critical. Clarify this in the steps (Ex: "Form EP-290004 is completed IAW the attached key. Critical aspects of this step are marked via **CT** on the key") 3) Appears that K/A G2.3.14 is a better fit. 4) Is it possible to perform the JPM in the simulator? Are the forms readily available in the sim, in an

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				LOD	REF	IC	TSK	CUE	CS	TL		
												emergency phone response binder (or something similar)? May be more beneficial to perform this in the sim. Licensee: 1) RO and SRO JPMs have been separated. Outlines have been updated accordingly. 2) Steps of the JPM have been clarified as requested. 3) 2.3.14 would not be a viable K/A choice because it is flagged in NUREG-1123 as being SRO Only. 2.3.12 is acceptable for this JPM because it is wide ranging as it used the phrase "pertaining to licensed operator duties, such as…" The use of "such as" doesn't limit the K/A to "only" those items listed/ They are included as examples of items pertaining to licensed operator duties and are not meant to be an exhaustive list (in our understanding anyway). 4) Our plan to have it be performed in the Simulator for this class, but it could be performed in a classroom for larger classes, for example. Location section of JPM was revised to include the Simulator. NRC O/V Week: 1) Change order of JPM elements to match the order the forms will be filled out. Licensee: 1) Order of JPM elements changed. NRC: 1) JPM is SAT.
S5 Determine fire brigade minimum manning and compensatory actions	**A**	**N**	**2**								**E**	Modified – 2008 Exam NRC: 1) Information under "Generic Notes and Cues" appears unnecessary and only necessary for in-plant JPMs. Copy and paste error? 2) The "People Sheet" contains identifying characters, that are only explained on one of the two cue sheets. 3) General comment – will applicant cue sheets and handouts all be on yellow paper? 4) Is the individual qualified as CR Communicator (#) a "fire brigade member" as defined in MOP10? Licensee: 1) Removed Generic Notes and Cues information. 2) Included information on both cue sheets. 3) The plan is to print examiner paperwork on pink paper and examinee paperwork on yellow, which includes cue sheets, procedure handouts, etc.

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				LOD	REF	IC	TSK	CUE	CS	TL		
												4) Not necessarily. This could be the case (it depends on the individual assigned) but MOP10 prevents using the communicator as a member of the Fire Brigade. NRC O/V Week: 1) Change Duration to 10 minutes. Licensee: 1) Duration changed to 10 minutes NRC: 1) JPM is SAT
S6 **Perform plant-wide announcement for imminent aircraft threat**	**A**	**N**	**2**							**X**	**E**	Modified – 2019 Exam **JPM can be released publicly, but withhold EP-530 from public disclosure per licensee request.** NRC: 1) If the aircraft threat is imminent w/in 5 minutes, shouldn't the JPM be time critical with a 5-minute time requirement? Licensee: 1) Changed JPM to Time Critical. NRC: 1) JPM is SAT
S7 **Determine RCIC operability and apply TS**	**A**	**N**	**2**								**S**	Modified – 2019 Exam NRC: 1) 23.206 states that "Engineering recommends that RCIC be considered inoperable if aligned to the Torus for more than 12 consecutive hours." While Engineering only makes recommendations in terms of operability, those recommendations are often supported with calculations. With the CARDs referenced there, are calculations easily present to support the LCO 3.5.2 minimum drain time bases requirement of >/= 36 hours? Licensee: 1) No calculations were found. It appears that 12 hours may have been chosen to be conservative, based on reviewed of the CARD and TMPE referenced in the P&L. These documents have been copied to the folder, for this JPM, for NRC to review if desired. NRC O/V Week: 1) Change Duration to 10 minutes. Licensee:

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				LOD	REF	IC	TSK	CUE	CS	TL		
												1) Duration changed to 10 minutes. NRC: 1) JPM is SAT.
S8 **Notify hospital of contaminated, injured worker**	**A**	**N**	**3**								**E**	Bank – 2018 Exam NRC: 1) RO and SRO JPMs should be separate and not both contained in one JPM. 2) Steps 1, 3, and 5 are marked critical, however, only parts of the forms that are marked critical with a CT are critical. Clarify this in the steps (Ex: "Form EP-290004 is completed IAW the attached key. Critical aspects of this step are marked via **CT** on the key") 3) Appears that K/A G2.3.14 is a better fit. 4) Initiating cue sheets (after the keys) do not have SRO requirement to determine reportability. 5) SRO cue on the cue sheet at the front of the JPM should state, "as applicable", as "Identify the appropriate reporting requirement(s), as applicable". 6) Is it possible to perform the JPM in the simulator? Are the forms readily available in the sim, in an emergency phone response binder (or something similar)? May be more beneficial to perform this in the sim. Licensee: 1) RO and SRO JPMs have been separated. Outlines have been updated accordingly. 2) Steps of the JPM have been clarified as requested 3) 2.3.12 is acceptable for this JPM because it is wide ranging as it used the phrase "pertaining to licensed operator duties, such as…" The use of "such as" doesn't limit the K/A to "only" those items listed/ They are included as examples of items pertaining to licensed operator duties and are not meant to be an exhaustive list (in our understanding anyway 4) Added cue (for SRO Only JPM) to include the need to determine reportability. 5) SRO cue on the cue sheet(s), and at the front of the JPM, have been revised to include a cue to identify the appropriate reporting requirements, as applicable. 6) Our plan to have it be performed in the Simulator for this class, but it could be performed in a classroom for larger classes, for example. Location section of JPM was revised to include the Simulator. NRC O/V Week:

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1 JPM # or title	2 Type (S/P/A)	3 ALT (Y/N)	4 LOD (1–5)	5 JPM Errors							6 U/E/S	7 Explanation
				LOD	REF	IC	TSK	CUE	CS	TL		
												1) Change order of JPM elements to match the order the forms will be filled out. 2) For SROs, also include forms MLS05004 and MLS05007 (per validator comments). Licensee: 1) Order of JPM elements changed. 2) Revised JPM to ensure the forms are provided to SRO candidates. Added forms to folder of materials to be printed for this JPM. NRC: 1) JPM is SAT
S9 **Event classification IAW EP-101**	**A**	**N**	**3**								**S**	Modified – NRC: 1) JPM states it's to be performed in the simulator. Appears that it can be done in the classroom, if necessary. Licensee: 1) Added classroom as possible JPM location. NRC O/V Week: 1) Change Duration to 30 minutes. 2) Make the filling out of the Event Notification Form "Time Critical" with a 15 minute time limit and update the Task Standard. Licensee: 1) Duration changed to 30 minutes. 2) Made filling out of the Event Notification Form "Time Critical" with a 15 minute time limit and updated the Task Standard accordingly. Also added spaces to document start time and completion time for the forms section of the JPM. NRC: 1) JPM is SAT.

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				LOD	REF	IC	TSK	CUE	CS	TL		
S.a **Shift running RRMG lube oil pumps – noisy pump (AP)**	**S**	**Y**	**3**					**X**			**E**	Bank – 2019 Exam Set 1 NRC: 1) Modify examiner cue to provide local observation of pump B2 only if specifically asked. Unsolicited examiner cue could provide cueing, as the applicant may have not identified any issue. 2) JPM steps do not reference procedure steps, as some other JPMs do (ex. For JPM step 1, "[4.2.2.1] Place standby N (S) RR MG Set Lube Oil…") 3) Consider providing a procedure cue to swap pumps in the initiating cue. Licensee: 1) Modified examiner cue to give information only if asked. 2) Added procedure reference to JPM steps. 3) Added procedure cue to the initiating cue. NRC O/V Week: 1) Add information in cue that local operator is standing by to support the evolution. 2) Add step to verify start of the B1 pump (after shifting back to the B1 pump). Licensee: 1) Added that RB rounds is standing by locally to support the pump shift. 2) Added step for verifying start of the B1 pump. NRC: 1) JPM is SAT
S.b **Predict impact on loss of AC on motor-driven FW pumps and use procedure to correct (AP)**	**S**	**Y**	**3**								**E**	New (recommend changing to modified – 2018 & 2020 exams) Set 3 NRC: 1) The "new" JPM is modified from the 2020 and 2018 exam JPMs (JP-OP-315-0118-002), by providing different initial conditions and requiring additional steps to restore power to the pump before starting it. Starting the pump and establishing flow (including the

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				LOD	REF	IC	TSK	CUE	CS	TL		
												alt path portion) are the exact same as those 2 exam JPMs. Licensee: 1) Changed JPM to "Modified" on the RO and SRO System JPM Outlines. NRC O/V Week: 1) Add "Transient annunciator response is in effect in cue" (comment from validator. 2) Add cue if examinee sends operator to power supply for N2103-F002 Licensee: 1) Added information to the cue. 2) Added cue for NO sent to F002 power supply. NRC: 1) JPM is SAT
S.c ~~**Manually initiate low-low set – low-low set logic failure (AP)**~~ **Automatic Depressurization System (ADS) Shutdown**	~~**S**~~ **S**	~~**Y**~~ **N**	~~**2**~~ **2**								~~**U**~~ **S**	Bank – 2019 & 2020 Exams Set 4 NRC: 1) This JPM is the exact same JPM as administered on the 2020 exam (JP-OP-315-0105-181) but the JPM outline shows "D" and not "P". For the 2020 exam, the ADAMS administered exam file lists the same JPM as presented here, but the 2020 ADAMS outline file lists JPM JP-OP-315-0043-406. This is not in-line with the outline comments & resolutions form, which stated this JPM was JP-OP-315-0143-181 and the 2020 exam JPM was JP-OP-315-0043-406. Both JPMs, the submitted and the 2020 exam in ADAMS are JP-OP-315-0105-181 and are exactly the same. Since this exact JPM would now be on 3 of the last 4 exams (including this submittal), it is recommended to change the JPM to a new SF3 "Reactor Pressure Control". This amount of overlap is unnecessary. New JPM does not need to be "L" or "A" Licensee: 1) A new JPM (JP-OP-315-0105-232) has been created for this exam. This JPM is for K/A 218000 A4.03 and is associated with resetting ADS Logic. Both the RO and SRO System Outlines have been updated accordingly. JPM will need to be validated during O/V week. NRC O/V Week: 1) Change Duration to 8 minutes.

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				LOD	REF	IC	TSK	CUE	CS	TL		
												Licensee: 1) Duration changed to 8 minutes. NRC: 1) JPM is SAT
S.d **Shutdown TWMS from the cleanup mode**	**S**	**N**									**S**	New Set 1 NRC: 1) Page stating "do not give the following to examinee until specified in the cue" is unnecessary, as the initiating cue is providing direction to perform the task IAW the procedure. 2) JPM steps do not reference procedure steps, as some other JPMs do (ex. For JPM step 1, "[4.2.2.1] Place standby N (S) RR MG Set Lube Oil…") 3) Is the five second delay in performing JPM step 4 and 5 only a minimum? Any issue if the applicant takes, 30 seconds or more (for example)? Is this intended to be performed in rapid succession, or without significant delay? Licensee: 1) Removed that page from the document and clarified CUE in body of JPM to ensure examiner provides copy of procedure to the examinee with the cue. 2) Procedure reference step numbers have been added. 3) The exam team believes that the delays in steps 10.2.2 and 10.2.3 are minimums to allow the pumps to 'coast down' before the next action is taken and therefore NOT perform the steps in rapid succession. Recommend asking this question of the operators during O/V to ensure this thinking is correct. NRC O/V Week: 1) Mark up section of 23.144 6.0 through step 6.2.1.4 as complete (recommended by validator). Licensee: 1) Marked up handout of 23.144 Section 6.0 through Step 6.2.1.4. NRC: 1) JPM is SAT
S.e **Start an EDG and respond to low DGSW flow (AP)**	**S**	**Y**	**2**				**X**				**E**	Modified Set 2 NRC:

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				LOD	REF	IC	TSK	CUE	CS	TL		
												1) Considering EDG damage could occur in as little as 3 minutes (per ARP 10D4), should this JPM be made time critical upon receipt of the EDG SW low flow alarm? 2) Question related to procedure 10D4 and not to the JPM specifics – Why is action to protect ESF equipment (tripping the EDG with no cooling water) not a procedural step, but rather a "consideration" in a NOTE? Possible procedure enhancement. Step 3.15 of 23.307 states requires prompt shutdown / trip of the engine to prevent damage. Licensee: 1) We were thinking of heading in this direction (making the JPM Time Critical) but could not find the bases for the Note (could not locate a CARD or calculation, etc.). And, since the note states "consideration" should be make to trip the EDG and damage "could occur" in as little as three minutes, we were reluctant to do so. 2) We agree with the NRC's assessment and have taken this as something that we intend to write a CARD (Corrective Action) for after the exam as a procedure enhancement or something more concrete. Since this information is located in a NOTE, and not a procedure step, this is another reason why the Fermi exam team chose to not make this JPM time critical. Perhaps the NRC could bring this up during the Exit Brief to "add more weight" to our CARD when we write it after exam implementation. The wording of Step 3.15 added to our angst because it says "if a confirmed" failure of DGSW system occurs. Since the examinee could take time (and perhaps more than 3 minutes) performing actions in the ARP to attempt to confirm if the DGSW flow is actually low, we were concerned they would exceed 3 minutes. NRC O/V Week: 1) Change Duration to 10 minutes. 2) Revise task standard to state that the task is met if the EDG is tripped before it automatically trips. 3) Wording in the cues does not match. Correct wording. Licensee: 1) Duration changed to 10 minutes. 2) Revised task standard and added "approximately 5 minutes" to the time it takes to receive an automatic trip.

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				LOD	REF	IC	TSK	CUE	CS	TL		
												3) Cues corrected for consistency. NRC: 1) JPM is SAT
S.f **Reset reactor scram**	**S**	**N**	**3**								**S**	Bank – 2019 Exam Set 5 **RO-Only**
S.g **Shutdown CW pump**	**S**	**N**	**3**						**X**		**U**	New Set 2 NRC: 1) What are the requirements for the performance of a proceduralized critical step? SRO oversight and approval? Applicant may ask when performing procedure step 6.2.2.2 and the examiner should have some sort of cue to reflect that. 2) Step 2 should not be critical. Applicant is verifying an automatic action. Step would only be critical if the pump did not trip and the applicant had to trip it. 3) Can we modify the JPM such that the pump fails to automatically trip when the discharge valve is closed? That would provide 2 distinctly different critical steps. Step 1 and 3 are critical steps, performing the same action, and step 2 (as written) is not a critical step (see comment 2). It does not appear that doing this would make the JPM Alt Path per ES-3.2 E.2 Licensee: 1) Per MGA24, Human Performance Program and Field Worker Tools, Critical Steps should be identified during task preview and discussed during the pre-job brief (which will not take place for a JPM). MGA24 also requires the use of a Peer Check during critical steps (which will also not take place for a JPM). Finally, MGA24 requires that HU tools be utilized to mitigate the occurrence of an error for critical steps (which can be observed for a JPM). The examinee should use HU tools such as flagging, asking for a peer check, etc. (this list is not all inclusive) to prevent errors on critical steps. 2) The JPM has been modified, which should address comments 2 and 3. The CWP will NOT trip when the discharge valve closes, so the examinee will have to manually trip the pump, making Step 2 critical (verifiable action). 3) The JPM has been modified as suggested. NRC O/V Week:

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				LOD	REF	IC	TSK	CUE	CS	TL		
												1) Change Duration to 10 minutes. 2) Revise cue to state that plant conditions support operating with 4 CWPs.. Licensee: 1) Duration changed to 10 minutes. 2) Cue revised to state that operation with 4 CWPs is acceptable per 23.101, Enclosure B. NRC: 1) JPM is SAT.
S.h Respond to CCHVAC shift to recirc mode (AP)	**S**	**Y**									**S**	New Set 5 **Free Look, ~~RO-Only~~** **~~Note -~~ (NRC changed RO-only JPM to S.f as a result of sim JPM changes due to unsat JPM rewrites & to maintain required Alt Path JPMs for SRO-I applicants.** NRC: 1) General JPM comment - Two cue sheets are redundant (page 12 and 13). Examiner cue sheet appears to be on page 3 of the JPM, with the task standard. No need to have an additional cue sheet at the end (besides the applicant cue sheet). Will the applicant cue sheet be a different color or labeled as such? 2) General JPM comment - Information in the JPM, such as operator fundamentals observation, JPM observation criteria, and maintenance rule info, are not required to be included with the JPM and is unnecessary. Licensee: 1) The 2 cue sheets are different colors (pink material will be in the possession of the examiner and yellow goes to the examinee). Feedback was provided in the past to add a 2nd cue sheet so that the examiner doesn't (1) have to read over the examinee's shoulder to read the cue or (2) have to flip back to the front of the JPM to read the cue. We have gotten used to this format and honestly believe the examiner may prefer having 2 cue sheets when this is seen in practice during O/V week. 2) This information is part of our JPM format that we use for both ILT exam and LOR exam JPMs. We can set the print option to not include these when the material is printed, but we prefer to keep this information intact as it is required by our processes.

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				LOD	REF	IC	TSK	CUE	CS	TL		
												NRC: 1) JPM is SAT.

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P.i **Fire zone 9 – subsequent action AB, impact 1 / strategy 3**	**P**	**N**	**2**						**X**		**E**	Bank – 2019 Exam NRC: 1) Recommend changing JPM title to what was suggested in outline comments – "Restore/Protect RCIC as the Preferred HP Feed Source Due to a Fire in Zone 9", or similar, as the JPM K/A, title, and task appear to better fit the SF8 2) Will the applicants be expected to open cabinets 2PB2-5 / 6 or will pictures be provided? 3) Step 1 should not be marked critical. The step is a 'contact to perform' step and is already complete, such that the applicant has no diagnosis/validation of completion. Licensee: 1) Changed JPM title (in JPM and on the RO and SRO System JPM Outlines) to "Restore/Protect RCIC as the Preferred HP Feed Source Due to a Fire in Zone 9" 2) It is expected the examinees will open the cabinets to gain access. However, pictures could be taken during O/V week if the NRC prefers that method. 3) Removed Critical Step marking for Step 1. NRC O/V Week: 1) Change duration to 10 minutes. Licensee: 1) Duration changed to 10 minutes. NRC: 1) JPM is SAT.
P.j **Transfer of UPS from the voltage regulator to the rectifier charger / inverter**	**P**	**N**	**3**								**E**	Bank **Free Look** NRC: 1) Two cue sheets are redundant (page 10 and 11). Examiner cue sheet appears to be on page 3 of the JPM, with the task standard. No need to have an additional cue sheet at the end (besides the applicant cue sheet). 2) Information in the JPM, such as operator fundamentals observation, JPM observation criteria,

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				LOD	REF	IC	TSK	CUE	CS	TL		
												and maintenance rule info, are not required to be included with the JPM. 3) Recommend adding "in accordance with 23.308.01, Uninterruptible Power Supply System" to the initiating cue. Initial conditions or cue do not identify a procedure to accomplish the task. 4) K/A should not be 'changed'. A note stating the UPS is operated locally is fine, however, the K/A should not be modified to fit. The K/A match is acceptable as originally presented with the note justifying the difference. Licensee: 1) The 2 cue sheets are different colors (pink material will be in the possession of the examiner and yellow goes to the examinee). Feedback was provided in the past to add a 2nd cue sheet so that the examiner doesn't (1) have to read over the examinee's shoulder to read the cue or (2) have to flip back to the front of the JPM to read the cue. We have gotten used to this format and honestly believe the examiner may prefer having 2 cue sheets when this is seen in practice during O/V week 2) This information is part of our JPM format that we use for both ILT exam and LOR exam JPMs. We can set the print option to not include these when the material is printed, but we prefer to keep this information intact as it is required by our processes. 3) Information added to cue. It now reads " The Control Room LNO directs you to transfer UPS A Loads from the Voltage Regulator to the Rectifier Charger / Inverter in accordance with 23.308.01, UPS System SOP. 4) K/A was changed back to read the same as NUREG-1123 on the JPM and the RO and SRO outlines. NRC O/V Week: 1) Research what would happen if the operator failed to place the MANUAL BYPASS SWITCH in NORMAL OPERATION at Step 6.2.2.1.b.2)a (i.e., what indications would be available). Licensee: 1) Researched vendor manual and determined that the indications would NOT change (green LED on the INVERTER TO LOAD pushbutton would not light and amber light on the BYPASS TO LOAD pushbutton would remain lit) if this mistake were made. Revised JPM to provide cueing for this instance.

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				LOD	REF	IC	TSK	CUE	CS	TL		
												NOTE: A corrective action will be written, at the conclusion of this exam, to correct the procedure. NRC: 1) JPM is SAT.
P.k Startup fuel pool ventilation exhaust rad monitor D11-K609A	**P**	**N**	**2**						**X**		**E**	Bank – 2018 Exam NRC: 1) JPM step 1 is not critical – the applicant is not performing any action and has to reposition the switch in step 2. Licensee: 1) Removed Critical Step marking for Step 1. NRC O/V Week: 1) Change cueing per discussion. 2) In Step 2 (for the JPM Standard), correct the sentence to read “rotates Mode Selector Switch (S1) from STANDBY to OPERATE” to “rotates Mode Selector Switch (S1) from TRIP TEST to OPERATE” to match switch positions. 3) See if a conduct manual statement could be found that explains how use of “verify” also implies to make the condition exist if the condition was not met (e.g., verify switch is in OPERATE means to place it in OPERATE if the switch was in another position). Licensee: 1) Cueing revised. 2) Step 2 of the JPM Standard was revised as discussed. 3) Several searches were conducted, and nothing could be found. A couple of operators also searched for a statement such as this and nothing was found by them either. Note that cueing exists to inform the examinee to place the switch in the correct position if the control room is contacted NRC: 1) JPM is SAT.

Form 2.3-3 Instructions for Completing the JPM Table

1. Enter the JPM number and/or title.

2. Enter the type of JPM—(S)imulator, (P)lant, or (A)dministrative.

3. Enter (Y)es or (N)o for an Alternate Path JPM.

4. Rate the level of difficulty (LOD) of each JPM using a scale of 1–5 (easy–difficult). A JPM containing less than two critical steps, a JPM that tests solely for recall or memorization, or a JPM that involves directly looking up a single correct answer is likely LOD = 1 (too easy). Conversely, a JPM with over 30 steps or a JPM that takes more than 45 minutes to complete is likely LOD = 5 (too difficult).

5. Check the appropriate block for each JPM error type, using the following criteria:

   - LOD = 1 or 5 is unsatisfactory (U).
   - REF: The JPM lacks required references, tools, or procedures (U).
   - IC: The JPM initial conditions are missing or the JPM lacks an adequate initial cue (U).
   - CUE: The JPM lacks adequate evaluator cues to allow the applicant to complete the task, or the evaluator cues are subjective or leading (U).
   - TSK: The JPM lacks a task standard or lacks completion criteria for a task standard (U).
   - CS: The JPM contains errors in designating critical steps, or the JPM lacks an adequate performance standard for a critical step (U).
   - TL: The JPM validation times are unreasonable, or a time-critical JPM lacks a completion time (U).

6. Mark the JPM as unsatisfactory (U), satisfactory (S), or needs enhancements (E). A JPM is (U) if it has one or more (U) errors as determined in step 5. Examples of enhancements include formatting, spelling, or other minor changes.

7. Briefly describe any JPM determined to be unsatisfactory (U) or needing enhancement (E). Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a satisfactory (S) resolution on this form.

Form 2.3-3 Operating Test Review Worksheet (Scenarios)

Facility: Fermi	**Scenario: 1 (Free-look)**	**Exam Date: 06/19/2023 – 06/23/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1 Rod pattern adjustment						S	NRC: 1) May not need to wait until the third rod pull to auto trigger event 2 (~25 mins into the scenario). Reactivity change will be discernable prior to that 3rd rod. May save time and be just as effective to insert the failure on the 2nd rod pull. Evaluate during validation week. Licensee: 1) Adjusted event timing to trigger earlier in rod pull sequence based on feedback during OV. NRC: 1) Event is SAT.
2 RBM A failure						S	TS
3 East fuel pool Div 1 rad monitor downscale failure			~~X~~			~~U~~ S	TS NRC: 1) Does not appear to be any verifiable actions for the BOP in this event (credited with a "I" event). BOP simply recognizes the failure on the back of P601. Scenario outline and transient and event checklist should be updated to reflect this. Scenario has three other "I/C" events for the BOP, so this event is sat. However, it is preferred the minimum number of "I/C" failures occur prior to the major transient (ES-3.4 C.2.10). 2) Reference function 3 in LCO 3.3.7.1 discussion. Licensee: 1) "I" credit for BOP removed and ES-3.4-1 updated to reflect that. 2) Added note to 3.3.7.1 and 3.3.6.2 regarding function 3 status. NRC: 1) Event is SAT.
4							NRC:

Failed CRD suction pressure control valve						S	1) Add examiner note reflecting 20.106.01 override statement for 20 minute time to place mode switch in S/D (page 5 or 6 of scenario guide). Licensee: 1) Examiner note added. NRC: 1) Event is SAT.
5 Pressure regulator fails low						S	NRC: 1) BOP can receive MC credit for this event. Licensee: 1) MC credit given to BOP NRC: 1) Event is SAT.
6 HPCI steam leak to MSO		X	~~X~~			~~U~~ E	NRC: 1) It is unclear what automatic action failed that the BOP has to take manual control to receive "MC" credit (ES-3.4 C.2.4) 2) If the applicant takes action to isolate HPCI and it doesn't work, that cannot be credited as a "C" event. The applicant has to have some sort of mitigation success. "To count as a separate event, they must involve a significant system response and require operator action to correct." (ES-3.3 B.2.c). See comment 3 below. 3) The Form 3.3-1 states that the HPCI steam leak is able to be partially isolated, however, the scenario guide provides minimal info on this. With a steam leak, it's either isolated or not. Whether any action is taken to isolate HPCI or not, the end result is rising temps to reach MSO and an eventual ED. See commend 2 above for event credit. 4) A component failure that results with a major should be counted as one or the other, but not both (ES-3.4 C.2.7). Appears as though this event should be labeled only as "M" for ALL applicants. 5) Some procedures not included with references: 29.100.01 Sh 5. Licensee: 1) MC credit removed 2) Event reclassified as the major (M) only. 3) See comment 2 4) Event reclassified as the major (M) only. 5) References not provided at time of free-look were provided with draft exam submittal. NRC: 1) Need actions added for HPCI isolation (what actions the applicant should take, what fails, and what procedure is being used to isolate the system).

							Licensee: 1) This is a “skill of trade” action. Operators know to attempt to isolate any valves in the HPCI steam lines. SOP 20.000.02 section 7.2 discusses “recovery from isolation” but does not cover a failure to isolate. Need to evaluate during OV week. NRC: 1) Event is SAT.
7 HPCI > MSO, mode switch fails, RPS p/b work, Div 2 CS pump area temp rising		X				E	CT1 NRC: 1) It is unclear what automatic action failed that the ATC has to take manual control to receive “MC” credit (ES-3.4 C.2.4) 2) Some procedures not included with references: EOP-1, Scram AOP Licensee: 1) MC credit given 2) References not provided at time of free-look were provided with draft exam submittal. NRC: 1) “Enters EOP SH1 for scram” could be expanded upon – “Enters 29.100.01 SH 1, RPV Control” (similar to what was done for SH 5 in the previous event). 2) Similar comment for scram AOP (see comment 1 above) 3) Guide must all actions applicants will have to take from procedures, such as the scram AOP (actions like running back RR pumps, verifying SDV vents/drains closed, preferred systems to maintain Rx water level & pressure, etc). Guide is silent, or generic on these. Licensee: 1) Updated 2) Updated 3) The intent of this event is to set up the ED conditions, not to evaluate the execution of the Scram AOP. The CRS may not event get to the point of ordering Scram AOP actions before the crew starts going down the path of ED. NRC: 1) Comment 3 tracks with what was observed during OV week. No issues with the details in the scenario guide. 2) Event is SAT.

8 Anticipate ED, BPV failure, 2 areas > MSO requiring ED		X				E	CT2 NRC: 1) If the applicant takes action to anticipate ED and it doesn't work, that cannot be credited as a "C" event. The applicant has to have some sort of mitigation success (i.e. if only 1 MT BPV failed and the ED anticipation was partially effective using only the functional MT BPV). The "C" credit would be in opening the SRVs and ED'ing. 2) Some procedures not included with references: 29.100.01 Sh 2 3) If actions are scripted in the guide, we need to detail the steps to do so: place RHR in torus cooling, place RHRSW in operation, place MDCT in operation, bypass DW pneumatics, etc. 4) Need scenario termination criteria. Appears to be after the ED is in progress. Will many of the actions mentioned in comment 3 above be reached prior to ED and scenario termination? Licensee: 1) "C" credit given for ED'ing via the SRVs 2) References not provided at time of free-look were provided with draft exam submittal. 3) Specific steps added to scenario guide. 4) Scenario termination added NRC: 1) Guide should specify procedure in which to restore DW pneumatics. 2) Guide should specify procedure in which to place RHR in Torus Cooling. Licensee: 1) Procedure is on hardcard at respective panel. Hardcard attached to end of scenario guide. 2) Procedure is on hardcard at respective panel. Hardcard attached to end of scenario guide. NRC: 1) Event is SAT.

Facility: Fermi	**Scenario: 2**	**Exam Date: 06/19/2023 – 06/23/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1 Shift CRD pumps due to high vibes on East CRD pump						E	NRC: 1) Having the ATC direct steps and wait for the NLO to take the actions, prior to any MCR action, serves little purpose. Recommend providing information, either in the turnover, or when prompted, that the field actions are already completed. Licensee: 1) Event adjusted to remove RB rounds role play. Completed actions for pump start preparation covered as part of turnover. NRC: 1) Event is SAT.
2 Seismic event < OBE						S	TS NRC: 1) Appears that Fermi simulator has simulated audible earthquake noises – is this true? Want to ensure the applicants can independently validate an earthquake occurred beyond the traces on the seismic monitoring computer. Licensee: 1) Correct.
3 APRM #2 flow unit fails U/S						S	
4 Seismic aftershock < OBE / spurious HPCI initiation		X				E	TS NRC: 1) Verify actions for the subsequent seismic event will cause the same alarms as in event 2 – nothing exists in the guide to address the seismic event in this event (no symptoms, cues, actions). Do the applicants have to reperform action AC of 20.000.01? 2) Add procedure section #'s to the guide – DCS to 3 element control per Section 5.7 of 23.107. Can this be done as "skill of the craft"? 3) Actions to secure HPCI per section 8.1 need to be listed. Can the hardcard (enclosure C) be

							used to secure HPCI in this instance in lieu of section 8.1? Licensee: 1) The malfunctions for the seismic event are the same. The intent for this event is to address HPCI and evaluate TS. Additionally, to return DCS to normal. It is not expected that the crew will go back to the Acts of Nature AOP and reperform steps. 2) Added section. This procedure is usually referenced while shifting level control mode, so it would not really be considered "skill of the craft." 3) The hardcard is sufficient to describe needed actions for securing HPCI. Hardcard attached to guide. NRC: 1) Event is SAT.
5 North condenser pump trip; lower power < 88%						S	NRC: 1) Power reduction via recirc flows can be done as "skill of the craft", correct? Section 6.1 of 23.1238.01 should be referenced in the guide. Licensee: 1) Yes, this is correct. Section reference added. NRC: 1) Event is SAT.
6 1% LOCA 7 Auto scram failure on high DWP, mode switch s/d successful						E	CT-1 NRC: 1) Separate major and I/C / MC events on the outline (Form 3.3-1). These can exist as in in the scenario guide (3.3-2), but must be separated on the outline to ensure the applicants receive appropriate credit for each malfunction. 1% LOCA is the major. Auto scram failure on high DWP is a component malfunction (with MC credit) that should be a separate event (new event 7). Licensee: 1) Events separated on outline. Kept event type as "I", since it is instrument failure that causes the auto scram failure. NRC: 1) Event is SAT.
~~7~~ 8 Manually start HPCI to prevent RWL < TAF, control systems to prevent flooding MS lines							CT-2, CT-3 NRC: 1) HPCI should be able to maintain RPV water level > TAF, which is the CT. However, the guide states, after manually starting & injecting w/HPCI, the applicants may report inability to maintain RPV water level. Verify that no other injection system is necessary to maintain level (otherwise, the CT will need to be revised).

		X				E	2) Need details/actions on restoring cooling to CRD. 3) Need details/actions on spraying the torus (initiating and isolation) 4) Need details/actions on spraying the DW (initiating and isolation) 5) Need details/actions on isolating EECW to/from the DW Licensee: 1) Adjusted leak size during OV week to slow leak rate, as crew may conservatively progress down the ED path, which is not the intent of the scenario. 2) Hardcard attached to guide. 3) Hardcard attached to guide. 4) Hardcard attached to guide. 5) Hardcard attached to guide. NRC: 1) Event is SAT.

Facility: Fermi	**Scenario: 3**	**Exam Date: 06/19/2023 – 06/23/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1 Steam tunnel cooler shift						S	
2 CR 38-31 drifts out of the core						S	TS
3 Div 1 CCHVAC return fan trip						S	TS NRC: 1) What section of 23.413 should the applicant's be using to monitor for correct system operation? Licensee: 1) Applicable section added. NRC: 1) Event is SAT.
4 West SAC unloads and center SAC fails to auto start						S	NRC: 1) If the crew is slow to start the standby SAC and header pressure drops below 85psig, should the applicants perform subsequent actions B or C of 20.129.01? Licensee: 1) Conditions B and C added to guide. NRC: 1) Event is SAT.
5 RFP high vibes, RFP fails to trip	~~X~~					~~E~~ S	NRC: 1) Setting the vibration to ramp in at a given rate would allow for consistent evaluation among all crews, rather than insert a trigger to cause vibes to the alarm setpoint and once they set contingency actions for unacceptable vibes, raise the rate to the trip setpoint. Would prefer that it's one trigger providing for a ramping vibration (to reach the 6 mils over a period of 3-5 minutes, for example). Licensee: 1) Vibration ramp rate starts during event 4. Applicants should be busy restoring station air, but may notice vibes rising. At lead examiner's discretion, vibes will be raised in steps. First

							step raises vibes to alarm setpoint and second raises vibes to trip setpoint, but does not trip. During OV, operators were able to diagnose the problem and take action within reasonable timeframe. NRC: 1) Trigger sequence demonstrated to work well during OV week. 2) Event is SAT.
6 North RRMG set auto runback failure						S	
7 Evaluate P/F map and insert CRAM array						S	
8 Multiple rods drift, mode switch to S/D						S	
9 Electric ATWS 10 SLC fails to start		X				E	CT-1, CT-2 NRC: 1) Separate major and I/C events. ATWS is the major (event 9), SLC is the component (new event 10). 2) "Acknowledged FTS and enters EOPs on FTS" should be more detailed, i.e. which EOPs should be entered at that time? 3) Reference procedure hard card in which to inject with SLC (23.139 Encl A). ATWS actions state the applicant must manually start the first SLC pump, which will fail. Isn't the pump automatically started upon place the initiation key-lock switch to pump A? Actions to initiate SLC described, yet in the same block (below actions to terminate & prevent), it's restated "Completes SLC hard card" – this is unnecessary and duplicated from previous actions. 4) Detail necessary actions required to insert rods via CRD in 29.ESP.03 Section 2.0 & 3.0. 5) Detail necessary actions to transition to SULCV via hard card. 6) In this scenario, with the MSIVs open, it does not appear that the HCL curve could be violated. Possible that the bounding criteria for CT-2 is not valid. Validate during OV week. Licensee: 1) Updated 2) Clarification added 3) ATWS actions hardcard is what directs operations of SLC at first. Once a SLC pump is verified running, operator inhibits ADS, then completes the rest of the SLC hardcard. Rearranged steps and added enclosure A (hardcard). 4) Updated

							5) Updated. 6) Changed CT-2 to terminate and prevent injection flow during the ATWS. NRC: 1) Event is SAT.

Facility: Fermi	**Scenario: 4 (Spare)**	**Exam Date: 06/19/2023 – 06/23/2023**

1 Scenario Event ID/Name:	2 Scenario event errors					3 U/E/S	4 Explanation
	Realism/ Credibility	Performance Standards	Verifiable Actions	Critical Task	TS		
1 GSW pump swap						S	
2 Raise power to 100% using flow						S	NRC: 1) Can raising power via recirc flows can be done as “skill of the craft”, without referring to 23.138.01? Section 6.1 of 23.138.01 should be referenced in the guide. 22.000.03 simply states to raise power using recirc flow and rods per the SM / SNE. Licensee: 1) Added clarification NRC: 1) Event is SAT.
3 Noisy CRD FCV controller						E	NRC: 1) Are the CRD system oscillations large enough to bring in any alarms? 2) Recommend rephrasing the field report with the controller in AUTO – “local parameters are oscillating” (rather than “dancing around”) Licensee: 1) During OV, it was detected quickly by flashing amp indications prior to any alarms. 2) Fixed NRC: 1) Event is SAT.
4 GSW pump trip		X				E	NRC: 1) Are any other GSW alarms expected? I imagine GSW header pressure will not drop to a low-pressure alarm setpoint within any reasonable timing to start a standby pump. 2) Remove “may” from “may enter 20.131.01 – the applicant needs to enter the AOP to start the standby pump. Licensee: 1) Correct, the malfunction is not on a ramp and happens immediately. 2) Fixed NRC:

							1) Event is SAT.
5 Electric fire pump spurious start, manual s/d					~~X~~	~~U~~ S	TS NRC: 1) Why is the fire pump inop? Is it inop due to a bumping of the pressure switch or due to procedural direction by securing the EFP after auto restart? IF it is procedurally directed, the applicant should NOT receive TS credit – they're not evaluating the TS, they're being told the procedural action is causing the inoperability. However, if this a "conservative entry" due to not knowing if the pump will auto start on the low pressure setpoint, we need to discuss further. If the field operator reports the drain valve was reclosed and back to normal, that may cause the applicant to believe that it should function as required. Need to ensure this TRM spec is absolutely required to be entered, as this is required to get SRO-I their minimum # of TS events. Licensee: 1) Discussed during OV week and agreed that this TS call is valid, due to SRO still needing to identify that the pump is inop. NRC: 1) TS call is valid, as discussed with licensee during OV week.. Event is SAT
6 FW flow instrument failure, return to 3-element control						S	
7 ADS SRV H fails open, close SRV via pulling fuses						E	TS NRC: 1) Reporting form the field for checking SRV tailpipe temp states "report SRV "E" tailipipe temp". SRV H failed. Why would we provide local tailpipe temp reading when it's available in the MCR (and the applicants should be demonstrating that competency)? 2) Add the following applicable TS: 3.3.5.1 and TRM 3.4.2 Licensee: 1) SRV tailpipe temperatures are obtained from the relay room and not available in the MCR. Therefore, an operator must be dispatched to the RR to obtain readings. In some cases, the STA may also go to the RR to verify temps. 2) Additional TS validated during OV and added. NRC: 1) Event is SAT.
8 Unisolable torus leak, leads to ED							CT-1, CT-2 NRC:

9 TWMS fails to isolate		X				E	1) Separate major (event 8) and C & MC events (new event 9). Torus leak is the major, TWMS failing to isolate is the C & MC malfunction 2) What actions are taken by the BOP in the MCR to address making up to the torus via TWMS in 29.ESP.21 (steps 2.3-2.8)? Specify in the guide what steps are taken by the BOP, if any. 3) Need to specify what action swill be taken in 29.ESP.27 - guide simply states “perform leak isolation of systems taking a suction on the torus (RHR, CS, and TWMS) as directed”. 4) Include steps to place RHR in torus cooling & modify scenario termination to include torus cooling initiation. Licensee: 1) Done 2) ARP 2D82 is the procedure that lists isolations that should occur when Torus level hi-hi comes in. 3) Leak isolation steps added. 4) RHR in torus cooling steps added and scenario termination modified. NRC: 1) Event is SAT.

Form 2.3-3 Instructions for Completing the Scenario Table

1. For each scenario, enter the scenario event names and descriptions.

2. Review the individual events contained in each scenario, and identify and mark event errors:

   - The scenario guide event description is not realistic/credible—unsatisfactory (U).

   - The scenario guide event description lacks adequate crew/operator performance standards—needs enhancement (E).

   - The scenario guide event description lacks verifiable actions for a credited normal event, reactivity event instrument/component malfunction, or technical specification (TS) event (or a combination of these) (U).

   - The scenario guide event description incorrectly designates an event as a critical task (i.e., a noncritical task labeled as critical or a critical task labeled as noncritical). This includes critical tasks that do not meet the critical task criteria (i.e., the critical task does not have a measurable performance standard) (U).

   - The scenario guide event description incorrectly designates entry into TS actions when not required or does not designate entry into TS actions when required (U).

3. Based on the outcome in step 2, mark the scenario event as unsatisfactory (U), satisfactory (S), or needs enhancements (E). An event is (U) if it has one or more (U) errors as determined in step 2. Examples of enhancements include formatting, spelling, or other minor changes.

4. Briefly describe any scenario event determined to be unsatisfactory (U) or needing enhancement (E). Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario event is marked by a satisfactory (S) resolution on this form.