

Facility: GG-2017-12										Exam Date: December 4-8, 2017			
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	Crit Steps	Scope (N/B)	Over lap	Perf Std	Key	Min utia	Job Link		
All													Files to be used as Handouts should include the word “Handout” in the file title (ex. JPM AR2 surveillance) Done
All													JPMs must clearly identify to Examiner what the applicants are to be handed out and what ref materials are to be handed out or just made available. Done
All													Applicant Handouts shouldn’t identify the JPM as being Direct or Mod. And definitely not identify that JPM was used on a previous NRC or Audit Exam (from JPM title) as it could be cueing. (see AR1) Applicant’s do not receive cover page
AS1	See 301-1	3			1							E	1. JPM is modified from May 2017 Audit exam? No 2. Initiating Cues are present tense – “CRS directs you to...” Revised JPM revised to incorporate comments - Sat
AS2	See 301-1	3			2						X	E	1. Initiating Cue, second bullet “See completed surveillance 06-OP-1B33-V-0005 Attachment II” is redundant as it is stated in Initial Conditions. Removed from Cue 2. Why is Attachment IV provided? (Not in Init Cond or Init Cue) Required to complete Attach II 3. Does Ops Dept agree that a CRS need only identify 2 of 3 errors? Change requirement to identify all 3 errors. Ops ok with 2/3 errors – leave as is JPM revised to incorporate comments - Sat

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			I/C Focus	Cues	Crit Steps	Scope (N/B)	Over lap	Perf Std	Key	Min utia	Job Link		
AS3	See 301-1		X	X	2							U	1. Note: Direct from May 2017 NRC Exam (P-code)? Yes 2. If JPM is Direct from Bank, why is there an Original JPM provided (Tag out the LPCS jockey pump)? Removed 3. JPM Step 3, Notes – the relays identified and their descriptions don't appear to be consistent (E12-K93A, K95A and K30A) with other JPM steps. Note says K70A eliminates the 10.85 minute time delay for closing E12-F048A then JPM Step 4 says E12-K 93A is the 10.85 minute timer for Containment Spray Automatic Initiation. Revised 4. How does applicant document Performance Standard of JPM Step 4 (Critical Step)? Added lines for info on Cue Sheet 5. All required Tech Spec entries must include the appropriate Condition(s). How does applicant document Perf Std of JPM Step 5? Added lines for info on Cue Sheet JPM revised to incorporate comments - Sat
AS4	See 301-1	2		X	4							E	1. Note: Modified JPM from May 2017 NRC exam. Task is the same with different rad levels and initial exposures. Initiating Cues are identical. Noted 2. Does last bullet in Initial Conditions “This task is required for protecting valuable property (fuel)” have an impact on the Task Standard? If yes, then it is cueing – shouldn't an SRO be able to determine this based on info given on why containment entry is required? Bullet removed JPM revised to incorporate comments - Sat
AS5	See 301-1	3			1							S	1. It is likely the applicants could perform parts of the task successfully but not all – consider separating JPM Step 1 into separate Critical Steps that culminate in the correct classification. Left as is - must accomplish all parts

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			I/C Focus	Cues	Crit Steps	Scope (N/B)	Over lap	Perf Std	Key	Min utia	Job Link		
AR1	See 301-1	2		X	1							E	1. Bank JPM has 4 Critical Steps, but identical JPM states 1 Critical Step. Difference? Updated to reflect 4 Crit Steps 2. Applicant Handout shouldn't identify JPM as being Direct or Mod from Nov 2015 Audit Exam – cueing. Applicant doesn't get cover sheet 3. Since JPM uses images for plant conditions, could this JPM be modified to run in parallel with AR2 in the Simulator? Possible but not desired 4. If images are provided, they should be in color to match actual indications (SPDS Display). Ops considers current images good enough JPM revised to incorporate comments - Sat
AR2	See 301-1	3			?							E	Static Simulator JPM 1. Both JPM and Original perform Surveillance 06-OP-1R20-W-0001. 2. The acceptable band for Port Gibson is too large – it allows for the voltage to be high/low of acceptance criteria - 4.45 is OOS high, 4.05 is OOS low. Ensure other bands are appropriate. Revised bank 3. What is purpose of “JPM AR2 Surveillance highlighted” file? Removed 4. JPM says Setting is Classroom – should be Simulator changed JPM revised to incorporate comments - Sat

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			I/C Focus	Cues	Crit Steps	Scope (N/B)	Over lap	Perf Std	Key	Min utia	Job Link		
AR3	See 301-1	3		X?	2			X				E	1. Note: Direct from Bank JPM approved Feb 2014. 2. Note: Format of JPM is much improved over Bank (but still requires changes). 3. Initiating Cue has multiple bullets that don't seem to be operationally valid. Justify each bullet with reference if appropriate. Ensure Ops Dept is in agreement with all bullets being appropriate guidance if given from the Control Room. Bullets verified as required 4. Bullets used in Init Cue should NOT duplicate requirements from a procedure (cueing). Bullets used to minimize the number of Examiner cues required during admin of JPM 5. Bottom of Init Cue says "Complete the shaded sections of Applicant Copy of EN-OP-102-01 Attachment 9.3" but Applicant Handout file doesn't have any shaded areas. Delete this statement as guidance is provided in the first bullet. Deleted 6. How will applicants obtain dwgs? Provided by Examiner? If performed in the Classroom (as stated in the JPM), how will applicants "locate" the dwgs? JPM needs to be clear so Examiner knows what is required. JPM step states to provide drawings to applicant when asked JPM revised to incorporate comments - Sat
AR4	See 301-1	3			3							E	1. Given Control Room evac, what phone would be used as the OHL to make notifications? TSC if available 2. Is second bullet in Notes to Evaluator operationally valid? Would the form be read to the Communicator? Removed JPM revised to incorporate comments - Sat

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Simulator / Control Rm JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
301-2													S-7: Change title to “Shift RR Pump B to Fast Speed” Done
All													Files to be used as Handouts should include the word “Handout” in the file title (ex. JPM S2) Noted
All													JPMs must clearly identify to Examiner what the applicants are to be handed out and what ref materials are to be handed out or just made available. Noted
All													Applicant Handouts shouldn’t identify the JPM as being Direct or Mod. And definitely not identify that JPM was used on a previous NRC or Audit Exam (from JPM title) as it could be cueing. (see AR1) Noted
All													For Critical Steps, consider NOT underlining them. This can be confusing where underlining is used in procedures. Marked with an asterisk and italicized should be sufficient. May consider use of shading the JPM step. Noted
All													All Initiating Cues should be reviewed for present tense. All JPM step Standards are past tense. Noted
All													Consider using bullets in the Notes section of JPM steps. Also, all text in the Notes does not need to be BOLD . Noted
All													Consider using CRS for Control Room Supervisor in all Init Cues (add throughout JPMs). Also, consider using other widely accepted acronyms (like SM, RP for Rad Prot, HX for heat exchanger, RCS, LOCA, etc) to minimize word fatigue on applicants. Recommend creating Exam Writer’s Guide list of common acronyms for consistency. Noted
All													Add noun name to all components throughout JPM. Most examiners are not familiar enough with GG to know components by just numbers. However, once per JPM step is adequate. If procedure step doesn’t include noun name, then add to Standard block. Noted

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Simulator / Control Rm JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
All													Add procedure titles throughout JPM, especially in References, Handouts and Initiating Cues. Noted
All													Generally, Initial Conditions can be simplified to reduce effort required by applicants. Use "All prerequisites are met" or Examiner cues at appropriate procedure steps. Also, order bullets roughly in chronological order as they're used in JPM. Noted
All													Procedure NOTES and CAUTIONS are included as JPM steps. Performance Standard is that the applicant reviewed the Note or Caution. This allows examiner to follow applicant through procedure and it provides opportunity for examiners to provide feedback on whether or not applicants are meeting expectations for reading/placekeeping Notes-Cautions. Noted
All													For procedure steps that are N/A, the JPM step Standard should identify that applicant determined the step as N/A. Noted
All													In JPM step Notes section, identify location first, then add notes if applicable. (Consistent format) Noted
All													For Task Overview (usually page 4) – delete "(Detailed description of task)" since it's an overview. Also, recommend using bullets to separate info like used in Notes to Evaluator. Noted
All													For JPM steps that are N/A, it isn't necessary to cut and paste lengthy procedure steps. Especially true for steps that contain multiple sub-steps. Noted

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	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
All													<p>For required JPM completion cue, is the GG template that this is provided via an Evaluator Note at end of JPM or that there is a "JPM complete" statement in the Notes section of the last JPM step? (inconsistent among Sim and In-Plant JPMs) Recommend formatting all JPMs with Evaluator Note at end of JPM with notice to examiners that JPM is complete since Notes are specific to individual steps. Noted</p> <p>Recommend not using the word "terminated" such that applicants get the wrong idea that JPM was "terminated" due to performing something wrong – recommend using "JPM complete" as this is what examiners usually say. Noted</p>
All													<p>Examiner Notes should be used when procedure changes are required within the JPM. Clearly identify that the applicant will be changing procedures during performance of the next step (see S7). Noted</p>
C1 Bypass Control Rod in RACS	See 301- 2	3	X			X						E	<p>1. Change identifier on JPM to C1 (not CR1 to match ES-301-2). Done</p> <p>2. Change Initial Condition bullet from "Requirements of Engineering Procedure..." to "All prerequisites have been met" or equivalent Done</p> <p>3. Initiating Cue – second bullet is the first, with other two bullets as sub-bullets under the task assigned. Include the SOI number and section in the task assigned bullet if appropriate for operational validity. Done Also, direct applicant to perform RACS 1 first so JPM can be written for consistent delivery. Revised</p> <p>JPM revised to incorporate comments - Sat</p>

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Simulator / Control Rm JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
S1 Manually Startup RCIC	See 301-2	3			6							E	Sample Test Item Review 1. ES-301-2 says Modified, JPM coversheet says New JPM is new, updated ES-301-2 forms. 2. ES-301-2 doesn't identify JPM as Low Power Updated ES-301-2 forms 3. JPM Step 4 – why Critical Step if starting Gland Seal Compressor is not Critical? Cooling is to RCIC turbine, not GS Compressor 4. JPM Step 7 – Informing the applicant to “take appropriate action” could be considered cueing them that a corrective action is required. This knowledge is what is being tested. The examiner should simply acknowledge any report given by the applicant. Revised Examiner Cue 5. Revise Note in JPM Step 7: “IAW P&L 3.2, ... 2000 rpm and thus applicant must secure the RCIC turbine.” No change 6. Note in JPM Step 9 states applicant can close Turbine Trip and Throttle Valve OR depress RCIC TURB TRIP pushbutton. However, depressing RCIC TURB TRIP pushbutton is JPM Step 10 so it shouldn't be identified in JPM Step 9 Notes. Also, depressing RCIC TURB TRIP pushbutton is NOT identified as part of Attach VI HARD CARD. This action would be authorized by EN-OP-200. Revised 7. Clarify Task Standard to include 3 options (JPM steps 8, 9 and 10), using 3 bullets after the “less than 2000 rpm” statement. Task Std revised JPM revised to incorporate comments - Sat

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Simulator / Control Rm JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
S2 Retest MSIV Slow Closure	See 301-2	3			11			X				E	1. Initial Conditions, second bullet: no comma after MSIV Fixed 2. JPM Step 1 should be the applicant reviewing Prereq's per SOI Step 5.4.1 and reviewing the CAUTION before Step 5.4.2 (reviewing the caution could be JPM Step 2) Will do for next exam 3. Is steam line break (Event 1) auto actuated when handswitch is placed from TEST to CLOSE? (so Sim Op only has to ensure it actuates) Yes - ensure 4. JPM Step 4 – are there temp indications or other diverse indications that applicant should observe to recognize/diagnose steam leak? If so, add to Perf Standard. Added Per ONEP CAUTION before step 3.1, since an isolation did not occur, shouldn't the applicant be required to confirm valid isolation by at least 2 independent indications? Yes 5. JPM Step 5, Cue: If applicant asks for ATC to place Mode Switch to shutdown, will Sim Op perform the task? Yes 6. JPM Step 7: format like JPM Step 6. The step is "Place MSL Drain handswitches to the CLOSE position" Then the Perf Std is "Placed B21-F019, INBD MSL DR OTBD DR VLV, handswitch to the CLOSE position." Done 7. There is no "JPM is complete" (terminating cue) – add to JPM Step 7 Notes section. Done 8. Task Standard: Delete 4 th bullet (not a verifiable action) and JPM Steps 4 and 5 are not marked as Critical. Also, delete last bullet since it's identified in 3 rd bullet Done JPM revised to incorporate comments - Sat

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	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
S3 Startup Shutdown Cooling	See 301-2	3		X	8							E	1. Initiating Cue: Add noun name to F053A and procedure title. Also, would the CRS direct the Operator to establish RHR flow with HX outlet and bypass valves fully open or would they direct maximum cooldown rate? (Ops input). Use whatever is most operationally valid. Done 2. JPM Step 25 – restoring the plant to safe condition. Should F053A also be closed for a valve in discharge path? Not required JPM revised to incorporate comments - Sat

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	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
S4 Start, Parallel and Load EDG	See 301-2	3	X	X	X			X				U	1. For Sim Setup – what is the trigger for SSW Pump A trip? >2 MWe Can it be set on both MW and MVARs so all applicants are required to adjust both? Yes - revised 2. JPM Step 5 – for procedure steps that are N/A, the Standard should identify that “Applicant determined that steps (d) and (e) were N/A” GENERIC COMMENT Noted 3. JPM Steps 14 and 15 – isn’t it possible to build an IC to where initial voltage and frequency are below acceptable range, thereby requiring the applicant to demonstrate the ability to make adjustments? This would make both steps Critical for all applicants. Yes – IC changed 4. JPM Step 17 – Notes states that additional attempts to close DG output breaker are allowed. 1) that guidance isn’t in the procedure, and 2) if Ops says it’s ok for a competent operator, how many attempts is acceptable? Added guidance that only 2 attempts are allowed 5. JPM Step 22 Cue – states to cue another operator will realign SSW A but isn’t it appropriate to exam whether applicant can prioritize actions? Delete this cue. Also, in Notes, it’s not clear what “remove the Diesel Generator from the bus and get load off the machine” means if applicant does not have to unload and open output breaker. Is applicant expected to just open output breaker (unloaded and removed from vital bus)? Fixed 6. JPM Step 23 –Does Ops agree that applicant can unload DG then open output breaker? Yes 7. Sync scope switch – does Ops agree that leaving switch on is ok (not part of Task Standard)? Yes JPM revised to incorporate comments - Sat
S5 Startup H2 Recombiner	See 301-2											E	1. Resolve issues from Generic Comments. Fixed JPM revised to incorporate comments - Sat

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	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
S6 Secure SBT	See 301-2											E	1. For Handout – missing page 9. Fixed 2. Initial Conditions: 1 st bullet – change “are operating” to “automatically initiated” 2 nd bullet – swap info such that cause of signal has been secured then high rad signal has cleared (order of how it would happen). Fixed JPM revised to incorporate comments - Sat
S7 Shift RR Pump B to Fast Speed	See 301-2	4										E	1. Change title to “Shift RR Pump B to Fast Speed” Done 2. Initial Conditions: first bullet states power is 32% but does step 4.2.1.1 (Prerequisites) state that power is stable 26-28%? Are past initial point in procedure JPM revised to incorporate comments - Sat

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In-Plant JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
P1 Align SP Cooling from RSP	See ES 301-2	3	X		X			X				E	1. Does JPM qualify as AP? Cue in JPM Step 12 states to cue applicant to establish SPC by an “alternate” means. How many alternate means are there available for the Initial Conditions other than RHR B? Cue revised to “establish SP cooling” 2. JPM Step 12 – Marked as Critical Step with Standard that states “Opened E12-F024A, RHR A TEST RTN TO SUPP POOL” but fault is F024A fails to open. Standard should be applicant “attempted to open” F024A. Revised Standard 3. JPM doesn’t include steps f and g of Attach X. With Cue given in JPM Step 24, it is up to applicant to determine that f and g are N/A. However, performance of either step would constitute a JPM failure so need to be included in JPM. Cue revised 4. Task Standard – SPC A includes opening F024A. As stated above, Standard needs revised. Updated JPM revised to incorporate comments - Sat
P2 Install N2 Bottles on ADS Air Supply	See ES 301-2	3						X				E	1. Handout did not include step 2.4.1 marked up as completed. Fixed 2. Initiating Cue – need to identify EP-1 and attachment title. Added 3. JPM Steps 2, 3 and 8: Standards need to identify that valve’s hand wheel was turned “until resistant was felt.” Fixed 4. JPM Step 8 – If maximum pressure is when F043 is fully open (126 psig), then Standard needs to identify minimum pressure of 125 psig. Fixed 5. JPM doesn’t include a termination cue. Recommending adding Evaluator Note for examiner to stop JPM after applicant completes JPM Step 8. Added JPM revised to incorporate comments - Sat

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In-Plant JPMs	1	2	3							4		5	6
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			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
P3 Locally Initiate ATWS ARI	See ES 301-2	3	X					X				U	Sample Test Item Review JPM Replaced – plant panel did not match drawings and room location identified in procedure was incorrect. Facility recommended replacement of JPM. 1. Handout provided included procedure Section 6.5 but identified on JPM page 2 that only Section 6.4 is to be provided. 2. Initial Conditions – for 3rd bullet, identify that “One attempt to manually initiate ... has failed” Also, why include 4th bullet? 3. JPM Step 1 (and many others) in Notes, when panel drawing is identified, include “(Fig 12).” 4. JPM Steps 2 and 5: Standards and Cues – when pushbuttons are depressed, they also need to be “released.” Also, should procedures be updated to include “release?” 5. JPM Step 4 – does TEST CH 1 light extinguish when switch is placed to the TEST CH 2 position? 6. JPM Step 5 – does performance of this step actuate ATWS ARI/RPT? If so, then JPM Step 7 Note “ATWS ARI has been initiated and the valves energized to vent the Scram Air Header” should be moved to Step 5. 7. JPM Step 6 – Standard needs “PERMISSIVE/SELECT” added to switch title. Also, when switch is positioned to NORMAL, what is effect on CH 1 and 2 IN TEST lights and LOGIC INITIATE lights? If changed, add to Cue. 8. JPM Step 7 – does Ops expect a competent operator to return the switch to NORMAL? If so, then make step Critical and add to Task Standard.

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In-Plant JPMs	1	2	3							4		5	6
	Safety Function and K/A	LOD (1-5)	Attributes							Job Content		U/E/S	Explanation
			I/C Focus	Cue	Crit Steps	Scope (N/B)	Over Lap	Perf Std	Key	Min utia	Job Link		
PB2 Return Fire Water Pumps to Stdbby	See ES 301-2	2										S	1. Steps performed for Diesel Driven Fire Pump B are duplicates for Fire Pump A – revise JPM to perform for only Diesel Driven Fire Pump A and the Motor Driven Fire Pump – removed Fire Pump B (steps 8-13). Validation time reduced from 30 min to 15 min 2. Initial Conditions – Change Fire Deluge “has” initiated to “was.” Also, use full name for fire pumps – Done 3. Update Initiating Cue from “all three” pumps to “running” Done 4. Update Task Standard to remove Fire Pump B – Done JPM revised to incorporate comments - Sat

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**:
 - **I/C Focus**: Initial conditions and/or initiating cue is clear to ensure the operator understands the task and how to begin. (Appendix C, B.4)
 - **Cue**: 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)
 - **Crit Steps**: All critical steps (elements) are properly identified.
 - **Scope (N/B)**: Scope of the task is not too narrow (N) or too broad (B).
 - **Overlap**: 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)
 - **Perf Std**: Task performance standard clearly describes the expected outcome (i.e., end state). Each performance step identifies a standard for successful completion of the step.
 - **Key**: 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:
 - **Minutia**: Topics are linked to the job content (e.g., not a disguised task, task required in real job).
 - **Job Link**: 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: GG-2017-12 Scenario: 1 Exam Dates: December 4-8, 2017										
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
									<u>General Comments</u> 1. Disagree with the Abnormal designator in Event Type. If CRS enters ONEP, it doesn't necessary impact the crew to A (CREW) can be misleading. This is GG practice. 2. Tech Spec's need to have LCO's with each Condition identified that SRO must identify. Include "Function" for Instrumentation specs. Update all D-2's with addition details. Done 3. Add additional annunciators and alarms for all events (SBT requirement) Done 4. Add procedure step numbers in D-2's where applicable Done 5. Add post-scenario statement from NUREG 1021, Appendix D to scenario guide Added	
1					2			S	Start RHR A in Suppression Pool Cooling	SOI
2		X			5			E	LPCS Jockey Pump trip 1. Event may not count if CRS doesn't direct BOP to place RHR A in standby. Can event be constructed such that CRS will always direct RHR A to standby? Role Play added to scenario to contact CRS as Shift Manager to place RHR A is standby. Event revised to incorporate comments - Sat	SOI
3								S	Seal Steam Regulator fails closed	ARI
4			X		2			E	CRD Pump B trip with HCU 32-17 accumulator fault 1. What are the Verifiable Op Actions for the ATC? Example of A (CREW) not being accurate. For HCU accumulator fault, ATC must depress HCU FAULT pushbutton to determine which HCU accumulator has the fault. Additionally, ATC will depress ACKN HCU FAULT to seal in current fault and reset annunciator to allow subsequent HCU faults to alarm. D-2s updated to reflect VOAs. 2. What exactly is the accumulator fault? Moisture accumulation in the instrument block of the accumulator, which requires instrument block to be isolated and blown down to remove moisture. Event revised to incorporate comments - Sat	ONEP

Facility: GG-2017-12 Scenario: 1 Exam Dates: December 4-8, 2017										
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
5								E	Low Pressure Feedwater Heater 4A Tube Leak with a failure to isolate 1. In D-2's, a Booth cue states "multiply indicated VAR reading by 15" – what does this mean? Booth operator determines 4A feedwater heater level in inches using simulator drawings. Drawing only displays "%" of scale. 2. because direction from SOI 04-1-01-N23-1 is to reduce core flow to 70 mlbm/hr. 3. In D-2's, multiple procedures direct the downpower – which one has precedence? Precedence depends on applicant's decision. If power is being reduced to remove feedwater heater from service prior to HI-HI level, SOI and IOI will be used for downpower. If power is being reduced after HI-HI level is received, Loss of Feedwater Heating ONEP will be used. 4. In D-2's, for Reduction in Recirc Flow ONEP, Steps 3.2, 3.3, 3.5 and 3.6 are missing. Steps not applicable during event. D-2 revised to annotate steps are N/A. Event revised to incorporate comments - Sat	ONEP1 ONEP2 SOI
6								E	MT - Unisolable RCIC steam line break 1. Add "(Scram)" to end of Event Description. Added Event revised to incorporate comments - Sat	ONEP EP4 EP2
7						1		E	MT - Low Power ATWS (<5% power) 1. Add "with failed fuel" to end of Event Description Fuel failure removed from scenario. 2. For CT-3 description on page 7, the systems that are required to be terminated and prevented for the conditions in this scenario need to be identified. Systems added to CT-3 Safety Significance block 3. Move CT-3 to Event 9 Event revised to incorporate comments - Sat	EP-2 EP-2A
8								E	HPCS Service Water Pump trip 1. Identify the procedure the corrective action steps come from. Added to Summary and D-2's Event revised to incorporate comments - Sat	?
9						2		E	Main Steam Tunnel steam leak 1. For CT-2 description on page 6, several blocks refer to radiation levels exceeding max safe values, but CT is "When two areas exceed their max safe temperatures, ..." CT revised to change radiation levels to temperatures Event revised to incorporate comments - Sat	EP-4
9					9	3				

Facility: GG-2017-12 Scenario: 2 Exam Dates: December 4-8, 2017										
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
									<u>General Comments</u> 1. Tech Spec's need to have LCO's with each Condition identified that SRO must identify. Include "Function" for Instrumentation specs. Update all D-2's with addition details. Done 2. Add additional annunciators and alarms for all events (SBT requirement) Done 3. Add procedure step numbers in D-2's where applicable Done 4. Add post-scenario statement from NUREG 1021, Appendix D to scenario guide Added	
1								E	Transfer ESF Bus 17AC from ESF Transformer 21 to ESF Transformer 12 1. Add additional steps for 4.2.2.d to D-2's. Done 2. Event revised to incorporate comments - Sat	SOI
2					1			E	Narrow Range C Level instrument oscillations 1. Tech Spec is TRM 6.3.7 Additional details added 2. Event revised to incorporate comments - Sat	ARI
3					1			E	ESF Transformer 12 Lockout with HPCS Diesel Generator auto start failure 1. Tech Spec is LCO 3.8.1, AC Sources – Operating Additional details added 2. Event revised to incorporate comments - Sat	ONEP
4								E	Control Rod 24-53 drifting in 1. Use full description of Control Rod in D-2's Done 2. Event revised to incorporate comments - Sat	ONEP
5			X		1			E	Control Rod 24-53 stuck at position 32 1. Does BOP have Verifiable Operator Actions? Raising CRD drive water pressure 2. Tech Spec is LCO 3.1.3, Control Rod Operability Additional details added 3. Event revised to incorporate comments - Sat	ONEP1 ONEP2
6								E	MT – Control Rod 32-27 drifting in. Reactor scram 1. Add number of Control Rod that's drifting to D-2s CR 32-37HJ added 2. Event revised to incorporate comments - Sat	ONEP1 ONEP2
7						3		S	MT – Hydraulic Block ATWS > 5% RTP	EP-2 EP-2A

Facility: GG-2017-12 Scenario: 2 Exam Dates: December 4-8, 2017										
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
8						1		S	Reactor Feedwater Pump trip	EP-2A
9								E	ESF Bus 15AA power loss 1. Page numbers not aligned for this event Fixed 2. Event revised to incorporate comments - Sat	SOI
9					3	4				

Facility: GG-2017-12			Scenario: 3			Exam Dates: December 4-8, 2017				
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
									<u>General Comments</u> 1. Tech Spec's need to have LCO's with each Condition identified that SRO must identify. Include "Function" for Instrument specs. Update all D-2's with addition details. Done 2. Add additional annunciators and alarms for all events (SBT requirement) Done 3. Add procedure step numbers in D-2's where applicable Done 4. Add post-scenario statement from NUREG 1021, Appendix D to scenario guide Added	
1								S	Transfer RPS Bus B from normal to alternate power supply	SOI
2					2			E	Division 2 Diesel Generator lube oil leak 1. Tech Specs are LCO 3.8.3.E and LCO 3.8.1.B Additional details added Event revised to incorporate comments - Sat	ARI
3					7			E	Division 2 ECCS initiation on spurious RPV low level signal 1. Tech Specs are LCO 3.3.5.1.B, 3.3.5.1.F, 3.3.6.1.A, B, and F, 3.3.6.3.B and 3.3.6.4.B Additional details added Event revised to incorporate comments - Sat	SOI ONEP
4								S	Loss of condenser vacuum	ONEP
5						2		S	MT - LOOP/LOCA 1. Move CTs to Event 6 Event revised to incorporate comments - Sat	EP-2 EP-3
6			X					E	HPCS Pump trip 1. D-2s not clear for Verifiable Operator Actions for both BOP and ATC to get Component credit 2. Not clear as to what procedure guidance is used to correct component failure. Added details to D-2s Event revised to incorporate comments - Sat	?
7			X			1		E	Failure of Division 1 ECCS to automatically initiate 1. D-2s not clear for Verifiable Operator Actions for ATC to get Component credit Clarified ATC actions 2. Not clear as to what procedure guidance is used to correct component failure. Added details to D-2s Event revised to incorporate comments - Sat	?
7					9	3				

Facility: GG-2017-12			Scenario: 4			Exam Dates: December 4-8, 2017				
1 Event	2 Real/ Cred	3 Req'd Action	4 Verify Action	5 LOD	6 TS	7 CTs	8 Scen O-lap	9 U/E/S	10 Explanation	-- Proc
									<u>General Comments</u> 1. Tech Spec's need to have LCO's with each Condition identified that SRO must identify. Include "Function" for Instrumentation specs. Update all D-2's with details. Done 2. Add additional annunciators and alarms for all events (SBT requirement) Done 3. Add procedure step numbers in D-2's where applicable Done 4. Add post-scenario statement from NUREG 1021, Appendix D to scenario guide Added	
1								E	Withdraw control rods to 10% Bypass Valve position 1. Add procedure used (SOI, ARI, etc) to scenario summary Done Event revised to incorporate comments - Sat	SOI
2								S	Condensate Pump C trip	ONEP SOI
3					2			E	HPCS CST Level Lo trip unit failing upscale 1. Tech Spec is LCO 3.3.5.1 Condition A and, LCO 3.3.5.1 Condition D (using Table 3.3.5.1-1) Additional details added 2. Add procedure used (SOI, ARI, etc) to scenario summary Done Event revised to incorporate comments - Sat	ONEP
4								S	Startup Level Control controller failing downscale	ONEP
5					1			E	ESF Transformer 11 trip with failure of 15BA4 to re-energize 1. Tech Spec is LCO 3.8.7, Condition A Additional details added Event revised to incorporate comments - Sat	ONEP1 ONEP2 ONEP3
6						1		S	MT - Main Steam Tunnel steam leak with failure of one steam line to isolate	EP-4 EP-2
7								E	MT - Feedwater Line B line break inside Drywell with B21-F065B power loss 1. Add procedure used (SOI, ARI, etc) to scenario summary Done Event revised to incorporate comments - Sat	EP-?
8						2		S	HPCS Pump Trip	EP-2
9						1		S	LPCS logic power failure	ARI
9					3	4				

Instructions for Completing the Scenario Review Table: Use this table for each scenario to be evaluated

- 2 Check this box if the events are not realistic (**Real**) (e.g., pipe rupture followed by seismic event) **OR** if the events are not credible (**Cred**) because they do not obey the laws of physics and thermodynamics.
- 3, 4 In columns 3 and 4, check the box if there is no required action (**Req'd Action**) or verifiable action (**Verify 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 (**LOD**) 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 (**Scen O-Laps**) 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 unacceptable (**U**) (requiring repair or replacement), in need of enhancement (**E**), or satisfactory (**S**)? Mark the answer in Column 9.
- 10 Record any **Explanations** or comments of the event here.

In the shaded boxes of the last row, calculate the values for each column as described below:

- 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, pre-identified 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 Unacceptable, in need of Enhancement, or Satisfactory from **column 11** of the simulator scenario table

Facility: GG-2017-12									Exam Dates: December 4-8, 2017
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	9	0	9	1	3	0	5	E	Original scenario missing TR 6.8.2
2	9	0	3	0	4	0	0	E	
3	7	0	9	0	3	0	0	E	
4	9	0	3	1	4	0	6	E	Original scenario missing TS 3.8.1

Instructions for Completing the Scenario Total 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: **GG-2017-12**Exam Date: **December 4-8, 2017****OPERATING TEST TOTALS**

	Total	Total Unsatisfactory	Total Edits	Total Satisfactory	% Unsatisfactory	Explanation
Admin. JPMs	9	1	7	1	11.1	
Sim./In-Plant JPMs	11	2	9	0	18.2	Replaced In-Plant JPM (PB2) was reviewed as Sat.
Scenarios	4	0	4	0	0	
Op. Test Totals:	24	3	20	1	12.5	

Instructions for Completing the Operating Test Totals 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 ($\text{Op. Test Total Unsatisfactory} / \text{Op. Test Total}$) and place this value in the bolded "% Unsatisfactory" cell.

Refer to ES-501, E.3.a, to rate the overall operating test as follows:

- satisfactory, if the "Op. Test Total" "% Unsatisfactory" is $\leq 20\%$
- unsatisfactory, if "Op. Test Total" "% Unsatisfactory" 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).