

Facility: River Bend Station		Exam Date: 2/8/2021											
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 DETERMINE THE PLANTS LOCATION ON THE POWER TO FLOW MAP	Conduct of Ops Generic 2.1.7	2					X					E	Ensure that in the JPM it states that this is a Conduct of Ops area. Seems like there might be some overlap with the scenarios as this seems like a common task. Needs to be validated Not expected on Exam Added note in Cue sheet to detach the graphs utilized and made a place for the applicants to write down their answer.
RA-2 DETERMINE RPV DRAIN TIME	Conduct of Ops Generic 2.1.25	2										S	Needs to be validated to confirm Changed validation time to 20 min Added train time answer space on cue Provided RPV is at the flange Added picture to handout and removed the actual print. Print still available if requested.
RA-3 USING AN RPS PRINT, DETERMINE THE EFFECT OF THE PULLING TWO FUSES ON THE SYSTEM AND LIGHTS.	Equipment Control Generic 2.2.15	2										S	Need to be validated Modified cue to remove with the provided...statement Changed 27D to F27D on cue
RA-4 RHR VENTING RAD EXPOSURE	Radiation Control Generic 2.3.4	1.5										S	Need to be validated. Very short and not overly challenging Added answer space on Cue sheet
SROA-5 DETERMINE THE PLANTS LOCATION ON THE POWER TO FLOW MAP	Conduct of Ops Generic 2.1.7	1.5		X								U	The cue that says what you need to take to place the plant in a stable region. This tells the applicant they are in an unstable region. The JPM probably does not meet the license level as being in the exclusion region requires a scram immediate action correct

													<p>Change task to put them in different region and will need to decide actions from TS. Or AOP-24 15 min or less SRO will need to determine operability</p> <p>BC comments: As written, this doesn't appear to be an SRO level admin JPM. Seems like the RO should be determining what region they are operating in, and SRO would then determine appropriate actions. Isn't this an RO responsibility?</p> <p>I think your changes recommended above would work or you could - change initial conditions and cue to remove reference to AOP-7 and AOP-24 and then should be SRO only, as they would have to select the AOPs to look at. I believe there is enough information given for them to determine?</p> <p>Removed AOP-7 and AOP-24 from reference. Fixed answer sheet to channel 1 and channel 2 vice div 1 and div 2. Modified how CF indications were given to make it clear.</p>
SROA-6 DETERMINE RPV DRAIN TIME	Conduct of Ops Generic 2.1.25	2											<p>E</p> <p>Not sure if I can hang my hat on a TS identification that is on the chart where you determine the time to drain it down. We may need to discuss that with some of the other examiners.</p> <p>Going to cover the TS reference on the chart to make the SRO go to TS to determine</p> <p>Covered the TS boxes on the drawing, changed validation time to 20 min, Added space on cue sheet for answers, changes cue to RPV is at the flange, provide portion of the full drawing vice entire drawing, entire drawing is available if requested.</p>
SROA-7 USING AN RPS PRINT, DETERMINE THE EFFECT OF THE PULLING TWO FUSES ON THE	Equipment Control Generic 2.2.15	2											<p>S</p> <p>Need to validate Fixed typo throughout concerning F27D Modified second half of JPM cue to state that maintenance is complete and fuses have been reinstalled valid actuation of Div 2 and Div 3 RPS occurs.</p>

SYSTEM AND LIGHTS.															
SROA-8 FAILED RAD MONITOR	Radiation Protection Generic 2.3.13												E	<p>Do not give TS 3.3 to them as a handout as indicated in the guide they need to look it up completely on their own. Either via the computer or requesting a copy of TS. Need to validate <i>They will have the entire book</i></p> <p>BC comments: Task standard and filled out JPM has wrong mrem value, should be 2540 mrem vs 2450 mrem.</p> <p>Also, for SRO, they should select the procedure to use, so recommend deleting "Using RPP-098, Att 1," from cue. Seems like 2 separate tasks and not related. If the radiation values had some impact on T.S or some required action, then I can see them together. Did I miss the connection????</p> <p>The tasks stem from a single condition so are therefore related. The typo has been corrected and the SRO portion is the application of the TS both below the line and greater than 1 hour information required. Added spaces for applicants to write down their answers</p>	
SROA-9 EMERGENCY DECLARATION	Emergency Preparedness Generic 2.4.40												S	<p>Question the 15 min time as normally the applicants have 15 min to identify the classification and 15 min to complete the notification form. I do not believe this to be a major issue just something to think about concerning appeal space. JPM was broken down into two separate Time critical portions the 1st to make the EAL call and the second to fill out the short form.</p>	
Simulator/In-Plant JPMs	1 Safety Function and K/A														
														<p>General Comments: 1. JPMs are very short and alternate paths seem to consist of a single action. Very simple JPMs as a whole while a mix of simple and more challenging JPMs are acceptable leaning to far one way or the other is not</p>	

													acceptable. Take a good look at the the JPM set and we will discuss.
S-1 TRANSFERRING RECIRC PUMPS FROM FAST SPEED TO SLOW SPEED	Safety Function 1 – Reactivity Control 202002 K5.03 A4.03	2											S What happens if both buttons are not pressed at the same time in JPM stem 1 (let me know during validation) JPM step 3 actions states to open to 94% and the step standard states 30% is it just a time saver to only go to 30% Will need to validate to ensure sat once all questions are answered. Time saving, do need both Determined that we would have the applicant complete opening to 94% per the procedure. Also made step three the only critical portion is to commence opening valve to establish flow
S-2 RCIC SLOW ROLL STARTUP	Safety Function 2 – Reactor Water Inventory Control 217000 A3.06 A4.04	1.5											S Need Validation to verify Same alternate path, alarm and then trip RCIC. Single step alternate path low discriminatory value Added Min flow failure BC comments: probably ok since the procedure has a number of steps for the operator to take before the failure – per NUREG, has to be more than one action for JPM to be valid. You could add the low flow if you really think necessary. Step 6 not critical Add cue to step 10 that if building operator is directed to trip locally state that none are available. The SOP will be staged near the evolution as it is in the plant.
S-3 ALTERNATING TPCCW PUMPS NOW ALTERNATE RPCCW PUMPS	Safety Function 8 – Plant Systems 400000 K6.05, A4.01	1.1											S Single step Alternate path, alarm requires pump stopped. Need to validate. Swap CCW primary to rotate pumps that will develop a leak and an isolation will occur not all components isolate JPM was swapped out to alternate RPCCW pumps that results in a leak that creates an isolation signal that not all components isolate as required. Added SWP1C is tagged out or not available on the cue
S-4	Safety Function 3	1.1											S Same alternate path alarm pump needs to trip and then you trip the pump very little discriminatory value

ADHR STARTUP - CONFIGURATION 1	295021 AA1.04												Cue says B pump and the guide all says A pick one and make it match. Corrected.
S-5 ROD WITHDRAWAL LIMITER FUNCTIONAL TEST	Safety Function 7 – Instrumentation 201005 A3.03	2											S On step 2 added applicant can either select another rod or depress the blue rod clear select pushbutton.
S-6 TRANSFER NPS-SWG1A FROM NORMAL TO PREFERRED SOURCE	Safety Function 6 – Electrical 262001 K5.01, A4.05	2											S Again single step alternate path JPM. Step 8 cue Building operator in not available to open breaker.
S-7 ADJUSTING REACTOR PRESSURE USING PRESSURE REGULATOR SET	Safety Function 4 241000 A2.04, A2.03	1.1											S No changes required
S-8 START CONTAINMENT LOW VOLUME PURGE	Safety Function 9 – Radioactivity Release 288000 K5.01, A2.04	2											S No changes required
P-1 TRANSFERRING BY-INV04 FROM NORMAL OPERATION TO MAINTENANCE BYPASS	6 – Electrical 202002 K5.03, A4.03	1.5											S Very simple and straight forward but meets the criteria for a normal JPM. Will still need validation to ensure Sat No changes required
P-2 STARTUP OF THE HYDROGEN PURGE SYSTEM	5 – Containment Integrity 223001 A1.03	2											E Why is JPM step 5 critical to open to 75%? Is simply opening the valve acceptable or is the 30scfm flow required per some calculation? I also count 6 manipulations and 6 critical steps please fix on page 2. Actual Validation is still required. Only opening the valve is critical not the 75%

													Changes complete
P-3 INJECTION INTO RPV WITH CONDENSATE TRANSFER	2 – Reactor Water Inventory Control 295031 EA1.08	2											<p>Is it critical that both of the Condensate Transfer pumps be started or is one enough? You have three manipulations not 2. (2) CNS pumps and (1) valve please correct on page 2. What is the effect if an applicant attempts to align Feedwater and/or RHR A and B? does this create a failure? Actual Validation is still required</p> <p>Wrong task if you start A and B only one pump is critical</p> <p>BC comments: Not sure I understand you comments about "only one pump is critical," since the procedure requires both pumps to be started. What is the purpose of ENCL 6 key? To get into aux control room? If so, may want to include as a note for examiner.</p> <p>To verify, is the chain operated valve not geared? Sometimes for large valves, with chains are geared, so it may take many pulls to get the valve opened or closed. If not geared, then cue would be correct.</p> <p>The enclosure 6 key is to unlock the valve chain, (really a tie wrap) valve is not geared looks to be like an 8 in disk valve in the overhead. No changes required</p>

Instructions for Completing This Table:

Check or mark any item(s) requiring a comment and explain the issue in the space provided using the guide below.

1. Check each JPM for appropriate administrative topic requirements (COO, EC, Rad, and EP) or safety function requirements and corresponding K/A. Mark in column 1. (ES-301, D.3 and D.4)
2. Determine the level of difficulty (LOD) using an established 1–5 rating scale. Levels 1 and 5 represent an inappropriate (low or high) discriminatory level for the license that is being tested. Mark in column 2 (Appendix D, C.1.f)
3. In column 3, “Attributes,” check the appropriate box when an attribute is **not met**:
 - The initial conditions and/or initiating cue is clear to ensure the operator understands the task and how to begin. (Appendix C, B.4)
 - The JPM contains appropriate cues that clearly indicate when they should be provided to the examinee. Cues are objective and not leading. (Appendix C, D.1)
 - All critical steps (elements) are properly identified.
 - The scope of the task is not too narrow (N) or too broad (B).
 - Excessive overlap does not occur with other parts of the operating test or written examination. (ES-301, D.1.a, and ES-301, D.2.a)
 - The task performance standard clearly describes the expected outcome (i.e., end state). Each performance step identifies a standard for successful completion of the step.
 - A valid marked up key was provided (e.g., graph interpretation, initialed steps for handouts).
4. For column 4, “Job Content,” check the appropriate box if the job content flaw **does not meet** the following elements:
 - Topics are linked to the job content (e.g., not a disguised task, task required in real job).
 - The JPM has meaningful performance requirements that will provide a legitimate basis for evaluating the applicant’s understanding and ability to safely operate the plant. (ES-301, D.2.c)
5. Based on the reviewer’s judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 5.
6. In column 6, provide a brief description of any (U)nacceptable or (E)nhancement rating from column 5.

Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a (S)atisfactory resolution on this form.

Facility: River Bend Nuclear Station										Scenario: 1	Exam Date: 2/8/2021
1	2	3	4	5	6	7	8	9	10		
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation		
									General comment can we highlight the actual verifiable steps the we expect the applicant to take during the scenario. Having the procedure is great but showing what they actually need to touch would be even better if possible. 1. On D-1 page 1 of 19 verify correct TS it differs between 3.1.3 and 3.1.5 in the event description. 2. Page 3 of 19 Scenario Activities for all events with TS change wording from reference to enter TS XXXXX 3. Page 3 or 19 event 4 verify TS is correct same comment at #1		
1.								S	The TS will only be applicable while the loop flows are not matched correct? Will any actions be taken in the AOP's that are listed? Facility to bold the b section of the TS listed on page 7 of 19 to ensure examiners are looking at the correct parameters.		
2.								E	No comments. BC comments: From the D-2 description, that the standby EHC pump gets an auto start. If so, no action taken by any operator, just verifying pump auto start, so no event credit. Should not count as a component failure. Riverbend station replaced event with an Aux building exhaust fan fails high and stby fan fails to start. This allows for a new critical task to replace the turbine fail to trip on reverse power. RBS to install time holder to record time lapse for critical task. D-2 is also missing actual component manipulations RBS to fix this and bold components		
3.								S	Ensure it is clear to examiners that TS 3.1.5 is a maybe enter if the accumulator alarm is received and TS 3.1.3 is an expected TS entry for the scenario		
4.								E	TS 3.1.3 is associated with the ROD drift		
5.								S	Reactor Scram and required actions On page 15 of 19 remove Main Generator Critical Task no longer applicable Bold actual components that are manipulated in D-2		
6.								S	The event is ok but there is no critical task as I mentioned in the outline review and a subsequent email what might be considered critical for requal or important from a financial/equipment protection perspective is not necessarily critical from a nuclear or regulatory perspective. If the turbine and the generator both failed to trip you may be able to find a critical task due to rapid cool down of rapidly lowering RV. Task to trip the turbine possibly then generator breakers failed to		

									<p>trip with the turbine trip and that part of scenario remains the same. Think about it and see if you can come up with something that is of nuclear safety for the CT.</p> <p>Going to swap to create a new critical task like leak in Aux building and need to start standby gas or isolate.</p> <p>BC comments: looked at outline comments and had same comment about NOT being a critical task.</p> <p>Swapped event 2 and now this is not one of the critical tasks</p>
7.								S	<p>RICI restoration of level.</p>
									<p>Notes to self: Scenario has manual control of an automatic action for instant SRO's in the ATC position and contingency procedures for the set.</p>

Scenario 2 was determined to be the spare

Facility: River Bend Nuclear Station			Scenario: 3					Exam Date: 2/8/2021	
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
									On D-1 page 3 of 19 Scenario Activities: 1. Event 2, Add CT isolation prior to reaching MAXSAFE of 200 degrees in RCIC room 2. Events 5-7, Wording is excessive and difficult to read, facility is going to clean it up.
1								S	No comment, event ran smooth during validation
2								S	No comment, On page 11 of 19 the TS number has a typo is says 3.6.1.3 when it should be 3.3.6.1. Facility to fix
3								S	No comment, this event will give manual control of an automatic function adjust of recirc flow.
4								S	Need to see manual control for a period of time to credit the ATC for an Instant SRO. Validation confirmed manual control. This also needs to have the TRM included in the D-2 currently missing TRM 3.3.7.3 condition A is applicable.
5								S	Will need to see the scenario to evaluate the major we also need a way to track the cooldown rate CT and agreed to what indication will be used. We need to place that in the CT description (like using the 15 min average cooldown rate cooldown will not exceed 100 degrees per hour. Facility is saving a trend for cooldown rate for evaluators. Need to clean up the information at the beginning of the event description same as in general comments
6								E	Need to include the operator actions to manually close the MSIVs
7								S	Major event validated well
									Scenario has a manual control of an automatic action for instant SROs in the ATC position

Facility: River Bend Nuclear Station			Scenario: 4			Exam Date: 2/8/2021			
1	2	3	4	5	6	7	8	9	10
Event	Realism/Cred.	Required Actions	Verifiable actions	LOD	TS	CTs	Scen. Overlap	U/E/S	Explanation
									On D-1. 1. Page 1 of 19, Event 4 TS 3.5.1 is missing 2. Page 1 of 19, event three B33-F019 need to add or B33-F020 2. Page 3 of 19, Event 4 missing TS 3.5.1 also the F019 or F020 issue is repeated.
1								S	There is no procedural guidance listed on the D-2 for this event. What would direct the crew to take the action. Please include the procedure name/number that would direct the actions (ARM AOP SOP) whatever it is. Alarm response is now listed
2								S	What is the procedure that is used to determine what the crew is going to do. Need to include what they are taking action per. D-2 has been updated with the alarm response guidance to perform actions.
3									TS number is repeated in TS section typo, in order to meet the isolation either F019 or F020 can be closed, question raised during validation to verify that alarm H13-P601/19A/C01 actually is received facility to validate and either leave or remove reference to alarm
4									Booth cue cannot be provided until after crew diagnosis is made and an operator dispatched and level is below 19 feet 6 inches. Had to increase ramp rate of leak as the original rate will not allow for failure of the CT within the time scope of the scenario. Revalidated the revised leak rate and the applicant have ~ 25 min to isolate the leak prior to failing the CT. TS 3.5.1 needs to be added to the D-2 for this event. Added booth cue if refill is requested of the field operators that the manual valve is stuck and cannot be opened.
5									Changed event so that only ARI is the success path to scram the reactor.
6									Insert the operator actions of securing the recirc pumps and isolating the MSIV.s make it bold like all of the other expected operator actions.
7									Try to have better termination criteria we need to decide where we want all of the crews to finish at. When the listed enclosures are complete.

									Does not seem to have an opportunity for manual control of an automatic operations for the ATC position not suitable for an instant SRO to use this scenario

Instructions for Completing This Table:

- 1 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	
1	7	0	4	0	2	0	0	S		
2	7	0	4	0	2	0	0	S		
3	7	0	4	0	2	0	0	S		
4	7	0	5	0	2	0	0	S		

Instructions for Completing This Table:

Check or mark any item(s) requiring comment and explain the issue in the space provided.

1, 3, 5 For each simulator scenario, enter the **total** number of events (column 1), TS entries/actions (column 3), and CTs (column 5).

This number should match the respective scenario from the event-based scenario tables (the sum from columns 1, 6, and 7, respectively).

2, 4, 6 For each simulator scenario, evaluate each event, TS, and CT as (S)atisfactory, (E)nhance, or (U)nsatisfactory based on the following criteria:

- a. 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.
- b. 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)
- c. 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	1	3	5	0	
Sim./In-Plant JPMs	11	0	6	5	0	
Scenarios	4	0	4	0	0	
Op. Test Totals:	24	0	15	9	0	

Instructions for Completing This Table:

Update data for this table from quality reviews and totals in the previous tables and then calculate the percentage of total items that are unsatisfactory and give an explanation in the space provided.

- Enter the total number of items submitted for the operating test in the "Total" column. For example, if nine administrative JPMs were submitted, enter "9" in the "Total" items column for administrative JPMs. For scenarios, enter the total number of simulator scenarios.
- Enter the total number of (U)nsatisfactory JPMs and scenarios from the two JPMs column 5 and simulator scenarios column 8 in the previous tables. Provide an explanation in the space provided.
- Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.
- Total each column and enter the amounts in the "Op. Test Totals" row.
- Calculate the percentage of the operating test that is (U)nsatisfactory ($\text{Op. Test Total Unsat.} / \text{Op. Test Total}$) and place this value in the bolded "% Unsat." cell.

Refer to ES-501, E.3.a, to rate the overall operating test as follows:
 - satisfactory, if the "Op. Test Total" "% Unsat." is $\leq 20\%$
 - unsatisfactory, if "Op. Test Total" "% Unsat." is $> 20\%$
- Update this table and the tables above with post-exam changes if the "as-administered" operating test required content changes, including the following:
 - The JPM performance standards were incorrect.
 - The administrative JPM tasks/keys were incorrect.
 - CTs were incorrect in the scenarios (not including postscenario critical tasks defined in Appendix D).
 - The EOP strategy was incorrect in a scenario(s).
 - TS entries/actions were determined to be incorrect in a scenario(s).