



	technology at GG (just an idea).	
3	S-4: HPCS quarterly functional test. This is SF4 heat removal from core, and a better JPM would be some kind of ECCS system such as LPCI that is lined up for injection but the pump cavitates or its discharge valve fails to re-align. Surveillance procedures are not as operationally valid as a JPM that really challenges the safety function. We can talk about it on the call before you change anything.	All comments have been resolved with the chief examiner prior to validation
4	S-6: Rx man scram test switch. Is this discriminating enough to be on the exam? Are there enough steps? You need several verifiable actions for this to be an adequate JPM for the NRC exam.	All comments have been resolved with the chief examiner prior to validation
5	S-7: Start of SSW pump: Does not meet the K/A for safety function 8, See free review comments provided. Suggest using a CCW shaft shear? We can discuss before you change anything.	All comments have been resolved with the chief examiner prior to validation
6	P-2: if you have a RSP with RCIC modeled in simulator then this is not the best choice for an in-plant JPM. We can discuss during call before you change anything.	All comments have been resolved with the chief examiner prior to validation

<b>Simulator Scenario Outline Comments</b>		
(08/06/2015)		
	<b>Comment</b>	<b>Resolution</b>
1	<p>General comments:</p> <p>1. Make sure you update the tables at the bottom of the D-1 with all attributes from rev 10 of the NUREG. As an example, there are two malfunctions after EOP entry required and counted in the tables and that doesn't appear to be in your table. I believe that scenario 3 does not have two malfunctions after EOP entry.</p> <p>2. We will need procedures listed for all events, including raising power, with steps by major operator actions.</p> <p>3. Put major annunciators for each event at the top, with window numbers, and applicable ARPs (nomenclature or</p>	All comments have been resolved with the chief examiner prior to validation

<p>name, such as ARP-31-214-301) with the board number as applicable (ie location).</p> <p>4. For LOCAs, steam breaks, leaks, etc, if helps the NRC if we know where the leak is, what the rate is, indications in CR to help operator determine these items, etc.</p> <p>5. For each CT, need to guess at which board operator would get the CT, then try to ensure they are balanced. With two CTs, the BOP should get one and the ATC should get the other, if possible. This is done by putting next to the CT in the D-1 and D-2 forms which board you think should get it, understanding that it is an estimate only. Critical tasks must also be identified within the “Applicants Actions or Behavior” column to ensure examiner knows when a critical task is to be performed and who is expected to perform it.</p> <p>6. Put controller names/numbers in the events where applicable</p> <p>7. Need to include name and nomenclature for all components that are expected to be manipulated by the applicants. Descriptions such as “Stops drywell cooling fans” or “restarts CRD pump” or “Stops low pressure ECCS injection as required” are not sufficient.</p> <p>8. When the D-2 states that actions will be performed “using the quick card,” the verifiable actions to be performed by the crew must be laid out in the D-2 so examiners can follow the applicant’s actions. Describing the expected actions with terms such as “as directed” or “using the quick card” or “takes manual control of level” or “starts pump per ARP” is not sufficient. The actual switch manipulations need to be in the D-2 for examiners to follow.</p> <p>In All scenario Event narratives:</p> <ol style="list-style-type: none"> <li>1. Put in the TS and LCO entries</li> <li>2. Put in major procedure transitions</li> </ol>	
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	<p>(ABNs and up).</p> <p>9. Consider using the following items on the scenarios: A complete loss of a div 1 or 2 safety bus due to fire or electrical storm or grounds, loss of stator cooling pump, electrical ATWS,SBO, stuck open SRVs, RCIC 1/1 instrument failure.</p> <p>10. You can have one reactivity on one scenario but not on all of them-takes too much time and minimal grading value for scenarios. Same applies to normal events with no failures.</p> <p>Scenario 1:</p> <ol style="list-style-type: none"> <li>1. Contains too much overlap between it and the previous two exams, Of the 9 events listed 6 were used on the last two exams, Need to replace at least 3 of the events in the scenario.</li> <li>2. The D-2's do not have sufficient detail in general for all of the events described.</li> <li>3. There are two separate endings depending on the path the crew takes We believe that one of the options may be a failure to meet a critical task.</li> <li>4. See free review comments for specific issues with this scenario.</li> </ol>	
2	<p>Scenario 2:</p> <ol style="list-style-type: none"> <li>1. 4 of the 9 events were used of the previous two exams and need to replace at least one with a new event.</li> <li>2. The lower power is not needed as during event 4 the same type of actions will be performed. Replace with an additional normal evolution for the ATC operator, like a small rod adjustment. Or an instrument failure that will require a TS for the SRO.</li> <li>3. Remove the placing RHR in Suppression pool cooling that will be done in other events, Replace event with component malfunction in the instrument air system that has verifiable actions</li> </ol>	All comments have been resolved with the chief examiner prior to validation

	<p>in the control room. Have the scenario start in suppression pool cooling as they have just finished a RCIC surveillance or something along those lines.</p> <ol style="list-style-type: none"> <li>4. Change CRD pump trip to a sheared shaft</li> <li>5. Keep the Leak in event 5</li> <li>6. Keep heater Drain pump trip</li> <li>7. Keep major</li> <li>8. On event 9 in addition to needing to manually start also include a valve or two that will require alignment.</li> </ol>	
3	<p>Scenario 3:</p> <ol style="list-style-type: none"> <li>1. 5 of the 8 events listed were used on the previous two exams need to replace a minimum of 2 with new events.</li> <li>2. Of the 5 repeat events 4 of them were on scenario 5 of the 2014 NRC exam</li> <li>3. There is a Normal and a Reactivity evolution at the start of the scenario, would prefer to have normal evolution replaced. Preferably an electric bus failure that you cannot recover, Crew will need to diagnose the cause and realize the reenergizing the bus may cause a fire. Pick a bus that the equipment is not necessary for the rest of the scenario. Move this fault to right before the loss of ESF transformer 21</li> <li>4. Replace the IRM failure with a different ATC instrument failure</li> <li>5. Keep the Startup control valve failure</li> <li>6. Need another malfunction after Major, you can use any automatic function not actuating completely as long as there are verifiable actions associated with it.</li> </ol>	All comments have been resolved with the chief examiner prior to validation
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