

## PROPOSED OUTLINE COMMENTS

Facility: Cooper

First Exam Date: 9/24/18

<b>General</b> (Date)		
Comment	Resolution	
1	<p>Only 3 examiners for the exam. TJ will not be a part of the exam. Create another schedule with a Monday morning start with all admins Monday morning and in-plants in the afternoon. Also, squeeze in a solo simulator JPM Monday morning before in-plants. Provide a time and date for debrief of the exam on the revised and originally submitted schedule.</p>	<p>Cooper has drafted another schedule. Will send as soon as possible.</p>
2	<p>Add potential for post scenario critical tasks in all D-1s.</p>	<p>We will send CNS an example of the wording. Completed.</p>
3	<p>Every scenario has a planned power change within the first 2 events. This will need to be changed.</p>	<p>Will eliminate during validation. Completed during validation.</p>
4	<p>For any and all bank JPM I'd like to know when they were last used overall and if/when they were used on an NRC initial exam. It looks like several items are off of the exam 3 exams ago (Aug 2014).</p>	<p>CNS will send updated information. Completed during validation.</p>
5	<p>Scenario 4 attributes were not included on the 301-5. Include so it can be assessed along with the other scenarios.</p>	<p>CNS will update. CNS updated and sent to R4.</p>
6	<p>Has the audit been written? If not how did you assess 2.b. in ES-201-2? Also 3.a.3 of ES-201-2.</p>	<p>Outline has been written. No overlap has been verified and will be modified if necessary. Final audit exams completed and assessed by licensee with no overlap per QA forms.</p>
7	<p>The NUREG states that Scenarios need to be over varied power ranges and during different times in core life. You have a 7%, and 80%, a 95%, and a 100%. This part is probably okay but the snaps should have an EOC, a MOC, and BOC for initial conditions and on the turnover.</p>	<p>CNS will change one scenario to MOC and change the low power to 5%. Completed prior validation.</p>
8	<p>Should incorporate electrical bus losses into these scenarios somehow. SOER 10-02 directed more focus on bus loss</p>	<p>Okay.</p>

	events and CNS has not run a single bus loss that I can see many years.	
9	Simple pump trips over and over create a predictable exam. Should change how the pump swaps are done, such as OC trips, strainer clogged, shaft shears, vibrating pumps/turbines, something to mix up the events.	Okay.
10	For scenarios, try to make the events tie together. The rod issues in scenario 1 for example, instead of throwing in a random event like the battery room fan event 4, put in something like an HCU failure or accumulator issues that could lead to a rod issue later on. You also get a different TS call out of it. To risk inform each scenario you should have at least 2 TS calls (TRM doesn't count for high risk items) and it is preferred that they be substantially different-for example one a pump and the other an instrument or valve or something like that, so that we can truly measure if they know how to use the TS "book." Just because someone is weak on instrument TS calls does not mean they don't know all the big pump, valve, diesel TS calls. In scenario 1, you have a no-call for event 3, a rod TS call on event 4, and the TRM for the battery fans on event 5.	Okay.
11	It helps us if you use dynamic events that cause the plant to move-this gives us all the attributes for grading and really gives insights into the applicant's ability to handle the plant in transient conditions.	Okay.

<b>Written Exam Outline</b>	
(Date)	
<b>Comment</b>	<b>Resolution</b>
1 NRC Generated	
2	
3	
4	
5	

<b>Administrative JPM Outline</b>
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		(Date)
Comment		Resolution
1	RO A4: Why is this listed as an emergency plan JPM and not a radiation control JPM?	Typo corrected
2	Why are there 2 conduct of ops admins for the RO?	Make less predictable. Okay.
3	<p>Need to evaluate the differences between 2018 A4 and 2015 RA4 (Version 3 vs Version 2)</p> <p>Provided in JPM Summary sent by K. Grillis 4/25/18.</p> <p>This should have been provided as part of each form (page 2 of each ES-301-1 or ES-301-2 form). For a JPM to be "different" (ie to call it modified) it has to take some different path, not just changing numbers-FYI.</p>	Completed.
4	A5: How many dampers are stroke timed during this surveillance?	8 dampers. Will
5	<p>I don't believe the topics are consistent with ES-301. On page 2 it lists examples of admin topics and for the RO 3 of the 4 topics appear to be equipment control and the other a radiation control JPM. For the SRO exam 3 JPM appear to be equipment control JPM.</p> <p>For example, A1 reads and looks like a topic consistent with KA 2.2.12 even though you need to use a graph to do it, which is the KA you linked to this JPM (G2.1.25). You should take a look at page 10 and 11 of NUREG-1021, ES-301, and also look at the overall spirit of the KAs in each admin topical area (1, 2, 3, 4) and see if you agree with the comments.</p>	<p>CNS will change to meet spirit of ES-301.</p> <p>Completed.</p>
6	A3-this looks exactly like a GG admin JPM on the NRC exam there last in 2017. Is that where it came from?	Did not come from GG.
7	How much different is the PAR on this exam and the PAR from Aug 2014 exam? Only reason I ask is that PARs are sometimes challenging to make different or modify.	Not similar.

## Control Room / In-Plant System JPM Outline

(Date)

	Comment	Resolution
1	Need to check the differences between 2018 S7 and 2015 S8  Provided in JPM Summary sent by K. Grillis 4/25/18.	No change needed.
2	REC system appears to be sampled on the last 3 exams. Is there another system to satisfy safety function 8?	Will check during exam submittal
3	The alternate path for S5 seems to be queued in the task. The applicants know they wouldn't be given a task where all components were in their correct state and they wouldn't have to manipulate any components.	Will send alt path NEI presentation. Done.  Not counted as alt path.
4	S3 and S4 appear to have failure criteria of a plant scram. Would this affect performance of S8 and S6?	Will check on validation.  Completed.
5	Similar to P1, can P2 be written on the other train to accommodate potential work schedule?	Already revised.
6	Are you sure S1 is new? I believe I have seen this JPM at CNS in the past, maybe 2005 ish?	New.
7	S3 from Aug 2014 is how much different than S1 for this exam? How about S8 Dec 2015 versus S7?	Alternate path vs non alternate path.
8	It seems that S5 for SF9 is really an NSSS/PCIS event, which would put it in SF5, right? Your KA is from SF5.	Is safety function 5 and will be corrected.
9	Is P3 really a control room abandonment JPM? If not, then should probably use RPS system topic 212000 and find the best KA for the actual JPM actions.	Is the only time to use this function.
10	Why is S6 classified as an "EN" JPM?	Will update the language to tie better to the EN.
11	It is hard to tell from the short descriptions if any of these are actually emergency or abnormal procedure use/condition JPMs. For example, P2 reads kinda like an "E" JPM if done during an event. It would help if you put SOP 2.2.9 in the brief description and the initial condition setup piece (maybe one sentence like for maintenance or during a LOA, etc). This is how we verify	Generic.

	the count and distributions on SF from the outlines.	
12	How were the SRO-U Sim JPMs selected? Based on most new JPMs, at random, or?	Use new JPM and systematic process.

<b>Simulator Scenario Outline Comments</b>		
(Date)		
	<b>Comment</b>	<b>Resolution</b>
1	Scenario 1: D-1 is missing the raise reactor power event on the first page.	Will add. Completed prior to validation.
2	Scenario 1: Are you counting this as a low power scenario? If so, the starting power level needs to be less than or equal to 5%.	Will change. Completed prior to validation.
3	Scenario 1: SLC relief valves failing open looks like it should be counted as a separate post major malfunction. Was it not included due to no substantial actions being able to be performed?	No actions.
4	Scenario 1: The 2 control rods drifting at the same time could be counted as a tech spec call but you already have the one call on rods in event 4. They won't have time during the scenario but will have an opportunity during follow-up questions. <i>This event is the lead in event to the major so you must include it as part of the major and not its own event. This may need to be deleted since it is a lead in to the major.</i>	Will change. Completed prior to validation.
5	Scenario 1: The end of the scenario should be when the CRS resets the level band to +13 to +54.	Will change. Completed prior to validation.
6	Scenario 1: Critical task 1 bounding needs to be updated. There's no basis for 5 rods being sufficient to meet the critical task. Also, if during terminate and prevent reactor power is less than 3% than is this really critical from a barriers perspective? Isn't this always done at all BWR's anyway? If you tried to bound CT2 to HCTL (before exceeding it) I don't think you would get there with such low power. CT's and therefore scenario as a whole should be items that challenge safety functions from low power. MSLB do that. Rod ejections might do that. If you don't then	Will work on. Completed prior to validation.

	you may end up with no tasks that are truly critical. A good test is to do nothing for it and see how long it takes for anything significant to occur. If it is more than 90 minutes, then it isn't critical for the exam.	
7	Scenario 1: Critical task 2 bounding needs to be updated. The water level is set to drive power down. The bounding of the CT might be better if it is based on inserting enough negative reactivity to be shutdown under all conditions. I believe all rods stopping at position 02 qualifies as being shutdown for exiting the ATWS leg. I'd like all rods to stop at 02 if it counts as being shutdown for ATWS. Has this been done at CNS?	Maybe use in scenario 2 Completed prior to validation.
8	Scenario 1: Make sure attributes table reflects scenario events.	Will change. Completed prior to validation.
9	Scenario 2: It's not necessary to have a normal for raising power when you have an opportunity to lower power later in the scenario. Get rid of the power ascension.	Will look at during validation. Done.

Completed prior to validation.

10	Scenario 2: Critical task 1 would be better bounded by preventing the lifting of a safety relief valve; if the pace of the event supports it or, some effect on the torus.	Will look at. Completed prior to validation.
11	Scenario 2: If the scenario supports it critical task 2 may be better defined based on PCPL instead of water level.	Will look at. Completed prior to validation.
12	Scenario 2: Can one rod stay stuck out?	Will stick rods at 02 and figure out the rest later. Completed prior to validation.
13	Is it operationally valid to have DEH pressure issues and the bypass valves drift open and the turbine valves drift closed? The event tie is good on this scenario.	Yes.
14	Scenario 3: Event 1 there is a power reduction and then another power reduction in event 5. Probably only need the event in event 5.	Generic comment.
15	Scenario 3 has two majors in it-one is not marked on the D-1, a loss of all feedwater occurs with event 6.	Will add loss of feed to major. Completed prior to validation.
16	Scenario 3: Event 8 shouldn't count because there are no actions the operators have to take to mitigate the failure. Since RCIC has an auto start that isn't defeated and maximizing other high pressure sources won't help maintain level there are no actions that support counting this as an event.	It should count. Okay.
17	Scenario 4: Event 2 power ascension followed by power reduction with using rods in event 5. Event 2 should be able to be eliminated.	Generic comment.
18	Scenario 4: Critical task 1 should be bounded by preventing 25% peak to peak oscillations instead after exceeding the oscillations.	Leave as is.
19	Scenario 4: Critical task 2, where are the 2 max safes that would be impacted by this scenario?	Will update D-1. Completed prior to validation.
20	All scenarios: Need to get an understanding of how the malfunctions after EOP entry are going to affect the overall mitigation strategy for each scenario. According to C.2.c of Appendix D of the NUREG this is necessary for counting purposes.	Completed prior to validation.

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