

Discussed with Facility Developers Lee Stanford and Kane Ryder on 11/5/14.

Part A – Admin JPMs

1. RO A-1

Too simple, too close in structure to a 2012 JPM for it to not be classified as a repeat JPM. Appears to essentially be a subset of the new JPM administered on the last (2012) exam. Where the 2012 JPM tested multiple aspects of the work hour rule by assessing past work history of 5 individuals, this “modified” 2015 proposed JPM looks to be significantly simpler in assessing just 1 individual’s past work history.

For this JPM to be acceptable, it will need to be more involved, perhaps addressing several individuals, and test different aspects of the work hour rule or in a different manner than they were tested in the similar 2012 JPM.

Facility developer has the comment. They will look into this.

2. SRO A-1

Appears conceptually too simplistic, and therefore non-discriminating. Is there complexity to the task?

Facility developer has the comment. They will look into this.

3. RO A-2, RO A-3, SRO A-2 and SRO A-3 are all admin JPMs in the Equipment Control area. Per ES-301, there can be only 1 Equipment Control JPM on the test for each license level (RO or SRO). Can have 2 JPMs in same category only in the Conduct of Operations area.

4. RO A-2, SRO A-3 both require determining isolation boundaries to tag out a LPSI pump for packing replacement. The 2012 exam had a similar JPM for a CS pump for packing replacement. Like the previous comment for RO A-1, this meets the letter but not the spirit of the guidance on repeating no more than one JPM from the previous 2 exams. Is the clearance package fundamentally different for repacking these two pumps? One would guess motor breaker and handswitch, suction isolations, discharge isolations, min flow isolations, a vent and a drain. Is that nearly correct? Recommend more variation than just a different safety-related ECCS pump. Perhaps a package for some sort of electrical work, requiring de-energizing a control circuit that has multiple power sources, or a heat exchanger, requiring isolation in multiple systems (to isolate both shell and tube sides).

Facility developer proposed alternative, RHR discharge check valve. Requires LPCI AND PCIV TS

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calls. Has multiple means of meeting boundary requirements, which they will assess.

5. SRO A-3 is the same as RO A-2 with the exception of identifying the Tech Spec action for the pump outage. If I understand correctly, the challenged TS LCO is 3.5.1 (b.1.) and the action is b.1 - *With one LPCI subsystem inoperable, provided that at least one CSS subsystem is OPERABLE, restore the inoperable LPCI pump to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.* With Tech Specs provided in an open-reference setting and no time limit on the task, most any individual would have no problem finding this requirement. This is certainly not very discriminating for an SRO applicant. Recommend significantly raising discriminatory value of this part of the JPM by providing other initial conditions that place the plant in more restrictive TS limits and possibly multiple specs concurrently. The apparent point of adding a tech spec call to the SRO version of the JPM is to make this item test at a SRO level. As currently crafted, any RO would reasonably be expected to be able to determine the action and would likely know the AOT from memory.

See note above.

6. RO A-3. Between the two (one too many) RO Equipment Control JPMs, I prefer the blocking JPM (RO A-2) to the temporary procedure change JPM (RO A-3). RO A-3 tests Generic KA 2.2.11 which has importance rating of 2.3, below the minimum 2.5 rating. Recommend dropping A-3 over A-2.
7. SRO A-2, Evaluate Valve Stroke Data appears very simple. Does the surveillance procedure provide the required times? Does it direct the operator to the required tech spec action? Could someone without RO/SRO training successfully complete the task just by reading and performing the surveillance directions? JPM may not be discriminating enough.
8. SRO A-5. Is the dose assessment prediction too leading for the EAL classification? If release is affecting general public then probably at a General Emergency level. If needed for the PARs, then perhaps we could have 2<sup>nd</sup> cue after the 1<sup>st</sup>, given out when/if applicant declares GE, which provides the dose prediction.

Facility developer thinks it is okay, not leading, but will take a look.

#### Part B – Control Room / In-plant JPMs

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9. JPM A, Start of RRP, seems too simple and overlaps with event in scenario. It appears to overlap with Scenario #1 Recirc Pump Shaft Shear malfunction? Won't the crew receive high vibration alarms on recirc pump and motor on the shaft shear event? This JPM tests ability to raise and reduce RRP speed (a skill tested in scenarios) and response to high vibs (also potentially tested in a scenario). The only unique part of the JPM from the RRP operation in scenarios is the actual start of the pump.

Probably okay. They argue new frequency control system, which replaced the MG sets, makes RRP start task different from stopping RRP. Also, the shaft shear will result in RRP trip based on new drive system instrumentation.

10. JPM D, RCIC Full Flow Test, essentially the same task as performed on 2012 with RCIC vice HPCI. Recommend replacing with HPCI operation in pressure control mode to initiate cooldown at desired rate, following some event where MSIVs are closed and cooldown desired. Demonstrates more understanding of integrated plant operations and finesse in control than running pump for testing.

Facility developer has the comment. They will look into this.

11. JPM E, GP III NSSSS Isolation Reset, appears to be too simple. What lack of understanding could an applicant display to fail this JPM?

Facility developer thinks it is sufficiently challenging, and requires valve manipulations on multiple panels.

12. JPM G, Scram Reset. Operators will exercise these operations during response to Events 6 thru 8 of Scenario #4. Also, how does task get accomplished if operators attempt, it doesn't work, so they put things right back the way they were? Where is guidance for re-inserting manual scram. Seems like poor alternate path JPM.

Facility developer has the comment. They will look into this.

13. JPM H, Manually Initiate Reactor Enclosure Ventilation, sounds weak. A more involved system operation JPM was performed on 2010 JPM. Needs work to ensure this JPM tests system understanding.

JPM okay. They will add a Rx Enclosure leak into initial conditions for significance.

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### Part C – Scenarios

#### Scn #1

14. Plant experienced problem with operators taking expected actions on an RPS failure – loss of 1<sup>st</sup> stg pressure input, resulted in bypass of high power turbine trip function. Can this event be used in the scenarios? Perhaps give them shift at lower power level, then direct the MSV stroke surveillance. A stop valve fails to close (stuck open) on the MSV surveillance in Scn #1, Event #2.

After lengthy discussion, facility developer appears to accept – stroke 1<sup>st</sup> MSV successfully for Normal bean. Then, 2<sup>nd</sup> MSV fails to move off of open seat. Maybe provide add'l cues to ensure clear that valve is physically stuck open. SRO will need to recognize TS implications and begin power reduction within 15 minutes IAW TS 3.3.1 for Functional Unit #9, to be below 26% within 2 hours.

15. Scenarios contain two different events where mitigative action is to start the standby pump (CRD, RECW). Neither appears to force demonstration of any depth of understanding. And an equivalent TECW pump trip was on the 2010 exam. Also, Scn #1, Event #5 similar in nature, auto VR fails, shift to manual. Recommend replacing Scn #4, Event #3 and Scn #1 VR failure.

Suggests adding 2<sup>nd</sup> pump trip on thermal overload after PEO on station. They will change scripting. ARC directs overload reset.

16. Scn #1, Event #9 – Recommend failed SRV be last in sequence to be operated on depressurization.

They will change.

#### Scn #2

17. Scn #2, Event #4 – Recommend having it follow Event #1 as somehow consequence of the MFW pump testing.
18. Scn #2, Event #3 would now be Event #4. Recommend unable to restore RRP cooling leading to manual scram, then major.

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19. Scn #2, Event #7 (D12 fails to start/close in) appears essentially the same as 2012 Scenario #1, Event #4. Are they sufficiently different? Please describe the differences? A

After the major for this exam, more relevant as ECCS needed for level control. Will put it on D11 bus for more difference.

Scn #3

20. Are 2 rods enough to raise power 5% for the react manip before 3<sup>rd</sup> rod failure?

Probably not. Will change script to say when power increased >5% or at Chief Examiner's discretion, then insert next malfunction to stick the rod currently being withdrawn.

21. Scn #3, Event 4 TS call not tied to operator actions. Recommend replacing with malf with verifiable actions or delete and take TS credit on Events 3 or 8.

Facility developer will look at Event #3 as possible 2<sup>nd</sup> TS call.

Scn #4

22. Scn #4, Event #3 recommend delete and replace. Too simplistic, see comments under Scn #1.

Addressed by earlier comments.