May 9, 2011

TMI T-75 DAY EXAM OUTLINE SUBMITTAL REVIEW COMMENTS

Comments were provided to the facility exam developer (Greg Hoek) via telecom 5/5 and 5/9.

Written Outline

A number of the proposed SRO K/A topics do not appear to be SRO level topics per 10 CFR 55.43: Questions topics - 76, 78, 79, 80, 81, 82, 84, 89, 92, 94, 97, 98, and 99.

A number of RO K/A topics may be over simplistic: Question topics – 1, 2, 3, 4, 11, 14, 28 31, 40, 46, 55, and 74.

SRO Admin JPM Topics:

- Topic A.1.2, Calculate ECP- directly from bank – please change conditions e.g. time after shutdown so that calculated outcome is different.
- Topic A.2, Determine Post Maintenance Test – taken directly from bank – please consider modifying task.
- Topic A.3, Review RB Survey Log – Would prefer something more operationally and license oriented – this is more an RP task. Prefer reviewing and approving gaseous or liquid discharge permit.
- Topic A.4 – Proposed JPM an event classification taken directly from the bank. Licensee will significantly modify JPM so not directly from bank also make it more complex and challenging by adding other parts to it.

RO Admin JPM Topics:

- Topic A.1.2, Calculate ECP- directly from bank – please change conditions e.g. time after shutdown so that calculated outcome is different.
- Topic A.2, Use Station Drawing to Predict Consequences of failure – directly from bank and used on last 2 NRC exams – recommended revising component or perform blocking and tagging for an electro-mech. component.
- Topic A.4, Perform State and Local Event Notification – directly from bank – please significantly modify task to change conditions and errors to identify.

Simulator JPMs - cautioned licensee regarding overlap with scenarios – if testing the same systems must test distinctly different system flow paths i.e., manipulating different components.

- JPM "A" – turbine trip greater than 45% pwr – RPS push buttons and diverse scram don't work need to kill power to trip bkrs – seems like it is ok check during validation.
- JPM "B" – Pzr level controller failure – overlaps with scenario #2 event 3. Licensee plans to revise scenario.
- JPMs "E" and "G" – may overlap with a scenario may need to be replaced. Also alternate paths maybe questionable.

Scenarios

General Comments:

1) Very few meaningful Instrument failures on scenario set i.e., requiring substantive actions.
2) CTs – several are questionable - not well defined regarding crew actions taken to mitigate and failure criteria – consider better defining CTs using NUREG 1021, Appendix "D", 4 factors. For example, scenario #2 has one stuck rod after scram CT-23 has the applicant's borating. I pointed out that the plant is already analyzed for the most reactive single rod stuck out of the core. The licensee suggested revising the scenario to then stick 2 rods and I pointed out that even with 2 stuck rods where is the safety significance of not borating the core when there would probably still be adequate s/d margin even with 2 stuck rods. The question comes down to what is the safety significance of sticking 2 rods – it may be satisfactory as an event but not a CT?
3) Overall between some overly simplistic events and questionable CTs the scenarios may need to be beefed up further.

Scenario #1

- Event 4 - Overlap with JPM must replace JPM or alter scenario – licensee recommended replacing with Hi moisture separator level but not safety significant.
- Event 8 – EF-P2A does not auto start – does not complicate mitigative strategy after MT as written - examiner standards suggests events that occur after the MT should complicate the crews response. Licensee plans to revise scenario so that EF-P-1 trips at MT so that if you don't start EF-P-2A, the operating motor driven pump "B" will trip on pump runout. Licensee must verify this occurs in the simulator. I pushed back that the applicants could simply chose to throttle the discharge valve on the "B" pump in lieu of starting "2A" pump - still making this event to be unnecessary and meaningless in post MT space.

Scenario #2

- Event 3 – Overlap with JPM "B". Licensee will consider replacing with PZR pressure instrument failure high to make for a more challenging task and avoid overlap.

- Event 5 – see scenario general comment 2) above - needs work event will not result in a safety significant CT 23 not valid as written.
- Event 7 – why not fail EDG as written this malfunction occurs after the MT and doesn't complicate the recovery. Consider failing the SBO EDG with a fuel leak and later restore it resulting in a SBO.
- CTs 10 & 12 are redundant one set of actions satisfies both of these CTs.

Scenario #3

- Event 1 – does not result in a line break of ICCS weak Instrument failure - prefer a dynamic failure that challenges the crew to take actions to mitigate.
- Event 4 & 5 – one event tube leak requires a down power.
- CT 7 – verify safety significance - ensure that crew actions are required to take actions mitigate or it will result in plant degradation.

Scenario #4

- No instrument failures or major electrical plant challenges in this scenario general LOD of this scenario is low – too easy needs beefing up.
- Event 2 – too simplistic.
- Event 3 – too simplistic
- Event 5 – important to safety but very straightforward lacks finesse.
- Event 6 - important to safety but very straightforward lacks finesse
- CT-16 – controlling FW in this scenario does not appear to be a CT – need to specify required crew actions that if not taken will result in plant degradation, possible injury to plant personnel or dose to public?

OPERATING EXAM DRAFT SUBMITTAL REVIEW COMMENTS

Comments were provided to the facility exam developer (Rich Megill) via telecom 7/21/11. Licensee's Audit exam – operating exam portion be administered the week of 7/25/11 and written audit exam the week of 8/1/11.

SRO Admin JPM Topics:

- Topic A.1.1, Incorporate testing fatigue rule requirements into JPM scope.
- Topic A.4, Provide completed declaration forms for answer keys.

Simulator JPMs – Which of these JPMs, if any, can be performed in parallel?

- JPM "A" – very simplistic exercising normal immediate actions for an ATWS recommending replacing this JPM
- JPM "D" – Why is step 2 critical – no adjustment necessary? Why aren't steps 5&8 critical?
- JPM "E" – Did not provide OP-TM-MAP-F0103 as a reference? Why aren't steps 14, 17 and 18 critical?
- JPM "G" – Why isn't step 5 critical to secure AH-E-19A?

Scenarios

- Scenario #1 – Event 4 & 5 may only count as one since little to no actions in event #4. Recommend allowing more time for isolation actions, etc.
- Scenario #2 – Make station blackout delay restoration of EDG and carry out SBO procedure and allow some plant degradation before allowing restart of an EDG. Event 6 need to script required actions on page 30, OP-TM-864-901 to restore 4160 bus for SBO EDG.
- Scenario #3 – Replace Event #5 with loss of ICS power. Also for "B" OTSG allow release to get to a significant level of WB dose of 500 mr or 1.5 R thyroid forcing the crew to isolate the OTSG.
- Scenario #4 - Event #4 no scripted actions for URO to initiate Rx s/d.

JPM A	• Replaced JPM
JPM C	• Note added prior to Performance Step 7 to state that the student may choose to perform an additional step IAW Guide 21 prior to performing the Alternate Path – no impact to JPM. • Edited Task Number.
JPM F	• Typo fixed in Initial Conditions, Evaluator and Student copies ("being feed" now "being fed"). • Removed Bullet from Initial Conditions – Student Copy (repeat of who they were). • Note added prior to Performance Step 16 to tell the candidate which MU pump is the ES selected pump if asked. • Edited Notes for Performance Steps 6,7,10, and 11 for clarity.
JPM G	• Changed bolded font throughout JPM for uniformity.
JPM H	• Changed typos (SR-P-1C to SR-P-1A and SR-V-1C to SR-V-1A) in Performance Steps 3, 6, and 7. • Edited Evaluator Notes prior to Performance Step 13 and Standard for Performance Step 13 for accuracy. • Edited Terminating Cue for better understanding.
JPM I	• Added better indications to explain operations of IC-V-4 in Performance Steps 6 and 7. • Edited Task Number.
JPM J	• Verified no PPE required for JPM.
JPM K	• Signed off procedure accurately to ensure JPM is performed as written. • Moved Examiner Cues from Performance Steps 3,4, and 5 to the Initial Conditions (Bullets 3, 4, and 5 on Evaluator and Student copies). • Edited name of JPM to represent JPM actions.

RO A1-1	• Changed Initial Conditions to state "You are a Shift Reactor Operator". • Edited typo on Performance Step 3 (> 2.5 changed to <2.5).
RO A1-2	• Removed Evaluator Cue prior to Performance Step 1 (was a cut/paste error from the SRO version).
RO A2	• Edited Initial Condition to remove confusion of actual performance. • Added Clearance and Tagging Manual as a reference.
RO A4	• Added Evaluator Cue to Performance Steps 7 and 9.
SRO A1-1	• Added additional information to Attachments 3-8 (Week 1, Next Cycle info).
SRO A1-2	• Properly labeled Attachment 1 (Header/Footer typo)
SRO A3	• Moved Evaluator Cue from Performance Step 1 to Initial Conditions to state that a plan was approved based on information. • Edited Evaluator Note prior to Performance Step 3 to state that only 1 of 4 similar forms needs to be filled out for credit.
SRO A4	• Corrected Answer Key • Added Release in Progress determination to Critical Task criteria (Evaluator Note after Performance Step 9).
ES 301-2	• Changed JPM A information to reflect the agreed to change of JPM. • Edited JPM B title to match JPM. • Edited JPM K title to match JPM.

ES-301-5	• Edited to reflect approved scenario line-ups/order. • Edited to reflect crew compliments. • Edited to reflect Post-NRC validation changes incorporated as indicated below.
ES-301-6	• Edited to reflect approved scenario line-ups/order. • Edited to reflect crew compliments. • Edited to reflect Post-NRC validation changes incorporated as indicated below.
Scenario 1	• Page 1, Event #1: Added additional ICS component fault (Turbine Header Pressure) along with the drift of an NI to give the crew time to react prior to a reactor trip • Page 1, Event #4: Edited description of URO actions. • Page 1, Event #5: Edited description of ARO actions. • Page 2, Scenario Description: Edited Event 1 Description to include the addition of the Turbine Header Pressure instrument failure. • Page 6, Procedure Support: Added Turbine Header Pressure instrument failure to Event #1. • Page 7, Scenario Setup: Added Turbine Header Pressure Instrument Failure, added a 61 second delay to NI-5 (both Event #1) • Page 9, Event #1: Edited Indications Available to match after addition of Turbine Header Pressure Instrument Failure. • Page 11, Event #1: Edited Note to Examiner for requirements to go to Event #2. • Page 13, Event #3: Added location to Booth Operator Note for clarity. • Page 24, Event #6,7,8: Added Notes 1) to Examiner for EFW valve control, and 2) Booth Operator for actions to take if called.

Scenario 2	• Page 1, Events 7,8: Rearranged Events 7 and 8 due to Station Blackout, removed EF-P-1 as OOS.
	• Page 2, Scenario Description: CT-8 edited to include "when Maintenance has fixed the problem".
	• Page 6, Procedure Support: Rearranged Events 7 and 8 due to Station Blackout.
	• Page 7, Scenario Setup: Removed EF-P-1 OOS setup, Removed Triggers 7 and 10 to accommodate Station Blackout.
	• Page 8, Event #1: Added Examiner Note that MU-P-1B may be placed in PTL IAW Alarm response.
	• Page 13, Event #2: Added Booth Operator Note for action to take if needed.
	• Page 14, Event #2: Added Note to Examiner to explain PTL actions taken for SBO Diesel.
	• Page 15, Event #2: Added additional Tech Spec.
	• Page 16, Event #3: Edited page number to turn to for alternate actions (Examiner Note), Added Examiner Note to explain that PORV may be blocked as a conservative action.
	• Page 22, Event #4: Edited Pump identification to LO-P-8A (typo), Added/Edited Notes to Examiner to explain sequence of transition to Event #5.
	• Page 23, Event #5: Edited Booth Operator Note to explain transition into Event #5, Added Examiner Note to address possibility of an additional step taken by crew IAW alarm response.
	• Page 25, Event #5: Edited Note to Examiner to clarify when to go to Event #6.
	• Page 28, Event #6,7,8: Added steps IAW OP-TM-226-901
	• Page 29, Event #6,7,8: Added steps IAW OP-TM-226-901, Added steps IAW OP-TM-AOP-020, Section 4.0, Station Blackout.
	• Page 30, Event #6,7,8: Removed step for attachment 5 (step is applicable in a rev after class' procedure freeze date.
	• Page 31, Event #6,7,8: Added Note to Examiner to address when the Emergency Diesel Generator may be returned to service, Added Booth Operator Note to create Trigger #7 to allow for start of EG-Y-1A, Added steps IAW OP-TM-861-901
	• Page 32, Event #6,7,8: Added steps IAW OP-TM-AOP-020 and OP-TM-EOP-010, Guide 10, Natural Circ.
	• Page 33, Event #6,7,8: Edited Follow-up Question (EAL call) due to addition of Station Blackout.
	• Page 37, Event #2 Info: Added Effects of Loss of 1E 4kV bus, listed at end of scenario for Examiner information.

Scenario 3	• Page 2, Scenario Description: CT-22 Edited to include isolation of OTSG based on offsite dose rates.
	• Page 17, Event #2: Edited Notes to Examiner to clarify requirement to go to Event #3.
	• Page 27 Event #6,7:: Added Note to Examiner to clarify what Cooldown rate should be prior to offsite dose rates being called in, Added procedure note for clarification, Added Note to Examiner to clarify that an IAAT step will not be performed until offsite dose rates are called in.
	• Page 30, Event #6,7: Added Booth Operator Note to call in offsite dose rates, Added Note to Examiner to explain procedure path after offsite dose rates are called in, added procedure IAAR step to isolate OTSG when conditions are met.
	• Page 31, Event #6,7: Added steps IAW OP0-TM-EOP-005, Attachment 1B to isolate B OTSG.
	• Added additional steps IAW OP-TM-EOP-005 that may be performed while waiting for offsite dose rates to be called in, Added Note to Examiner to explain the added steps, added steps IAW OP-TM-826-901.
	• Page 33, Event #6,7: Added steps IAW OP-TM-826-901, Added steps IAW OP-TM-EOP-010, Rule 5, Emergency Boration.
	• Page 34, Event #6,7: Added additional steps IAW OP-TM-EOP-005 that may be performed while waiting for offsite dose rates to be called in, Added steps IAW OP-TM-EOP-010, Rule 5, Emergency Boration.
Scenario 4	• Page 1, Scenario Outline: Added name for MU-V-36 for clarification.
	• Page 10, Event #1: Added Notes to Examiner to address requirements to go to Event #2.
	• Page 16, Event #3: Added Booth Operator Notes based on validation call-ins to the field.
	• Page 32, Event #7,8: Updated EAL call for post-scenario discussion.