

Admin JPM Changes:

JPM	RO/SRO	Changes
A-1.1, Evaluation of Overtime Hours to Determine Availability	RO	Revised initiating cue per pre-validation comments, and changed Wed (10/3) to day off based on RO comment, to reset 9 day clock and eliminate confusion.
A-1.1, Evaluation of Overtime Hours to Determine Availability	SRO	Revised the initiating cue, to provide more clarification on the task, per prevalidation SRO comments.
A-1.2, Review Drywell Floor Drain Sump/Equipment Drain Tank Logs and Determine Compliance with TS 3.4.3.2	RO	Added second critical task for identification of math error, edited ST and editorial changes to cue/task standard, and edited ST and editorial changes to cue/task standard.
A-1.2, Review Drywell Floor Drain Sump/Equipment Drain Tank Logs and Determine Compliance with TS 3.4.3.2	SRO	Added second critical task for identification of math error, edited ST and editorial changes to cue/task standard, and edited ST and editorial changes to cue/task standard.
A-2, Review and Verify Blocking Required per OP-MA-109-101 "Clearance and Tagging"	RO	Removed Critical Element designation from the INFO tags associated with the two Handswitch blocking points listed in the Exam Key, and Revised what information is required for each blocking point
A-2, Review and Verify Blocking Required per OP-MA-109-101 "Clearance and Tagging"	SRO	Removed Critical Element designation from the INFO tags associated with the two Handswitch blocking points listed in the Exam Key and the Cue Sheet, and Adjusted parameters required and descriptions of isolation points, removed references to tag types
A-3, Review and Approve Inventory Release from Equipment Drain Sample Tank to Cooling Tower Blowdown Line	SRO	Based on pre-validation comments, signed off sections 4.2.10 (S62.1.E) and 4.4 (ST-5-061-570-0) as completed, and Based on validation comments, added task conditions 7 and 8.
A-4, Emergency Plan Communications	RO	Revised the "Task Condition" and "Initiating Cue" information in the Cue Sheet, added an Evaluator Cue to Element 6, added information to several "Evaluator Notes" which support performance of the JPM either inside or outside of the Simulator. Revised JPM requiring the applicant to recognize that the "Brief Non-Technical Description" label in Block 4.b (Page 1) of the ENF is missing, and for Element 2 require the applicant to recognize and take the appropriate action for failure of Berks County to respond to the initial roll call.
A-4, Emergency Plan Communications	SRO	Revised JPM to classify an Alert with Escalation to a General Emergency and make Protective Action Recommendations (PAR), and Changed initial classification from Alert to SAE.

CR and In-Plant JPM Changes:

JPM	RO/SRO	Changes
A. Start Reactor Recirculation Pump	RO/SRO	Changed Malfunction code from VIC106A3 to VIC106A4 in JPM Setup Instruction #3. Revised procedure step reference numbers in Elements 1 through 6. Added an Evaluator Cue to Element #3 to ensure that the applicant remains focused on the task of starting the 1A Recirc pump. Revised Element #13 to include a second option for tripping the 1A Recirc pump. Added an Evaluator Note to Element #13 indicating that it is acceptable for the applicant to use either of the two methods identified for tripping the 1A Recirc Pump. Added an Evaluator Cue to Element #9 to provide information regarding 1A Recirc pump vibration levels if requested by the applicant.
B. HPCI Manual Start	RO/SRO	Added a Cue to Element 16 for the Evaluator to prompt the receipt of silenced Annunciator 117 HPCI (E2), if the applicant is unaware of the alarm condition (JPM alarms are silenced due to pairing of JPMs). Added a Note to Element 19 to inform the Evaluator that ARC-MCR-117 (E2) direction to ensure the Aux Oil Pump running may not be performed if the applicant does not refer back to the ARC after tripping HPCI in accordance with S55.2.A.
C. Perform Turbine Bypass Valve Testing IAW ST-6-001-761-1	RO/SRO	Changed procedure starting point from last 2 BPV to first 2 BPV
D. SDC Restoration	RO/SRO	Changed task conditions to include TS action statement for 1C RHR pump per licensee's Recommendations. Added Evaluator Cue for Element 3 to Prompt RO Applicant to enter ON-121, if needed, as this is an SRO decision making step. Added cooldown criteria to initiating cue based on Licensee's comments. Based on pre-validation comments added 1B RHR pump aligned to LPCI per S51.1A. Removed some tasks as critical tasks post pre-validation due to task involving verifying open or closed position. Added element 2 and 4 as critical task. Applicant should be able to demonstrate/understand that loss of SDC has occurred based on malfunction. Added an additional Evaluator Cue to Element 1 to address any questions posed by the applicant regarding the label designation associated with the controller for valve HV-C-51- 103A.

E. Synchronize and Load D12 Diesel Generator to 1000 KW	RO/SRO	Revised JPM by (1) directing the applicant to load the diesel to 1000 KW instead of 2000 KW, (2) changing trigger initiation time from 45 to 15 seconds after reaching 1000 KW, (3) adding an Evaluator Cue to Element 12 to facilitate the use of time compression when raising generator load at a rate of 350 KW/min, (4) denoting Steps 9 and 10 as Critical Steps, (5) enhancing the Evaluator Notes in Elements 14 and 15, to address the fact that the applicant may <b>not</b> take the action to place diesel generator breaker and/or the diesel generator control switch in the "PULL TO LOCK" position when shutting down the engine.
F. Scram Channel A1 and A2 Functional Test	RO/SRO	Changed malfunction failure method- to override C71-S3A-PB "A1 manual pushbutton" AND C71-S3C-PB "A2 manual pushbutton" to "Fail-as-is" when "A2" Arming Collar is placed in "ARMED
G. Restore RECW, DWCW, and Instrument Gas	RO ONLY	Dispositioned applicant's Pre-Validation comments. Revised JPM by (1) deleting Element 1, (2) deleting Elements 2 and 3, and incorporating associated information into the "Task Conditions," (3) Renumbering the Elements accordingly, (4) adding an Evaluator Note to Element 5 (previously Element 8 in Revision 1) to provide information indicating that restart of the tripped Drywell Chiller will be accomplished in accordance with S87.1.A App. 1, "Startup of Standby/Tripped Drywell Chiller Hardcard," (5) adding new Elements 5.a through 5.f and denoting them as Critical Steps, and (6) correcting editorial errors.
H. Standby Gas Treatment Manual Startup with Charcoal Enclosure Hi Temp	RO/SRO	Dispositioned applicant's Pre-Validation comments. Revised JPM by (1) specifying the 'A' Filter Train to be placed in service, (2) adding JPM Setup Instruction #5 to ramp TI-76-010A indication to 250 °F over a two minute period from the time Annunciator 002 VENT (G5) alarms, (3) adding an Evaluator Note to Element 5 to indicate that the applicant may log Exhaust Fan Run Time when starting the 'A' Fan, (4) adding a Cue to Element 6 for the Evaluator to prompt the receipt of silenced Annunciator 002 VENT (G5), if the applicant is unaware of the alarm condition (JPM alarms are silenced due to pairing of JPMs), and (5) correcting an editorial error. Added Evaluator Note and Cue to Element 12 for expected Annunciator 002 VENT (G1) alarm related to SGTS filter isolation and SGTS fan trip.
I. Maximize CRD Flow After Shutdown During Emergency Conditions	RO/SRO	Revised to reflect new procedure revision and add to task conditions, and changed evaluator cue for element 7 based on validation.

J. Alignment of Equipment for Manual Operation of LPCI	RO/SRO	Dispositioned Licensee's 4/6/12 comments. Originally written as a new Alternate Path JPM. Alternate Path deleted at the request of the applicant to reduce the total number of Alternate Path JPMs from 7 to 6.
K. Venting Primary Containment Using the 24" Suppression Pool Purge Supply	RO/SRO	Revised JPM to vent primary containment using 24" Suppression Pool Purge Supply line instead of 6" ILRT line to shorten the JPM. Based on pre-validation walkdown, added initial task conditions to include that nitrogen bottles have been obtained for use, and removed the task for applicant to close all steam flooding dampers on panel 10C234 on 253' elevation. Added evaluator cue/feedback for step 4.6.11.

## **2012 Limerick Initial License Exam Scenario Comments**

### Overall Comments:

- Most scenarios are well above the minimum number of required malfunctions, especially 1,2 and 4
- Scenarios 2 and 4 have twice the number of required Tech Specs
- All scenarios have OT-104 entry

Potential overlap issues with Audit Scenarios listed below. These are brought to the Lead Examiner's attention to determine if the station needs to address these potential conflicts.

- Audit Scenario #1 also contains a drifting rod, similar to NRC Scenario #1
- Audit Scenario #2 has inadvertent RCIC start, NRC Scenario #5 has inadvertent HPCI start. (Audit scenario is a low power scenario, NRC scenario is 100%)

## Scenario #1 Comments

Total Malfunctions (our count)

ATC – 7 NRC: Count is 5 plus reactivity, which is not a malfunction. Drifting rod removed and ATC gets credit for 2, 5, 6, 8 plus 1 for reactivity plus the major

BOP – 4 NRC: Count is 4. BOP gets credit for 3, 5, 9 plus the major  
Tech Specs – 4 NRC: Count is 3 due to removal of drifting rod. TS calls in 2, 5, 6

1. General comments:
  - a. Too many malfunctions for ATC position – 7 malfunctions when only 3 are required. More than twice the minimum. **NRC: Agree, removed rod drift to reduce ATC malfunction count and eliminate overlap with Cert**
  - b. Bare minimum for the BOP position.
  - c. Unlikely that SRO would reference T.S. prior to directing scram on spurious SLC injection. (Event 6) **NRC: Agree will ask as follow-up question as necessary depending on performance on other two TS calls**
  - d. Event 5 (Trip of 201-D12) is multiple Tech Specs. **NRC: Agree, will add reference to this fact**
2. Limerick does not withdraw control rods to raise Reactor Power to 100%. This is done with Recirc flow. We suggest starting with Reactor Power at 95% with 2 peripheral control rods inserted that would normally be withdrawn. The turnover would identify the inserted rods being inserted for HCU maintenance. The crew would be directed to restore the 2 control rods to position 48 and then restore Reactor Power to 100% with Recirc. The RBM failure (Event #2) would occur during withdraw of the 2<sup>nd</sup> control rod. **NRC: Agree, changed D-1 to reflect this change**
3. Use MRD0161, Control Rod Drift Unconditional vs MRD016A and MRD016B for rod drift. **NRC: Agree**
4. Use MCR604A for 1A CRD Pump Trip. **NRC: Agree**
5. 201-D12 Trip, 101-D12 and D12 D/G Breaker fail to close – Correct action for this event could be either to close the 101-D12 OR close the D12 D/G Output Breaker. Note: To close either breaker manually requires placing the appropriate Synch Switch in ON. Additionally, with D12 D/G running and D12 Bus de-energized, there will be no ESW Pump running for Diesel cooling. Crew must take action to manually start 'D' ESW Pump if they don't immediately restore D12 power. **NRC: Agree. While the applicants will most likely close the 101-D12, the EDG breaker remains an option. Will script in actions to alternatively restore the bus using the EDG breaker.**
6. RDCS can not be reset, following trip of 201-D12, until D12 Bus is re-energized **NRC: Actions to reset already scripted; actions to restore bus will be scripted into scenario guide**
7. After D12 is re-energized, crew must reposition Off Gas valve, CV-69-156 to Condenser Drain and re-open SJAE Air Valves (could be another malfunction for BOP?) **NRC: Offgas valve is already scripted on page 24. There is no**

**reference to SJAE air valves in E-D12, is this a required response based upon annunciator? If this is caused by the loss/restoration of D12, it is all part of the same malfunction.**

8. OT-104 step to scram plant on SLC injection should be 3.8, not 3.7 **NRC: Accept, will change due to new rev**
  
9. There should be a communication from floor personnel that T-221 can't be performed due to panel door being stuck, banana jack receptacle broke, etc. This will allow for the crew to recognize that MSIVs will close on RPV Level 1 and determine that T-251, Injection with HPCI during ATWS, will be required for RPV Level control. If T-221 has been reported as being completed, the crew has every reason to believe that the MSIV's should remain open. Additionally, this places the SRO in a difficult decision if he or she believes they do not have adequate injection to maintain and restore RPV Level > -186" which will require a Blowdown during an ATWS per T-117. **NRC: Accept, will script in communication that panel door cannot be opened.**

## Scenario #2 Comments

Total Malfunctions (our count)

ATC – 6

**Revised ATC count now 3 based on NRC changes**

BOP – 4

**Revised BOP count now 3 based on NRC changes**

Tech Specs – 4

**Revised TS count now 3 based on NRC changes**

1. General Comments:

- a. No substantive action for BOP in event #2

**Agree; will remove “C-BOP” reference in “Event Type” column for Event 7. Will also change ATC to BOP for Event 7, and delete ATC from Event 5 (no substantive action for ATC in Event 5).**

- b. 6 events for ATC – excessive, twice the required amount

**Revised ATC count now 3 based on NRC changes**

- c. 4 Tech Spec calls – excessive, twice the required amount

**Revised TS count now 3 as indicated below (Note that following Event numbers reflect the new designations based on deletion of Event 3):**

**Evaluated TS:**

- **Event 1 (Recirc Flow Unit Failure; Refers to TS 3.3.1 and 3.3.6 – No Active LCOs)**
- **Event 3 (Single Loop; TS 3.4.1.1.a.1, 3.4.1.1.a.2, 3.4.1.2.b, 3.2.1, 3.2.3, 3.2.4: NOTE that all SLO Tech Spec actions are identified in OT-112)**
- **Event 4 (Loss of 125/250 VDC Safeguard Bus 1BD105; TS 3.5.1, 3.8.1, 3.8.2, 3.8.3, TS 3.0.3 relative to TS 3.5.1 and 3.8.2)**

- d. Event 4 is a malfunction within a malfunction (stuck rod) and should be considered 2 malfunctions.

**NRC will delete the Stuck Rod malfunction from Event 4, making it a single malfunction**

- e. Total malfunctions (9) and abnormal events (5) are out of range high

**Total Malfunction count now 7 based on NRC changes.**

**Abnormal event count now 4 based on NRC changes**

**NOTE: Will combine Events 8 and 9 into one event, since recovery of RCIC below -129” will not prevent level from reaching TAF and the requirement to perform Emergency Blowdown (i.e., Malfunctions After EOP Entry reduced from 2 to 1).**

2. No clear indication for Recirc Flow Unit Failure (event #1) to lead crew to bypass APRM per the ARC. Alarm comes in but it isn't clear from the display which APRM should be bypassed. Even when the APRM is bypassed, the rod block won't clear so there's no feedback that the action has corrected or mitigated the problem. (Recommend deleting this malfunction)

**ARC-MCR-108, REACTOR, Window E-3, “APRM/RBM FLOW REF OFF NORMAL,” directs crew to perform APRM bypass. Will assess and make determination regarding Recirc Flow Unit Failure at pre-validation.**

3. Reactor pressure oscillation on EHC Reg. failure is subtle (1013 psig – 1022 psig). No alarms come in – may take a crew a few minutes to recognize. Will have to see how it validates. Additionally, crew wouldn't be expected to swap regulators at this power. With pressure regulator INOP, must reduce power to <25%. (Recommend deleting this malfunction)

**NRC will delete the EHC Regulator failure malfunction**

4. Can't mimick Recirc Motor Bearing Temps. If desired to insert a reason to trip ASD, could trip ASD Cooling Pumps with a failure of ASD to auto trip.

**No indication of Recirc Pump Motor Bearing temperature in the MCR (i.e., CRT display, recorder, etc)? Why unable to mimic the temperature? MCR alarm exists for this condition. Does procedural guidance exist for tripping a Recirc Pump on a trip of the associated ASD Cooling Pumps (i.e., guidance that could be incorporated into the scenario write-up)?**

**(08/02/12) Revised the malfunction to incorporate LGS recommendations.**

5. LOCA/LOOP very challenging with only 1 4 KV Bus available. E-10/20, Loss of Offsite Power is not included in assessment. Crew should attempt to cross-tie buses per Att. 1 of E-10/20 to energize an RHR Pump and ESW Pump. This is a 45 min – 1 hour process. Very busy for a 3 person crew.

**LOOP/LOCA not overly challenging in that Crew primary focus should be on Adequate Core Coverage only. Cross-ties are a follow-up action that will not be evaluated during the scenario. Event scripted so that RPV level can be restored with "C" RHR following Emergency Blowdown, provided the "C" EDG is manually started (Critical Task). Primary Containment not a focus of this event.**

## Scenario #3 Comments

Total Malfunctions (our count)

ATC – 2 3 (2 malfunctions, and 1 major)

BOP – 5

Tech Specs - 3

1. General comments:
  - a. Insufficient events for ATC position (2). SRO-I candidates must have 2 malfunctions and 1 major in the ATC position. If credit is given for event #7 to perform scram actions, that would solve. **NRC: Credit will be given to ATC for scram actions in Event #7.**
  - b. Event #10 on ES-D1 Form is not a separate event but part of Event #8. **NRC: Agree, Event # 8 and 10 will be combined on ES-D1.**
  - c. 5 events prior to major is excessive. Event #5, swapping RECW Pumps is really a normal and Event # 1 is a normal. (Recommend deleting Event #5). **NRC: Need to determine if any alarms can be overridden to come in related to RECW pump for operators to investigate ( send field operators), after that, if based on field report, operators take actions to swap pumps. (This would satisfy component failure criteria and would not be normal event)**
2. Placing FW Heaters in service is a long evolution (2-3 hours). Recommendation: Start with Reactor Power at 18% with Turbine Generator ready to synch and make synching the generator the normal event. **NRC: Agree, will change initial conditions, and Event #1 (Normal) to synch the main generator at 18% power.**
3. On RF delta P isolation and 'A' SGTS Fan failing, 'B' SGTS Fan will auto start, therefore no crew action is required. Recommendation: Fail the isolation to occur on a valid delta P signal and crew would have to manually insert isolation. (This would also require resetting a PCIG isolation if isolation is completed from MCR.) **NRC: Need to add malfunction to prevent 'B' SGTS Fan from auto starting, this will require crew to take manual actions to start the 'A' SGTS fan IAW the scenario script.**
4. Trip of D114 prior to major is OK, but with Load Center de-energized Drywell and Suppression Pool pressure instruments are downpowered and crew won't be able to determine when/if parameters exceed limits requiring Blowdown. (Recommendation: pick a different bus or give D114 LC back. e.g. inadvertent Div 1 LOCA. This will trip D114 but it will auto re-close back in.) **NRC: Will assess and determine appropriate recommended actions during pre-validation visit.**  
  
**(08/02/12) NRC: Revised Event 4 to include restoration of D114 Load Center (Discussed resolution with Lee Stanford on 8/01/12).**
5. Can't change Recirc Speed at this power – Recirc Pumps are at Min Speed due to Feedwater flow and can't raise or lower. **NRC: Lee indicated that this malfunction or (manual override) can be done, where Recirc flow pushbutton speed can be cycled increases (10 rpm) and decreases (30rpm) manually. Need to confirm with Lee that this can be done or not.**

6. Can't break tailpipe on 'C' SRV, recommend selecting 'N' instead. (Malfunction MAD149E to fail open mechanical, MAD151F for Downcomer break) **NRC: Will change tailpipe break to 'N' SRV and use MAD151F.**

#### Scenario #4 Comments

Total Malfunctions (our count)

ATC – 5

**Revised ATC count now 4 based on NRC changes**

BOP – 5

**Revised BOP count now 3 based on NRC changes**

Tech Specs – 6

**Revised TS count now 3 based on NRC changes**

1. General Comments:

- a. Too many events – only 3 required per position (ATC/BOP)

**Total Malfunction Count now 8 based on NRC changes**

**Abnormal Event count now 6 based on NRC changes**

**Revised ATC count now 3 based on NRC changes**

**Revised BOP count now 3 based on NRC changes (Note that in addition to deleting Event 7, NRC will also delete Event 1 to unload and secure D14)**

- b. Too many Tech Spec events – 6 total. Event #8 has 3 Tech Spec LCO's. This will make for a lengthy scenario if SRO is required to reference Tech Specs for all of these malfunctions. Recommendation: delete at least 1 event per position. This still leaves 4 events/each and 4 Tech Spec events.

**Revised TS count now 3 as indicated below (Note that following Event numbers reflect the new designations based on deletion of "Normal" Event 1):**

**Evaluated TS:**

- **Event 1 (Rx Level Transmitter LT-42-1N080C; TS 3.3.1)**
- **Event 2 (1A Recirc Pump Motor High Vibration; TS 3.4.1.3)**
- **Event 6 (Loss of Safeguard Bus D134; TS 3.6.5, 3.7.2, 3.8.3)**

**Non-evaluated TS (included in scenario write-up for reference only):**

- **Event 3 (RWCU Leak with Auto Isolation Failure; TS 3.3.2, TRM 4.4.4)**
- **Event 5 (1A Recirc Pump ASD Controller Failure; TS 3.4.1.3)**

- c. Events 3, 6 and 7 all require power reductions. Events 3 and 7 are both marked as 'R', 6 is listed as 'C'.

**Event 3 to retain 'R' designation**

**Event 6 to retain 'C' designation**

**Event 7 to be deleted**

- d. Attributes table incorrect:

- i. There are 2 or 3 Malfunctions after EOP entry (T-103 entry on Hi Rad, MSIV Failure, SGTS Failure)

**Agree that the '1' specified in the Attributes Table is incorrect. Will change the number from 1 to 2 (i.e., MSIV Failure and SGTS Failure).**

**(08/02/12) The SGTS Failure is the only Malfunction after EOP entry. The Hi Rad and MSIV Failures primarily serve as “setup” events for the Major Malfunction. Operator action to close the MSIVs does not result in a successful isolation of the ‘A’ MSL. Primary to Secondary Containment Leak simulation (including subsequent Leak Propagation) is dependent upon the failure to isolate (i.e., a “setup” event). The number specified in the Attributes Table is correct and will remain at 1. (Communicated this change to Lee Stanford during the week of July 2, 2012).**

- ii. EOP's entered should be T-101 and T-103 (No EO procedures) **Do not understand comment regarding “(No EO procedures).” T-101 and T-103 are scripted, as well as ON-102 on rising MSL and SJAЕ Discharge radiation levels. Need clarification.**

- 2. Event #5, if voltage regulator fails to Manual, there won't be any action needed to reduce Main Generator Voltage (voltage will be reduced when manual regulator in control since it's at the original setpoint). Recommendation: Begin with turnover to maintain MAX VARs due to grid instability and then fail regulator with VARs lowering which will require manual adjusting VARs back up to limit. Note: With auto voltage regulator failing, TSO and Power Team require notification within 15 minutes that voltage regulator is in Manual.

**Would it be possible to use Malfunction MEG542 (Main Generator Automatic Voltage Regulator Fails High), with an override to prevent the Auto Voltage Regulator from transferring to Manual (intent is for the BOP to manually perform the transfer; ARCs MCR-125 C4 & D1 provide guidance associated with this action), ensuring that the High Volts/Hertz condition will be limited to a value that will not challenge the Generator lockout protective feature.**

**Note that the TSO and Power Team 15 minute notifications have already been scripted into the scenario.**

**(08/02/12) Revised the malfunction (now Event #4) to incorporate LGS recommendations.**

- 3. Event #6 – can't mimic ASD Controller failure. (Recommend deleting this malfunction)  
**NRC understands that a malfunction does not presently exist for the ASD Controller failure. However, initial discussions indicated that the ASD Controller failure could be manually simulated from the booth. This is an important Event in that it leads to the Fuel Failure in Event 9. Unclear as to why the failure cannot be manually simulated.**

**(08/02/12) Discussed resolution with Lee Stanford during the week of July 30, 2012. Lee indicated that it would be possible to simulate the ASD Controller Failure by incrementally raising Recirc pump speed using the override feature (i.e., multiple overrides of the 10 RPM Raise Pushbutton). The NRC determined that raising Recirc pump speed incrementally would be an acceptable means of simulating the failure. Pre-Validation to confirm.**

- 4. Event #7 – failing SSE Outlet Valve will lead to a rapid Condenser Vacuum drop. Since actions are required in the field to open back-up valve, it's unlikely crew will

be able to prevent Turbine Trip on Low Condenser Vacuum. Recommendation: Delete this malfunction.

**NRC will delete Steam Seal Evaporator Steam Outlet Valve failure malfunction**

5. Event #8 – LGS Simulator does not model Seismic Panel. OK to trip D134 but suggest deleting seismic event.

**NRC understands that the LGS Simulator does not model the Seismic Panel. However, initial discussions indicated that initiation of a Seismic Event could be accomplished by simply providing a verbal cue to the crew (i.e., tremors felt in the MCR, etc.). Unclear as to why the Seismic Event would need to be deleted. This Event makes the scenario credible with respect to the subsequent loss of Safeguard Bus D134 and the MSL Break in the Outboard MSIV Room.**

## Scenario #5 Comments

Total Malfunctions (our count)

ATC – 4

BOP – 4

Tech Specs – 3

**NRC: Agree**

1. Generic comments:
  - a. We count 8 malfunctions, not 7 **NRC: Agree, will change**
  - b. 3 malfunctions post-EOP, not 2 **NRC: Currently the count is 2. The A RFP steam supply failure and RHR system rupture are the only 2 post-EOP entry events. This may reduce to 1 depending on results of pre-validation of RHR system rupture mentioned below**
  
2. Event #3, there is no RPV Level change on 'B' RFP Controller failure, FWLC works too good. However, with 'B' RFP in Manual, it makes level control very difficult during any further transients and power maneuvers.  
**NRC: If the B RFP controller is driven up fast enough (instantaneous failure or something approximating it) it should have an effect on RPV water level. Water level will recover via FWLC but that does not relieve the operators from taking the controller to manual and restoring balanced flow. During the manual runback, competent operators should be more than able to coordinate the runback with RPV level control considering two RFP are still in auto.**  
  
**(08/02/12) 'B' RFP Controller Failure malfunction deleted.**
  
3. T-101 would be entered following the scram as Feedwater level control will align for post-scram level control and RPV Level will drop below 12.5".  
**NRC: Accept, will script in actions for SRO exiting T-100 and entering T-101/T-102 on high drywell pressure**
  
4. Not sure why the RHR HTXR Leak is required post-EOP. It's possible that RHR may not be needed to raise Reactor Pressure to 235 psig. Recommendation: There are enough malfunctions/events that this could be deleted.  
**NRC: We will pre-validate this and possibly flag it for deletion depending on pre-validation results**