

DRAFT OUTLINE COMMENTS

Facility: ANO-1

First Exam Date: 8/19/2016

| Written Exam Outline | | |
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| Comment | | Resolution |
| 1 | NRC Generated | N/A |
| 2 | ES-401-4: Include Question number for each entry. | Done |
| 3 | Q8: Justification for KA replacement is that there are no natural circulation-specific actions in SGTR procedure. However there are considerations in EOP for C/D rate, venting, depressurization method, and caution statement for voiding – should be able to develop a question based on these implications. | Done |
| 4 | Q12: Comment included on ES-401-4 (056 AK3.01), but no apparent change made to the K/A. If no load sequencers, test on the equivalent function provided by time delay relays on individual breakers. | Fixed. |
| 5 | Q20: 032 AK2.01 was replaced with another system, 033 AK2.01, IR 2.4. Standard methodology for replacing a K/A is to pick from same system before choosing another system. Form ES-401-2 states that “Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected.” The justification given for allowing a 2.4 IR K/A, while true, is not really a unique plant-specific priority. Better to choose one 2.5 or higher. Select another K/A within 032 Loss of SRNI, with IR 2.5 or higher. You may exclude K1 since it’s already the most-sampled K/A in Tier 1. | Selected appropriate K/A. |
| 6 | Q34: Justification for replacing 007 K4.01 is reasonable (oversampled due to only >2.5 K/A), but provide objective example – i.e. “used on 3 of last 4 exams & audits”, etc. | Justified with examples. |
| 7 | Q72: Reason for replacing KA was that ability to use radiation monitors would best be evaluated with JPM. While it may be BEST evaluated as a JPM, that’s not reason enough to disqualify it as a written exam question unless you’re trying to avoid overlap with an actual JPM on this exam. Use original K/A if possible. | Justified replacement. |
| 8 | Q81 – BW/E04 agree with the correction to “inadequate” heat transfer – the described change doesn’t appear to have been made to the outline however. | Fixed. |

| Administrative JPM Outline | | |
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| Comment | | Resolution |
| 1 | Label JPMs A1-A4 (RO) A5-A9 (SRO) | Done |
| 2 | “Perform time to boil and core uncover calculations” was used on last 2 NRC exams. Choose different task. | Replaced A2 (was Time to Boil) with a calculation to makeup to the Spent Fuel Pool |
| 3 | | Modified the Radiation Control to a different area of the plant due to the inability to acquire a survey map for the original area. The original area is in the reactor building and there is no current survey map available for JPM development. |

| Control Room / In-Plant System JPM Outline | | |
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| Comment | | Resolution |
| 1 | Number JPMs S1, S2, P1, P2, etc. | Done |
| 2 | Safety Functions 4S, 6, and 9 are the only SFs that have been used in-plant on the last 4 NRC exams. Choose at least 2 different SFs. | Replaced P1 (was Safety Function 4 Secondary) with a Safety Function 8 Replaced P2 (was Safety Function 6) with a Safety Function 1 |
| 3 | SF7 – “RPS and Manual PB Fails to trip the Reactor” is identical to Scenario 1 Event 9. Choose a different JPM. | Replaced S7 (was ATWS) with a process radiation monitor setpoint adjustment |
| 4 | | |

| Simulator Scenario Outline Comments | | |
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| Comment | | Resolution |
| 1 | Scenario 2 Event 3, “Restore Letdown” – if this is part of the recovery from the previous event, “trip of running makeup pump”, then it’s not a separate event. If events 2 and 3 are merged, likely need to add an additional event to this scenario. | Deleted credit for restoring L/D |
| 2 | Scenario 1 Event 9 – RPS fails to trip and RX trip pushbutton fails – appears to be the same form of ATWS used on last 2 exams, consider taking it a step further requiring de-energizing RPS. | Modified the ATWS portion such that additional actions, beyond those in recent previous exams, are required. |

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| 3 | All Scenarios – include the Target Quantitative Attributes table found at bottom of ES-301-4 on each D-1. | Done. |
| | Your ES-301-4 states that every scenario has 2 EOP Contingency procedures entered. Explain which procedures you are considering to be Contingencies. 1021 App D.C.2.g defines Contingencies as those procedures “used when there is a challenge to a critical safety function or if plant conditions have become severely degraded.” It gives examples for the other 3 technologies, please reference those examples. | Discussed |
| 5 | There is no low-power scenario in the set. At least 1 scenario should be low-power (5% power and below). | Rewrote Scenario 1 to make it a low power scenario. Kept Pressurizer level failure Kept 480V load center – loss of voltage Kept the major and all the following events from the original Scenario 1 Modified the ATWS portion such that additional actions, beyond those in recent previous exams, are required. |
| 6 | Scenario 3 Event 9: Should also be coded a Component Malfunction | Done. |
| 7 | Scenario 2 Event 7: #1 EDG failure to auto-start is a separate event. | Separated / took credit for failure of #1 EDG to auto start following LOOP. |
| 8 | Scenario 3 Event 7: Appears this has become a LOCA, not a leak. | Corrected. |
| 9 | Scenario 5 Event 9: don't make this a separate event. | Done. |
| | | Scenario 5 <input type="checkbox"/> Replaced Condensate Pump swap with finishing the #2 EDG Surveillance. Most of the actions for the condensate pump were in the field and did not provide enough value to the exam process. <input type="checkbox"/> Re-arranged events, moved event 2 down to event 5. Event 2 had the potential to result in a turbine trip and adversely impact the scenario. |
| | | Scenario 3 <input type="checkbox"/> Deleted credit for P-34A LPI Pump trip as a stand alone event |

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| | | <ul style="list-style-type: none"><input type="checkbox"/> Replaced Chilled Water Pump trip with a Main Generator Hydrogen TCV failure. (The validation was rough for the Chilled Water Pump trip)<input type="checkbox"/> Re-arranged events 4 and 5 due to validation results |
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General:

When draft exam is submitted, identify on the updated outlines which questions / activities address “plant-specific priorities (including PRA and IPE insights)” (ES-201-2).

With draft exam, explain how question duplication from the audit exam was controlled.

Use consistent terminology across outlines, e.g. “OTSG” vs “Steam Generator”.