Facility: Millstone Unit 3												Exam Date: December 4, 2017
Admin JPMs	1 ADMIN Topic and K/A	2 LOD (1-5)	3 Attributes I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	4 Job Content Minutia	Job Link	5 U/E/S	6 Explanation
RO A.1.1: Determine RCS Leakrate and Determine if the Leakrate is within Limits	COO G2.1.7	3			✓							E	Made Steps 9, 12, and 19 critical steps. Deleted reference to tech spec - Candidate is not being given the Tech Spec
RO A.1.2: Calculate a Dilution with the PPC	COO G2.1.43	3		✓								E	Deleted the cue from step 11 and 12 to provide the Monthly Reactivity Data Sheet. Removed the Monthly Reactivity Data Sheet from the list of required materials. Added a cue to step 12 to tell the candidate that the Monthly Reactivity Data Sheet shows an auto makeup reactivity correction factor of 1.0, if asked. Added a comment to step 12 that the auto makeup reactivity correction factor was given in the initial conditions.
RO A.2: Perform AC Electrical Source Inoperability	EC G2.2.12	3	✓									E	In step 9 standard, removed the reference to the 'turnover sheet'. No turnover sheet is associated with this JPM. Added to initial conditions a bullet specifying that All MOVs listed for the associated equipment check for the 'A' EDG are OPERABLE (the candidate was supposed to refer to the turnover sheet to make this determination). Added a cue to step 9 that, all MOVs listed for the associated equipment check for the 'A' EDG are OPERABLE, if asked by the candidate. Also: • Referenced revision to form, SP 3646A.7-002, Rev 008. This did not alter JPM content. • JPM Step 6: Removed cue and added clarification on what examinee should observe (under "Standard"). • JPM Step 7: Changed part of cue from "Continue with procedure" to "'A' EDG is operable". • JPM Steps 8 & 10: Changed Cue and Comments to

													reflect possibility of stopping JPM early.
RO A.3: Determine Dose Limits Under Changing Plant Conditions	Rad G2.3.4	2	✓	✓								E	• Initial Condition / Cue section (pgs 4 & 10): Changed initial condition 17:00 statement to remove the sentence "It is expected that your dose as a result of this action may exceed 6 REM". Changed initiating cue to include applicable procedures needed. Added word Maximum to table (far right hand column). • Initiating Cue section (pgs 4 & 10): Removed "Using RP-AA-105... and MP-26-EPI-FAP09..." as it was considered leading. Changed references to allow use of the CR – DSEO Book (would be available in the Control Room and it contains 1 of 2 references – MP-26-EPI-FAP09). • JPM Step 6 & 8: Added cue (2) to clarify current TEDE.
SRO A.1.1: Determine Effects on Calorimetric of Removing Instruments from Service, and Determine Required Actions	COO G2.1.7	2		✓	✓							E	• Initiating Cue Section (pgs 4 & 13): Removed 2nd cue for 08:00 & 10:00 which read "Any actions, if any, required to be taken with reactor power prior to taking the instrument out of service." This was found to be confusing during validation. • JPM Step 2: Removed cue "If examinee starts addressing ... state "All three 'A' SG pressure channels are indicating the same value". • JPM Step 8: Changed to Non – Critical step.
SRO A.1.2: Check Refueling Admin Requirements	COO G2.1.40	4		✓								E	• Initiating Cue Section (pgs 4 & 14): Removed the following two bullets: "Which LCO ACTION(S), if any, which is/are required to be entered." "What specific action(s), if any, other than stopping fuel movement is/are required to be taken based on any LCO ACTIONs that have been entered." Re-worked cue to read, in part, "Record any Tech Spec Actions required (if any) or reporting requirements (if any) as a result of your review at the bottom/back of this page."
SRO A.2: Complete a Shutdown Safety Assessment Checklist	EC G2.2.18	4	✓	✓								E	• Due to OU-M3-201 being revised, made minor changes to step numbers. Also, had to create JPM

													Step 6 for new step that relates to Security. As such, a bullet was added to the cue stating: "Security requirements for crediting the Terry Turbine as operable are met." • Initial Conditions Section (pgs 4 & 17): Added the following bullet: "Pressurizer Level is 65% with a Pressurizer bubble established • Initiating Cue Section (pg 17): Changed cue to match pg 4 cue sheet.
SRO A.3: Evaluation of an Unplanned Gaseous Release	Rad G2.3.11	4	✓	✓								E	• Initial Conditions Section (pgs 4 & 21): Changed cue 1. From "About 30 minutes ago…" to "Ten minutes ago…". • Initiating Cues Conditions Section (pgs 4 & 21): Simplified cue statement.
SRO A.4: Emergency Plan Classification and PAR	EP G2.4.44	3		✓								E	Moved the following cue from the comments section of JPM step 3, to the cue section of step 3: If the Examinee correctly classifies the event as a General Emergency - ALPHA, then CUE the Examinee "Determine Protective Action Recommendations and record recommendation on page 2 of the Examinee handout." Added a comment to JPM step 2.d that shows the major and minor headings of the classification. In Reference Section (pg 3): Added the Status Tree Book as a second reference & bolded CR DSEO Book.
Simulator/In-Plant JPMs	1 Safety Function and K/A												
a. S1: Initiate Immediate Boration	1 004.A2.14	3	✓									E	• In Sim Reqt Section (pg 4): Added note: "Will be run in parallel with 2017 NRC S.8." • JPM Step 6: Changed comment section to clarify the candidate "should" stop (vice "may") the Boric Acid Transfer Pump. Added clarification on non-critical nature of this step.
b. S2: Establish Feed and Bleed Cooling of the RCS	2 W/E05.EK2.2	3										S	

c. S3: Depressurize the RCS During a SG Tube Rupture	3 EPE.038.EA1.04	3										S	
d. S4: Shifting the RHR System During Single Loop Operation	4 primary 005.A4.01	3		✓								E	• On page 4: Added NOTE to allow for task preview. In Simulator Requirements Section, added / re-configured detail to ensure stable IC. • JPM Step 5: Added comment on the possibility of a RHR Pp low flow alarm to annunciate. • JPM Steps 10,11 & 16: Bolded instructions for examiner / booth operator.
e. S5: Shift to SG Feedwater Flow Control Valves	4 secondary 059.A4.03	3										S	
f. S6: Manual CIA	5 103.A2.03	3										S	
g. S7: Test Start the 'B' EDG from MB8	6 064.A4.06	3		✓	✓							E	• On page 4: In Simulator Requirements Section, added / re-configured detail to allow running JPM in parallel with S.4. Also, provided note to allow task preview. • JPM Step 40: Added clarification in Comment section that examinee should apply note and incrementally adjust EDG loading.
h. S8: Starting Control Building Ventilation on Filtered Outside Air	9 071.A2.09	2	✓									E	• Initiating Cue Section Section (pgs 4 & 12): Added the following cue: "All pre-requisites of OP 3314F have been completed." • In Sim Requirement Section (pg 4): Added note: "Will be run in parallel with 2017 NRC S.1." Also, changed IC to match S.1 (IC 44). • On page 10: Added STEP 13 (non-critical procedure step that was missing from previous revision).
i. P1: Establishing Charging Pump Cooling	4 secondary 076.A2.01	3	✓									E	Changed description of valve manipulations in STEPS 4 & 6 to reflect ball valve (vice gate valve).
j. P2: Energizing MCC 32-3T following CDA	6 062.A2.01	3		✓								E	• STEPS 9 and 13: Enhanced cues for expectant tripped open breakers • Corrected typo on STEP 11 ("breake" to "breaker").
k. P3: Align 'C' CCW Pump and Heat Exchanger to the 'A' Train	8 008.A2.01	3										S	

Instructions for Completing This Table:

Check or mark any item(s) requiring a comment and explain the issue in the space provided using the guide below.

1. Check each JPM for appropriate administrative topic requirements (COO, EC, Rad, and EP) or safety function requirements and corresponding K/A. Mark in column 1. (ES-301, D.3 and D.4)

2. Determine the level of difficulty (LOD) using an established 1–5 rating scale. Levels 1 and 5 represent an inappropriate (low or high) discriminatory level for the license that is being tested. Mark in column 2 (Appendix D, C.1.f)

3. In column 3, "Attributes," check the appropriate box when an attribute is **not met**:
   - ☐ The initial conditions and/or initiating cue is clear to ensure the operator understands the task and how to begin. (Appendix C, B.4)
   - ☐ The JPM contains appropriate cues that clearly indicate when they should be provided to the examinee. Cues are objective and not leading. (Appendix C, D.1)
   - ☐ All critical steps (elements) are properly identified.
   - ☐ The scope of the task is not too narrow (N) or too broad (B).
   - ☐ Excessive overlap does not occur with other parts of the operating test or written examination. (ES-301, D.1.a, and ES-301, D.2.a)
   - ☐ The task performance standard clearly describes the expected outcome (i.e., end state). Each performance step identifies a standard for successful completion of the step.
   - ☐ A valid marked up key was provided (e.g., graph interpretation, initialed steps for handouts).

4. For column 4, "Job Content," check the appropriate box if the job content flaw **does not meet** the following elements:
   - ☐ Topics are linked to the job content (e.g., not a disguised task, task required in real job).
   - ☐ The JPM has meaningful performance requirements that will provide a legitimate basis for evaluating the applicant's understanding and ability to safely operate the plant. (ES-301, D.2.c)

5. Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 5.

6. In column 6, provide a brief description of any (U)nacceptable or (E)nhancement rating from column 5.

Save initial review comments and detail subsequent comment resolution so that each exam-bound JPM is marked by a (S)atisfactory resolution on this form.

Facility: Millstone Unit 3						Scenario: 2K17 NRC-01			Exam Date: December 4, 2017
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1 thru 10								E	The following changes were made following NRC validation: 1. On Exam Overview (pgs 4-5): Removed Event 3 ('A' Charging Pump Trip) and Event 5 (PZR level failure as is). Also, removed reference to specific Tech Specs, added Critical Task for RCP Trip Criteria, and made tripping bistables discretionary in Event 1. 2. On Input Summary (pgs 7-8): Removed associated schedule inputs for Events 3 & 5 (triggers 5, 8, & 9). 3. Changed to IC 18 (certified MOL, 100% power IC) vice IC-29 (older version of same IC). 4. In the scenario time line section, made the following changes: • Corrected Tech Spec / TRM entries. • On page 15, made tripping bistables discretionary for Event 1. • On pages 21-22, changed expected flowpath thru AOP 3571. Also, corrected typo on pg. 22 (move onto event 3 vice 2). • Removed Event 3, 'A' Charging Pump Trip. • On page 24, modified RCP upper seal failure so that it starts to slowly degrade from onset of trigger 7. • On page 29, modified expectant flowpath for AOP 3575 (given a RE Rx Plan exists for power reduction). • Removed Event 5, Controlling PZR Level Fails AS-IS • On page 37, added Critical Task to trip RCP's. • On page 43, removed floor instructor note regarding possible transition to FR-Z.1 (unlikely to have met transition at this point). • On page 44, moved transition to LGBLOCA (Event 8) earlier in E-1. 5. On page 49, Exam Guide Summary, clarified CT-3 description (bounded condition to 520k RWST) and added a fourth critical task (CT-16). 6. On page 50, revised ES-D-1 form to match above changes. 7. Added procedure tracking form (last attachment) to aid in training staff in replacing procedures. The following changes were made following a second NRC validation: • On page 7, modified severity of CV14C (& ramp) to achieve Rx Trip criterion being met • On page 24, made corresponding change to CV14C in body of guide • On page 31, slightly modified desired MVAR • On page 34 slightly increased severity of CV13C malfunction from 10.5 to 12 (to achieve Rx Trip criterion being met) AND provided a second ARP that may be used to direct Rx Trip • On page 35, corrected typo of SBLOCA severity (100 lbm/sec) • On page 45, provided amplifying instruction on LBLOCA with failure of CDA.

Facility: Millstone Unit 3						Scenario: 2K17 NRC-02			Exam Date: December 4, 2017
1 Event	2 Realism/Cred.	3 Required Actions	4 Verifiable actions	5 LOD	6 TS	7 CTs	8 Scen. Overlap	9 U/E/S	10 Explanation
1 thru 7								E	The following changes were made following NRC validation: 1. On Exam Overview (pg 4): Changed plant starting conditions from start-up following a refueling to "a mid cycle spurious Reactor Trip". This matches IC conditions. Also, removed Event 2 ('B' Service Water Pump trip). 2. On Input Summary (pg 7): Removed Triggers 3, 4, & 5 (associated with deleted 'B' Service Water Pump trip) 3. In the scenario time line section, made the following changes: • Corrected Tech Spec / TRM entries. • On pages 21-22, changed EAL & C OP prompts to US from examiner to booth (SM). • On page 27, completed calculation for expectant boration length (was incomplete). • On page 34, removed reference to stopping 'B' / 'C' RCP's and the 'B' EDG (as Service Water Pump event was removed). Added expectation that RCP trip criteria would be met (based on E-0 foldout page). • On page 36, moved up booth instructor cue to initiate SGTR (Trigger 10) at 10% WR level (based on validation, expect to reach this SG inventory earlier in scenario). • On page 45, changed expectant plant response (based on validation). 4. On page 62, changed ES-D-1 form to match changes noted above. 5. On page 63, changed power level from 74% to 79%. Also, changed turnover to plant is being restored to service following "a mid cycle spurious Reactor Trip". This matches IC conditions. 6. On page 64, added procedure tracking form (last attachment) to aid in training staff in replacing procedures. The following changes were made following a second NRC validation: • SG Tube Leak changed from 460 to 432 gpd (pgs 7, 18, & 62) • On page 4, editorial changes in first paragraph on power level and reason for hold. Corrected typo in Event 2 to "N16". • On page 29, clarified ISO-NE instructions on MVAR loading. • On page 35, provided note to alert Floor that RCP trip criterion will not be met without first correcting component failures. • On page 43, removed 3MSS*MOV17C (typo). • On page 63, provided reason for holding power.

Instructions for Completing This Table:

Use this table for each scenario for evaluation.

2 Check this box if the events are not related (e.g., seismic event followed by a pipe rupture) **OR** if the events do not obey the laws of physics and thermodynamics.

3, 4 In columns 3 and 4, check the box if there is **no** verifiable or required action, as applicable. Examples of required actions are as follows: (ES-301, D.5f)

- opening, closing, and throttling valves
- starting and stopping equipment
- raising and lowering level, flow, and pressure
- making decisions and giving directions
- acknowledging or verifying key alarms and automatic actions (Uncomplicated events that require no operator action beyond this should **not** be included on the operating test unless they are necessary to set the stage for subsequent events. (Appendix D, B.3).)

5 Check this box if the level of difficulty is **not** appropriate.

6 Check this box if the event has a TS.

7 Check this box if the event has a critical task (CT). If the same CT covers more than one event, check the event where the CT started **only.**

8 Check this box if the event overlaps with another event on any of the last two NRC examinations. (Appendix D, C.1.f)

9 Based on the reviewer's judgment, is the event as written (U)nacceptable (requiring repair or replacement), in need of (E)nhancement, or (S)atisfactory? Mark the answer in column 9.

10 Record any explanations of the events here.

In the shaded boxes, sum the number of check marks in each column.

- In column 1, sum the number of events.
- In columns 2–4, record the total number of check marks for each column.
- In column 5, based on the reviewer's judgement, place a checkmark only if the scenario's LOD is not appropriate.
- In column 6, TS are required to be ≥ 2 for each scenario. (ES-301, D.5.d)
- In column 7, preidentified CTs should be ≥ 2 for each scenario. (Appendix D; ES-301, D.5.d; ES-301-4)
- In column 8, record the number of events not used on the two previous NRC initial licensing exams. A scenario is considered unsatisfactory if there is < 2 new events. (ES-301, D.5.b; Appendix D, C.1.f)
- In column 9, record whether the scenario as written (U)nacceptable, in need of (E)nhancement, or (S)atisfactory from column 11 of the simulator scenario table.

Facility: Millstone Unit 3									Exam Date: December 4, 2017
Scenario	1 Event Totals	2 Events Unsat.	3 TS Total	4 TS Unsat.	5 CT Total	6 CT Unsat.	7 % Unsat. Scenario Elements	8 U/E/S	11 Explanation
2K17 NRC-01	10	0	3	0	3	0	0	E	The following changes were made following NRC validation: 1. On Exam Overview (pgs 4-5): Removed Event 3 ('A' Charging Pump Trip) and Event 5 (PZR level failure as is). Also, removed reference to specific Tech Specs, added Critical Task for RCP Trip Criteria, and made tripping bistables discretionary in Event 1. 2. On Input Summary (pgs 7-8): Removed associated schedule inputs for Events 3 & 5 (triggers 5, 8, & 9). 3. Changed to IC 18 (certified MOL, 100% power IC) vice IC-29 (older version of same IC). 4. In the scenario time line section, made the following changes: • Corrected Tech Spec / TRM entries. • On page 15, made tripping bistables discretionary for Event 1. • On pages 21-22, changed expected flowpath thru AOP 3571. Also, corrected typo on pg. 22 (move onto event 3 vice 2). • Removed Event 3, 'A' Charging Pump Trip. • On page 24, modified RCP upper seal failure so that it starts to slowly degrade from onset of trigger 7. • On page 29, modified expectant flowpath for AOP 3575 (given a RE Rx Plan exists for power reduction). • Removed Event 5, Controlling PZR Level Fails AS-IS • On page 37, added Critical Task to trip RCP's. • On page 43, removed floor instructor note regarding possible transition to FR-Z.1 (unlikely to have met transition at this point). • On page 44, moved transition to LGBLOCA (Event 8) earlier in E-1. 5. On page 49, Exam Guide Summary, clarified CT-3 description (bounded condition to 520k RWST) and added a fourth critical task (CT-16). 6. On page 50, revised ES-D-1 form to match above changes.

									7. Added procedure tracking form (last attachment) to aid in training staff in replacing procedures. The following changes were made following a second NRC validation: • On page 7, modified severity of CV14C (& ramp) to achieve Rx Trip criterion being met • On page 24, made corresponding change to CV14C in body of guide • On page 31, slightly modified desired MVAR • On page 34 slightly increased severity of CV13C malfunction from 10.5 to 12 (to achieve Rx Trip criterion being met) AND provided a second ARP that may be used to direct Rx Trip • On page 35, corrected typo of SBLOCA severity (100 lbm/sec) • On page 45, provided amplifying instruction on LBLOCA with failure of CDA.
2K17 NRC-02	8	0	3	0	2	0	0	E	The following changes were made following NRC validation: 1. On Exam Overview (pg 4): Changed plant starting conditions from start-up following a refueling to "a mid cycle spurious Reactor Trip". This matches IC conditions. Also, removed Event 2 ('B' Service Water Pump trip). 2. On Input Summary (pg 7): Removed Triggers 3, 4, & 5 (associated with deleted 'B' Service Water Pump trip) 3. In the scenario time line section, made the following changes: • Corrected Tech Spec / TRM entries. • On pages 21-22, changed EAL & C OP prompts to US from examiner to booth (SM). • On page 27, completed calculation for expectant boration length (was incomplete). • On page 34, removed reference to stopping 'B' / 'C' RCP's and the 'B' EDG (as Service Water Pump event was removed). Added expectation that RCP trip criteria would be met (based on E-0 foldout page). • On page 36, moved up booth instructor cue to initiate SGTR (Trigger 10) at 10% WR level (based on validation, expect to reach this SG inventory earlier in scenario).

								• On page 45, changed expectant plant response (based on validation). 4. On page 62, changed ES-D-1 form to match changes noted above. 5. On page 63, changed power level from 74% to 79%. Also, changed turnover to plant is being restored to service following "a mid cycle spurious Reactor Trip". This matches IC conditions. 6. On page 64, added procedure tracking form (last attachment) to aid in training staff in replacing procedures. The following changes were made following a second NRC validation: • SG Tube Leak changed from 460 to 432 gpd (pgs 7, 18, & 62) • On page 4, editorial changes in first paragraph on power level and reason for hold. Corrected typo in Event 2 to "N16". • On page 29, clarified ISO-NE instructions on MVAR loading. • On page 35, provided note to alert Floor that RCP trip criterion will not be met without first correcting component failures. • On page 43, removed 3MSS*MOV17C (typo). • On page 63, provided reason for holding power.

Instructions for Completing This Table:

Check or mark any item(s) requiring comment and explain the issue in the space provided.

1, 3, 5 For each simulator scenario, enter the **total** number of events (column 1), TS entries/actions (column 3), and CTs (column 5). This number should match the respective scenario from the event-based scenario tables (the sum from columns 1, 6, and 7, respectively).

2, 4, 6 For each simulator scenario, evaluate each event, TS, and CT as (S)atisfactory, (E)nhance, or (U)nsatisfactory based on the following criteria:

a. Events. Each event is described on a Form ES-D-2, including all switch manipulations, pertinent alarms, and verifiable actions. Event actions are balanced between at-the-controls and balance-of-plant applicants during the scenario. All event-related attributes on Form ES-301-4 are met. Enter the total number of unsatisfactory events in column 2.

b. TS. A scenario includes at least two TS entries/actions across at least two different events. TS entries and actions are detailed on Form ES-D-2. Enter the total number of unsatisfactory TS entries/actions in column 4. (ES-301, D.5d)

c. CT. Check that a scenario includes at least two preidentified CTs. This criterion is a target quantitative attribute, not an absolute minimum requirement. Check that each CT is explicitly bounded on Form ES-D-2 with measurable performance standards (see Appendix D). Enter the total number of unsatisfactory CTs in column 6.

7 In column 7, calculate the percentage of unsatisfactory scenario elements: $\left(\frac{2+4+6}{1+3+5}\right)100\%$

8 If the value in column 7 is > 20%, mark the scenario as (U)nsatisfactory in column 8. If column 7 is ≤ 20%, annotate with (E)nhancement or (S)atisfactory.

9 In column 9, explain each unsatisfactory event, TS, and CT. Editorial comments can also be added here.

Save initial review comments and detail subsequent comment resolution so that each exam-bound scenario is marked by a (S)atisfactory resolution on this form.

Site name: Millstone Unit 3 **Exam Date: December 4, 2017**

OPERATING TEST TOTALS

	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	0	9	0		
Sim./In-Plant JPMs	11	0	7	4		
Scenarios	2	0	2	0		
Op. Test Totals:	22	0	18	4	0	

Instructions for Completing This Table:

Update data for this table from quality reviews and totals in the previous tables and then calculate the percentage of total items that are unsatisfactory and give an explanation in the space provided.

1. Enter the total number of items submitted for the operating test in the "Total" column. For example, if nine administrative JPMs were submitted, enter "9" in the "Total" items column for administrative JPMs. For scenarios, enter the total number of simulator scenarios.

2. Enter the total number of (U)nsatisfactory JPMs and scenarios from the two JPMs column 5 and simulator scenarios column 8 in the previous tables. Provide an explanation in the space provided.

3. Enter totals for (E)nhancements needed and (S)atisfactory JPMs and scenarios from the previous tables. This task is for tracking only.

4. Total each column and enter the amounts in the "Op. Test Totals" row.

5. Calculate the percentage of the operating test that is (U)nsatisfactory (Op. Test Total Unsat.)/(Op. Test Total) and place this value in the bolded "% Unsat." cell.

   Refer to ES-501, E.3.a, to rate the overall operating test as follows:
   - satisfactory, if the "Op. Test Total" "% Unsat." is ≤ 20%
   - unsatisfactory, if "Op. Test Total" "% Unsat." is > 20%

6. Update this table and the tables above with post-exam changes if the "as-administered" operating test required content changes, including the following:
   - The JPM performance standards were incorrect.
   - The administrative JPM tasks/keys were incorrect.
   - CTs were incorrect in the scenarios (not including postscenario critical tasks defined in Appendix D).
   - The EOP strategy was incorrect in a scenario(s).
   - TS entries/actions were determined to be incorrect in a scenario(s).