Facility: Seabrook			**Exam Date: August 3, 2020**										
Admin JPMs	1 ADMIN Topic and K/A	2 LOD (1-5)	3 Attributes							4 Job Content		5 U/E/S	6 Explanation
			I/C Focus	Cues	Critical Steps	Scope (N/B)	Overlap	Perf. Std.	Key	Minutia	Job Link		
RO Admin 1: Determine License Status	Conduct of Operations G2.1.4	2						X				E	• Changed task standard to: Determines license status under given conditions to be: RO A – active, RO B – inactive, SRO A – inactive. This JPM is complete when the applicant returns the cue sheet and the marked-up Active/Inactive Status Matrix.
RO Admin 2: Transient Blended Makeup	Conduct of Operations G2.1.37	3						X				E	• Changed task standard to: Calculate flow rates, and CVCS makeup control target values for a given plant transient per RS1735, Reactivity Calculations, Form F. Calculated values for critical steps must agree with key to within ±10%.
RO Admin 3: Evaluate SI Pump Data Sheet	Equipment Control G2.2.37	3						X				E	• Changed task standard to: Evaluate surveillance test data to determine that calculated differential pressure is outside T/S limits as given in OX1456.86. Calculated differential pressure must be within ±10% of Key.
RO Admin 4: Determine Accumulated Dose in Support of Work Activities	Radiation Control G2.3.4	2						X				E	• Changed task standard to: Calculate radiation exposure levels and determine that Radworker A will exceed Admin Limit and Radworker C will exceed Federal Limit.
SRO Admin 1: Determine License Status	Conduct of Operations G2.1.4	2						X				E	• Changed task standard to: Determines license status under given conditions to be: RO A – active, RO B – inactive, SRO A – inactive. This JPM is complete when the applicant returns the cue sheet and the marked-up Active/Inactive Status Matrix.
SRO Admin 2: Approve Transient Blended Makeup Worksheet	Conduct of Operations G2.1.37	3						X				E	• Changed task standard to: Verify accuracy of and correctly calculate flow rates and CVCS makeup control target values for a given plant transient, per RS1735, Reactivity Calculations, Form F. Calculated values for critical steps must agree with key to within ±10%.
SRO Admin 3: Evaluate SI Pump Data Sheet and Determine AOT	Equipment Control G2.2.23	3		X								U	• Made student handout entire TS 3.5 vs specific TS 3.5.2 • Changed initiating cue to: Determine what Technical Specification action statement must be entered if any. If needed, determine when the mode reduction must be started by, and at what time the plant must be in Mode 3. • Changed task standard to: Evaluate plant conditions using ODI.30 Allowed Outage Time Worksheet and correctly determine

													required TS actions, number of hours provided to change modes to mode 3 and time plant must be in mode 3 in accordance with JPM key.
SRO Admin 4: Increased Radiation Exposure Approval	Radiation Control G2.3.4	3						X				E	• Changed task standard to: Calculate radiation exposure levels and determine that Radworker A will exceed Admin Limit, Radworker C will exceed Federal Limit and that authorization from RP Supervisor and Radiation Protection Department Manager are required.
SRO Admin 5: E-Plan Classification	Emergency Plan G2.4.41	3			X							U	• Made JPM time critical and included block for recording times. • Moved Tcold temperature from a cue to in the turnover sheet. • Changed task standard to: Evaluate fission product barrier degradation matrix and determine that a General Emergency FG1 is the highest declaration due to a potential loss of fuel clad, loss of RCS and loss of containment. Evaluation must be completed within 15 minutes.
Simulator/In-Plant JPMs	**Safety Function** and K/A												
A. Recover A Dropped Rod	**1** APE 003 AA1.02 3.6/3.4	3										S	
B. SI Termination	**2** 013 A4.03 4.5/4.7	3										S	
C. Power Range NI Failure	**7** 015 A2.01 3.5/3.9	3										S	
D. Raise SI Accumulator Pressure	**3** 006 A1.13 3.5/3.7	3										E	• Added MPCS trends to setup. Removed prompt from Turnover sheet. • Increased pressure in B accumulator to shorten JPM time and re snapped IC.
E. Transfer To Cold Leg Recirculation	**4P** 002 A2.01 4.3/4.4	3										S	
F. Faulted DG Surveillance	**6** 064 A4.06 3.9/3.9	3										E	• Added DG load schedule to student handouts. • Added trigger to insert LO pressure low alarm when load exceeds 1500 kW. • Changed JPM so that E stop pushbuttons from the MCB work to secure DG after low LO pressure alarm. • Created marked up PDF of procedure.

G. SG Pressure Instrument Failure	**4S** 059 A2.11 3.0/3.3	3										E	• Changed controller failure from the raise lower push buttons failed to the auto/manual buttons failed so that the controller cannot be taken to manual.
H. Placing the Containment On-Line Purge (COP) System in Service	**8** 029 G2.1.31 4.6/4.3	3										E	• Added note to beginning of JPM: "Use a second instructor to acknowledge alarms on primary side to keep student at back of MCB". • Created marked up PDF of procedure.
I. Locally Establish Cooling Flow to RHR Heat Exchanger	**4P** APE 025 AK1.01 3.9/4.3, 005 K1.01 3.2/3.4, 005 K3.01 3.9/4.0	3						X				E	• Added statement to required materials "A flashlight is recommended for all in plant JPMs". • Changed JPM to Locally Establish Cooling Flow to RHR Heat Exchanger, Safety Function 4: Heat Removal from Reactor Core, Primary System, K1.01 "Knowledge of the physical connections and/or cause effect relationships between the RHRS and the following systems: CCWS" 3.2/3.4. • Changed task standard from "Simulate locally manipulating CC valves as necessary to restore cooling water flow to A (B) Train RHR heat exchanger and regain control of RCS temperature" to "Simulate fully opening CC-V-145 (CC-V-272) in accordance with OS1090.01 to restore cooling water flow to A (B) Train RHR heat exchanger and regain control of RCS temperature". • Added statement to Performance Step 2, "Declutch level need not be held."
J. Feed SG Locally With EFW	**4S** 061 A1.04 3.9/3.9	3										E	• Added statement to required materials "A flashlight is recommended for all in plant JPMs". • Added statement to Performance Step 2 and 4, "Declutch level need not be held." • Added statement to Performance Step 7 explicitly referencing fact that operator at RSS panel must be contacted via phone or radio for necessary information.
K. Reset PCCW Pump High Temperature Trip	**8** 008 A2.01 3.3/3.6, APE026 AK3.03, 4.0/4.2	3										E	• Added statement to required materials "A flashlight is recommended for all in plant JPMs". • Corrected reference to attachment in Cue on page 8.

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: Seabrook				Scenario: 1					Exam Date: August 3, 2020
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
									• Added TS 3.4.6.2.b for RCS leakage to page 14. • Removed automatic reactor trip failure. Reactor will automatically trip after leak develops to a large LOCA if the crew has not already manually tripped the reactor. Crew will be required to manually actuate SI. Auto SI is blocked. • Event 5 is required so that RO-1 and 2 have more than the minimum of I/C malfunctions. Changed malfunction from failure of 'A' EDG from starting only to failure of 'A' EDG from starting and a loss of bus 5. The BOP is now required to start the 'A' EDG to repower bus 5.
1				3				S	
2				3	X			S	
3				3	X			S	
4				3		X		S	
5				3				E	Changed Event 5 description from: "'A' EDG fails to auto start. BOP must manually start." to: "Bus 5 deenergized, 'A' EDG fails to auto start. BOP must manually start."
6				3				S	
7				3		X		S	
									Scenario includes 2 satisfactory preidentified CTs

Facility: Seabrook				Scenario: 2					Exam Date: August 3, 2020
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
									• Removed reference to Tech Specs that are not applicable on page 9. • Better defined what actions are required to complete CT 1 on page 17. • Added Tech Spec 3.4.6.2.c action a to page 12 for SGTL greater than limit.
1				3				S	
2				3	X			S	
3				3	X			S	
4				3	X			S	
5				3				S	
6				3		X		S	
7				3				S	
8				3		X		S	
									Scenario includes 2 satisfactory preidentified CTs

Facility: Seabrook					Scenario: 3				Exam Date: August 3, 2020
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
									Added additional critical task to scenario. CT 2 Manually start a 'B' Train PCCW pump before alarm B6795, "CHG PMP B MTR OTB BRG TEMP HIGH" actuates. Renumbered previous CT2 to CT3.
1				3	X			S	
2				3				S	
3				3				S	
4				3	X			S	
5				3		X		S	
6				3		X		S	
7				3		X		S	
									Scenario includes 3 satisfactory preidentified CTs

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: Seabrook							Exam Date: August 3, 2020		
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
1	7	0	2	0	2	0	0	E	See previous form for explanation
2	8	0	3	0	2	0	0	E	See previous form for explanation
3	7	0	2	0	3	0	0	E	See previous form for explanation

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: Seabrook						Exam Date: August 3, 2020
OPERATING TEST TOTALS						
	Total	Total Unsat.	Total Edits	Total Sat.	% Unsat.	Explanation
Admin. JPMs	9	2	7	0		
Sim./In-Plant JPMs	11	0	7	4		Updated ES-301-2 forms to replace In-plant JPM I Changed SROU JPMs from 2 Sim, 3 in plant to 3 Sim, 2 in plant. This was done to remove the duplication of Safety Function 4 and to ensure SROU candidates have at least one new or modified JPM in the set that is alt path.
Scenarios	3	0	4	0		
Op. Test Totals:	23	2	18	4	8.7%	Operating test submittal is SAT

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).