

Facility: <u>Millstone Unit 2</u>		Date of Examination: <u>9/10/18 – 9/14/18</u>
Developed by: Written: Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/> // Operating: Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/>		
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-240	1. Examination administration date confirmed (C.1.a; C.2.a–b). For NRC-prepared exams, arrangements are made for the facility to submit reference materials (C.1.e; C.3.c; Attachment 3).	<b>BF</b>
-210	2. NRC examiners and facility contact assigned (C.1.d; C.2.f).	<b>BF</b>
-210	3. Facility contact briefed on security and other requirements (C.2.c). As applicable, the facility contact submits to the NRC any prescreened K/As for elimination from the written examination outline, with a description of the facility's prescreening process (ES-401, D.1.b).	<b>BF</b>
-210	4. Reference material due for NRC-prepared exams (C.1.e; C.3.c; Attachment 3).	<b>NA</b>
-210	5. Corporate notification letter sent (C.2.e).	<b>BF</b>
-195	6. NRC-developed written examination outline (ES-401-1/2 or ES-401N-1/2 and ES-401-3 or ES-401N-3) sent to facility contact (must be on the exam security agreement) (C.1.e–f; C.2.h; C.3.d–e).	<b>BF</b>
-150	7. Operating test outline(s) and other checklists due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, and ES-D-1, as applicable (C.1.e–f; C.3.d–e).	<b>BF</b>
-136	8. Operating test outline(s) reviewed by the NRC and feedback provided to facility licensee (C.2.h; C.3.d–e).	<b>BF</b>
-75	9. Proposed examinations (written, JPMs, and scenarios, as applicable) and outlines (Forms ES-301-1, ES-301-2, ES-D-1, ES-401-1/2 or ES-401N-1/2, and ES-401-3 or ES-401N-3); supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, ES-401-6, ES-401N-6, and any Form ES-201-2 and ES-201-3 updates); and reference materials due (C.1.e–h; C.3.d).	<b>BF</b>
-75	10. Examinations prepared by the NRC are approved by the NRC supervisor and forwarded for facility licensee review (C.1.i; C.2.h; C.3.f–g).	<b>BF</b>
-60	11. Preliminary waiver/excusal requests due (C.1.m; C.2.c; ES-202).	<b>BF</b>
-50	12. Written exam and operating test reviews completed (C.3.f).	<b>BF</b>
-35	13. Examination review results discussed between the NRC and facility licensee (C.1.i; C.1.k–l; C.2.h; C.3.g). The NRC and the facility licensee conduct exam preparatory week.	<b>BF</b>
-7	14. Preliminary license applications and waiver/excusal requests, as applicable (NRC Form 398) due (C.1.m; C.2.i; ES-202).	<b>BF</b>
-7	15. Final license applications and waiver/excusal requests, as applicable (NRC Form 398), due and Form ES-201-4 prepared (C.1.m; C.2.k; ES-202).	<b>BF</b>
-7	16. Written examinations and operating tests approved by the NRC supervisor (C.2.j–k; C.3.h).	<b>BF</b>
-7	17. Request facility licensee management feedback on the examination (C.2.l).	<b>BF</b>
-7	18. Final applications reviewed; one or two (if more than 10) applications audited to confirm qualifications/eligibility; and examination approval and waiver/excusal letters sent (C.2.k; Attachment 5; ES-202, C.3.j; ES-204).	<b>BF</b>
* Target dates are based on facility-prepared examinations and the examination date identified in the corporate notification letter. These dates are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.		

Facility: Millstone Unit 2		Date of Examination: 09/10/2018		
Item	Task Description	Initials		
		a	b*	c**
WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	WJC	WJC	BF
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 or ES-401N and whether all K/A categories are appropriately sampled.	WJC	WJC	BF
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	WJC	WJC	BF
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	WJC	WJC	BF
SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients. *			BF
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	WJC	WJC	BF
	c. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D and in Section D.5, "Specific Instructions for the 'Simulator Operating Test,'" of ES-301 (including overlap).	WJC	WJC	BF
WALKTHROUGH	a. Verify that the systems walkthrough outline meets the criteria specified on Form ES-301-2: (1) The outline(s) contains the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) Task repetition from the last two NRC examinations is within the limits specified on the form. (3) No tasks are duplicated from the applicant's audit test(s). (4) The number of new or modified tasks meets or exceeds the minimums specified on the form. (5) The number of alternate-path, low-power, emergency, and radiologically controlled area tasks meets the criteria on the form.	WJC	WJC	BF
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) The tasks are distributed among the topics as specified on the form. (2) At least one task is new or significantly modified. (3) No more than one task is repeated from the last two NRC licensing examinations.	WJC	WJC	BF
	c. Determine whether there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	WJC	WJC	BF
GENERAL	a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	WJC	WJC	BF
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	WJC	WJC	BF
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	WJC	WJC	BF
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	WJC	WJC	BF
	e. Check the entire exam for balance of coverage.	WJC	WJC	BF
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	WJC	WJC	BF
a. Author: Robert L. Cimmino, Jr. / <i>Robert L. Cimmino, Jr.</i> b. Facility Reviewer (*): Michael J. Cote / <i>Michael J. Cote</i> c. NRC Chief Examiner (#): Brian J. Fuller / <i>Brian J. Fuller</i> d. NRC Supervisor: Donald E. Jackson / <i>Donald E. Jackson</i>		Printed Name/Signature		Date: 08/22/2018 8/22/18 8/28/18 8/28/18
* Not applicable for NRC-prepared examination outlines. # The independent NRC reviewer initials items in column "c"; the chief examiner's concurrence is required. * NRC Selection pending. WJC				

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 9/10/18 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC's chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC's chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of \_\_\_\_\_. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

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PRINTED NAME	JOB TITLE/RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. John W. Riley	Exam Developer	<i>John W. Riley</i>	11/28/17	<i>JW Riley</i>	9/25/18	
2. Robert L. Cimmino, Jr.	Exam Developer	<i>Robert L. Cimmino, Jr.</i>	11/28/17	<i>Robert L. Cimmino, Jr.</i>	09/20/18	
3. Michael J. Cote	Exam Project Manager	<i>Michael J. Cote</i>	11/28/17	<i>Michael J. Cote</i>	10/2/18	
4. Christine Cabral	VISION Project Manager	<i>Christine Cabral</i>	11/28/17	<i>Christine Cabral</i>	10/2/18	
5. Kathleen Louber	Administrative Assistant	<i>Kathleen Louber</i>	11/28/17	<i>Kathleen Louber</i>	12/20/17	left company
6. CRISTALLE WALSH	SUPT OPS TRAINING	<i>Crystalle Walsh</i>	11/28/17	<i>Crystalle Walsh</i>	9/26/18	
7. Kathleen L. Wells	Training Admin	<i>Kathleen L. Wells</i>	11/28/17	<i>Kathleen L. Wells</i>	9/26/18	
8. KURT BESSEN	NSS	<i>Kurt Bessen</i>	11/28/17	<i>Kurt Bessen</i>	10/3/18	
9. KARLA HAJEK	Train Admin Asst	<i>Karla Hajek</i>	11/28/17	<i>Karla Hajek</i>	9/29/18	
10. CHA-HSIANG TAN	Computer Support	<i>Cha-Hsiang Tan</i>	2/1/18	<i>Cha-Hsiang Tan</i>	10/2/18	
11. Mark Monda	Sim Tech, Hardware	<i>Mark Monda</i>	2/6/18	<i>Mark Monda</i>	10/2/18	
12. JOHN Hampton	NSOC	<i>John Hampton</i>	2/6/18	<i>John Hampton</i>	6/25/18	Retired
13. Ming-Hui Lee	Sim Soft Engineering	<i>Ming-Hui Lee</i>	2/6/18	<i>Ming-Hui Lee</i>	10/2/18	
14. ANGELO LEONIS	SHIFT MANAGER	<i>Angelo Leonis</i>	2/27/18	<i>Angelo Leonis</i>	9/27/18	
15. DAN KOROPATNIK	CONTROL ROOM OPERATOR	<i>Dan Koropatnik</i>	4/6/18	<i>Dan Koropatnik</i>	9/27/18	
16. Kathleen Louber	ADMIN. ASSISTANT	<i>Kathleen Louber</i>	8/5/18	<i>Kathleen Louber</i>	9/2/18	
17. Kevin P. Dingle	Instructor	<i>Kevin P. Dingle</i>	9/7/18	<i>Kevin P. Dingle</i>	9/4/18	

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. <u>Joselyn Brown</u>	<u>US</u>	<u>[Signature]</u>	<u>4/6/18</u>	<u>[Signature]</u>	<u>9/27/18</u>	
2. <u>James Haggerty</u>	<u>RO</u>	<u>[Signature]</u>	<u>4-6-18</u>	<u>[Signature]</u>	<u>9-27-18</u>	
3. <u>Kennetha Tinsdale</u>	<u>Procedure Writer/EP/AOP</u>	<u>[Signature]</u>	<u>05/01/18</u>	<u>[Signature]</u>	<u>09/17/18</u>	
4. <u>Anne Chapman</u>	<u>RO</u>	<u>[Signature]</u>	<u>6/12/18</u>	<u>[Signature]</u>	<u>9-28-18</u>	
5. <u>Vince Wessling</u>	<u>INSTRUCTOR (LORP)</u>	<u>[Signature]</u>	<u>6/12/18</u>	<u>[Signature]</u>	<u>7/31/18</u>	<u>RETIREMENT</u>
6. <u>Herbert Searle</u>	<u>INSTRUCTOR (LORP)</u>	<u>[Signature]</u>	<u>6/27/18</u>	<u>[Signature]</u>	<u>10/2/18</u>	
7. <u>TINA L SPARKS</u>	<u>SIM COORDINATOR</u>	<u>[Signature]</u>	<u>7/13/18</u>	<u>[Signature]</u>	<u>10/2/18</u>	
8. <u>JAMES J STILLPHEN</u>	<u>RO</u>	<u>[Signature]</u>	<u>7/25/18</u>	<u>[Signature]</u>	<u>10/1/18</u>	
9. <u>Edward H. Seacor</u>	<u>US</u>	<u>[Signature]</u>	<u>7-27-18</u>	<u>[Signature]</u>	<u>9-28-18</u>	
10. <u>Scott Aument</u>	<u>RO</u>	<u>[Signature]</u>	<u>7/24/18</u>	<u>[Signature]</u>	<u>9/27/18</u>	
11. <u>JOSEPH FIELIK</u>	<u>PEO</u>	<u>[Signature]</u>	<u>7/26/18</u>	<u>[Signature]</u>	<u>9/27/18</u>	
12. <u>Josh Lindsey</u>	<u>PEO</u>	<u>[Signature]</u>	<u>7/26/18</u>	<u>[Signature]</u>	<u>9/27/18</u>	
13. <u>Tara Harrelson</u>	<u>RO</u>	<u>[Signature]</u>	<u>7/20/18</u>	<u>[Signature]</u>	<u>9/27/18</u>	
14. <u>KEVIN PARKINS</u>	<u>STA INTRAWING</u>	<u>[Signature]</u>	<u>8-13-18</u>	<u>[Signature]</u>	<u>9/29/18</u>	
15. <u>PETER FITZGERALD</u>	<u>INSTRUCTOR (LORP)</u>	<u>[Signature]</u>	<u>8-16-18</u>	<u>[Signature]</u>	<u>9-28-18</u>	
			<u>8/31/18</u>	<u>[Signature]</u>	<u>10/2/18</u>	

NOTES:

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	PRINTED NAME	JOB TITLE/RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Douglas Funk	Trainer		9/10/18		9/20/18	
2.	Will Chesnut	Shift Manager		9/10/18		9/27/18	
3.	MARC PUCEL	TRAINER		09-10-18		9-26-18	
4.	Braun Ferguson	Trainer- Contractor		9-10-18		9/17/18	
5.	Darvin Orange	TRAINER		9/10/18		9/26/18	
6.	James G	Training Supervisor		9/12/18		10/2/18	
7.	Kevin P. Dingle	Instructor					
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

Facility: Millstone Unit 2		Date of Examination: 09/10/2018		Operating Test Number: ES18LI	
1. General Criteria			Initials		
			a	b*	c#
a.	The operating test conforms to the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	RLC	ML	BF	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	RLC	ML	BF	
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a.).	RLC	ML	BF	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	RLC	ML	BF	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	RLC	ML	BF	
2. Walkthrough Criteria			--	--	--
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> <li>• initial conditions</li> <li>• initiating cues</li> <li>• references and tools, including associated procedures</li> <li>• reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee</li> <li>• operationally important specific performance criteria that include—                         <ul style="list-style-type: none"> <li>– detailed expected actions with exact criteria and nomenclature</li> <li>– system response and other examiner cues</li> <li>– statements describing important observations to be made by the applicant</li> <li>– criteria for successful completion of the task</li> <li>– identification of critical steps and their associated performance standards</li> <li>– restrictions on the sequence of steps, if applicable</li> </ul> </li> </ul>	RLC	ML	BF	
b.	Ensure that any changes from the previously approved systems and administrative walkthrough outlines (Forms ES-301-1 and ES-301-2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last two NRC examinations) specified on those forms and Form ES-201-2.	RLC	ML	BF	
3. Simulator Criteria			--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4, and a copy is attached.		RLC	ML	BF	
		Printed Name/Signature		Date	
a.	Author	Robert L. Cimmino, Jr. / <i>[Signature]</i>		08/23/2018	
b.	Facility Reviewer (*)	Michael J. Cote / <i>[Signature]</i>		8/22/18	
c.	NRC Chief Examiner (#)	Brian Fuller / <i>[Signature]</i>		8/28/18	
d.	NRC Supervisor	DONALD JACKSON / <i>[Signature]</i>		8/28/18	
* The facility licensee signature is not applicable for NRC-developed tests.					
# The independent NRC reviewer initials items in column "c"; the chief examiner concurrence is required.					

Facility: <b>Millstone Unit 2</b>		Date of Exam: 09/10/2018		Scenario Numbers: 1 / 2 / 3 / 4 / 5		Operating Test No.: ES18LI	
QUALITATIVE ATTRIBUTES		Initials					
		a	b*	c#			
1.	The initial conditions are realistic in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	RKC	MP	BF			
2.	The scenarios consist mostly of related events.	RKC	MP	BF			
3.	Each event description consists of the following: <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) or conditions that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>	RKC	MP	BF			
4.	The events are valid with regard to physics and thermodynamics.	RKC	MP	BF			
5.	Sequencing and timing of events is reasonable and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	RKC	MP	BF			
6.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	RKC	MP	BF			
7.	The simulator modeling is not altered.	RKC	MP	BF			
8.	The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	RKC	MP	BF			
9.	Scenarios are new or significantly modified in accordance with Section D.5 of ES-301.	RKC	MP	BF			
10.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	RKC	MP	BF			
11.	The scenario set provides the opportunity for each applicant to be evaluated in each of the applicable rating factors. (Competency rating factors as described on Forms ES-303-1 and ES-303-3.)	RKC	MP	BF			
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	*		BF			
13.	Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.	RKC	MP	BF			
14.	The level of difficulty is appropriate to support licensing decisions for each crew position.	RKC	MP	BF			
<b>Target Quantitative Attributes per Scenario (See Section D.5.d)</b>		Actual Attributes		--	--	--	
1.	Malfunctions after EOP entry (1-2)	1 / 2	1 / 2	1	1	1	
2.	Abnormal events (2-4)	4 / 2	4 / 3	1	3	3	
3.	Major transients (1-2)	1 / 1	2 / 1	1	1	1	
4.	EOPs entered/requiring substantive actions (1-2)	1 / 1	1 / 1	1	1	1	
5.	Entry into a contingency EOP with substantive actions (≥ 1 per scenario set)	0 / 0	1 / 1	1	0	0	
6.	Preidentified critical tasks (≥ 2)	2 / 3	2 / 3	1	2	2	
* The facility licensee signature is not applicable for NRC-developed tests. # An independent NRC reviewer initials items in column "c"; chief examiner concurrence is required. * NRC Selection pending RKC MP							

Facility		Millstone Unit 2		Date of Exam: 09/10/2018									Operating Test No.: ES18LI					
A P P L I C A N T	E V E N T  T Y P E	Scenarios												T O T A L	M I N I M U M  (*  R I U			
		1			2			3			4							
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
I-1 <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX	4							3			4			3	1	1	0
	NOR	1													1	1	1	1
	I/C	2,3,5,6,8							2,6			1,2,3,6,7			12	4	4	2
	MAJ	7							5,7			5			4	2	2	1
	TS	2,3										2,3			4	0	2	2
I-2 <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX	4							3						2	1	1	0
	NOR	1													1	1	1	1
	I/C	2,3,5,6,8							2,6						7	4	4	2
	MAJ	7							5,7						3	2	2	1
	TS	2,3													2	0	2	2
I-3 <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX	4							3				4		3	1	1	0
	NOR	1													1	1	1	1
	I/C	2,3,5,6,8							1,2,4,6				1,3		11	4	4	2
	MAJ	7							5,7				5		4	2	2	1
	TS	2,3							1,2						4	0	2	2
I-4 <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U	RX				4				3				4		3	1	1	0
	NOR														0	1	1	1
	I/C				1,3,6,7				1,2,4,6				1,3		10	4	4	2
	MAJ				5				5,7				5		4	2	2	1
	TS				1,2				1,2						4	0	2	2

Instructions:

1. Check the applicant level and enter the operation test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls" (ATC) and "balance-of-plant" (BOP) positions. Instant SROs (SRO-I) must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an SRO-I *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (\*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one-for-one basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.
4. For licensees that use the ATC operator primarily for monitoring plant parameters, the chief examiner may place SRO-I applicants in either the ATC or BOP positions to best evaluate the SRO-I in manipulating plant controls.



Facility		Millstone Unit 2		Date of Exam: 09/10/2018		Operating Test No.: ES18LI											
A P P L I C A N T	E V E N T  T Y P E	Scenarios												T O T A L	M I N I M U M  (*)		
		1			2			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
												R	I	U			
U-1	RO	<input type="checkbox"/>			4			3									2
	NOR	<input type="checkbox"/>												0	1	1	1
	SRO-I	<input type="checkbox"/>			1,3,6,7			1,2,4,6						8	4	4	2
	SRO-U	<input checked="" type="checkbox"/>			5			5,7						3	2	2	1
	TS	<input type="checkbox"/>			1,2			1,2						4	0	2	2
U-2	RO	<input type="checkbox"/>			4						4			2	1	1	0
	NOR	<input type="checkbox"/>												0	1	1	1
	SRO-I	<input type="checkbox"/>			1,3,6,7						1,2,3,6,7			9	4	4	2
	SRO-U	<input checked="" type="checkbox"/>			5						5			2	2	2	1
	TS	<input type="checkbox"/>			1,2						2,3			4	0	2	2
R-1	RO	<input type="checkbox"/>		4			4			3				3	1	1	0
	NOR	<input type="checkbox"/>		1										1	1	1	1
	SRO-I	<input type="checkbox"/>		2,6,8			6,7			1,4				7	4	4	2
	SRO-U	<input checked="" type="checkbox"/>		7			5			5,7				4	2	2	1
	TS	<input type="checkbox"/>												0	0	2	2
R-2	RO	<input checked="" type="checkbox"/>		4		4				3				3	1	1	0
	NOR	<input type="checkbox"/>												0	1	1	1
	SRO-I	<input type="checkbox"/>		3,5		1,3,7				1,4				7	4	4	2
	SRO-U	<input type="checkbox"/>		7		5				5,7				4	2	2	1
	TS	<input type="checkbox"/>												0	0	2	2

Instructions:

1. Check the applicant level and enter the operation test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls" (ATC) and "balance-of-plant" (BOP) positions. Instant SROs (SRO-I) must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an SRO-I additionally serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (\*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one-for-one basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.
4. For licensees that use the ATC operator primarily for monitoring plant parameters, the chief examiner may place SRO-I applicants in either the ATC or BOP positions to best evaluate the SRO-I in manipulating plant controls.

Facility		Millstone Unit 2		Date of Exam: 09/10/2018									Operating Test No.: ES18LI				
A P P L I C A N T	E V E N T  T Y P E	Scenarios												T O T A L	M I N I M U M  (* )		
		1			2			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
												R	I	U			
R-3	RO <input checked="" type="checkbox"/>	RX	4			4			3							3	1
		NOR	1										1	1	1	1	
	SRO-I <input type="checkbox"/>	I/C	2,6,8			6,7			1,4				7	4	4	2	
	SRO-U <input type="checkbox"/>	MAJ	7			5			5,7				4	2	2	1	
		TS											0	0	2	2	
R-4	RO <input checked="" type="checkbox"/>	RX		4		4							3	1	1	0	
		NOR											0	1	1	1	
	SRO-I <input type="checkbox"/>	I/C		3,5		1,3,7						2,6,7	8	4	4	2	
	SRO-U <input type="checkbox"/>	MAJ		7		5						5	3	2	2	1	
		TS											0	0	2	2	
R-5	RO <input checked="" type="checkbox"/>	RX	4			4							2	1	1	0	
		NOR	1										1	1	1	1	
	SRO-I <input type="checkbox"/>	I/C	2,6,8			6,7							5	4	4	2	
	SRO-U <input type="checkbox"/>	MAJ	7			5							2	2	2	1	
		TS											0	0	2	2	
R-6	RO <input checked="" type="checkbox"/>	RX		4		4							2	1	1	0	
		NOR											0	1	1	1	
	SRO-I <input type="checkbox"/>	I/C		3,5		1,3,7							5	4	4	2	
	SRO-U <input type="checkbox"/>	MAJ		7		5							2	2	2	1	
		TS											0	0	2	2	

Instructions:

1. Check the applicant level and enter the operation test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls" (ATC) and "balance-of-plant" (BOP) positions. Instant SROs (SRO-I) must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an SRO-I *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (\*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one-for-one basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.
4. For licensees that use the ATC operator primarily for monitoring plant parameters, the chief examiner may place SRO-I applicants in either the ATC or BOP positions to best evaluate the SRO-I in manipulating plant controls.

Facility		Millstone Unit 2		Date of Exam: 09/10/2018									Operating Test No.: ES18LI						
A P P L I C A N T	E V E N T  T Y P E	Scenarios												T O T A L	M I N I M U M  (*)				
		1			2			3			4								
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION								
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P						
													R	I	U				
R-7 RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX									3								4	2
	NOR															0	1	1	1
	I/C									2,6					2,6,7	5	4	4	2
	MAJ									5,7					5	3	2	2	1
	TS															0	0	2	2
RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX																1	1	0
	NOR																1	1	1
	I/C																4	4	2
	MAJ																2	2	1
	TS																0	2	2
RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX																1	1	0
	NOR																1	1	1
	I/C																4	4	2
	MAJ																2	2	1
	TS																0	2	2
RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX																1	1	0
	NOR																1	1	1
	I/C																4	4	2
	MAJ																2	2	1
	TS																0	2	2

Instructions:

1. Check the applicant level and enter the operation test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls" (ATC) and "balance-of-plant" (BOP) positions. Instant SROs (SRO-I) must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an SRO-I *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (\*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one-for-one basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.
4. For licensees that use the ATC operator primarily for monitoring plant parameters, the chief examiner may place SRO-I applicants in either the ATC or BOP positions to best evaluate the SRO-I in manipulating plant controls.

Facility: <b>MP2</b>		Date of Examination: <b>9/10/2018</b>				Operating Test No.: <b>ES18LI</b>										
Competencies	APPLICANTS															
	RO (ATC) <input checked="" type="checkbox"/>				RO (BOP) <input checked="" type="checkbox"/>				RO <input type="checkbox"/>				RO <input type="checkbox"/>			
	SRO-I <input type="checkbox"/>				SRO-I <input type="checkbox"/>				SRO-I <input checked="" type="checkbox"/>				SRO-I <input type="checkbox"/>			
SRO-U <input type="checkbox"/>				SRO-U <input type="checkbox"/>				SRO-U <input type="checkbox"/>				SRO-U <input checked="" type="checkbox"/>				
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	2,6,7,8	1,3,5,7	2,5,6,7	1,3,5	3,5,7	2,5,6,7,8	1,4,5,7	2,5,6,7	2,3,5,6,7,8	1,2,3,4,5,6,7,8	1,2,4,5,6,7	1,2,3,5,6,7		1,2,3,4,5,6,7,8	1,2,4,5,6,7	1,2,3,5,6,7
Comply With and Use Procedures (1)	1,2,4,6,7,8	1,3,4,5,7	2,3,5,6,7	1,3,4,5,6	3,4,5,7	2,4,5,6,7,8	1,2,3,4,5,7	2,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7		1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7
Operate Control Boards (2)	1,2,4,6,7,8	1,3,4,5,7	2,3,5,6,7	1,3,4,5,6	3,4,5,7	2,4,5,6,7,8	1,2,3,4,5,7	2,4,5,6,7								
Communicate and Interact	1,2,4,5,6,7	1,3,4,5,7	2,3,5,6,7	1,3,4,5,6	3,4,5,6,7	2,4,5,6,7,8	1,2,3,4,5,7	2,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7		1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7
Demonstrate Supervisory Ability (3)									1,2,3,4,5,6,7	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7		1,2,3,4,5,6,7,8	1,2,3,4,5,6,7	1,2,3,4,5,6,7
Comply With and Use Tech. Specs. (3)									2,3	1,2	1,2	2,3		1,2	1,2	2,3
Notes:																
(1) Includes Technical Specification compliance for an RO.																
(2) Optional for an SRO-U.																
(3) Only applicable to SROs.																

**Instructions:**

Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant. (This includes all rating factors for each competency.) (Competency Rating factors as described on forms ES-303-1 and ES-303-3.)

Facility: <i>Millstone Unit 2</i> Date of Exam: <i>09/25/18</i> Exam Level:    RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>			
Item Description	Initials		
	a	b	c
1. Clean answer sheets copied before grading	<i>RM</i>	<i>R</i>	<i>BF</i> <sup>MP</sup>
2. Proposed answer key changes and question deletions justified and documented (facility reviewer initials not required (N/R) if NO post-examination comments are submitted)	<i>RM</i>	<i>R</i>	<i>BF</i>
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<i>RM</i>	<i>R</i>	<i>BF</i> <sup>MP</sup>
4. Grading for all borderline cases (80% ±2% overall and 70% or 80%, as applicable, ±4% on the SRO-only exam) reviewed in detail	<i>RM</i>	<i>R</i>	<i>BF</i>
5. All other failing examinations checked to ensure that grades are justified	<i>RM</i>	<i>R</i>	<i>BF</i> <sup>MP</sup>
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by one-half or more of the applicants	<i>RM</i>	<i>R</i>	<i>BF</i>
Printed Name/Signature		Date	
a. Grader	<u>Robert L. Cimmino, Jr. <i>[Signature]</i></u>	<u>10/11/2018</u>	
b. Facility Reviewer(*)	<u>ANGELD LEONE <i>[Signature]</i></u>	<u>10/11/18</u>	
c. NRC Chief Examiner (*)	<u><i>[Signature]</i></u>	<u>10/17/18</u>	
d. NRC Supervisor (*)	<u>Donald E Jackson</u>	<u>10/17/18</u>	
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.			

Facility: <b>Millstone Unit 2</b>		Date of Exam: <b>09/10/2018</b>		Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>		
Item Description	Initial					
	a	b*	c*#			
1. Questions and answers are technically accurate and applicable to the facility.	NRC	myl	BF			
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available. c. Correct answer explanation and distractor analysis provided (ES-401, D.2.g)	NRC	myl	BF			
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	NRC	myl	BF			
4. The sampling process was random and systematic. (If more than four RO or two SRO questions were repeated from the last two NRC licensing exams, consult the NRR/NRO OL program office).	N/A	N/A	BF			
5. Question duplication from the licensee screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate.  ___ The audit exam was systematically and randomly developed, or ___ the audit exam was completed before the license exam was started, or ___ the examinations were developed independently, or ___ the licensee certifies that there is no duplication, or <input checked="" type="checkbox"/> other (explain).  <b>Audit Exam was prepared and turned over to the Program Coordinator prior to the start of NRC License Exam development. Any subsequent modifications to the Audit Written Exam by the Coordinator were made without the knowledge of either NRC License Exam authors.</b>	NRC	myl	BF			
6. Bank use meets limits (no more than 75% from the bank, at least 10% new, and the rest new or modified); enter the actual RO/SRO-only question distribution(s) at right.	Bank	Modified	New	NRC	myl	BF
	44 / 8	13 / 6	18 / 11			
7. Between 38 and 45 questions of the questions on the RO exam and at least 13 questions of the questions on the SRO-only portion of the exam are written at the comprehension/analysis level (see ES-401, D.2.c); enter the actual RO/SRO-only question distribution(s) at right.	Memory	C/A		NRC	myl	BF
	33 / 9	42 / 16				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	NRC	myl	BF			
9. Question content conforms to specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	NRC	myl	BF			
10. Question psychometric quality and format meet the guidelines in Appendix B.	NRC	myl	BF			
11. The exam contains the required number of one-point, multiple-choice items; the total is correct and agrees with the value on the cover sheet.	NRC	myl	BF			
		Printed Name/Signature		Date		
a. Author	Robert L. Cimmino, Jr. <i>[Signature]</i>			08/22/2018		
b. Facility Reviewer (*)	Michael J Cote <i>[Signature]</i>			8/22/18		
c. NRC Chief Examiner (#)	Brian Fuller <i>[Signature]</i>			8/28/18		
d. NRC Regional Supervisor	DONALD JACKSON <i>[Signature]</i>			8/28/18		
Note:	* The facility reviewer's initials or signature are not applicable for NRC-developed examinations.					
	# Independent NRC reviewer initials items in Column "c"; chief examiner concurrence is required.					