

Facility: Limerick Units 1&2Date of Examination: 1/17/17 → 1/27/17Developed by: Written: Facility ☒ NRC ☐ // Operating Facility ☒ NRC ☐

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	<i>AS</i>
-150	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	<i>AS</i>
-150	3. Facility contact briefed on security and other requirements (C.2.c)	<i>AS</i>
-150	4. Corporate notification letter sent (C.2.d)	<i>AS</i>
[-120]	5. Reference material due (C.1.e; C.3.c; Attachment 3)	<i>AS</i>
{-90}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1, ES-401-1/2, ES-401N-1/2, ES-401-3, ES-401N-3, ES-401-4, and ES-401N-4, as applicable (C.1.e and f; C.3.d)	<i>AS</i>
{-85}	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	<i>AS</i>
{-60}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, ES-401N-6, and any Form ES-201-2, ES-201-3, ES-301-1, or ES-301-2 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	<i>AS</i>
-45	9. Written exam and operating test reviews completed. (C.3.f)	<i>MD</i>
-30	10. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	<i>AS</i>
-21	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	<i>AS</i>
-21	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	<i>AS</i>
-14	13. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	<i>MD</i>
-14	14. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	<i>AS</i>
-7	15. Facility licensee management queried regarding the licensee's views on the examination. (C.2.j)	<i>AS</i>
-7	16. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 5; ES-202, C.2.e; ES-204)	<i>AS</i>
-7	17. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	<i>AS</i>
-7	18. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	<i>AS</i>

* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.

[Applies only] {Does not apply} to examinations prepared by the NRC.

Facility:		Date of Examination:		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401 or ES-401N.	RF	B	R
	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.	RF	B	RF
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RF	B	RF
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RF	B	RF
2. S I M U L A T O R	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.	RF	B	R
	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.	RF	B	R
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	RF	B	RF
3. W A L K T H R O U G H	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) 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 applicants' 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 RCA tasks meet the criteria on the form.	RF	B	RF
	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	RF	B	RF
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	RF	B	R
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	RF	B	R
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RF	B	R
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RF	B	R
	d. Check for duplication and overlap among exam sections.	RF	B	RF
	e. Check the entire exam for balance of coverage.	RF	B	R
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RF	B	RF
a. Author <u>ROBERT FURST</u> b. Facility Reviewer (*) <u>Brian Devine</u> c. NRC Chief Examiner (#) <u>Peter Presby</u> d. NRC Supervisor <u>Donald Jackson</u>		Printed Name/Signature Date 10/17/16 10/17/16 1/13/17 1/13/17		
Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines.				

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 1/16/17 - 1/27/17 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 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 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 1/16/17 - 1/27/17. 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.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. SAMUEL M. COHEN	SIMULATOR COORDINATOR	<i>Samuel M. Cohen</i>	6/28/16	<i>Samuel M. Cohen</i>	1/27/17	
2. STUART McDONALD	ITSA Simulator Analyst	<i>Stuart McDonald</i>	6/28/16	<i>Stuart McDonald</i>	1/27/17	
3. DARREN R. WEAVER	ITSA SIMULATOR ANALYST	<i>Darren R. Weaver</i>	6/28/16	<i>Darren R. Weaver</i>	1/27/17	
4. Scott H. Messner	ITSA Manager	<i>Scott H. Messner</i>	6/28/16	<i>Scott H. Messner</i>	1/31/17	
5. Alex Iannelli	Simulator admin.	<i>Alex Iannelli</i>	6/28/16	<i>Alex Iannelli</i>	1/27/17	
6. Todd A Byers	Exam Writer	<i>Todd A Byers</i>	6/28/16	<i>Todd A Byers</i>	1/30/17	
7. Bob Forst	EXAM WRITER	<i>Bob Forst</i>	6/28/16	<i>Bob Forst</i>	1/27/17	
8. John Koelle	EXAM WRITER	<i>John Koelle</i>	6/28/16	<i>John Koelle</i>	1/31/17	
9. Kevin Korch	ITSA HARDWARE SUPP	<i>Kevin Korch</i>	7/12/16	<i>Kevin Korch</i>	1/30/17	
10. FRED BRUNS	CORP OTS	<i>Fred Bruns</i>	7/28/16	<i>Fred Bruns</i>	1/30/17	
11. Brian Devine	8-14-16 <i>8-14-16</i> <i>Facility Rep</i>	<i>Brian Devine</i>	8-19/16	<i>Brian Devine</i>	1/27/17	
12. J.M. Racioppo	SRO / Technical Reviewer	<i>J.M. Racioppo</i>	8-23/16	<i>J.M. Racioppo</i>	1-30-17	
13. KEVIN COREY	RO	<i>Kevin Corey</i>	8/20/16	<i>Kevin Corey</i>	1/27/17	
14. Matt Marquess	SRO	<i>Matt Marquess</i>	8/20/16	<i>Matt Marquess</i>	1/27/17	
15. JOE KOSELIK	RO	<i>Joe Koselik</i>	8-30-16	<i>Joe Koselik</i>	1/27/17	

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. <u>DAVID M. TERNI</u>	<u>SMOSS</u>	<u>[Signature]</u>	<u>8/31/16</u>	<u>[Signature]</u>	<u>1/24/17</u>	
2. <u>Jeffrey Walker</u>	<u>Exam Support</u>	<u>[Signature]</u>	<u>9/8/16</u>	<u>[Signature]</u>	<u>1/27/17</u>	
3. <u>KARL CRAWFORD</u>	<u>SIMULATOR ITC</u>	<u>[Signature]</u>	<u>9/21/16</u>	<u>TS for Karl Crawford (e-mail)</u>	<u>2/01/17</u>	
4. <u>JONATHAN ALLIS</u>	<u>RO</u>	<u>[Signature]</u>	<u>9/24/16</u>	<u>TS for John Allis (e-mail)</u>	<u>1/31/17</u>	
5. <u>Richard Wagner</u>	<u>SRO</u>	<u>[Signature]</u>	<u>9/27/16</u>	<u>TS for Rick Wagner (e-mail)</u>	<u>1/23/17</u>	
6. <u>Matthew Carberry</u>	<u>RO</u>	<u>[Signature]</u>	<u>9/28/16</u>	<u>TS for Matt Carberry (e-mail)</u>	<u>1/30/17</u>	
7. <u>John I. Sullivan</u>	<u>SRO</u>	<u>[Signature]</u>	<u>10/5/16</u>	<u>TS for John Sullivan (e-mail)</u>	<u>1/23/17</u>	
8. <u>Rachel Smolinsky</u>	<u>clerk/admin</u>	<u>[Signature]</u>	<u>10/9/16</u>	<u>TS for Rachel Smolinsky (e-mail)</u>	<u>1/30/17</u>	
9. <u>JOHN MERCURIO</u>	<u>LOD LEAD</u>	<u>[Signature]</u>	<u>10/11/16</u>	<u>John Mercurio</u>	<u>1/30/17</u>	
10. <u>Chris Bihl</u>	<u>Instructor</u>	<u>[Signature]</u>	<u>10/10/16</u>	<u>C. J. Bihl</u>	<u>1/30/17</u>	
11. <u>Craig A. Fritz</u>	<u>SRO</u>	<u>[Signature]</u>	<u>10/12/16</u>	<u>TS for Craig Fritz (e-mail)</u>	<u>2/01/17</u>	
12. <u>Joseph John Wisniewski</u>	<u>RO</u>	<u>[Signature]</u>	<u>10/12/16</u>	<u>TS for John Wisniewski (e-mail)</u>	<u>1/25/17</u>	
13. <u>Dan KRAMLICH</u>	<u>SIMULATOR ETC</u>	<u>[Signature]</u>	<u>10/12/16</u>	<u>TS for Dan Kramlich (e-mail)</u>	<u>1/23/17</u>	
14. <u>Daniel J Semeter</u>	<u>OTM</u>	<u>[Signature]</u>	<u>11-4-16</u>	<u>Daniel Semeter</u>	<u>1/27/17</u>	
15. <u>Samuel Hansell</u>	<u>Instructor</u>	<u>[Signature]</u>	<u>11/7/16</u>	<u>[Signature]</u>	<u>1/30/17</u>	

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. DAVID PROCOPIO	RO / Clearance Writer	<i>[Signature]</i>	11-11-16	<i>[Signature]</i>	1-27-17	
2. William H. Martin	SRO / Shift Supervisor	<i>[Signature]</i>	11/11/16	TOB for Bill Martin (e-mail)	1/28/17	
3. Thomas Youngerman	RO / C'crew	<i>[Signature]</i>	11-11-16	TOB for Tom Youngerman (e-mail)	1/29/17	
4. William F. Bullock	SRO / Shift Supervisor / ORAT	<i>[Signature]</i>	11-14-16	<i>[Signature]</i>	1-30-17	
5. DEVON BYERS	ADMIN	<i>[Signature]</i>	11-22-16	<i>[Signature]</i>	2-1-17	
6. JOHN FRANZ	RO / D' CREW	<i>[Signature]</i>	12-5-16	TOB for John Franz (e-mail)	1/23/17	
7. Robert D. Mandile	SRO / Shift Supv.	<i>[Signature]</i>	12-5-16	TOB for Bob Mandile (e-mail)	1/23/17	
8. David Williamson	RO / D' CREW	<i>[Signature]</i>	12-5-16	TOB for Dave Williamson (e-mail)	1/23/17	
9. J. Biacchelli	SRO / Shift Supv.	<i>[Signature]</i>	12-5-16	<i>[Signature]</i>	1/31/17	
10. C. DAVIS	ENG LSR PPC	<i>[Signature]</i>	12-08-16	<i>[Signature]</i>	2-1-17	
11. TIM KAN	LOR INSTRUCTOR	<i>[Signature]</i>	12/9/16	<i>[Signature]</i>	1/30/17	
12. SETH MITTEN	LOR Instructor	<i>[Signature]</i>	1/3/17	<i>[Signature]</i>	1/30/17	
13. Ryan Fayewicz	SRO / Shift Supervisor	<i>[Signature]</i>	1/3/17	TOB for Ryan Fayewicz (e-mail)	1/23/17	
14. Matt Bonanno	SRO / Shift Manager	<i>[Signature]</i>	1/4/17	TOB for Matt Bonanno (e-mail)	1/30/17	
15. JASON KISH	OPS INST / RO	<i>[Signature]</i>	1/5/17	<i>[Signature]</i>	1/27/17	


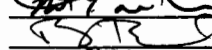
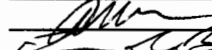
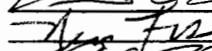
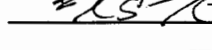
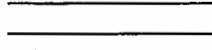
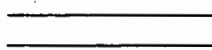
NOTES:

1. Pre-Examination

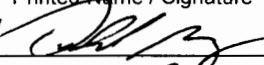
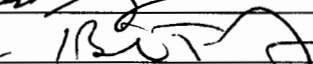
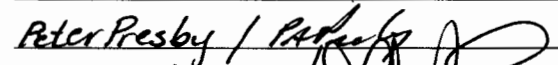
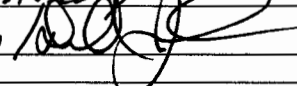
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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. Tony Hightower	EP Manager		1/5/17	for Tony Hightower (e-mail)	1/29/17	
2. Rich Warden	Ops. Engr		1/12/17	for Rich Warden	1/27/17	
3. Ray Bohar	OPS INST		1/17/17	for Ray Bohar	1/27/17	
4. Andrew Yanger	OPS INST		1/17/17	for Andrew Yanger	1/30/17	
5. Terrence Brennan	OPS INST		1/17/17	for Terrence Brennan	1/27/17	
6. Kenneth Fisher	OPS INST		1/17/17	for Kenneth Fisher	1/27/17	
7. Keith Kemper	Training Director		1/17/17	for Keith Kemper (e-mail)	1/30/17	
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

NOTES:

Facility: limerick		Date of Examination: 01/17/17		Operating Test Number: 01	
1. General Criteria			Initials		
			a	b*	c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	TAs	B	MB	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	TAs	B	MB	
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	TAs	B	MB	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	TAs	B	MB	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	TAs	B	MB	
2. Walk-Through Criteria			--	--	--
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> initial conditions initiating cues references and tools, including associated procedures reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee operationally important specific performance criteria that include: <ul style="list-style-type: none"> detailed expected actions with exact criteria and nomenclature system response and other examiner cues statements describing important observations to be made by the applicant criteria for successful completion of the task identification of critical steps and their associated performance standards restrictions on the sequence of steps, if applicable 	TAs	B	MB	
b.	Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	TAs	B	MB	
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.			TAs	B	MB
		Printed Name / Signature		Date	
a.	Author	Todd A Byers / 		1/06/17	
b.	Facility Reviewer(*)	Brian T Devine / 		1-06-17	
c.	NRC Chief Examiner (#)	Peter Presby / 		1-13-17	
d.	NRC Supervisor	DONALD JACKSON / 		1-22-17 13	
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.					

Facility: Limerick		Date of Exam: 01/17/17		Scenario Numbers: 1 / 2 / 3		Operating Test No.: 1	
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.				TPS	B	AS	
2. The scenarios consist mostly of related events.				TPS	B	AS	
3. Each event description consists of <ul style="list-style-type: none"> the point in the scenario when it is to be initiated the malfunction(s) or conditions that are entered to initiate the event the symptoms/cues that will be visible to the crew the expected operator actions (by shift position) the event termination point (if applicable) 				TPS	B	AS	
4. The events are valid with regard to physics and thermodynamics.				TPS	B	AS	
5. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.				TPS	B	AS	
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.				TPS	B	AS	
7. The simulator modeling is not altered.				TPS	B	AS	
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.				TPS	B	AS	
9. Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.				TPS	B	AS	
10. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).				TPS	B	AS	
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.)				TPS	B	AS	
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).				TPS	B	AS	
13. The level of difficulty is appropriate to support licensing decisions for each crew position.				TPS	B	AS	
Target Quantitative Attributes (Per Scenario; See Section D.5.d)				Actual Attributes			
1. Malfunctions after EOP entry (1-2)				2 / 2 / 2	TPS	B	AS
2. Abnormal events (2-4)				4 / 2 / 4	TPS	B	AS
3. Major transients (1-2)				1 / 1 / 1	TPS	B	AS
4. EOPs entered/requiring substantive actions (1-2)				2 / 2 / 2	TPS	B	AS
5. EOP contingencies requiring substantive actions (0-2)				1 / 2 / 1	TPS	B	AS
6. EOP based Critical tasks (2-3)				2 / 4 / 4	TPS	B	AS
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.							

Facility: Limerick			Date of Exam: 01/17/2017										Operating Test No.: 1						
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) 2007E			(2) 5006E			(3) 7016E			(4) 3005 Spare								
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N								
		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						
SRO-I (3)	RX								1						1	1	1	0	
	NOR														0	1	1	1	
	I/C	2,3,4 6,8,9			2,3,4 5				2,4,6 7						14	4	4	2	
	MAJ	7			6				5						3	2	2	1	
	TS	2,4,5			1,3										5	0	2	2	
RO (2)	RX								1						1	1	1	0	
	NOR						1								1	1	1	1	
	I/C			3,4 5,6 8,9			3,4,7 8		2,4,6 7						14	4	4	2	
	MAJ			7			6		5						3	2	2	1	
	TS														0	0	2	2	
RO (5)	RX					3									1	1	1	0	
	NOR														0	1	1	1	
	I/C					2,5				1,2,3 7,8					7	4	4	2	
	MAJ					6				5					2	2	2	1	
	TS														0	0	2	2	
RO (4)	RX					3									1	1	1	0	
	NOR														0	1	1	1	
	I/C			3,4 5,6 8,9		2,5				1,2,3 7,8					13	4	4	2	
	MAJ			7		6				5					3	2	2	1	
	TS														0	0	2	2	

Instructions:

- Check the applicant level and enter the operating 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.
- 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.
- 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.
- 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 position to best evaluate the SRO-I in manipulating plant controls.

Facility: Limerick			Date of Exam: 01/17/2017			Operating Test No.: 1												
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) 2007E			(2) 5006E			(3) 7016E			(4) 3005 Spare							
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N							
		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	
RO (3)	RX		1,3												2	1	1	0
	NOR						1								1	1	1	1
	I/C		2,4				3,4,7 8			1,2,3 7,8					11	4	4	2
	MAJ		7				6			5					3	2	2	1
	TS														0	0	2	2
RO (1)	RX								1						1	1	1	0
	NOR						1								1	1	1	1
	I/C			3,4 5,6 8,9			3,4,7 8			2,4,6 7					14	4	4	2
	MAJ			7			6			5					3	2	2	1
	TS														0	0	2	2

Instructions:

- Check the applicant level and enter the operating 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.
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- 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.
- 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 position to best evaluate the SRO-I in manipulating plant controls.

Facility: Limerick			Date of Exam: 01/17/2017			Operating Test No.: 1												
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) 2007E			(2) 5006E			(3) 7016E			(4) 3005 Spare							
		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
SRO-U (1)	RX														0	1	1	0
	NOR														0	1	1	1
	I/C	2,3,4 6,8,9													6	4	4	2
	MAJ	7													1	2	2	1
	TS	2,4,5													3	0	2	2
SRO-I (1)	RX		1,3												2	1	1	0
	NOR														0	1	1	1
	I/C		2,4		2,3,4 5			1,2,4 7							10	4	4	2
	MAJ		7		6			5							3	2	2	1
	TS				1,3			1,4							4	0	2	2
SRO-I (4)	RX		1,3												2	1	1	0
	NOR														0	1	1	1
	I/C		2,4		2,3,4 5			1,2,4 7							10	4	4	2
	MAJ		7		6			5							3	2	2	1
	TS				1,3			1,4							4	0	2	2
SRO-I (2)	RX					3									1	1	1	0
	NOR														0	1	1	1
	I/C	2,3,4 6,8,9				2,5		1,2,4 7							12	4	4	2
	MAJ	7				6		5							3	2	2	1
	TS	2,4,5						1,4							5	0	2	2

Instructions:

- Check the applicant level and enter the operating 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.
- 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.
- 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.
- 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 position to best evaluate the SRO-I in manipulating plant controls.

Facility: Limerick		Date of Examination: 01/17/17								Operating Test No.: 1							
Competencies	APPLICANTS																
	SRO-U				SRO-I #1				SRO-I #2				SRO-I #3				
	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	2-9				1-4 6,7	2-8	1-8		2-9	2-6 8	1-8		2-9	2-8	2-7		
Comply With and Use Procedures (1)	2-4 6-8				1-4 6,7	1-8	1-8		2-4 6-8	1-6	1-8		2-4 6-8	1-8	2-7		
Operate Control Boards (2)	n/a				1-4 6,7	n/a	n/a		n/a	1-6	n/a		n/a	n/a	2 4-7		
Communicate and Interact	1-9				1-4 6,7	1-8	1-8		1-9	1-7	1-8		1-9	1-8	1-7		
Demonstrate Supervisory Ability (3)	1-9					1-8	1-8		1-9		1-8		1-9	1-8			
Comply With and Use Tech. Specs. (3)	2,4, 5					1,3	1,4		2,4, 5		1, 4		2, 4, 5	1, 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: Limerick		Date of Examination: 01/17/17				Operating Test No.: 1										
Competencies	APPLICANTS															
	SRO-I #4				RO #1				RO #2				RO #3			
	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	1-4 6,7	2-8	1-8		2-9	3-8	2-7		2-9	3-8	2-7		1-4 6,7	3-8	1-3 5,7,8	
Comply With and Use Procedures (1)	1-4 6,7	1-8	1-8		3-9	1-8	2-7		3-9	1-8	2-7		1-4 6,7	1-8	1-3 5,7,8	
Operate Control Boards (2)	1-4 6,7	n/a	n/a		3-9	3-8	2-4-7		3-9	3-8	2-4-7		1-4 6,7	3-8	1-3 5,7,8	
Communicate and Interact	1-4 6,7	1-8	1-8		1-9	1-8	1-7		1-9	1-8	1-7		1-4 6,7	1-8	1-8	
Demonstrate Supervisory Ability (3)		1-8	1-8													
Comply With and Use Tech. Specs. (3)		1,3	1,4													
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: Limerick		Date of Examination: 01/17/17				Operating Test No.: 1										
Competencies	APPLICANTS															
	RO #4				RO #5											
	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	2-9	2-6 8	1-3 5,7, 8			2-6 8	1-3 5,7, 8									
Comply With and Use Procedures (1)	3-9	1-6	1-3 5,7, 8			1-6	1-3 5,7, 8									
Operate Control Boards (2)	3-9	1-6	1-3 5,7, 8			1-6	1-3 5,7, 8									
Communicate and Interact	1-9	1-7	1-8			1-7	1-8									
Demonstrate Supervisory Ability (3)																
Comply With and Use Tech. Specs. (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: Limerick		Date of Exam: 01/27/17 Exam Level: RO X SRO X		
Item Description	Initials			
	a	b	c	
1. Clean answer sheets copied before grading	MS	B	MP RO	
2. Answer key changes and question deletions justified and documented	MS	B	MP RO	
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	MS	B	MP RO	
4. Grading for all borderline cases (80 \pm 2% overall and 70 or 80, as applicable, \pm 4% on the SRO-only) reviewed in detail	MS	B	MP RO	
5. All other failing examinations checked to ensure that grades are justified	MS	B	MP RO	
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	MS	B	MP RO	
Printed Name/Signature		Date		
a. Grader	<u>ROBERT FORST</u> <i>Robert Forst</i>	<u>1/31/17</u>		
b. Facility Reviewer(*)	<u>Brian Devine</u> <i>Brian Devine</i>	<u>2-2-17</u>		
2nd check →	<u>MANAN PATEL</u> <i>Manan Patel</i>	<u>2-15-17</u>		
c. NRC Chief Examiner (*)	<u>Peter Presby</u> <i>Peter Presby</i>	<u>2-15-17</u>		
d. NRC Supervisor (*)	<u>Donald Jackson</u> <i>Donald Jackson</i>	<u>2-22-17</u>		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.				