

Facility: LimerickDate of Examination: 10/9/12-10/19/12Developed 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)	JL
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	JL
-120	3. Facility contact briefed on security and other requirements (C.2.c)	JL
-120	4. Corporate notification letter sent (C.2.d)	JL
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 3)]	JL
{-75}	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's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	JL
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	JL
{-45}	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, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	JL
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	JL
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	JL
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	JL
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	JL
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	JL
-7	14. 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)	JL
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	JL
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	JL

* 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: Limerick		Date of Examination: 10/9/12-10/19/12		
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.	YMP	N/A	91
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	YMP	N/A	91
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	YMP	N/A	91
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	YMP	N/A	91
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.	YMP	N/A	91
	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.	YMP	N/A	91
	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.	YMP	N/A	91
3. W / T	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.	YMP	N/A	91
	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	YMP	N/A	91
	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.	YMP	N/A	91
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.	YMP	N/A	91
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	YMP	N/A	91
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	YMP	N/A	91
	d. Check for duplication and overlap among exam sections.	YMP	N/A	91
	e. Check the entire exam for balance of coverage.	YMP	N/A	91
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	YMP	N/A	91
a. Author J. DeMarshall/ <i>J. DeMarshall</i>		Print Name/Signature M. Patel/ <i>M. Patel</i> C. Lally/ <i>C. Lally</i>		Date 10/4/12
b. Facility Reviewer (*)		N/A		
c. NRC Chief Examiner (#)		J. Caruso/ <i>J. Caruso</i>		10/4/12
d. NRC Supervisor		D. Jackson/ <i>D. Jackson</i>		10/4/12
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 10/8-19/12 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 10/8-10/19/12. 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. <u>Wesley Henning</u>	<u>RO</u>	<u>[Signature]</u>	<u>8/7/12</u>	<u>Wesley Henning</u>	<u>10-25-12</u>	<u>see email</u>
2. <u>DAVID PROCOPIO</u>	<u>RO</u>	<u>[Signature]</u>	<u>8/12/12</u>	<u>[Signature]</u>	<u>10-24-12</u>	
3. <u>Joseph Fesemmyer</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8-7-12</u>	<u>Joe Fesemmyer</u>	<u>10-24-12</u>	<u>see email</u>
4. <u>Brian Dwyer</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8-8-12</u>	<u>[Signature]</u>	<u>10-23-12</u>	
5. <u>Leonard E. Pierce</u>	<u>Contract Instructor</u>	<u>[Signature]</u>	<u>8/13/12</u>	<u>[Signature]</u>	<u>10/23/12</u>	
6. <u>Mark A. Johnston</u>	<u>RO</u>	<u>[Signature]</u>	<u>8/14/12</u>	<u>Mark Johnston</u>	<u>10/24/12</u>	<u>see email</u>
7. <u>Craig A. Fritz</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8/10/12</u>	<u>Craig Fritz</u>	<u>10/26/12</u>	<u>see email</u>
8. <u>Mark Erim</u>	<u>EP manager</u>	<u>[Signature]</u>	<u>8/14/12</u>	<u>[Signature]</u>	<u>10/25/12</u>	
9. <u>Charles Riggsbee</u>	<u>Simulator Driver</u>	<u>[Signature]</u>	<u>8/23/12</u>	<u>Charlie Riggsbee</u>	<u>10/25/12</u>	<u>see email</u>
10. <u>Robert D. Mandik</u>	<u>SRO</u>	<u>[Signature]</u>	<u>8/30/12</u>	<u>Robert D Mandik</u>	<u>10-23-12</u>	
11. <u>ROBERT RUFFE</u>	<u>OTM</u>	<u>[Signature]</u>	<u>9/5/12</u>	<u>[Signature]</u>	<u>10/24/12</u>	
12. <u>SETH MITTON</u>	<u>SRO</u>	<u>[Signature]</u>	<u>9/11/12</u>	<u>[Signature]</u>	<u>10/31/12</u>	
13. <u>Vince Bowelle</u>	<u>RO</u>	<u>[Signature]</u>	<u>9/11/12</u>	<u>[Signature]</u>	<u>10/23/12</u>	
14. <u>DREW SHAWLEN</u>	<u>RO</u>	<u>[Signature]</u>	<u>9/11/12</u>	<u>Drew B. Shawlen</u>	<u>10/24/12</u>	
15. <u>John P. Kuehl</u>	<u>CONTRACT INST</u>	<u>[Signature]</u>	<u>9/11/12</u>	<u>J. Kuehl</u>	<u>10/23/12</u>	

NOTES:

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2. Post-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
	Lee Stanford	Exam Author	[Signature]	2/4/12	[Signature]	10/23/12	
Note 1	John Koelle	SES Monitor	[Signature]	2/4/12	J. Koelle	3/27/12	
	Jeffrey Klenk	EXAM Co. Author	[Signature]	2/15/12	Jeff Klenk per telecon	10/25/12	
	Scott Messner	Simulator IT	[Signature]	3/21/12	Scott Messner	10/25/12	
	EDWARD G. CARTER	ACTING SIMULATOR COORDINATOR	[Signature]	03/21/12	Ed Carter per telecon	10/26/12	
	DARREN R. WEAVER	Simulator IT	[Signature]	03/21/12	Darren R. Weaver	10/24/12	
	Kevin Korch	ITC	[Signature]	3/21/12	Kevin Korch	10/26/12	
	FRED J. BRUNS	OTPS	[Signature]	3/22/12	Fred Bruns per email	10/25/12	
	John Weisner	Ops Fcc Rep	[Signature]	3/23/12	[Signature]	10/23/12	
	Todd A Byers	LOE Instructor	[Signature]	5/25/12	[Signature]	10/24/12	
	Daniel W. Kahan	LOE Instructor	[Signature]	6/1/12	Daniel W. Kahan	10/24/12	
	Rachel Smolinsky	clerk	[Signature]	10/31/12	Rachel Smolinsky	10/24/12	
	VINCE HYDRO	SIMULATOR COORDINATOR	[Signature]	10/31/12	Vince Hydro	10/24/12	
	SAMUEL M. WITZEL	SIMULATOR COORDINATOR	[Signature]	10/31/12	Samuel M. Witzel	10/24/12	
	Craig A. Hoffman	Reactor Engineering Manager	[Signature]	7/31/12	Craig Hoffman	10/24/12	

NOTES:

Note 1: John Koelle was removed from Exam Security on 3/27/12 due to his involvement with developing scenario guides. He was not exposed to any I&T NRC Exam material LSS 3-27-12

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. Bill Sokso	OPS SRO / Supervisor	<i>Bill Sokso</i>	9/14/12	Bill Sokso per email	10-25-12	
2. John Harkins	Ops SRO / Supervisor	<i>John Harkins</i>	9/18/12	John Harkins per email	10-25-12	
3. Dave Warner	OPS RO	<i>Dave Warner</i>	9-19-12	<i>Dave Warner</i>	10-23-12	
4. Robert C. Brown	EDP Program Manager	<i>Robert C. Brown</i>	9/27/12	Robert C. Brown	10/24/12	
5. SD Williamson	OPS RO	<i>SD Williamson</i>	9-28-12	<i>SD Williamson</i>	10-25-12	
6. M.R. Gormish	OPS SRO	<i>M.R. Gormish</i>	9/28/12	Mike Gormish email	10-25-12	
7. Jeff Weaver	OPS SRO	<i>Jeff Weaver</i>	9/28/12	Jeff Weaver per email	10-25-12	
8. Rick Centrella	OPS CLR WRITER	<i>Rick Centrella</i>	10-24-12	Rick Centrella per email	10-25-12	
9. Michael Gillin	Shift Operations Superintendent	<i>Michael Gillin</i>	10/3/12	Mike Gillin per email	10-26-12	
10. William H. Martin	OPS SRO	<i>William H. Martin</i>	10/4/12	William H. Martin	10/23/12	
11. CHARLIE TIPALLA	OPS INST	<i>Charlie Tipalla</i>	10/11/12	Charlie Tipalla	10/30/12	
12. Kate	10-26-12					
13.						
14.						
15.						

NOTES:

Facility: Limerick		Date of Examination: 10/09/12		Operating Test Number: 1	
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).	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
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 	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
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.	<i>[Signature]</i>	N/A	<i>[Signature]</i>	
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.			<i>[Signature]</i>	N/A	<i>[Signature]</i>
Printed Name / Signature			Date		
a.	Author	J.DeMarshall / <i>[Signature]</i> M.Patel / <i>[Signature]</i> C.Lally / <i>[Signature]</i>	9/27/12		
b.	Facility Reviewer(*)	N/A	N/A		
c.	NRC Chief Examiner (#)	J. Caruso / <i>[Signature]</i>	9/27/12		
d.	NRC Supervisor	D. Jackson / <i>[Signature]</i>	9/28/12		
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: 10/09/12		Scenario Numbers: 1 / 2 / 4		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.			MPP/AD	N/A	JA	
2.	The scenarios consist mostly of related events.			MPP/AD	N/A	JA	
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) 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) 			MPP/AD	N/A	JA	
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			MPP/AD	N/A	JA	
5.	The events are valid with regard to physics and thermodynamics.			MPP/AD	N/A	JA	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			MPP/AD	N/A	JA	
7.	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.			MPP/AD	N/A	JA	
8.	The simulator modeling is not altered.			MPP/AD	N/A	JA	
9.	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.			MPP/AD	N/A	JA	
10.	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.			MPP/AD	N/A	JA	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			MPP/AD	N/A	JA	
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).			MPP/AD	N/A	JA	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.			MPP/AD	N/A	JA	
Target Quantitative Attributes (Per Scenario; See Section D.5.d)				Actual Attributes			
1.	Total malfunctions (5–8)			7 / 8 / 8	MPP/AD	N/A	
2.	Malfunctions after EOP entry (1–2)			2 / 1 / 1	MPP/AD	N/A	
3.	Abnormal events (2–4)			2 / 5 / 3	MPP/AD	N/A	
4.	Major transients (1–2)			1 / 2 / 1	MPP/AD	N/A	
5.	EOPs entered/requiring substantive actions (1–2)			2 / 1 / 2	MPP/AD	N/A	
6.	EOP contingencies requiring substantive actions (0–2)			1 / 2 / 1	MPP/AD	N/A	
7.	Critical tasks (2–3)			3 / 2 / 2	MPP/AD	N/A	

Facility: Limerick			Date of Exam: 10/9/12-10/12/12									Operating Test No.: 1					
A P P L I C A N T	E V E N T T Y P E	Scenarios															
		1			2			3			4			T O T A L	M I N I M U M (*)		
		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
RO 1 <input checked="" type="checkbox"/>	RX			0		1							0	1	1	1	0
SRO-I <input type="checkbox"/>	NOR			0		0							0	0	1	1	1
SRO-U <input type="checkbox"/>	I/C			4		2							3	9	4	4	2
	MAJ			1		2							1	4	2	2	1
	TS			0		0							0	0	0	2	2
RO 2 <input checked="" type="checkbox"/>	RX			0								1		1	1	1	0
SRO-I <input type="checkbox"/>	NOR			0								0		0	1	1	1
SRO-U <input type="checkbox"/>	I/C			4								3		7	4	4	2
	MAJ			1								1		2	2	2	1
	TS			0								0		0	0	2	2
RO 3 <input checked="" type="checkbox"/>	RX			0			0					1		1	1	1	0
SRO-I <input type="checkbox"/>	NOR			0			0					0		0	1	1	1
SRO-U <input type="checkbox"/>	I/C			4			3					3		10	4	4	2
	MAJ			1			2					1		4	2	2	1
	TS			0			0					0		0	0	2	2
RO 4 <input checked="" type="checkbox"/>	RX					1							0	1	1	1	0
SRO-I <input type="checkbox"/>	NOR					0							0	0	1	1	1
SRO-U <input type="checkbox"/>	I/C					2							3	5	4	4	2
	MAJ					2							1	3	2	2	1
	TS					0							0	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 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 Instant SRO *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 1-for-1 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.

Facility: Limerick			Date of Exam: 10/9/12-10/12/12									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			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
RO <input type="checkbox"/>	RX	1					0					1		2	1	1	0
SRO-I <input type="checkbox"/>	NOR	0					0					0			1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C	6					3					3		12	4	4	2
<input type="checkbox"/>	MAJ	1					2					1		4	2	2	1
	TS	2					0					0		2	0	2	2
RO <input type="checkbox"/>	RX	1				1							0	2	1	1	0
SRO-I <input checked="" type="checkbox"/>	NOR	0				0							0	0	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C	6				2							3	11	4	4	2
<input type="checkbox"/>	MAJ	1				2							1	4	2	2	1
	TS	2				0							0	2	0	2	2
RO <input type="checkbox"/>	RX		1		1							1		3	1	1	0
SRO-I <input checked="" type="checkbox"/>	NOR		0		0							0		0	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C		4		5							6		15	4	4	2
<input type="checkbox"/>	MAJ		1		2							1		4	2	2	1
	TS		0		3							3		6	0	2	2
RO <input type="checkbox"/>	RX		1		1							1		3	1	1	0
SRO-I <input checked="" type="checkbox"/>	NOR		0		0							0		0	1	1	1
<input checked="" type="checkbox"/> SRO-U	I/C		4		5							6		15	4	4	2
<input type="checkbox"/>	MAJ		1		2							1		4	2	2	1
	TS		0		3							3		6	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 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 Instant SRO *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 1-for-1 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.

Facility: Limerick			Date of Exam: 10/9/12-10/12/12									Operating Test No.: 1						
A P P L I C A N T	E V E N T T Y P E	Scenarios																
		1			2			3			4			T O T A L	M I N I M U M (*)			
		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					
RO <input type="checkbox"/>	RX		1				0					1			2	1	1	0
SRO-I <input checked="" type="checkbox"/>	NOR		0				0					0			0	1	1	1
SRO-U <input type="checkbox"/>	I/C		4				3					6			13	4	4	2
	MAJ		1				2					1			4	2	2	1
	TS		0				0					3			3	0	2	2
RO <input type="checkbox"/>	RX				1										1	1	1	0
SRO-I <input type="checkbox"/>	NOR				0										0	1	1	1
SRO-U <input type="checkbox"/>	I/C				5										5	4	4	2
	MAJ				2										2	2	2	1
	TS				3										3	0	2	2
RO <input type="checkbox"/>	RX	1													1	1	1	0
SRO-I <input type="checkbox"/>	NOR	0													0	1	1	1
SRO-U <input checked="" type="checkbox"/>	I/C	6													6	4	4	2
	MAJ	1													1	2	2	1
	TS	2													2	0	2	2
RO <input type="checkbox"/>	RX															1	1	0
SRO-I <input type="checkbox"/>	NOR															1	1	1
SRO-U <input type="checkbox"/>	I/C															4	4	2
	MAJ															2	2	1
	TS															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 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 Instant SRO *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 1-for-1 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.

Facility: Limerick

Date of Examination: 10/9/12-10/12/12

Operating Test No.:

Competencies	APPLICANTS															
	(SRO)				(ATC)				(BOP)							
	RO	SRO-I	SRO-U		RO	SRO-I	SRO-U		RO	SRO-I	SRO-U		RO	SRO-I	SRO-U	
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	4		1	2	4		1	2	4		1	2	4	
Interpret/Diagnose Events and Conditions	2-8	1-8	1-8		1-2, 4-7	1,3-4,6,8	1-2, 5,7-8		3-8	2, 5-8	3-4, 6-7					
Comply With and Use Procedures (1)	1-8	1-8	1-8		1-2, 4-7	1,3-4,6,8	1-2, 5,7-8		3-8	2, 5-8	3-4, 6-7					
Operate Control Boards (2)	N/A	N/A	N/A		1-2, 4-7	1,3-4,6,8	1-2, 5,7-8		3-8	2, 5-8	3-4, 6-7					
Communicate and Interact	1-8	1-8	1-8		1-2, 4-7	1,3-4,6,8	1-2, 5,7-8		3-8	2, 5-8	3-4, 6-7					
Demonstrate Supervisory Ability (3)	1-8	1-8	1-8		N/A	N/A	N/A		N/A	N/A	N/A					
Comply With and Use Tech. Specs. (3)	2,5	1,4,5	1,2,6		N/A	N/A	N/A		N/A	N/A	N/A					

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.

Facility: Limerick		Date of Exam: 10/9/12-10/19/12		Exam Level: RO <input type="checkbox"/> SRO <input type="checkbox"/>		
Item Description				Initial		
				a	b*	c#
1. Questions and answers are technically accurate and applicable to the facility.				RM	N/A	JH
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.				RM	N/A	DL
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401				RM	N/A	JA
4. The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).				RM	N/A	JA
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input checked="" type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)				RM	N/A	JA
6. Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank	Modified	New	RM	N/A	JA
	14/5	25/8	36/12			
7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory	C/A		RM	N/A	JA
	36/5	39/20				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.				RM	N/A	JA
9. Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				RM	N/A	JA
10. Question psychometric quality and format meet the guidelines in ES Appendix B.				RM	N/A	JA
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.				RM	N/A	JA
a. Author <u>J. DeMarshall/</u> b. Facility Reviewer (*) <u>M. Patel/</u> c. NRC Chief Examiner (#) <u>J. Caruso/</u> d. NRC Regional Supervisor <u>D. Jackson/</u>				Printed Name / Signature Date 10/4/12 10/4/12 10/4/12		
Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.						

Facility: <u>Limerick</u>		Date of Exam: <u>10/19/12</u>		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	<u>/</u>	<u>@</u>	<u>H</u>		
2. Answer key changes and question deletions justified and documented	<u>NA</u>	<u>N/A</u>	<u>N/A</u>		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<u>/</u>	<u>@</u>	<u>H</u>		
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	<u>/</u>	<u>@</u>	<u>H</u>		
5. All other failing examinations checked to ensure that grades are justified	<u>/</u>	<u>@</u>	<u>H</u>		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	<u>/</u>	<u>@</u>	<u>H</u>		
Printed Name/Signature		Date			
a. Grader	<u>Leland Starford</u>		<u>10-24-12</u>		
b. Facility Reviewer(*)	<u>Curt Walton</u>		<u>10/24/12</u>		
c. NRC Chief Examiner (*)	<u>Todd C. Corso</u>		<u>11/12/12</u>		
d. NRC Supervisor (*)	<u>Donald Jackson</u>		<u>11/14/12</u>		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					