

Facility:	<u>Vogtle</u>	<u>2009-301</u>	Date of Examination:	<u>6/1-12/2009</u>
Examinations Developed by:		Facility		
		Written / Operating Test		
Target Date*	Task Description (Reference)		Chief Examiner's Initials	
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)		t L	
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)		t L	
-120	3. Facility contact briefed on security and other requirements (C.2.c)		t L	
-120	4. Corporate notification letter sent (C.2.d)		t L	
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]		t L	
{-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)		t L	
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}		t L	
{-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 reference materials due (C.1.e, f, g and h; C.3.d)		t L	
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)		t L	
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)		t L	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)		t L	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)		t L	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)		t L	
-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 4; ES-202, C.2.e; ES-204)		t L	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)		t L	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)		t L	
<p>* 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.</p> <p>[Applies only] {Does not apply} to examinations prepared by the NRC.</p>				

Final

Facility: VOGTLE		Date of Examination: 6-1-2009		
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.	N/A	N/A	N/A ⁶⁷
	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.	↓	↓	↓
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	↓	↓	↓
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	↓	↓	↓
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.	TNT	R	EL
	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.	TNT	R	EL
	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.	TNT	R	EL
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.	TNT	R	EL
	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	TNT	R	EL
	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.	TNT	R	EL
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.	TNT	R	EL
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	TNT	R	EL
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	TNT	R	EL
	d. Check for duplication and overlap among exam sections.	TNT	R	EL
	e. Check the entire exam for balance of coverage.	TNT	R	EL
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	TNT	R	EL
a. Author	T. N. Thompson/ <i>T. N. Thompson</i>	Printed Name/Signature <i>TNT</i>		Date 5-20-09
b. Facility Reviewer (*)	D. Scukanec/ <i>D. Scukanec</i>			5-20-09
c. NRC Chief Examiner (#)	Edwin Lee, Jr. / <i>Edwin Lee, Jr.</i>			5/27/09
d. NRC Supervisor	Michael T. Veldman / <i>Michael T. Veldman</i>			6/1/09
Note:	# Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines			

Final

Facility: Vogtle		Date of Examination: 06-26-2009		
Item	Task Description	Initials		
		a	b*	c#
W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	N/A	N/A	EL
	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.	N/A	N/A	EL
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	N/A	N/A	EL
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	EW	EL	EL
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.	N/A	N/A	N/A
	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.	N/A	N/A	
	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.	N/A	N/A	
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.	N/A	N/A	
	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	N/A	N/A	
	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.	N/A	N/A	
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.	EW	EL	EL
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	EW	EL	EL
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	EW	EL	EL
	d. Check for duplication and overlap among exam sections.	EW	EL	EL
	e. Check the entire exam for balance of coverage.	EW	EL	EL
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	EW	EL	EL
a. Author	T. N. Thompson/ <i>T. N. Thompson</i>	Date		
b. Facility Reviewer (*)	D. Scukanec/ <i>D. Scukanec</i>	6-19-09		
c. NRC Chief Examiner (#)	Edwin Lee, Jr. / <i>Edwin Lee, Jr.</i>	6/23/09		
d. NRC Supervisor	Malcolm T. Williams / <i>Malcolm T. Williams</i>	06/24/09		
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 6/1/2009 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 6/1/2009. 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. Thad N. Thompson	Operations Instructor	<i>Thad N. Thompson</i>	1-28-09	<i>Thad N. Thompson</i>	6-26-09	
2. Daniel Scukanec	Sr. Operations Instructor	<i>D. Scukanec</i>	1-28-09	<i>D. Scukanec</i>	6-26-09	
3. Malvin A. Gibson	Simulator Coordinator	Malvin A. Gibson	2-24-09	Malvin A. Gibson	6-26-09	
4. Mitchell Youmans	Simulator Engineer	Mitchell Youmans	2-25-09	Mitchell Youmans	6-26-09	
5. John Randolph	Simulator Engineer	<i>John Randolph</i>	2/25/09	<i>John Randolph</i>	6/30/09	
6. Robert J. Brown	TRAINING MANAGER	<i>Robert J. Brown</i>	3/10/09	<i>Robert J. Brown</i>	6/29/09	
7. Thomas RUSSELL	OPS SS / 2nd shift	<i>Thomas Russell</i>	3/30/09	<i>Thomas Russell</i>	6-29-09	
8. Richard E. Williams	OPS NPO / 2nd shift	<i>Richard E. Williams</i>	3/30/09	<i>Richard E. Williams</i>	7-8-09	
9. Sterling L. Whitman	OPS NPO / 2nd shift	<i>Sterling L. Whitman</i>	3-30-09	<i>Sterling L. Whitman</i>	7-8-09	
10. Curt Rabun	OPS NPO / 2nd shift	<i>Curt Rabun</i>	3-30-09	<i>Curt Rabun</i>	7-8-09	
11. Jeff Todd	OPS Shift Manager	<i>Jeff Todd</i>	4/1/09	<i>Jeff Todd</i>	7-8-09	
12. VICTOR D. MALLEN	OPS NPO / 2nd shift	VICTOR D. MALLEN	4-1-09	VICTOR D. MALLEN	7-8-09	
13. RICHARD O. BRIDGON	Nuclear Ops Training SUPERVISOR	<i>R. O. Bridgon</i>	4/8/09	<i>R. O. Bridgon</i>	6-26-2009	
14. R. STEVEN WHITE	OPS INSTRUCTOR	<i>R. Steven White</i>	5/29/09	<i>R. Steven White</i>	6/26/09	
15. M.C. McDaniel	Admin. Assist.	<i>Mary Catherine McDaniel</i>	6/1/09	<i>Mary C. McDaniel</i>	6/29/09	

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 6/1/2009 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 6/1/2009. 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.	MICHAEL G. BRILL	SHIFT SUPERVISOR	<i>[Signature]</i>	5/11/09	<i>[Signature]</i>	6/29/09	
2.	BRUCE A. BAILEY	NPO	<i>[Signature]</i>	5-11-09	<i>[Signature]</i>	7-8-2009	
3.	William H. Shuman	NPO	<i>[Signature]</i>	5-11-09	<i>[Signature]</i>	6-29-09	
4.	James A. ...	OPS TRAINING COORDINATOR	<i>[Signature]</i>	5-11-09	<i>[Signature]</i>	6/29/09	
5.	AL SWAN	Shift Supervisor	<i>[Signature]</i>	6-1-09	<i>[Signature]</i>	6-29-09	
6.	W.R. DUND	SHIFT MANAGER	<i>[Signature]</i>	6/1/09	<i>[Signature]</i>	6/29/09	
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 6-1-09 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 6-1-09. 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>Tony Scott</u>	<u>Nuc. Ops. Instr. / Exam Sup.</u>	<u>[Signature]</u>	<u>6-21-09</u>	<u>[Signature]</u>	<u>6-26-09</u>
2.	<u>Curtis Talley</u>	<u>Nuc Ops Instr R / Exam Sup</u>	<u>[Signature]</u>	<u>6-4-09</u>	<u>[Signature]</u>	<u>6-26-09</u>
3.	<u>Kenneth Jenkins</u>	<u>Nuc. Ops. Instructor / Exam Sup.</u>	<u>[Signature]</u>	<u>6-8-09</u>	<u>[Signature]</u>	<u>6-29-09</u>
4.	<u>Joseph C. Craine</u>	<u>SSS C&T</u>	<u>[Signature]</u>	<u>6/18/09</u>	<u>[Signature]</u>	<u>6-29-09</u>
5.	<u>Aubrey C. Jenkins</u>	<u>NPO / Nuc ops</u>	<u>[Signature]</u>	<u>6/18/09</u>	<u>[Signature]</u>	<u>6-29-09</u>
6.						
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NOTES:

Facility: Vogtle		Date of Examination: 6-1-2009		Operating Test Number: 2009-301		
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).			TNT	af	ed
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			TNT	af	ed
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)			TNT	af	ed
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.			TNT	af	ed
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			TNT	af	ed
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 			TNT	af	ed
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.			TNT	af	ed
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.				TNT	af	ed
		Printed Name / Signature		Date		
a.	Author	Thad N. Thompson / <i>Thad N. Thompson</i>	TNT #	5-20-09		
b.	Facility Reviewer(*)	Daniel Scukanec / <i>Daniel Scukanec</i>		5-20-09		
c.	NRC Chief Examiner (#)	Edwin Lee, Jr. / <i>Edwin Lee, Jr.</i>		5/27/2009		
d.	NRC Supervisor	Mark A. Williams / <i>Mark A. Williams</i>		05/22/09		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.						

Facility: Vogtle Date of Exam: 6-1-2009 Scenario Numbers: 1 / 2 / 3 Operating Test No.: 2009-301				
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
2.	The scenarios consist mostly of related events.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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) 	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
5.	The events are valid with regard to physics and thermodynamics.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
8.	The simulator modeling is not altered.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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).	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		
1.	Total malfunctions (5-8)	10 / 9 / 8		<i>[initials]</i>
2.	Malfunctions after EOP entry (1-2)	4 / 5 / 3		<i>[initials]</i>
3.	Abnormal events (2-4)	5 / 3 / 3		<i>[initials]</i>
4.	Major transients (1-2)	1 / 1 / 2		<i>[initials]</i>
5.	EOPs entered/requiring substantive actions (1-2)	2 / 3 / 2		<i>[initials]</i>
6.	EOP contingencies requiring substantive actions (0-2)	0 / 2 / 0		<i>[initials]</i>
7.	Critical tasks (2-3)	3 / 6 / 4		<i>[initials]</i>

Facility: Vogtle Date of Exam: 6-1-2009 Scenario Numbers: 4 / / Operating Test No.: 2009-301		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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
2.	The scenarios consist mostly of related events.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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) 	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
5.	The events are valid with regard to physics and thermodynamics.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
8.	The simulator modeling is not altered.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
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).	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		
1.	Total malfunctions (5-8)	9 / /		<i>[initials]</i>
2.	Malfunctions after EOP entry (1-2)	5 / /		<i>[initials]</i>
3.	Abnormal events (2-4)	4 / /		<i>[initials]</i>
4.	Major transients (1-2)	2 / /		<i>[initials]</i>
5.	EOPs entered/requiring substantive actions (1-2)	2 / /		<i>[initials]</i>
6.	EOP contingencies requiring substantive actions (0-2)	0 / /		<i>[initials]</i>
7.	Critical tasks (2-3)	2 / /		<i>[initials]</i>

ES-301-4 Simulator Scenario Quality Checklist FINAL

Facility: Vogtle Date of Exam: 6-1-2009 Scenario Numbers: 4 / / Operating Test No.: 2009-301				
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.	[initials]	[initials]	61
2.	The scenarios consist mostly of related events.	[initials]	[initials]	62
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) 	[initials]	[initials]	61
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.	[initials]	[initials]	62
5.	The events are valid with regard to physics and thermodynamics.	[initials]	[initials]	61
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	[initials]	[initials]	61
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.	[initials]	[initials]	61
8.	The simulator modeling is not altered.	[initials]	[initials]	61
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.	[initials]	[initials]	61
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.	[initials]	[initials]	61
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	[initials]	[initials]	62
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).	[initials]	[initials]	62
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	[initials]	[initials]	62
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		
1.	Total malfunctions (5-8)	9 / /	[initials]	[initials]
2.	Malfunctions after EOP entry (1-2)	5 / /	[initials]	[initials]
3.	Abnormal events (2-4)	4 / /	[initials]	[initials]
4.	Major transients (1-2)	2 / /	[initials]	[initials]
5.	EOPs entered/requiring substantive actions (1-2)	2 / /	[initials]	[initials]
6.	EOP contingencies requiring substantive actions (0-2)	0 / /	[initials]	[initials]
7.	Critical tasks (2-3)	2 / /	[initials]	[initials]

ES-301-4 Simulator Scenario Quality Checklist *FINAL*

Facility: Vogtle		Date of Exam: 6-1-2009		Scenario Numbers: 1 / 2 / 3		Operating Test No.: 2009-301		
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.	TNT	af	67				
2.	The scenarios consist mostly of related events.	TNT	af	67				
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) 	TNT	af	67				
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.	TNT	af	67				
5.	The events are valid with regard to physics and thermodynamics.	TNT	af	67				
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	TNT	af	67				
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.	TNT	af	67				
8.	The simulator modeling is not altered.	TNT	af	67				
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.	TNT	af	67				
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.	TNT	af	67				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	TNT	af	67				
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).	TNT	af	67				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	TNT	af	67				
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes						
1.	Total malfunctions (5-8)	10 / 9 / 8	TNT	af	67			
2.	Malfunctions after EOP entry (1-2)	4 / 5 / 3	TNT	af	67			
3.	Abnormal events (2-4)	5 / 3 / 3	TNT	af	67			
4.	Major transients (1-2)	1 / 1 / 2	TNT	af	67			
5.	EOPs entered/requiring substantive actions (1-2)	2 / 3 / 2	TNT	af	67			
6.	EOP contingencies requiring substantive actions (0-2)	0 / 2 / 0	TNT	af	67			
7.	Critical tasks (2-3)	3 / 6 / 4	TNT	af	67			

ES-301-5

Transient and Event Checklist *FINAL*

Facility: Vogtle Nuclear Plant Date of Exam: June 1-5, 2009 Operating Test No.: 2009-301

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				R	I	U
		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 x SRO-U x	RX	5			2			2			4			4	1	1	0
	NOR	2						1						2	1	1	1
	I/C	1 3 4 5 7 8 9			1 3 4 6 7 8 9			3 4 5 7			1 2 3 7 8			23	4	4	2
	MAJ	6			5			6 7			5 6			6	2	2	1
	TS	1 3 4 5			2 3			3 4 5			1 3			11	0	2	2
RO x SRO-I x	RX		5			2			2			4		4	1	1	0
	NOR		2											1	1	1	1
	I/C		1 4 8			1 3 7 8			4 7			1 3 7 8		13	4	4	2
	MAJ		6			5			6 7			5 6		6	2	2	1
	TS													0	0	2	2
RO x SRO-I x	RX			5			2			2			4	4	1	1	0
	NOR									1				1	1	1	1
	I/C			1 3 7 9			4 6 9			3 5			2 7	11	4	4	2
	MAJ			6			5			6 7			5 6	6	2	2	1
	TS													0	0	2	2

Instructions:

1. 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.
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 1-for-1 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.

Facility: Vogtle	Date of Examination: 6-1-2009								Operating Test No.: 2009-301			
Competencies	APPLICANTS											
	RO X				SRO-I X				SRO-U X			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	12	12	12	12	12	12	12	12	123	12	12	12
	34	34	34	34	34	34	34	34	456	34	34	34
	56	56	56	56	56	56	56	56	789	56	56	56
	78	78	7	78	78	78	7	78		78	7	78
	9	9			9	9				9		
Comply With and Use Procedures (1)	12	12	12	12	12	12	12	12	123	12	12	12
	34	34	34	34	34	34	34	34	456	34	34	34
	56	56	56	56	56	56	56	56	789	56	56	56
	78	78	7	78	78	78	7	78		78	7	78
	9	9			9	9				9		
Operate Control Boards (2)	12	12	12	12								
	34	34	34	34								
	56	56	56	56								
	78	78	7	78								
	9	9										
Communicate and Interact	12	12	12	12	12	12	12	12	123	12	12	12
	34	34	34	34	34	34	34	34	456	34	34	34
	56	56	56	56	56	56	56	56	789	56	56	56
	78	78	7	78	78	78	7	78		78	7	78
	9	9			9	9				9		
Demonstrate Supervisory Ability (3)					12	12	12	12	123	12	12	12
					34	34	34	34	456	34	34	34
					56	56	56	56	789	56	56	56
					78	78	7	78		78	7	78
					9	9				9		
Comply With and Use Tech. Specs. (3)					12	12	12	12	123	12	12	12
					34	34	34	34	456	34	34	34
					56	56	56	56	789	56	56	56
					78	78	7	78		78	7	78
					9	9				9		

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: Vogtle		Date of Exam: 6-26-2009		Exam Level: RO X SRO X			
Item Description				Initial			
				a	b*	c#	
1.	Questions and answers are technically accurate and applicable to the facility.			TNT	df	tL	
2.	a.	NRC K/As are referenced for all questions.			TNT	df	tL
	b.	Facility learning objectives are referenced as available.			TNT	df	tL
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401			TNT	df	tL	
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).					tL	
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 type="checkbox"/> the examinations were developed independently; or <input checked="" type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)			TNT	df	tL	
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	TNT	df	tL
		11 / 2	10 / 1	54 / 22			
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	TNT	df	tL
		33 / 2		42 / 23			
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.			TNT	df	tL	
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.			TNT	df	tL	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.			TNT	df	tL	
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.			TNT	df	tL	
		Printed Name/ Signature				Date	
a.	Author	Thad N. Thompson / <i>Thad N. Thompson</i>				6-19-09	
b.	Facility Reviewer (*)	Daniel Scukanec / <i>D. Scukanec</i>				6-19-09	
c.	NRC Chief Examiner (#)	Edwin Lee, Jr. / <i>Edwin Lee, Jr.</i>				6/23/09	
d.	NRC Regional Supervisor	Malcolm T. Wideman / <i>Malcolm T. Wideman</i>				06/24/09	
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.					

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			

Instructions
[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
 - The answer choices are a collection of unrelated true/false statements.
 - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
 - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
 - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
 - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
1	H			X		X							X	N	U	Supporting documentation provided in package is incomplete. Underlining and bolding in stem provides cue. Charging line flow fluctuating between 30 and 130 gpm will not result in charging line HI/LO FLOW alarm. Based on the information given, explain what would cause the VCT HI/LOW LEVEL alarm? Based on the information provided, explain why one would conclude there was a loss of letdown flow. If that conclusion can not be reached based on information given, then distractors C and D are not plausible.. It also appears that this question can be answered based on RO knowledge alone. Not SRO. REVISED -- MODIFIED STEM AND DISTRACTORS (OK)
2	H	1			X									N	U S	Based on the information provided, this question appears to be a collection of true false statements. The questions can be answered with general knowledge. Based on note associated with TS and procedures concerning PORV operation. It is also general knowledge, that when a piece of TS equipment is not operable, proceeding to a higher mode is not allowable. Very low level of difficult. SRO only. --- CONVENCED US THAT THIS WAS AN SRO QUESTION AND WAS ACCEPTABLE. NOT A U. (OK AS WRITTEN)
3													X	N	U	The question can be answered with RO only knowledge. Determining that an ATWS exist is passed on system knowledge and the LCO entered is based on the applicants understanding of what LCO must be entered when an ATWS occurs. This is RO knowledge. CHANGED STEM AND DISTRACTORS (OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
4														N	S	MADE A CHANGE TO THE STEM AND DISTRACTORS (OK)
5	H													N	S	MADE CHANGES TO THE DISTRACTORS (OK)
6														M	S	DID REWORD STEM (Ok)
7													X	N	U	Not SRO only. Question can be answered with system only knowledge REWORDED THE STEM AND DISTRACTORS (OK)
8	H	2				X								E	E	May be two correct answers. Both B & D. REWORDED DISTRACTORS TOOK OUT RETURN TO LEVEL. UNDERSTANDING LCO REQUIREMENT ASSURES K/A MATCH (OK)
9	F	1											X	N	U	LOD. Simple Memory. Which one describes the.... Not SRO only WROTE A NEW QUESTION (OK)
10	H	2											X	N	U	Question can be answered using RO knowledge only WROTE NEW QUESTIONS (OK)
11	H	3												N	S	ADDED WORDS TO THE DISTRACTOR (OK)
12	H	3												N	S	REWORDED DISTRACTORS AFTER REVIEWING QUESTION. (OK)
13		2												N	S	(OK)
14	H	2											X	N	U	Not SRO only. Question can be answered with RO/systems knowledge. For the given conditions when should feed and bleed be terminated? I would think that the RO would know that SG level must be restored before terminating. NEW QUESTION (OK)
15	H	3												N	S	REWORDED THE STEM (OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
16	H	2											X	N	U	Question can be answered with system knowledge only. What actions should be taken if a loss of CV is occurring? Reduce power. How is this achieved? What should be observed while reducing power and what actions are required to keep ROD BANK LO-LO LIMIT alarm clear? What was the initial power level? WROTE NEW QUESTION (OK) JOHN DOES NOT LIKE THE QUESTION, THINKS IT IS BEYOND SRO KNOWLEDGE I DISSAGREE. WE DISCUSSED THIS AGAIN AND CAME TO AN AGREEMENT.
17	F?												X	N	U	Not SRO only. What steps are marked N/A? Could not locate in the procedure where recirculation of ~ 1hour is required prior to sampling. Is this a general knowledge question? I do not see where procedures were used to correct/control..... <u>CORRECTED INFORMATION IN THE STEM. QUESTION SHOULD NOT HAVE BEEN UNSAT. IT IS THE SRO RESPONSIBILITY TO REVIEW/APPROVE RELEASE PERMITS. (OK)</u>
18	H												X	N	U	Not SRO only. Can be answered with system knowledge and knowledge of expected actions after a component/equipment problem has been identified. WROTE NEW QUESTION (OK)
19	F	2												N	<u>S?</u>	Need to make sure there are not two correct (B & D) answers. Reference procedure was not provided. REMOVED PART OF THE DISTRACTORS. CRAIG WANTED TOO.... HAD TO CHANGE QUESTION BACK TO INCLUDE WHAT CRAIG SUGGESTED DID NOT WORK. QUESTION IS OK

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
20	H	2				X								N	S	(OK)
21	H	2												N	S	(OK)
22	F	2				X								N	E	Consider changing distractors such that a higher value is give for one of the other limits identified in the emergency exposure guideline ADDED INFORMATION TO THE STEM AND ORGNIZED DISTRACTOR (OK)
23	F													N	S	ADDED WORDS TO THE STEM (OK)
24			X										X		U	The stem of the question provides part of the note. The answer provides the rest. Memory question. Are RO not responsible for the notes/cautions? REWORDED QUESTIION (OK)
25	H	2			X								X	N	U	Not SRO only. As written the question only requires RO knowledge to answer. Although the question was used on a Wolf Creek exam, the way it was modified made it RO only. As written the question appears to be a T/F type question.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
 - The answer choices are a collection of unrelated true/false statements.
 - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
 - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
 - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
 - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- Based on the reviewer’s judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any “U” ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
1	F	2													S	(OK)
2	H	4													S?	Is this an RO question? LICENSEE SAID IT WAS SRO. WE REMOVED #s FROM DISTRACTORS (OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A			
3	H	2				X								U	Possible two correct answers (B & C). Identify the failures that a multiplexing failure could result in (failures within the rod control system) EXPLAINED WHY THERE WERE NOT TWO CORRECT ANSWERS (QUESTION IS OK)
4	F	2											M/B	S	MADE MINOR CHANGES (OK)
5	H	3											N	S	CHANGED 32 TO 35 MINOR CHANGEES (OK)
6		3											N	S	(OK)
7	F	2											M		(OK)
8	H	3											N	S	(OK)
9	H	1											N	S?	Added clarity to stem and identified testing on A RT Breakers. Changed distracter wording. SATLOD
10		2											B	S	(OK)
11													N	S	(OK)
12	H	3		X		X							M/B	U	Based on the information given, I do not consider A & B plausible. You also give a reason in two distractors (cue). What is "indicating properly?" If the applicant concludes indication properly based on conditions, there could be two correct answers. Question replaced with Farley 2003 question. SAT
13	H	1												S	(OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
14	H														S	(OK)
15	F	2													S	(OK)
16	H	2													S	(OK)
17	H					X									S	Distractor C does not appear to be plausible. Both CCPs have a common suction. Not possible to have trains alignment for suctions sources. Evaluated drawings, procedures and determined distractors are minimally acceptable. SAT
18	F														S	(OK)
19		2													S	(OK)
20		2											N	S	(OK)	
21	H	2/3													S	(OK)
22	H	2											N	S	(OK)	
23	F												N	S	(OK)	
24	H		X												E	Rearrange information in the stem (order of events – unit shut down.....) Stem rearranged SAT
25	F					X									S/?	Please provide documentation where you discuss simi-auto swapover of RHR References provided – SAT

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
26	F	1											X			U	K/A asked for a reason. Asking for a reason might increase LOD Question replaced and edited – LOD 2 SAT
27	F		X										X		M	U	K/A failed to address operational implications. Stem gives the reason why. Discussed operational implications – reason why is in stem but is not required to be tested by KA.
28	H	2														S	(OK)
29	H	2	X				X								N	U	If CNTM is in service for respirable air quality control, would one expect any dampers to be closed? How could a system operate properly with one set of dampers closed? Added containment pressure to stem to increase plausibility of distractors. System normally operated with only exhaust open. SAT
30	F						X									U	Given the fact that you have a power supply failure for a detector, why would you not enter a procedure to repair/correct the problem? Distractors B & D are not plausible Question altered to include core alterations. SAT

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
31	F	1				X									U/E	LOD. May be able to reword stem/distractors. Discussed makeup water requirements (normal vs requirement to use borated water).
32	H	3													S	(OK)
33	F												N	U/?	Please explain the plausibility of distractors C & D. Unable to locate information in reference material Replaced distractors C&D with basis for ARV's.	
34	F	1				X									U	LOD. I do not see the plausibility of A & C. Are there any scenarios which would allow rod withdrawal would be done with out the permission of the SS? Replaced second half of distractor with emergency boration termination criteria.
35	F	2													S/?	Need to review additional information on excessive hydrogen production. Plausible due to hydrogen production during charging but not a concern during discharging.
36	H	2													S	(OK)
37	H	3													S	(OK)
38	H	3													S	CHANGED WORDING IN STEM AND DISTRACTORS (OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
39	H													N	S	(OK)
40	H													M/B		Sat – Higher order - level systems knowledge
41	H		X			X									E	<p>Why do we need the alarm information in the stem. Consider stating “all systems functioned as designed following the trip...”We would not expect the RO to identify TS</p> <p>Alarm indicates where in the UOP the shift is and is required to correctly answer question.</p> <p>TS has been removed</p>
42	H					X								N	E	<p>Explain the plausibility of A & B. I do not know/nor could I locate an cases where power is required to be produced by 100 MW increments.</p> <p>MW reference removed – distractors modified to enhance clarity</p>
43	?	1	X			X						X			U	<p>LOD. K/A ask for knowledge of reason. This question failed to address the K/A. Possible two answers as written. Do not see in the procedure where it is required to verify NSCW discharge valves are closed.</p> <p>Valve closure is a required interlock.</p> <p>Reason for valve closure added to distractor.</p>
44	F	2												B	S	(OK)
45	H	2												N	S	(OK)
46	H	1												N	S?	LOD MODIFITED QUESTION. (OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
47	H	2												N	S	(OK)
48	H	2												N	S?	What are Hagen controllers? REMOVED CONTROLLER NAME – ADDED AUTO MANUAL CONTROLLER (OK)
49	F					X								N	U/E	There could be two correct answers. Look at requirement identified in ODCM . CHANGED STEM AND DISTRACTORS. (OK)
50	F					X									OK/S	???? need additional information on the detector . Need more information to determine the plausibility of distractors B & D. DECIDED TO USE ORIGINAL QUESTION. PROVED THAT DISTRACTORS WERE OK BASED ON DESIGN OF MONITORS. (OK)
51	H	3				X									U/E	For the conditions given why would one expect to perform a rapid power reduction? If this is true, A & C would not be plausible. WROTE NEW QUESTION. (OK)
52	H	3												M	S	(OK)
53	F	2				X								N	U	Rad Chem Lab monitors are disable. Two implausible distractors.. WROTE NEW QUESTION. (OK)
54	F													N	S	(OK)
55	H	2													S	(OK)
56	H														S	(OK)
57	F														S	(OK)
58	H	2													S	(OK)

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
59	F	½	X			X								N	E	Consider rewording the stem/distractors to have the applicant identify the window. It appears that as written the applicant only need to choose from two correct answers (A & B) WROTR NEW QUESTION (OK)
60	F	1													S	LOD (OK)
61	F	1													S	LOD (OK)
62	F	1				X									E	LOD Distractor A is not plausible. Review def of local control. Appears acceptable for in-plant JPM.. <u>ACCEPTED QUESTION AS WRITTEN. (OK) NOT A U MINOR CHANGES</u>
63	F	1				X								B	U	LOD. Implausible distractors A & B. WROTE NEW QUESTION
64	H	2													S	(OK)
65	H	3													S	(OK)
66	F	X				X									U	Where are the preaccess filter units. Distractors do not appear to be plausible. CHANGED <u>STEM.AND DISTRACTORS (OK) QUESTION SHOULD NOT HAVE BEEN A U</u>
67	H	2													S	(OK)
68	H	1				X									U	As written the question has a very LOD. Two distractors are implausible . Inadequate supporting documentation and wording in distractors. <u>PROVIDED JUSTIFICATION AS THE WHY THE QUESTION IS ACCEPTABLE (OK) NOT A U</u>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
69	H	2													??	Is this an RO question? AGREED THAT IT WAS NOT AN RO QUESTION. <u>SELECT A DIFFERENT K/A AND WRITE A NEW QUESTION</u>
70	H	1													S	(OK)
71	F	2													S	(OK)
72	H		X			X								B/M	E/S	Based on the information/lack of information there may be two correct answers. The level in the other SGs are not provided. Take a look at the procedure and answer questions concerning SGs levels and work through procedure. Prove that there are not two correct answers. REWROTE QUESTION (OK)..
73	F	2				X									E	Based on the question asked, distractor D is not plausible. What dose higher priority of ORANGE vs RED have to do with the question asked? Check to see if this is similar to an SRO question. WROTE NEW QUESTION.
74	H	2													S	(OK)
75	F	1	X			X									E	LOD. More information could be provided in the stem. Ask the applicant to identify the procedure to be used and the bases for using the procedure. ACCEPTED QUESTION AS IS (OK)

Green Unsat.

Red – Should not have been identified as Unsat.

Question that had to be replaced that were Identified as E or had a ?

ES-403 Written Examination Grading Quality Checklist Form ES-403-1

Facility: Vogtle		Date of Exam: 06/26/09		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	TNT	df	MJR ts		
2. Answer key changes and question deletions justified and documented	TNT	df	MJR ts		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	TNT	df	MJR ts		
4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	TNT	df	MJR ts		
5. All other failing examinations checked to ensure that grades are justified	N/A	N/A	N/A N/A		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	TNT	df	MJR ts		
Printed Name/Signature		Date			
a. Grader	Thad N. Thompson / <i>Thad N Thompson</i> TNT		6-26-09		
b. Facility Reviewer(*)	D. SCUKANEC / <i>D. Scukanec</i>		6-26-09		
c. NRC Chief Examiner (*)	M. Koles / <i>Edwin Lee, Jr.</i>		7-15-09 7/17/2009		
d. NRC Supervisor (*)	MARGARET W. WILLIAMS / <i>Margaret Williams</i>		07/23/09		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					