

Administrative Documents
SEQUOYAH RETAKE EXAM
50-327 & 50-328/2003-301

FEBRUARY 27, 2003

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2. ✓✓ Exam Outline Quality Checklist ES-201-2
3. ✓✓ Exam Security Agreement ES-201-3
4. ✓ Administrative Topics Outline (Final) ES-301-1
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(Final) ES-301-2~~
6. ✓ Operating Test Quality Check Sheet ES-301-3
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Facility: <u>SEQUOYAH</u>		Date of Examination: <u>2/27/03</u>
Examinations Developed by: Facility / NRC (circle one)		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	LRM
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	LRM
-120	3. Facility contact briefed on security & other requirements (C.2.c)	LRM
-120	4. Corporate notification letter sent (C.2.d)	LRM
[-90]	[5. Reference material due (C.1.e; C.3.c)]	LRM
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	LRM
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	LRM
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	LRM
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	LRM
-14	10. Final license applications due and assignment sheet prepared (C.1.i; C.2.g; ES-202)	LRM
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	LRM
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	LRM
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	LRM
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	LRM
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	LRM
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	LRM
<p>* Target dates 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 to examinations prepared by the NRC.</p>		

Facility: <u>SEQUOIAH</u>		Date of Examination: <u>2/27/03</u>		
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 per ES-401.	N/A	N/A	N/A
	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	N/A
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	N/A	N/A	N/A
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	N/A	N/A	N/A
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	SP	PK	LN
	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; ensure 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 scenarios will not be repeated over successive days.	SP	PK	LN
	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.	SP	PK	LN
3. W / T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	N/A	N/A	N/A
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	N/A	N/A	N/A
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	SP	PK	LN
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	N/A	N/A	N/A
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 section.	SP	PK	LN
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	SP	PK	LN
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.			LN
	d. Check for duplication and overlap among exam sections.	N/A	N/A	N/A
	e. Check the entire exam for balance of coverage.	SP	PK	LN
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	SP	PK	LN
a. Author <u>Gregory S. Poteet / Gregory S. Poteet</u>		Printed Name / Signature		Date <u>2/3/03</u>
b. Facility Reviewer (*) <u>James P. Keasney / James P. Keasney</u>				<u>2/3/03</u>
c. NRC Chief Examiner (#) <u>George R. Miller / George R. Miller</u>				<u>2/20/03</u>
d. NRC Supervisor <u>George T. Hopper / George T. Hopper</u>				<u>2/01/03</u>
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.				

Examination Security Agreement

ES-201

1. Pre-Examination
 I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of Feb. 24, 2003 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. 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 Feb. 24, 2003. 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. Gregory S. Forest	Exam Developer / Facility Contact	<i>Gregory S. Forest</i>	1-22-03	<i>Gregory S. Forest</i>	2/27/03
2. James E. Keasney	Exam Developer	<i>James E. Keasney</i>	1/28/03	<i>James E. Keasney</i>	3/3/03
3. JACK L. EPPERSON	OPS	<i>Jack L. Epperson</i>	1/28/03	<i>Jack L. Epperson</i>	2/27/03
4. MARK K. WILSON	OPS	<i>Mark K. Wilson</i>	2/26/03	<i>Mark K. Wilson</i>	2/27/03
5. ANTHONY L. TINSLEY	OPS	<i>Anthony L. Tinsley</i>	2/26/03	<i>Anthony L. Tinsley</i>	2/27/03
6. NORMAN GOOD	STAFF	<i>Norman Good</i>	2/26/03	<i>Norman Good</i>	2/27/03
7. MICHAEL BERCHER	Sim Software Engr	<i>Michael Bercher</i>	2/26/03	<i>Michael Bercher</i>	2/27/03
8. JAMES D. KNIGHT	DSIS ENGINEER	<i>James D. Knight</i>	2/26/03	<i>James D. Knight</i>	2/27/03
9. DAVID HUIBRAND	DSIS Engineer	<i>David Huibrand</i>	2/26/03	<i>David Huibrand</i>	2/27/03
10. Jerry L. Judd	DSIS Engineer	<i>Jerry L. Judd</i>	2/26/03	<i>Jerry L. Judd</i>	2/27/03
11. George Sanders	Sim Booth Engr / Communicator	<i>George Sanders</i>	2/27/03	<i>George Sanders</i>	2/27/03
12. Michael Wilson Reese	Sim Booth Engr / Communicator	<i>Michael Wilson Reese</i>	2/27/03	<i>Michael Wilson Reese</i>	2/27/03
13.					
14.					
15.					

NOTES:

Facility: <u>Sequoyah</u>		Date of Examination: <u>2/27/2003</u>
Examination Level (circle one): RO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Conduct Of Operations	JPM # 161-2 - Calculate Subcooling Margin (Neither SPDS nor Subcooling Margin Monitors are available.) (New) (Perform in Simulator)
	Plant Parameter Verification	JPM # 017 - Determine if SI Termination Criteria is Met (Perform in Simulator)
A.2	Equipment Control	JPM # 022, Calibrate Power Range NI (Perform in Simulator)
A.3	Radiation Control	JPM # 165-2 - Perform a Shielding Calculation. (New)
A.4	Emergency Plan	JPM # 157 - Monitor Status Trees, Pressurized Thermal Shock (Perform in Simulator)

Facility: <u>Sequoiah</u>	Date of Examination: <u>2/27/03</u>	Operating Test Number: <u>1</u>	
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).	sl	MK	LM
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.	sl	MK	LM
c. The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).	sl	MK	LM
d. Overlap with the written examination and between operating test categories is within acceptable limits.	N/A	N/A	LM
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	sl	MK	LM
2. WALK-THROUGH (CATEGORY A & B) 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 • 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 	sl sl sl sl sl	MK MK MK MK MK	LM LM LM LM LM
b. The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	N/A	N/A	N/A
c. Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity.	N/A	N/A	N/A
d. At least 20 percent of the JPMs on each test are new or significantly modified.	N/A	MK	N/A
3. SIMULATOR (CATEGORY C) CRITERIA			
	-	-	-
a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	sl	MK	LM
Printed Name / Signature		Date	
a. Author	<u>Gregory S. Poreet / Gregory S. Poreet</u>	<u>2/3/03</u>	
b. Facility Reviewer(*)	<u>James P. Kearney / James P. Kearney</u>	<u>2/3/03</u>	
c. NRC Chief Examiner (#)	<u>Lee R. Miller / Lee R. Miller</u>	<u>2/20/03</u>	
d. NRC Supervisor	<u>George T. Hopper / George T. Hopper</u>	<u>2/21/03</u>	
<p>NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.</p>			

Facility: <u>Sequoyah</u>		Date of Exam: <u>2/27/03</u>		Scenario Numbers: <u>11 1</u>		Operating Test No.: <u>1</u>			
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.	SP	PK	LM					
2.	The scenarios consist mostly of related events.	SP	PK	LM					
3.	Each event description consists of . 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)	SP	PK	LM					
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.	SP	PK	LM					
5.	The events are valid with regard to physics and thermodynamics.	SP	PK	LM					
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	SP	PK	LM					
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.	SP	PK	LM					
8.	The simulator modeling is not altered.	SP	PK	LM					
9.	The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	SP	PK	LM					
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.4 of ES-301.	SP	PK	LM					
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	SP	PK	LM					
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).	SP	PK	LM					
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	SP	PK	LM					
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)		Actual Attributes		--	--	--	--		
1.	Total malfunctions (5-8)	5	1 1	SP	PK	LM			
2.	Malfunctions after EOP entry (1-2)	2	1 1	SP	PK	LM			
3.	Abnormal events (2-4)	2	1 1	SP	PK	LM			
4.	Major transients (1-2)	1	1 1	SP	PK	LM			
5.	EOPs entered/requiring substantive actions (1-2)	2	1 1	SP	PK	LM			
6.	EOP contingencies requiring substantive actions (0-2)	2	FR's 1	SP	PK	LM			
7.	Critical tasks (2-3)	3	1 1	SP	PK	LM			

SEQUOYAN

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument / Component	2				
	Major	1				
SRO-I As SRO	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				
SRO-U	Reactivity	0	N/A			
	Normal	1	①			
	Instrument / Component	2	② ③			
	Major	1	④			

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
 - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
 - (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 requirement.

Author:

Gregory S. Poteet / Gregory S. Poteet

NRC Reviewer:

Lee R. Miller / Lee R. Miller

Competencies	Applicant #1 RO/SRO-I/SRO-U				Applicant #2 RO/SRO-I/SRO-U				Applicant #3 RO/SRO-I/SRO-U			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	2 ³ 4											
Diagnose Events and Conditions	2 ³ 4											
Understand Plant and System Response	1 ³ 2 ⁴											
Comply With and Use Procedures (1)	1 ³ 2 ⁴											
Operate Control Boards (2)	N/A											
Communicate and Interact With the Crew	1 ³ 2 ⁴											
Demonstrate Supervisory Ability (3)	3 ⁴ 1 ²											
Comply With and Use Tech. Specs. (3)	2 ³											
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.												

Instructions:

Circle the applicant's license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: Gregory S. Poteet / Gregory S. Poteet

NRC Reviewer: Lee R. Miller / Lee R. Miller

ES-201

Examination Outline
Quality Checklist

Form ES-201-2

Facility: SEQUOYAH		DRAFT		Date of Examination: 2/27/03		
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 per ES-401.	N/A	N/A	N/A		
	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	N/A		
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	N/A	N/A	N/A		
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	N/A	N/A	N/A		
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	SP	ML	LM		
	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; ensure 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 scenarios will not be repeated over successive days.	SP	ML	LM		
	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.	SP	ML	LM		
3. W I T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3) no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	N/A	N/A	N/A		
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	N/A	N/A	N/A		
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	SP	ML	LM		
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	N/A	N/A	N/A		
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 section.	SP	ML	LM		
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	SP	ML	LM		
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.					
	d. Check for duplication and overlap among exam sections.	N/A	N/A	N/A		
	e. Check the entire exam for balance of coverage.	SP	ML	LM		
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	SP	ML	LM		
a. Author		Gregory S. Poteat / <i>Gregory S. Poteat</i>		Date	2/27/03	
b. Facility Reviewer (*)		James P. Reasney / <i>James P. Reasney</i>			2/27/03	
c. NRC Chief Examiner (#)		LEE R. MILLER / <i>Lee R. Miller</i>			2/27/03	
d. NRC Supervisor		MICHAEL E. EDNITEL / <i>Michael E. Ednitel</i>			2/27/03	
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.						

ES-301 Operating Test Quality Checklist Form ES-301-3

Facility: <u>Sequoyah</u>		DRAFT		Date of Examination: <u>2/27/03</u>	Operating Test Number: <u>1</u>	
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).			sf	MLC	CM
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			sf	MLC	CM
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).			sf	MLC	CM
d.	Overlap with the written examination and between operating test categories is within acceptable limits.			N/A	N/A	N/A
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			sf	MLC	CM
2. WALK-THROUGH (CATEGORY A & B) 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 • 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 			sf	MLC	CM
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.			N/A	N/A	N/A
c.	Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity.			N/A	N/A	N/A
d.	At least 20 percent of the JPMs on each test are new or significantly modified.			N/A	MLC	CM
3. SIMULATOR (CATEGORY C) CRITERIA				--	--	--
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.			sf	MLC	CM
				Printed Name / Signature		Date
a.	Author	<u>Gregory S. Poteet / Gregory S. Poteet</u>				<u>2/5/03</u>
b.	Facility Reviewer(*)	<u>James P. Kearney / James P. Kearney</u>				<u>2/3/03</u>
c.	NRC Chief Examiner (#)	<u>Lee R. Miller / Lee R. Miller</u>				<u>2/3/03</u>
d.	NRC Supervisor	<u>MICHAEL E. ERNSTE / Michael E. Ernste</u>				<u>2/3/03</u>
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer Initial items in Column "c;" chief examiner concurrence required.						

ES-301 Simulator Scenario Quality Checklist Form ES-301-4

Facility: <u>Sequoyah DRAFT</u> Date of Exam: <u>2/27/03</u> Scenario Numbers: <u>11</u> Operating Test No.: <u>1</u>			
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.	sh	gjk	LM
2. The scenarios consist mostly of related events.	sh	gjk	LM
3. Each event description consists of . 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)	sh	gjk	LM
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.	sh	gjk	LM
5. The events are valid with regard to physics and thermodynamics.	sh	gjk	LM
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	sh	gjk	LM
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.	sh	gjk	LM
8. The simulator modeling is not altered.	sh	gjk	LM
9. The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	sh	gjk	LM
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.4 of ES-301.	sh	gjk	LM
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	sh	gjk	LM
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).	sh	gjk	LM
13. The level of difficulty is appropriate to support licensing decisions for each crew position.	sh	gjk	LM
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes		
1. Total malfunctions (5-8)	5	1	1
2. Malfunctions after EOP entry (1-2)	2	1	1
3. Abnormal events (2-4)	2	1	1
4. Major transients (1-2)	1	1	1
5. EOPs entered/requiring substantive actions (1-2)	2	1	1
6. EOP contingencies requiring substantive actions (0-2)	2	FR's	1
7. Critical tasks (2-3)	3	1	1

SEQUOYAH DRAFT

ES-301

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument / Component	2				
	Major	1				
SRO-I	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				
SRO-U	Reactivity	0				
	Normal	1	①			
	Instrument / Component	2	② ③			
	Major	1	④			

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
 - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
 - (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 requirement.

Author:

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NRC Reviewer:

LEE R. MILLER / Ken R. Miller

SEQUOYAH DRAFT

ES-301

Competencies Checklist

Form ES-301-6

Competencies	Applicant #1 RO/SRO-I/SRO-U				Applicant #2 RO/SRO-I/SRO-U				Applicant #3 RO/SRO I/SRO-U			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	2 3 4											
Diagnose Events and Conditions	2 3 4											
Understand Plant and System Response	1 2 3 4											
Comply With and Use Procedures (1)	1 2 3 4											
Operate Control Boards (2)												
Communicate and Interact With the Crew	1 2 3 4											
Demonstrate Supervisory Ability (3)	1 2 3 4											
Comply With and Use Tech. Specs. (3)	2 3											

Notes:

(1) Includes Technical Specification compliance for an RO
 (2) Optional for an SRO-U.
 (3) Only applicable to SROs.

Instructions:

Circle the applicant's license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: Gregory S. Poteet / Gregory S. Poteet

NRC Reviewer: Lee R. Miller / Lee Miller

Task Description	Date Complete
1. Facility written exam comments or graded exams received and <i>verified complete</i>	N/A
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	N/A
3. <i>Operating tests graded by NRC examiners</i>	N/A
4. NRC Chief examiner review of written exam and operating test grading completed	3/3/03
5. Responsible supervisor review completed	3/4/03
6. Management (licensing official) review completed	3/7/03
7. License and denial letters mailed	
8. Facility notified of results	3/7/03
9. Examination report issued (refer to NRC MC 0610)	3/7/03
10. Reference material returned after final resolution of any appeals	N/A