

## Administrative Documents

### **BROWNS FERRY EXAM 2002-301 50-259, 50-260, & 50-296**

**DECEMBER 13, 16-19, 2002**

- ✓1. Exam Preparation Checklist ..... ES-201-1 ✓
- ✓2. Exam Outline Quality Checklist ..... ES-201-2 ✓
- ✓3. Exam Security Agreement ..... ES-201-3
- ✓4. Administrative Topics Outline (Final) ..... ES-301-1 ✓
- ✓5. Control Room Systems and Facility Walk-through Test Outline  
(Final) ..... ES-301-2 ✓
- ✓6. Operating Test Quality Check Sheet ..... ES-301-3 ✓
- ✓7. Simulator Scenario Quality Check Sheet ..... ES-301-4 ✓
- ✓8. Transient and Event Checklist ..... ES-301-5 ✓
- ✓9. Competencies Checklist ..... ES-301-6 ✓
- ✓10. Written Exam Quality Check Sheet ..... ES-401-7 ✓
- ✓11. Written Exam Review Worksheet ..... ES-401-9 N/A
- ✓12. Written Exam Grading Quality Checklist ..... ES-403-1 ✓
- ✓13. Post-Exam Check Sheet ..... ES-501-1 ✓

Facility: <u>BROWNS FERRY NUCLEAR PLANT</u>		Date of Examination: <u>12/13-20/02</u>
Examinations Developed by: <u>Facility(Operating Test) / NRC(Written Test)</u>		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	
-120	3. Facility contact briefed on security & other requirements (C.2.c)	
-120	4. Corporate notification letter sent (C.2.d)	
[-90]	[5. Reference material due (C.1.e; C.3.c)]	
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	
-14	10. Final license applications due and assignment sheet prepared (C.1.i; C.2.g; ES-202)	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	
<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>		

*DRAFT WRITTEN ONLY* Quality Checklist

Facility: Browns Ferry Nuclear Plant		Date of Examination: December 13-20, 2002		
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.	<i>ru</i>		<i>6/2</i>
	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.	<i>ru</i>		<i>6/2</i>
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	<i>ru</i>		<i>6/2</i>
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	<i>ru</i>		<i>6/2</i>
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.			
	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.			
	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.			
3. W /	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.			
	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.			
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.			
	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.			
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.	<i>ru</i>		<i>6/2</i>
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	<i>ru</i>		<i>6/2</i>
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	<i>ru</i>		<i>6/2</i>
	d. Check for duplication and overlap among exam sections.	<i>ru</i>		<i>6/2</i>
	e. Check the entire exam for balance of coverage.	<i>ru</i>		<i>6/2</i>
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	<i>ru</i>		<i>6/2</i>
a. Author		Printed Name / Signature Timothy Kolb/ <i>Timothy Kolb</i>		Date 10-30-02
b. Facility Reviewer (*)				
c. NRC Chief Examiner (#)		Edwin Leal/ <i>Edwin Leal</i>		10/31/02
d. NRC Supervisor		Michael E. Ernestes/ <i>Michael E. Ernestes</i>		10/30/02
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

Draft scenarios only

ES-201

Examination Outline  
Quality Checklist

Form ES-201-2 (R8,ST)

Facility:		Date of Examination: 12/16/02		
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.			
	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	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.	Rkm	RK	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; 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.	Rkm	RK	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.	Rkm	RK	
3. W /	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.	Rkm	RK	EL
	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.	Rkm	RK	EL
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	Rkm	RK	EL
	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.	Rkm	RK	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 section.	Rkm	RK	EL
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	Rkm	RK	EL
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	Rkm	RK	EL
	d. Check for duplication and overlap among exam sections.	Rkm	RK	EL
	e. Check the entire exam for balance of coverage.	Rkm	RK	EL
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	Rkm	RK	EL
a. Author b. Facility Reviewer (*) c. NRC Chief Examiner (#) d. NRC Supervisor		Printed Name / Signature ROBERT H. McDOWELL EDWARD LEE MIKE GRANTES / [Signature]		Date 11/2/02 11/2/02 11/14/02 11/14/02
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

Facility: Browns Ferry Nuclear Plant		Date of Examination: December 13-20, 2002		
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.	mc		6L
	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.	mc		6L
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	mc		6L
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	mc		6L
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.			
	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.			
	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.			
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.			
	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.			
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.			
	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.			
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.	mc		6L
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	mc		6L
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	mc		6L
	d. Check for duplication and overlap among exam sections.	mc		6L
	e. Check the entire exam for balance of coverage.	mc		6L
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	mc		6L
a. Author		Printed Name / Signature Timothy Kolb/ <i>Timothy C. Kolb</i>		Date 12-2-02
b. Facility Reviewer (*)		N/A		
c. NRC Chief Examiner (#)		Edwin Lea/ <i>Edwin Lea</i>		12/3/02
d. NRC Supervisor		Michael E. Ernestes/ <i>Michael E. Ernestes</i>		12/3/02
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

Facility:		Date of Examination:		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.			
	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	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.	RHM	RL	GL
	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.	RHM	RL	GL
	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.	RHM	RL	GL
3. W /	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.	RHM	RL	GL
	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.	RHM	RL	GL
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	RHM	RL	GL
	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.	RHM	RL	GL
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.	RHM	RL	GL
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RHM	RL	GL
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RHM	RL	GL
	d. Check for duplication and overlap among exam sections.	RHM	RL	GL
	e. Check the entire exam for balance of coverage.	RHM	RL	GL
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RHM	RL	GL
a. Author		Printed Name / Signature		Date
b. Facility Reviewer (*)		ROBERT H. McDOWELL / RHM McDowell		11/22/02
c. NRC Chief Examiner (#)		TRAVIS E. KNIGHT / TRK		11/22/02
d. NRC Supervisor		Edwin Lee Jr. / Edwin Lee Jr.		12/03/02
		MIKE EGNATES / Mike Egnates		12/12/02
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

ES-201 Examination Security Agreement

Form ES-201-3 (R8, S1)

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 12-13-01 to 12-20-02 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 12-13 to 12-20-02 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. Robert H McDowell	INSTRUCTOR	<i>Robert H McDowell</i>	9/26/02	<i>Robert H McDowell</i>	11/6/03
2. J. Kelly Ranges	INSTRUCTOR	<i>J. Kelly Ranges</i>	9/26/02	<i>J. Kelly Ranges</i>	1-6-03
3. James C Hall	INSTRUCTOR	<i>James C Hall</i>	9/26/02	<i>James C Hall</i>	1-10-03
4. Emory E. Knight	INSTRUCTOR / ENGINEER	<i>Emory E. Knight</i>	10/31/02	<i>Emory E. Knight</i>	1-6-03
5. Van A Miller	ENGINEER	<i>Van A Miller</i>	11/6/02	<i>Van A Miller</i>	1/6/03
6. B W Maye	INSTRUCTOR	<i>B W Maye</i>	11/3/02	<i>B W Maye</i>	01/06/03
7. Joseph B. Bennett	UNIT OPERATOR	<i>Joseph B. Bennett</i>	11/6/02	<i>Joseph B. Bennett</i>	12/9/02
8. Kelly J. White	UNIT OPERATOR	<i>Kelly J. White</i>	11/8/02	<i>Kelly J. White</i>	1/7/03
9. David Higgins	UNIT OPERATOR	<i>David Higgins</i>	11/8/02	<i>David Higgins</i>	1/6/03
10. Patrick J. Arnold	Simulator Services	<i>Patrick J. Arnold</i>	11/20/02	<i>Patrick J. Arnold</i>	1/6/03
11. Frank B. Lewis	INSTRUCTOR	<i>Frank B. Lewis</i>	11/26/02	<i>Frank B. Lewis</i>	01/06/03
12.					
13.					
14.					
15.					

NOTES:

Facility: <u>BFN</u>		Date of Examination: <u>12/16/02</u>
Examination Level (circle one): <u>SRO</u>		Operating Test Number: _____
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Fuel Handling	ADMINISTRATIVE QUESTION A1.1
		ADMINISTRATIVE QUESTION A1.8
	SECURITY	
		JPM A4.2 - RESPOND TO A SECURITY EVENT
A.2	SURVEILLANCE TESTING	
		JPM 120F - 2-SR-3.4.2.1, JET PUMP MISMATCH AND OPERABILITY
A.3	RADIATION CONTROL	A3.10 - REVIEW GASEOUS RELEASE SI
A.4	EPIP	JPM A4.5 - CLASSIFY THE EVENT



Facility: <u>BFN</u>		Date of Examination: <u>12/16/02</u>
Examination Level (circle one): <u>RO</u>		Operating Test Number: _____
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	FUEL HANDLING	ADMINISTRATIVE QUESTION A1.1
		ADMINISTRATIVE QUESTION A1.5
	SECURITY	
		JPM A4.1 RESPOND TO A SECURITY EVENT
A.2	SURVEILLANCE TESTING	
		JPM 120 2-SR-3.4.2.1 JET PUMP MISMATCH AND OPERABILITY
A.3	RADIATION CONTROL	
		JPM A3.12 REVIEW A RADIOLOGICAL SURVEY MAP
A.4	EPIP	ADMINISTRATIVE QUESTION A4.6
		ADMINISTRATIVE QUESTION A4.7

Facility: <u>BFN</u>		Date of Examination: <u>12/16/02</u>
Exam Level (circle one): RO		Operating Test No.: _____
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. CONTAINMENT VENTILATION JPM 51F PRIMARY CONTAINMENT VENTING FROM THE PRESSURE SUPPRESSION CHAMBER THROUGH FCV-84-20	D,A,S	5
b. OFF GAS JPM 116F PLACING STANDBY STEAM JET AIR EJECTOR IN OPERATION	N,S	9
c. RHR JPM 201 LOSS OF SHUTDOWN COOLING	N,L,S,A	4
d. ELECTRICAL JPM 84 ENERGIZE A UNIT ½ 4 KV SD BOARD VIA A UNIT 3 DIESEL GENERATOR	D,S	6
e. RCIC JPM 18F EOI APPENDIX 5C - INJECTION SYSTEM LINEUP - RCIC ✓	D,A,S	2
f. MAIN STEAM JPM 35 2-EOI-APPENDIX 8B REOPENING THE MSIVs FOLLOWING A GROUP 1 ISOLATION	D,S	3
g. CONTROL ROD DRIVE JPM 148F LOSS OF A CRD PUMP	N,A,S	1
B.2 Facility Walk-Through		
a. EOI/RPS JPM 340 3-EOI APPENDIX 16F AND 16G BYPASSING RHR INJECTION VALVE TIMERS	M	5
b. SSI JPM 205 PERFORM 2/3-SSI-16, ATTACHMENT 2, SECTION 2	N	8
c. EOI/SLC JPM 26 2-EOI APPENDIX 7B, ALTERNATE RPV INJECTION SYSTEM LINEUP - SLC TANK	D,R	2
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA		

Facility: _____		Date of Examination: <u>12/16/02</u>	
Exam Level (circle one): <u>SRO(U)</u>		Operating Test No.: _____	
<b>B.1 Control Room Systems</b>			
System / JPM Title		Type Code*	Safety Function
a. RHR <u>JPM-201</u> LOSS OF SHUTDOWN COOLING		N,L,A,S	4
b. PRIMARY CONTAINMENT VENTING <u>JPM-51F</u> 2-EOI APPENDIX 12		D,A,S	5
c. ELECTRICAL JPM 96 PERFORM CONTROL ROOM TRANSFER OF 4KV SHUTDOWN BOARD 'A' POWER SUPPLIES		D,S	6
d.			
e.			
f.			
g.			
<b>B.2 Facility Walk-Through</b>			
a. SSI <u>JPM205</u> PERFORM 2/3-SSI-16, ATTACHMENT 2, SECTION 2		N	8
b. EOI/ALTERNATE INJECTION SOURCE <u>JPM 24</u> 2-EOI APPENDIX 7A ALTERNATE INJECTION SYSTEM - CONDENSATE TRANSFER TO CORE SPRAY		D,R	2
c.			
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA			

*Draft only*

Facility:		Date of Examination:		Operating Test Number:		
<b>1. GENERAL CRITERIA</b>				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).				RM	RM	61
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.				RM	RM	61
c. The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).				RM	RM	61
d. Overlap with the written examination and between operating test categories is within acceptable limits.				RM	RM	61
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.				RM	RM	61
<b>2. WALK-THROUGH (CATEGORY A &amp; B) CRITERIA</b>				-	-	-
a. Each JPM includes the following, as applicable:						
<ul style="list-style-type: none"> <li>• initial conditions</li> <li>• initiating cues</li> <li>• references and tools, including associated procedures</li> <li>• reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee</li> <li>• specific performance criteria that include:               <ul style="list-style-type: none"> <li>- detailed expected actions with exact criteria and nomenclature</li> <li>- system response and other examiner cues</li> <li>- statements describing important observations to be made by the applicant</li> <li>- criteria for successful completion of the task</li> <li>- identification of critical steps and their associated performance standards</li> <li>- restrictions on the sequence of steps, if applicable</li> </ul> </li> </ul>				RM	RM	61
b. The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.				RM	RM	61
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.				RM	RM	61
d. At least 20 percent of the JPMs on each test are new or significantly modified.				RM	RM	61
<b>3. SIMULATOR (CATEGORY C) CRITERIA</b>				-	-	-
a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.				RM	RM	
Printed Name / Signature				Date		
a. Author	ROBERT H. McDOWELL <i>RMH</i>			11/2/02		
b. Facility Reviewer(*)	<i>[Signature]</i>			11/2/02		
c. NRC Chief Examiner (#)	Edwin Lee / <i>[Signature]</i>			11/14/02		
d. NRC Supervisor	MIKE ERNSTER / <i>[Signature]</i>			11/14/02		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c," chief examiner concurrence required.						

FINAL

Facility:		Date of Examination:		Operating Test Number:		
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).			Rtm	RK	EL
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			Rtm	RK	EL
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).			Rtm	RK	EL
d.	Overlap with the written examination and between operating test categories is within acceptable limits.			Rtm	RK	EL
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			Rtm	RK	EL
2. WALK-THROUGH (CATEGORY A & B) CRITERIA				-	-	-
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> <li>initial conditions</li> <li>initiating cues</li> <li>references and tools, including associated procedures</li> <li>reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee</li> <li>specific performance criteria that include: <ul style="list-style-type: none"> <li>detailed expected actions with exact criteria and nomenclature</li> <li>system response and other examiner cues</li> <li>statements describing important observations to be made by the applicant</li> <li>criteria for successful completion of the task</li> <li>identification of critical steps and their associated performance standards</li> <li>restrictions on the sequence of steps, if applicable</li> </ul> </li> </ul>			Rtm	RK	EL
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.			Rtm	RK	EL
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.			Rtm	RK	EL
d.	At least 20 percent of the JPMs on each test are new or significantly modified.			Rtm	RK	EL
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.			Rtm	RK	EL
Printed Name / Signature				Date		
a. Author	ROBERT H McDOWEN JR			11/22/02		
b. Facility Reviewer(*)	RANDY G. KNIGHT			11/22/02		
c. NRC Chief Examiner (#)	EDWIN LEE JR			12/3/02		
d. NRC Supervisor	MIKE ERNST			12/3/02		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c," chief examiner concurrence required.						

FINAL

Facility: <u>TVA-BFNP</u>		Date of Exam: <u>12/17/02</u>		Scenario Numbers: <u>2 / 3 / 4</u>		Operating Test No.:	
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.			Rhm	RK	6/1	
2.	The scenarios consist mostly of related events.			Rhm	RK	6/1	
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)			Rhm	RK	6/2	
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.			Rhm	RK	6/1	
5.	The events are valid with regard to physics and thermodynamics.			Rhm	RK	6/2	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			Rhm	RK	6/2	
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.			Rhm	RK	6/2	
8.	The simulator modeling is not altered.			Rhm	RK	6/2	
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.			Rhm	RK	6/2	
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.			Rhm	RK	6/2	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			Rhm	RK	6/2	
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).			Rhm	RK	6/2	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.			Rhm	RK	6/2	
<b>TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)</b>				Actual Attributes			
1.	Total malfunctions (5-8)	6 1 10 1 7		Rhm	RK	6/2	
2.	Malfunctions after EOP entry (1-2)	2 1 2 1 1		Rhm	RK	6/2	
3.	Abnormal events (2-4)	5 1 3 1 2		Rhm	RK	6/2	
4.	Major transients (1-2)	2 1 2 1 1		Rhm	RK	6/2	
5.	EOPs entered/requiring substantive actions (1-2)	3 1 2 1 2		Rhm	RK	6/2	
6.	EOP contingencies requiring substantive actions (0-2)	1 1 2 1 1		Rhm	RK	6/2	
7.	Critical tasks (2-3)	2 1 3 1 2		Rhm	RK	6/2	

Draft only

ES-301

Simulator Scenario Quality Checklist

Form ES-301-4 (R8, S1)

Facility: <b>TVA - BFN</b>		Date of Exam: <b>12/16/02</b>		Scenario Numbers: <b>1, 2</b>		Operating Test No.:		
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.					Rfm	RL	
2.	The scenarios consist mostly of related events.					Rfm	RL	
3.	Each event description consists of <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>					Rfm	RL	
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.					Rfm	RL	
5.	The events are valid with regard to physics and thermodynamics.					Rfm	RL	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.					Rfm	RL	
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.					Rfm	RL	
8.	The simulator modeling is not altered.					Rfm	RL	
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.					Rfm	RL	
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.					Rfm	RL	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).					Rfm	RL	
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).					Rfm	RL	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.					Rfm	RL	
<b>TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)</b>						Actual Attributes		
1.	Total malfunctions (5-8)					4	1	2
2.	Malfunctions after EOP entry (1-2)					2	1	2
3.	Abnormal events (2-4)					2	1	2
4.	Major transients (1-2)					2	1	1
5.	EOPs entered/requiring substantive actions (1-2)					2	1	1
6.	EOP contingencies requiring substantive actions (0-2)					1	1	1
7.	Critical tasks (2-3)					3	1	2

Draft only

ES-301

Simulator Scenario Quality Checklist

Form ES-301-4 (R8, S1)

Facility: <u>TVA - BFWP</u>		Date of Exam: <u>12/17/02</u>		Scenario Numbers: <u>3, 4, 1</u>		Operating Test No.:	
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.			RH	RL		
2.	The scenarios consist mostly of related events.			RH	RL		
3.	Each event description consists of <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>			RH	RL		
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.			RH	RL		
5.	The events are valid with regard to physics and thermodynamics.			RH	RL		
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			RH	RL		
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.			RH	RL		
8.	The simulator modeling is not altered.			RH	RL		
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.			RH	RL		
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.			RH	RL		
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			RH	RL		
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).			RH	RL		
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.			RH	RL		
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)				Actual Attributes		-	-
1.	Total malfunctions (5-8)			5	1 2 1	RH	RL
2.	Malfunctions after EOP entry (1-2)			2	1 2 1	RH	RL
3.	Abnormal events (2-4)			3	1 2 1	RH	RL
4.	Major transients (1-2)			1	1 2 1	RH	RL
5.	EOPs entered/requiring substantive actions (1-2)			2	1 2 1	RH	RL
6.	EOP contingencies requiring substantive actions (0-2)			1	1 2 1	RH	RL
7.	Critical tasks (2-3)			2	1 3 1	RH	RL



ES-301 Transient and Event Checklist *Final* Form ES-301-5 (R8, S1)

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	*2	*3	*4
RO	Reactivity	1	NA	1	1	1
	Normal	1	NA	1	1	2
	Instrument / Component	4	NA	5	5	5
	Major	1	NA	1	1	2

As RO	Reactivity	1	NA	NA	NA	NA
	Normal	0	NA	NA	NA	NA
	Instrument / Component	2	NA	NA	NA	NA
	Major	1	NA	NA	NA	NA
SRO-I						
As SRO	Reactivity	0	NA	NA	NA	NA
	Normal	1	NA	NA	NA	NA
	Instrument / Component	2	NA	NA	NA	NA
	Major	1	NA	NA	NA	NA

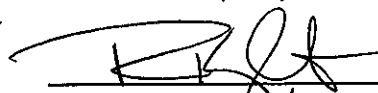
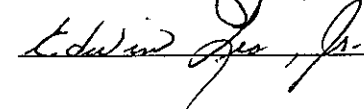
SRO-U	Reactivity	0	NA	1	1	1
	Normal	1	NA	1	1	1
	Instrument / Component	2	NA	5	5	5
	Major	1	NA	1	1	2

- 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.

\* Note: Scenario designated as #3 and # 4 are the primary scenarios for use, scenario designated #2 is the backup for the Browns Ferry Exam 12/02.

Author:

NRC Reviewer:

ES-301 Competencies Checklist  
Form ES-301-6 (R8, S1)

FINAL

Competencies	Applicant #1 SRO-U				B Applicant #2 RO				D Applicant #3 RO			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms		5	6	3		2	2	4		3	4	4
Diagnose Events and Conditions		3	5	5		2	3	5		3	4	4
Understand Plant and System Response		3	6	6		4	4	6		4	5	4
Comply With and Use Procedures (1)		4	4	7		5	6	2		6	1	7
Operate Control Boards (2)		N/A	N/A	N/A		5	6	5		6	5	7
Communicate and Interact With the Crew		5	6	7		3	6	6		6	6	6
Demonstrate Supervisory Ability (3)		4	6	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Comply With and Use Tech. Specs. (3)		2	2	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

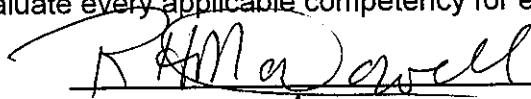
Notes:

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

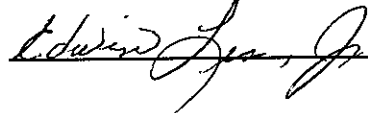
Instructions:

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:



NRC Reviewer:



Facility: Browns Ferry Nuclear Plant		Date of Exam: December 13, 2002		Exam Level: SRO		
Item Description				Initial		
				a	b*	c*
1.	Questions and answers technically accurate and applicable to facility			mm		62
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			mm		62
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401			mm		62
1.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process					
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)			mm		62
6.	Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank	Modified	New	mm	62
		48	7	45		
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory	C/A		mm	62
		44	56			
8.	References/handouts provided do not give away answers			mm		62
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			mm		62
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			mm		62
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet			mm		62
Printed Name / Signature				Date		
a. Author	Timothy Kolb/ <i>Timothy Kolb</i>			10/30/02		
b. Facility Reviewer (*)	N/A					
c. NRC Chief Examiner (#)	Edwin Lea/ <i>Edwin Lea</i>			10/30/02		
d. NRC Regional Supervisor	Michael E. Ernstes/ <i>Mike Ernstes</i>			10/30/02		
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: Browns Ferry Nuclear Plant		Date of Exam: December 13, 2002		Exam Level: RO		
Item Description				Initial		
				a	b*	c*
1. Questions and answers technically accurate and applicable to facility				TM		62
2. a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available				TM		62
3. RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401				TM		62
1. Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process						
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)				TM		62
6. Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right		Bank	Modified	New	TM	62
		41	7	52		
7. Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right		Memory		C/A	TM	62
		47		53		
8. References/handouts provided do not give away answers				TM		62
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				TM		62
10. Question psychometric quality and format meet ES, Appendix B, guidelines				TM		62
11. The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet				TM		62
Printed Name / Signature				Date		
a. Author	Timothy Kolb/ <u>Timothy Kolb</u>			10-30-02		
b. Facility Reviewer (*)	N/A					
c. NRC Chief Examiner (#)	Edwin Lea/ <u>Edwin Lea</u>			10/30/02		
d. NRC Regional Supervisor	Michael E. Ernstes/ <u>Michael Ernstes</u>			10/30/02		
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: Browns Ferry Nuclear Plant		Date of Exam: December 13, 2002		Exam Level: RO																																
Item Description				Initial																																
				a	b*	c#																														
1.	Questions and answers technically accurate and applicable to facility																																			
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available																																			
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401																																			
1.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process																																			
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)																																			
6.	Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank	Modified	New																																
		41	7	52																																
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory	C/A																																	
		44	56																																	
8.	References/handouts provided do not give away answers																																			
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																																			
10.	Question psychometric quality and format meet ES, Appendix B, guidelines																																			
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet																																			
<table border="0"> <tr> <td colspan="4">Printed Name/ Signature</td> <td colspan="2">Date</td> </tr> <tr> <td>a. Author</td> <td>Timothy Kolb/</td> <td><i>Timothy C. Kolb</i></td> <td></td> <td colspan="2">12-2-02</td> </tr> <tr> <td>b. Facility Reviewer (*)</td> <td>N/A</td> <td></td> <td></td> <td colspan="2"></td> </tr> <tr> <td>c. NRC Chief Examiner (#)</td> <td>Edwin Leal</td> <td><i>Edwin Leal</i></td> <td></td> <td colspan="2">12/13/02</td> </tr> <tr> <td>d. NRC Regional Supervisor</td> <td>Michael E. Ernstes/</td> <td><i>Michael E. Ernstes</i></td> <td></td> <td colspan="2">12/13/02</td> </tr> </table>							Printed Name/ Signature				Date		a. Author	Timothy Kolb/	<i>Timothy C. Kolb</i>		12-2-02		b. Facility Reviewer (*)	N/A					c. NRC Chief Examiner (#)	Edwin Leal	<i>Edwin Leal</i>		12/13/02		d. NRC Regional Supervisor	Michael E. Ernstes/	<i>Michael E. Ernstes</i>		12/13/02	
Printed Name/ Signature				Date																																
a. Author	Timothy Kolb/	<i>Timothy C. Kolb</i>		12-2-02																																
b. Facility Reviewer (*)	N/A																																			
c. NRC Chief Examiner (#)	Edwin Leal	<i>Edwin Leal</i>		12/13/02																																
d. NRC Regional Supervisor	Michael E. Ernstes/	<i>Michael E. Ernstes</i>		12/13/02																																
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: Browns Ferry Nuclear Plant		Date of Exam: December 13, 2002		Exam Level: SRO		
Item Description				Initial		
				a	b*	c*
1.	Questions and answers technically accurate and applicable to facility			mc		62
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			mc		62
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401			mc		62
1.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process					
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)			mc		62
6.	Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank	Modified	New		
		48	7	45	mc	62
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory	C/A			
		44	56	mc		62
8.	References/handouts provided do not give away answers			mc		62
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			mc		62
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			mc		62
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet			mc		62
<div style="display: flex; justify-content: space-between;"> <div> <p>Printed Name / Signature</p> <p>a. Author <u>Timothy Kolb/</u> <u>Timothy Kolb</u></p> <p>b. Facility Reviewer (*) <u>N/A</u></p> <p>c. NRC Chief Examiner (#) <u>Edwin Lea/ Edwin Lea Jr.</u></p> <p>d. NRC Regional Supervisor <u>Michael E. Ernstes/ Michael E. Ernstes</u></p> </div> <div> <p>Date</p> <p><u>12-2-02</u></p> <p><u>12/3/02</u></p> <p><u>12/3/02</u></p> </div> </div>						
<p>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.</p>						

Facility: Browns Ferry Nuclear Plant		Date of Exam: 12/13/02		Exam Level: <b>RO/SRO</b>	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	<i>TK</i>		<i>LL</i>		
2. Answer key changes and question deletions justified and documented	<i>TK</i>		<i>LL</i>		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<i>TK</i>		<i>LL</i>		
4. Grading for all borderline cases (80% +/- 2%) reviewed in detail	<i>TK</i>		<i>LL</i>		
5. All other failing examinations checked to ensure that grades are justified	<i>TK</i>		<i>LL</i>		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	<i>TK</i>		<i>LL</i>		
Printed Name / Signature		Date			
a. Grader	Timothy C. Kolb / <i>Timothy C. Kolb</i>	<i>1-6-03</i>			
b. Facility Reviewer(*)	NA				
c. NRC Chief Examiner (*)	Edwin Lea / <i>Edwin Lea</i>	<i>1/7/03</i>			
d. NRC Supervisor (*)	Michael E. Ernstes / <i>Michael E. Ernstes</i>	<i>1/7/03</i>			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Browns Ferry Exam December 13-25, 2002.

Task Description		Date Complete
1.	Facility written exam comments or graded exams received and verified complete	1/7/03
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	1/7/03
3.	Operating tests graded by NRC examiners	1/7/03
4.	NRC Chief examiner review of written exam and operating test grading completed	1/7/03
5.	Responsible supervisor review completed	1/13/03
6.	Management (licensing official) review completed	
7.	License and denial letters mailed	1/23/03
8.	Facility notified of results	1/23/03
9.	Examination report issued (refer to NRC MC 0610)	1/23/03
10.	Reference material returned after final resolution of any appeals	N/A