

COVER SHEET

**BROWNS FERRY EXAM
50-259, 260, 296/2001-301**

SEPTEMBER 17-21, 2001

-- ADMINISTRATIVE DOCUMENTS -- ALL IN ONE ADAMS DOCUMENT

- ES-201-1 - Exam Preparation Checklist
- ES-201-2 - Exam Outline Quality Checklist
- ES-201-3 - Exam Security Agreements
- ES-301-1 - Admin Topics Outline
- ES-301-2 - Control Room Systems & Facility
Walk-through Test Outline
- ES-301-3 - Operating Test Quality Checklist
- ES-301-4 - Simulator Scenario Quality Checklist
- ES-301-5 - Transient & Event Checklist
- ES-301-6 - Competencies Checklist
- ES-401-7 - Written Exam Quality Checklist
- ES-401-9 - Written Exam Review Worksheet
- ES-403-1 - Written Exam Grading Quality Checklist
- ES-501-1 - Post Exam Check Sheet

Facility: <u>BROWNS FERRY NUCLEAR PLANT</u>		Date of Examination: <u>9/17-21/01</u>
Examinations Developed by: Facility / <u>NRC</u> (circle one)		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	LSM
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	LSM
-120	3. Facility contact briefed on security & other requirements (C.2.c)	LSM
-120	4. Corporate notification letter sent (C.2.d)	LSM
[-90]	[5. Reference material due (C.1.e; C.3.c)]	NA
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	LSM
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	LSM
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	NA
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	LSM
-14	10. Final license applications due and assignment sheet prepared (C.1.i; C.2.g; ES-202)	LSM
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	LSM
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	LSM
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	LSM
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	LSM
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	LSM
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	LSM
<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: Browns Ferry Nuclear Plant		Date of Examination: September 17-21, 2001		
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.	fm		100
	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.	fm		100
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	fm		100
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	fm		
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.	fm		fm
	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.	fm		fm
	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.	fm		fm
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.	fm		fm
	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.	fm		fm
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	fm		fm
	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.	fm		fm
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.	fm		fm
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	fm		fm
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	fm		fm
	d. Check for duplication and overlap among exam sections.	fm		fm
	e. Check the entire exam for balance of coverage.	fm		fm
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	fm		fm
a. Author	Printed Name / Signature Larry S. Mellen / <i>[Signature]</i> Gerard Laska / <i>[Signature]</i>		Date	9/13/01
b. Facility Reviewer (*)	NA			
c. NRC Chief Examiner (#)	Larry S. Mellen / <i>[Signature]</i> / RICHARD S. BACH / <i>[Signature]</i>		Date	9/13/01
d. NRC Supervisor	Michael E. Ernstes / <i>[Signature]</i>		Date	9/13/01
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 9/17/01 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 9/17/01. 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. John Parshall	H&T Lead Instructor	<i>John Parshall</i>	8/13/01	<i>John Parshall</i>	9-21-01	
2. R.W. Moore	DPS US	<i>R.W. Moore</i>	8/13/01	<i>R.W. Moore</i>	9-24-01	
3. Melissa Green	Training Materials Coordinator	<i>Melissa Green</i>	8/13/01	<i>Melissa Green</i>	10/3/01	
4. Randy Knight	OPS TUG INSTRUCTOR	<i>Randy Knight</i>	8/27/01	<i>Randy Knight</i>	9-27-01	
5. Rhonda Durham	Ops Tug Clerk	<i>Rhonda L. Durham</i>	8/28/01	<i>Rhonda L. Durham</i>	9-21-01	
6. Duane Wilson	OPS	<i>Duane Wilson</i>	8-31-01	<i>Duane Wilson</i>	9-24-01	
7. J. Kelly Ranke	ops	<i>J. Kelly Ranke</i>	9-5-01	<i>J. Kelly Ranke</i>	9-29-01	
8. T.S. Albright	Simulator Svs. Manager	<i>Thomas Albright</i>	9-6-01	<i>Thomas Albright</i>	9/21/01	
9. Van N. Miller	Simulator Svs. Engineer	<i>Van N. Miller</i>	9-6-01	<i>Van N. Miller</i>	9/21/01	
10. Phillip M. Olive	ops support supervisor	<i>Phillip M. Olive</i>	9-6-01	<i>Phillip M. Olive</i>	9/21/01	
11. David M. Olive	Operations Superintendent	<i>David M. Olive</i>	9-6-01	<i>David M. Olive</i>	9/21/01	
12. Robert H. McDowell	H&T INST	<i>Robert H. McDowell</i>	9-7-01	<i>Robert H. McDowell</i>	9/24/01	
13. Robert H. McDowell	H&T INST	<i>Robert H. McDowell</i>	9-7-01	<i>Robert H. McDowell</i>	9/21/01	
14. Pat J. Arundel	Simulator Svs Eng	<i>Pat J. Arundel</i>	9-12-01	<i>Pat J. Arundel</i>	9/21/01	
15. James C. Hall	ops Tug Instructor	<i>James C. Hall</i>	9-12-01	<i>James C. Hall</i>	9/21/01	

NOTES:

Examination Security Agreement

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	RAYMOND C SCHARFF	INSTRUCTOR	<i>Raymond C Scharff</i>	9/12/01	<i>Raymond C Scharff</i>	9/12/01	
2.	Kenneth F. Hannah	NRC	<i>Kenneth F. Hannah</i>	9/12/01	<i>Kenneth F. Hannah</i>	9/12/01	
3.	Ronald L. Roberts	Indcon	<i>Ronald L. Roberts</i>	9-17-01	<i>Ronald L. Roberts</i>	9/29/01	per telecon
4.	TERRY L. CHINN	Operations Training Mgr	<i>Terry L. Chinn</i>	9/17/01	<i>Terry L. Chinn</i>	9/21/01	
5.	JOSEPH H. PUCKETT	MAINT INSPECTOR	<i>Joseph H. Puckett</i>	9/19/01	<i>Joseph H. Puckett</i>	9/21/01	
6.	JAMES WALLACE R	SIDE LICENSING ENG	<i>James Wallace R</i>	9/21/01	<i>James Wallace R</i>	9/21/01	
7.							
8.							
*	Van N Miller	Sim Services Eng	see sht 1 line 9		<i>Thomas L. Albright</i>	10/4/01	per telecon
10.							
**	Phillip C. Chadwell	Ops Support Sup.	see sheet 2 line 10		<i>Phillip C. Chadwell</i>	10/4/01	
13.							
14.							
15.							

NOTES:

* Van is on sick leave his sup. discussed ES201-3 with him and signed
 ** Phil signed the wrong line on sheet one and is signing new entry.

Facility: <u>Browns Ferry</u>		Date of Examination: <u>9/17-9/19 2001</u>
Examination Level (circle one): RO / <u>SRO</u>		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	QUESTION ON FITNESS FOR DUTY. (K/A 2.1.6, 4.3)
		DETERMINE THE CONDITION CLASSIFICATION FOR RCIC INOPERABLE. (K/A 2.1.33, 3.4/4.0)
	Shift Staffing Requirements	SRO - NRC-JPM-02 (NEW), EVALUATE OVERTIME ELIGIBILITY (K/A 2.1.3, 3.0/3.4)
A.2	Equipment Operability Requirements	SRO - JPM A.2 DETERMINE COMPONENT POSITIONS FOR VALVE LINE-UPS AND TAG ORDER PERFORMANCE. (K/A 2.2.1, 3.6/3.8)
A.3	Control of Radiation Releases	DETERMINE BUILDING VENTILATION NOBLE GAS RELEASE RATE. JPM #131 , (KA 271000A4.05, 3.2/3.9)
A.4	Emergency Plan	JPM -181 CLASSIFY THE EVENT PER THE REP (GASEOUS RELEASE RATE-OSI-4.8.B.1.A.1) (K/A 2.4.38, 4.0)

Facility: <u>Browns Ferry</u>		Date of Examination: <u>9/17-9/19-2001</u>
Examination Level (circle one): <u>RO</u> / SRO		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	RO-JPM NRC A.1.a DETERMINE REACTOR VESSEL WATER LEVEL. (K/A 2.1.28)
	Shift Staffing Requirements	RO - NRC-JPM-02 (NEW), EVALUATE OVERTIME ELIGIBILITY (K/A 2.1.3, 3.0/3.4)
A.2	Equipment Operability Requirements	RO - JPM A.2 DETERMINE COMPONENT POSITIONS FOR VALVE LINE-UPS AND TAG ORDER PERFORMANCE. (K/A 2.2.1, 3.6/3.8)
A.3	Control of Radiation Releases	DETERMINE BUILDING VENTILATION NOBLE GAS RELEASE RATE. <u>JPM #131</u> , KA 271000A4.05, 3.2/3.9
A.4	Emergency Plan	1. RO QUESTION: KNOWLEDGE OF ABNORMAL CONDITION PROCEDURES.(K/A: G2.4.11)
		2. RO QUESTION: KNOWLEDGE OF THE RO'S RESPONSIBILITIES IN EMERGENCY PLAN IMPLEMENTATION. (K/A G2.4.39)

Facility: Browns FerryDate of Examination: 9/17-9/19 2001Exam Level (circle one): RO / SRO(I) / SRO(U)Operating Test No.: 1**B.1 Control Room Systems**

System / JPM Title	Type Code*	Safety Function
a. CROSSTIE CAD TRAINS A AND B TO DRYWELL CONTROL AIR IN ACCORDANCE WITH 2-EOI APPENDIX 8G. (191F).	M,A,C	3
b. 2-EOI APPENDIX 12- PRIMARY CONTAINMENT VENTING FROM DRYWELL THROUGH FCV-84-20 (51F-MOD).	M,A,S	9
c. START A RECIRC PUMP DURING POWER OPERATION.(JPM 90).	D,S	1
d. N/A		
e. N/A		
f. N/A		
g. N/A		

B.2 Facility Walk-Through

a. 2/3-SSI-2-1 ATTACHMENT 1, SECTION 1.0, UNIT 2 REACTOR BUILDING FIRE. (16TC).	D	8
b. LINE UP ALTERNATE RPV INJECTION SYSTEM - FIRE SYSTEM IN ACCORDANCE WITH 2-EOI APPENDIX 7K (27F)	D,R	2
c. N/A		

* 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: Browns Ferry
Exam Level (circle one): **RO** / SRO(I) / SRO(U)

Date of Examination: 9/17-9/19 2001
Operating Test No.: 1

B.1 Control Room Systems

	System / JPM Title	Type Code*	Safety Function
a.	CROSSTIE CAD TRAINS A AND B TO DRYWELL CONTROL AIR IN ACCORDANCE WITH 2-EOI APPENDIX 8G. (191F)	M,A,C	3
b.	2-EOI APPENDIX 12- PRIMARY CONTAINMENT VENTING FROM DRYWELL THROUGH FCV-84-20 (51F-MOD).	M,A,S	9
c.	START A RECIRC PUMP DURING POWER OPERATION.(JPM 90).	D,S	1
d.	PERFORM CONTROL ROOM ACTIONS REQUIRED TO ESTABLISH THE CONDENSATE/FEEDWATER SYSTEM AS AN RPV INJECTION SYSTEM. (14).	D,S	2
e.	OPERATE RHR SYSTEM IN SUPPRESSION POOL COOLING MODE IN ACCORDANCE WITH 2-EOI APPENDIX 17A. (69)	M,S	5
f.	RESPOND TO CONTROL ROD DRIFT IN. (80F MODIFIED)	M,A,S	7
g.	LINE UP INJECTION SYSTEMS - RCIC IN ACCORDANCE WITH EOI APPENDIX 5C (18 modified).	M,A,S	4

B.2 Facility Walk-Through

a.	2/3-SSI-2-1 ATTACHMENT 1, SECTION 1.0, UNIT 2 REACTOR BUILDING FIRE. (16TC).	D	8
b.	LINE UP ALTERNATE RPV INJECTION SYSTEM - FIRE SYSTEM IN ACCORDANCE WITH 2-EOI APPENDIX 7K (27F)	D,R	2
c.	JPM NRC-2 FILL AND VENT THE STATOR COOLING SYSTEM 2-O1-35A	N	4

* 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: Browns Ferry Nuclear Plant		Date of Examination: September 17-20, 2001 Operating Test Number: 1																	
1. GENERAL CRITERIA		Initials																	
		a	b*	c#															
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	[Signature]		[Signature]															
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	[Signature]		[Signature]															
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	[Signature]		[Signature]															
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	[Signature]		[Signature]															
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	[Signature]		[Signature]															
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 	[Signature]		[Signature]															
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	[Signature]		[Signature]															
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.	[Signature]		[Signature]															
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	[Signature]		[Signature]															
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.	[Signature]		[Signature]															
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="text-align:center">Printed Name / Signature</td> <td style="text-align:right">Date</td> </tr> <tr> <td>a. Author</td> <td>Gerard Laska / <u>[Signature]</u></td> <td style="text-align:right">9-12-2001</td> </tr> <tr> <td>b. Facility Reviewer(*)</td> <td style="text-align:center">NA</td> <td></td> </tr> <tr> <td>c. NRC Chief Examiner (#)</td> <td>Larry S. Mellen / <u>[Signature]</u></td> <td style="text-align:right">9/13/2001</td> </tr> <tr> <td>d. NRC Supervisor</td> <td>Michael E. Ernest / <u>[Signature]</u></td> <td style="text-align:right">9/13/01</td> </tr> </table>			Printed Name / Signature	Date	a. Author	Gerard Laska / <u>[Signature]</u>	9-12-2001	b. Facility Reviewer(*)	NA		c. NRC Chief Examiner (#)	Larry S. Mellen / <u>[Signature]</u>	9/13/2001	d. NRC Supervisor	Michael E. Ernest / <u>[Signature]</u>	9/13/01			
	Printed Name / Signature	Date																	
a. Author	Gerard Laska / <u>[Signature]</u>	9-12-2001																	
b. Facility Reviewer(*)	NA																		
c. NRC Chief Examiner (#)	Larry S. Mellen / <u>[Signature]</u>	9/13/2001																	
d. NRC Supervisor	Michael E. Ernest / <u>[Signature]</u>	9/13/01																	
<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:		Date of Exam:		Scenario Numbers: / /		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.			✓	NA	✓	
2.	The scenarios consist mostly of related events.			✓		✓	
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)			✓		✓	
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.			✓		✓	
5.	The events are valid with regard to physics and thermodynamics.			✓		✓	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			✓		✓	
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.			NA		NA	
8.	The simulator modeling is not altered.			✓		✓	
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.			✓		✓	
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.			✓		✓	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			✓		✓	
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).			✓		✓	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.			✓		✓	
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)				Actual Attributes			
1.	Total malfunctions (5-8)			4 / 5 /	✓	NA	✓
2.	Malfunctions after EOP entry (1-2)			1 / 2 /	✓		✓
3.	Abnormal events (2-4)			4 / 4 /	✓		✓
4.	Major transients (1-2)			1 / 2 /	✓		✓
5.	EOPs entered/requiring substantive actions (1-2)			2 / 2 /	✓		✓
6.	EOP contingencies requiring substantive actions (0-2)			0 / 1 /	✓		✓
7.	Critical tasks (2-3)			1 / 2 /	✓		✓

BROWNS FERRY 2001 EXAM
OPERATING TEST NO.: 1

Applicant Type	Evolution Type	Minimum Number	Scenario Number				
			R1B	R2B	3	4	
RO	Reactivity	1	2		1		
	Normal	1	1	3			
	Instrument / Component	4	5,6	3,4	2,4 5	3,5 6	
	Major	1	7	7	7	7	

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	2	1		
	Normal	1	1,3	x		
	Instrument / Component	2	3,4,5,6	3,4,5,6		
	Major	1	7	7		

- 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: GERARD LASAKA

NRC Reviewer: LARRY S. MELLEN

Competencies	Applicant #1 <u>RO/BOP</u>				Applicant #2 <u>BOP/RO</u>				Applicant #3 <u>SRO-U</u>			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	3,5,6 7	3,5 6,7			3,4 7	2,4 6,7			3,4 5,7	2,3 4,5 6,7		
Diagnose Events and Conditions	5,6,7	3,5 6,7			3,4	2,4 6,7			3,4 5,6 7	2,3 4,5 6,7		
Understand Plant and System Response	2,5,6 7	1,3 5,6 7			2,4	1,2 4,6 7			2,4 5	1,2 3,4 5,6 7		
Comply With and Use Procedures (1)	3,5,6 7	3,5 7			1,3 4	1,2 4,7			1,3 4,5	1,2 3,4 5,7		
Operate Control Boards (2)	2,5,6 7	3,5 6,7			1,2 3,4 7	1,2 4,7			NA	NA		
Communicate and Interact With the Crew	3,5,6 7	3,5 6,7			3,4 7	1,2 4,6 7			3,4 5,6 7	1,2 3,4 5,6 7		
Demonstrate Supervisory Ability (3)	NA	NA			NA	NA			2,3 4,5 6	1,2 3,4 5,6 7		
Comply With and Use Tech. Specs. (3)	NA	NA			NA	NA			3	1,4		
<p>Notes:</p> <p>(1) Includes Technical Specification compliance for an RO.</p> <p>(2) Optional for an SRO-U.</p> <p>(3) Only applicable to SROs.</p>												

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: GERARD LASKA

NRC Reviewer: LARRY S. MELLEN

Facility: Browns Ferry Nuclear Plant		Date of Exam: September 21, 2001		Exam Level: SRO	
Item Description	Initial				
	a	b*	c*		
1. Questions and answers technically accurate and applicable to facility	fsr		RAB		
2. a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	fsr		RAB		
3. RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	fsr		RAB		
4. Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			N/A		
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: ___ the audit exam was systematically and randomly developed; or ___ the audit exam was completed before the license exam was started; or ___ the examinations were developed independently; or ___ the licensee certifies that there is no duplication; or ___ other (explain)	fsr		RAB		
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		
	35	12	53		
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			
	43	57			
8. References/handouts provided do not give away answers	fsr		RAB		
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	fsr		RAB		
10. Question psychometric quality and format meet ES, Appendix B, guidelines	fsr		RAB		
11. The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	fsr		RAB		
a. Author		Printed Name / Signature		Date	
b. Facility Reviewer (*)		N/A			
c. NRC Chief Examiner (#)		Richard S. Baldwin		9/13/01	
d. NRC Regional Supervisor		Michael E. Ernstes		7/12/01	
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: September 21, 2001		Exam Level: RO		
Item Description				Initial		
				a	b*	c*
1.	Questions and answers technically accurate and applicable to facility			fm		psb
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			fm		psb
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401			fm		psb
1.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process					NR
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 type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)			fm		psb
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	fm		psb
		34	12			
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		fm		psb
		C/A				
		46	54			
8.	References/handouts provided do not give away answers			fm		psb
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			fm		psb
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			fm		psb
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet			fm		psb
				Printed Name / Signature		Date
a. Author	Larry S. Mellen			<i>Larry S. Mellen</i>		9/13/01
b. Facility Reviewer (*)	N/A					
c. NRC Chief Examiner (#)	Richard S. Baldwin			<i>Richard S. Baldwin</i>		9/13/01
d. NRC Regional Supervisor	Michael E. Ernstes			<i>Mike Ernstes</i>		9/13/01
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. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only		
51															GEN 2.4.17
52															202001A107
53															295032K303
54															295034K202
55															295020K203
56															295021A103 - removed potential second correct answer
57															295037K201 Replaced question due to changed EOP operatoins
58															295009A104
59															600000 GEN 2.1.27 Modified question due to differences in the pre-action sprinkler system operations
60															295015A101
61															GEN 2.4.3
62															217000K502
63															500000A105 - changed distractors - two correct answers in bank
64															218000K501
65															215005A203
66															217000A304
67															295024A104 - reworded the distractors to make the clearer
68															223002K107
69															209001K203
70															256000K201
71															295008K202 -Validated on simulator and added group numbers
72															202002 GEN 2.4.3

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only		
73															272000 GEN 2.3.1
74															295013K301
75															GEN 2.3.1 001
SRO ONLY QUESTIONS															
1															GEN 2.4.29
2															295021 GEN 2.2.6 Distractor A rewritten to make clearer
3															GEN 2.2.22
4															GEN 2.1.10
5															GEN 2.1.26
6															GEN 2.1.6
7															295003 GEN 2.4.16 Modified distractors C and D to remove unnecessary information. Corrected typo
8															GEN 2.2.29 - reworded distractors to make them clearer
9															GEN 2.2.5 - Licensee stated that he question was too detailed for the SRO candidate to know this from memory. It was replaced. Question was reformulated and used as part of Admin section on exam
10															GEN 2.4.1 reworded answer
11															295022A201
12															295010 GEN 2.4.4
13															295014A203
14															295030 GEN 2.1.32
15															295026A201 - editorial changes
16															295023A205
17															295038 GEN 2.4.7

Facility: Browns Ferry Nuclear Plant		Date of Exam: 09/21/01		Exam Level: RO/SRO	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	[Signature]		[Signature]		
2. Answer key changes and question deletions justified and documented	[Signature]		[Signature]		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	[Signature]		[Signature]		
4. Grading for all borderline cases (80% +/- 2%) reviewed in detail	[Signature]		[Signature]		
5. All other failing examinations checked to ensure that grades are justified	N/A		N/A [Signature]		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	[Signature]		[Signature]		
Printed Name / Signature		Date			
a. Grader	Gerard Laska / <u>[Signature]</u>	10/1/2001 10/21/2001			
b. Facility Reviewer(*)	NA _____	_____			
c. NRC Chief Examiner (*)	Larry S. Mellen / <u>[Signature]</u>	10/9/2001			
d. NRC Supervisor (*)	Michael E. Ernstes / <u>[Signature]</u>	10/25/01			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Facility: Browns Ferry Nuclear Plant		Date of Exam: 09/21/01		Exam Level: RO/SRO	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	[Signature]		[Signature]		
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3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	[Signature]		[Signature]		
4. Grading for all borderline cases (80% +/- 2%) reviewed in detail	[Signature]		[Signature]		
5. All other failing examinations checked to ensure that grades are justified	N/A		N/A [Signature]		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	[Signature]		[Signature]		
Printed Name / Signature		Date			
a. Grader	Gerard Laska <u>[Signature]</u>	10/11/2001 <u>10/21/2001</u>			
b. Facility Reviewer(*)	NA				
c. NRC Chief Examiner (*)	Larry S. Mellen <u>[Signature]</u>	10/9/2001			
d. NRC Supervisor (*)	Michael E. Ernstes <u>[Signature]</u>	10/25/01			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Browns Ferry Exam 2001.

Task Description	Date Complete
1. Facility written exam comments or graded exams received and verified complete	10-1-2001
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	10-1-2001
3. Operating tests graded by NRC examiners	10-1-2001
4. NRC Chief examiner review of written exam and operating test grading completed	10-9-2001
5. Responsible supervisor review completed	10/28/01
6. Management (licensing official) review completed	10/28/01
7. License and denial letters mailed	10/10/2001
8. Facility notified of results	10/10/01
9. Examination report issued (refer to NRC MC 0610)	10/18/01
10. Reference material returned after final resolution of any appeals	N/A