# **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
S-403-1 - Written Exam Grading Quality Checklist
ES-501-1 - Post Exam Check Sheet

ES-201	Examination reparation officials from Ed						
Facility:	Facility: BROWNS FERRY NUCLEAR PLANT Date of Examination: 9/17-21/01						
Examina	Examinations Developed by: Facility / NRC (circle one)						
Target Date*	Task Description / Reference	Chief Examiner's Initials					
-180	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.l; 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					
	Target dates are keyed to the examination date identified in the corporate not They are for planning purposes and may be adjusted on a case-by-case basis with the facility licensee. Applies only to examinations prepared by the NRC.	ification letter. s in coordination					

acility	Browns Ferry Nuclear Plant Date of Examination: Sept	l ember		
ltem	Task Description	a	Initial b*	s c#
1.	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	tim		NAS
W R !	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.	tm		pse
T T E	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	funs	Les les	DA
N	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	tin		
2.	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.	*		Per
S I M	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.			Sr
	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.	M.		fr
3. W / T	<ul> <li>a. Verify that:</li> <li>(1) the outline(s) contain(s) the required number of control room and in-plant tasks,</li> <li>(2) no more than 30% of the test material is repeated from the last NRC examination,</li> <li>(3)* no tasks are duplicated from the applicants' audit test(s), and</li> <li>(4) no more than 80% of any operating test is taken directly from the licensee's exam banks.</li> </ul>	**		for
	<ul> <li>b. Verify that:</li> <li>(1) the tasks are distributed among the safety function groupings as specified in ES-301,</li> <li>(2) one task is conducted in a low-power or shutdown condition,</li> <li>(3) 40% of the tasks require the applicant to implement an alternate path procedure,</li> <li>(4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and</li> <li>(5) the in-plant walk-through requires the applicant to enter the RCA.</li> </ul>			\$ \$
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	N. Contraction		kn
	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.			Bu
4.	Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.			15h
G E	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	1	4	1/2
N E	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	4		\J~
R A	d. Check for duplication and overlap among exam sections.	1		35m
L	e. Check the entire exam for balance of coverage.	像		
a. Au	f. Assess whether the exam fits the appropriate job level (RO or SRO).  Printed Name / Signature thor Larry S. Mellen/ Struck S. My Gerard Laska/ Gerard Las	<u> 1497</u>	] 	ate 13/22
b. Fa c. NF	cility Reviewer (*)  RC Chief Examiner (#)  AC Supervisor  Michael E. Ernstes/	æ_		3  2 = 3/21

Note:

\* Not applicable for NRC-developed examinations.
# Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.

Form ES-201-3 **Examination Security Agreement** ES-201

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 9/17/6/ 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.

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.		DATE SIGNATURE (2) DATE NOTE
PRINTED NAME JOB TITLE / RI	ESPONSIBILITY SIGNATURE (1)	(1) 0/13/1 Jan actal 9-21-01
1 John Parshall HLT Lead	Instructor Holy Partie	213101 / W CN 10/3/01
3 MP11550 MELL TYDINING	INSTRUCTOR THOUSERS	21:7/0/ Dy 9-21-0/
4. RANGUKNIGHT OPS TRANG	Clerk Whomen L. Ou	8-31-01 WILLIAM 9-24-01
6. Driver Danke ofs	Many Hamas J. W.	11-6-0 110000 & CONT 910101
Simulator	Sus. Manage Anamas (1)	9-6-01 Man 10 10 10 10 10 10 10 10 10 10 10 10 10
10. Presing President Operation		9-6 0/00/m (Velle 9/24/0)
12 Robert H McDower HLT INST		9-7-01 July Hall 9/21/6
14. Pat J Arundel Simulato	St Sys Big - Though & Will	9-12-01 Chambe state 1/2/
15. James C. HAII	ŕ	

NOTES:

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		Form ES-201-3
	- Coourity Agreement	FORTI LO-201 S
	Examination Security Agreement	
ES-201		

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of  $\frac{q/i7/0}{}$  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.

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below and authorized by the NF		**************************************	DATE	SIGNATURE (2)	DATE NOTE
PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	9/12/01	Raymond C Schu,	H9/21/01
1. RAYMONIS C SCHARFF 2. Konnix F. Hannah 3. Ronald L. Caperts 4. TERRYL CHINN	Operations Training Mag	100	9/14/01 9/19/01 9/19/01	Ling Start Start Start Start Start Start	'9   240   '9   240   '9   240   9   240
7 8	SINSLICENSING ENG	see sht I ine 9	19/24/0 	Thomas S. allistet per Telecom	10/4/01
** 12. Phylip C. Chadwell		see Sheet I line 10		Alethyddladadell	10/140/
13' 14 15 NOTES:	* Van 15 on seck ** Ph.1 Signed the	leave his sup. discuss. Wrong line on sheet 24 of 24	ed Es	201-3 with him and 15' Signing	and signed new entry.

NUREG-1021, Revision 8

	r: Brown	ns Ferry Date of Examination: 9/17-9/19 2001 one): RO / SRO Operating Test Number: 1			
Т	dministrative opic/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	RO - NRC-JPM-02 (NEW), EVALUATE OVERTIME ELIGIBILITY			
	Requirements	(K/A 2.1.3, 3.0/3.4)			
A.2	Equipment	SRO - JPM A.2 DETERMINE COMPONENT POSITIONS FOR VALVE			
	Operability	LINE-UPS AND TAG ORDER PERFORMANCE. (K/A 2.2.1, 3.6/3.8)			
	Requirements				
A.3	Control of	DETERMINE BUILDING VENTILATION NOBLE GAS RELEASE			
	Radiation	RATE. <u>JPM #131</u> , (KA 271000A4.05, 3.2/3.9)			
	Releases				
A.4	Emergency	JPM -181 CLASSIFY THE EVENT PER THE REP (GASEOUS			
	Plan	RELEASE RATE-0SI-4.8.B.1.A.1) (K/A 2.4.38, 4.0)			

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

Form ES-301-2 (R8, S1)

· · · · · · · · · · · · · · · · · · ·	nation:9/1 Operating Test	
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)Iternate pa	th, (C)ontrol

C.

and rushing train mough rest						
1 aom)	xamination: 9/ rating Test No.					
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				
		<del>                                     </del>				

JPM NRC-2 FILL AND VENT THE STATOR COOLING SYSTEM 2-O1-35A

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4

<sup>\*</sup> Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)Iternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility:	Browns Ferry Nuclea	ır Plant		Date of Examination: Sept Operating Test Number: 1	ember	17-20,	2001
						Initial	 s
		1. GENERAL CR	ITERIA		а	b*	c#
a.	The operating test of sampling requirement	onforms with the previously ants (e.g., 10 CFR 55.45, ope	approved outline; cha rational importance, s	nges are consistent with safety function distribution).	No.		Ç.
b.		ay repetition between this ar			A STATE OF THE STA		fa-
C.	The operating test s	hall not duplicate items from	the applicants' audit	test(s)(see Section D.1.a).	7		) Se-
d.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).  Overlap with the written examination and between operating test categories is within acceptable limits.						fir-
е.			e between competent	and less-than-competent	N		tim
	2. V	VALK-THROUGH (CATEGO	DRY A & B) CRITERIA	Α		· · · · · · · · · · · · · · · · · · ·	
b. c.	initial conditions initiating cues references and too reasonable and va designation if deel specific performan detailed expess system respo statements d criteria for su identification restrictions o  The prescripted que in Attachment 1 of E  Repetition from ope acceptable limits (30)	ols, including associated pro- alidated time limits (average to med to be time critical by the once criteria that include: ected actions with exact crite onse and other examiner cue describing important observation occessful completion of the to of critical steps and their associated associated in the sequence of steps, if a distinct in Category A are pre- instance of the control of the control of the distinct in Category A are pre- instance of the control of the control of the distinct in Category A are pre- instance of the control of the control of the distinct in Category A are pre- instance of the control of the control of the control of the distinct in Category A are pre- instance of the control of the control of the control of the distinct in Category A are pre- instance of the control of the control of the control of the distinct in Category A are pre- instance of the control of the control of the control of the distinct in Category A are pre- instance of the control of the control of the control of the distinct in Category A are pre- cipation of the control of t	time allowed for competacility licensee  ria and nomenclature es tions to be made by the ask sociated performance applicable edominantly open reference previous licensing exa	he applicant standards erence and meet the criteria emination is within test integrity.			ton ton
<u>d.</u>	At least 20 percent	of the JPMs on each test are		riodined.	7-3		1
a.	The associated simi	SIMULATOR (CATEGO ulator operating tests (scena a copy is attached.		eviewed in accordance with	R		for
c. NRC		_	Name / Signature  NA  'Mul		9	Date 1-12 1/13	-Zwi 2001
NOTE:	* The facility signat	ure is not applicable for NRC C reviewer initial items in Col	C-developed tests.	ner concurrence required.			

Facility:	Facility: Date of Exam: Scenario Numbers: / / Operating Test No.:							
	QUALITATIVE ATTRIBUTES		Initial	s T				
		a	b*	C#				
			1 1		<u> </u>			
1.	The initial conditions are realistic, in that some equipment and/or instrument service, but it does not due the operators into expected events.	ation may be out of		ŊĄ	jir-			
2.	The scenarios consist mostly of related events.				6,~			
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)		数		fa			
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated without a credible preceding incident such as a seismic event.	into the scenario			sn			
5.	The events are valid with regard to physics and thermodynamics.		N.	Ш	ton			
6.	Sequencing and timing of events is reasonable, and allows the examination complete evaluation results commensurate with the scenario objectives.	team to obtain	B		/s~			
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.				MA ST			
8.	The simulator modeling is not altered.				<u>~</u>			
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.				/5·^			
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 For the form along with the simulator scenarios).	m ES-301-6 (submit	P		Bin			
12.	Each applicant will be significantly involved in the minimum number of transi specified on Form ES-301-5 (submit the form with the simulator scenarios).	ents and events	A.		Sm			
13.	The level of difficulty is appropriate to support licensing decisions for each c	rew position.	M	4	1500			
TARGE	T QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes	1-		<u> </u>			
1	Total malfunctions (5-8)	4 / 5 /	4	NA	<i>B</i> -			
2.	Malfunctions after EOP entry (1-2)	1 / 2 /		Щ	150			
3.	Abnormal events (2-4)	4 / 4 /			\$2°			
4.	Major transients (1-2)	1 / 2 /		$oxed{oxed}$				
5.	EOPs entered/requiring substantive actions (1-2)	2 / 2 /		$\coprod$	/ <u>\$</u>			
6.	EOP contingencies requiring substantive actions (0-2)	0 / 1 /	A.		151			
7.	Critical tasks (2-3)	1 /2 /		_ ₩	145-			

# BROWNS FERRY 2001 EXAM OPERATING TEST NO.: 1

Applicant Type	Evolution Type	Minimum		S	cena	rio N	umber	
'Туре	Type	Number	R	1B	R	2B	3	4
	Reactivity	1	2		1			
	Normal	11	1	3				
RO	Instrument / Component	4	5,6	3,4	2 <sub>6</sub> 4	3,5 ,6		
	Major	1	7	7	7	7		
<del></del>	Reactivity	1						
	Normal	0						
As RO	Instrument / Component	2						
	Major	1						
SRO-I					_		,	
	Reactivity	0			<u> </u>			ļ
	Normal	1	<u> </u>		<u> </u>			<u> </u>
As SRO	Instrument / Component	2						
	Major	1						
	Reactivity	0		2		1		
	Normal	1		1,3		х		
SRO-U	Instrument / Component	2	3	,4,5,6	3,	4,5,6		
	Major	1		7		7		

Instructions:	(1)	Enter the operating test nu	mber and I	orm	ES-[	)-1 e	vent	numbei	's f	or
	• •	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.

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. (3)

Author:	GERARD LASAKA	
NRC Reviewer:	LARRY S. MELLEN	

# **BROWNS FERRY 2001**

Competencies		RO/	ant #1 BOP			Applio <u>BOI</u> SCEI	P/RO			SR	oant#	
Competences		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	2,56, 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		

## 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:	GERARD LASKA
NRC Reviewer:	LARRY S. MELLEN

Facility:	Browns Ferry Nuclear Plant Date of	Exan	n: Septem	ber 21,	2001	· ·	T Exa	m Level	. SKC
							-	Initial	
	Item Description		··· <u></u>				а	b*	c#
1.	Questions and answers technically accurate	and a	applicable	to facil	ity		fen	31. HAR	RI
2.	<ul><li>a. NRC K/As referenced for all questions</li><li>b. Facility learning objectives referenced as</li></ul>	availa	able				for		KS
3.	RO/SRO overlap is no more than 75 percent per Section D.2.d of ES-401	, and	SRO ques	stions a	re ap	propriate	Bor		150
1.	Question selection and duplication from the lappears consistent with a systematic sampling			ensing	exam	ıs			NIA
5.	Question duplication from the license screen indicated below (check the item that applies)  _ the audit exam was systematically and ra _ the audit exam was completed before the _ the examinations were developed indepe _ the licensee certifies that there is no duplication other (explain)	and a ndom licen: ndent	appears a ily develor se exam v ily; or	ppropri ed; or	ate:		K		for
6.	Bank use meets limits (no more than 75		Bank	Modi	fied	New			
	percent from the bank at least 10 percent ne and the rest modified); enter the actual ques distribution at right		35	1	2	53	\$m		RSI
7.	Between 50 and 60 percent of the questions	on	Memo	ory		C/A			
	the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right		43			57	5~		RSI
8.	References/handouts provided do not give a	way a	answers				ksm		16
9.	Question content conforms with specific K/A approved examination outline and is appropriately assigned; deviations are justified						Bon		14
10.	Question psychometric quality and format me	eet E	S, Append	lix B, gı	ıidelir	ies	Sm		M
11.	The exam contains 100, one-point, multiple of agrees with value on cover sheet	choice	e items; th	e total i	s corr	ect and	ton		NAC
а		rinted	l Name / S	ignatu	re			Da	ate
a. Auth	$\mathcal{Q}$	uu	5 m	VL_				9/1	3/cy
	lity Reviewer (*)  N/A	6		A.				-	1/55
	Chief Examiner (#) Richard S. Baldwin	1/2	NT. 6	4				7//	3/3) 3/-
a. NKC	Regional Supervisor Michael E. Ernstes	_//	W. 7					1//	9/0

Facility:	Browns Ferry Nuclear Plant Date of Exar	n: Septem	ber 21,	2001	E	xam Lev	el: RO
						Initial	<b>.</b>
	Item Description				a	b*	c#
1.	Questions and answers technically accurate and a	applicable	to facilit	у	1/5m		par
2.	<ul><li>a. NRC K/As referenced for all questions</li><li>b. Facility learning objectives referenced as available.</li></ul>	able			Em		(Als
3.	RO/SRO overlap is no more than 75 percent, and per Section D.2.d of ES-401	SRO que	stions ar	re appropri	iate am		pss
1.	Question selection and duplication from the last to appears consistent with a systematic sampling pro		ensing (	exams			MA
5.	Question duplication from the license screening/a indicated below (check the item that applies) and the audit exam was systematically and random the audit exam was completed before the licen the examinations were developed independent the licensee certifies that there is no duplicatio other (explain)	appears a nly develop ise exam v tly; or	ppropria ped; or	ite:	tin		pri
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	Bank 34	Modifi 12		ew 54		pat
	distribution at right			<u> </u>	<u> </u>		
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level;	Memo		C/A 54	Sim		pao
8.	enter the actual question distribution at right  References/handouts provided do not give away a	answers			Bon		161
9.	Question content conforms with specific K/A state approved examination outline and is appropriate f assigned; deviations are justified	ments in t	he previ	ously h they are	fin		RAD
10.	Question psychometric quality and format meet E	S, Append	lix B, gu	idelines	- Kon		BH
11.	The exam contains 100, one-point, multiple choice agrees with value on cover sheet	e items; th	e total is	s correct a	nd S		pso
c. NRC	10	Name / S. M	Signatur	e e/	>	9 1 <u>:</u>	ate 101 13/01

	1.	2.	;	3. Psyc	hometr	ic Flaws	3	4.	Job Cont	tent Fl	aws	5. O	ther	6.	7.
Q#	LOK (F/H)	,	Stern		T/F	Cred. Dist.	Partial	Job- Link	Minutia				SRO Only	U/E/S	Explanation

### Instructions

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

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 5 (easy difficult) rating scale (questions in the 2 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:

  The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).

  The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).

  The answer choices are a collection of unrelated true/false statements.

  - More than one distractor is not credible.
  - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:

  - E appropriate took if a jou containt error is definited.

    The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).

    The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).

    The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).

    The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable). 5.
- Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory? 6.
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

	1.	2.	3	. Psycl	homet	ric Flaw	rs	4.	Job Cont	tent Fla	aws	5. C	Other	6.	7.
Q#		, ,	Stem Focus			Dist.		Link			Back- ward		SRO Only	U/E/S	Explanation
			44.5							RO/8	RO CO	MBIN	ED QU	ESTION	g ,
1															201001A404
2															201004K603
3															202002K402
4															295003K101
5															203000K302
6															206000A103

	1.	2.	3	. Psycl	homet	ric Flaw	rs	4.	Job Cont	ent Fla	aws	5. O	ther	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
7					_										212000K407
8															211000K603 reworded stem to make clearer
9															263000K601 reworded stem to make question clearer
10											:				215004K602 changed IRM range to be plant specific
11											:				223001K303
12										:					264000K401
13											:				290003K401
14															259001A106 altered nomenclature to match in plant labeling
15															239002A308
16				_											290001A301
17										į					286000K402
18															271000K506
19															GEN 2.4.12
20															GEN 2.1.28
21															295029A201 Replacement question. Out of date reference material
22															295025 GEN 2.1.28 changed answer - incorrect answer in bank
23										į					216000A401
24	ŀ														241000K127
25															295010K201
26															259002K104
27															261000K609
28															259002A101

	1.	2.	3.	. Psycl	nomet	ric Flaw	s	4.	Job Cont	tent Fla	aws	5. O	ther	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
29															295002K302
30															201003K102
31															295007A105
32									.,						215001A103
33															233000K301
34															245000K304 minor editorial and format changes
35								:							226001K302
36															295004K203 Question replaced - training material was not accurate
37															215003K301
38															295005K101 replaced change instrument set point in distractor
39															23000A205
40						ļ									239003K603
41															295038A201
42												<u> </u>			295037A201
43										<u> </u>					295001A101
44															295033A104
45						;				<u>.</u>					295028K102
46															GEN 2.3.2 replaced question to be clearer
47															295031K305
48															295006K101
48															295019A101
50															295016A102

	1.	2.	3.	. Psycl	nomet	ric Flaw	rs	4.	Job Cont	tent Fla	aws	5. O	ther	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation
51						l.		:							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												, i			295015A101
61															GEN 2.4.3
62															217000K502
63											·				50000A105 - changed distractors - two correct answers in bank
64															218000K501
65			1												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

0.11	1.	2.	3.	. Psyci	nomet	ric Flaw	rs	4.	Job Cont	tent Fla	aws	5. O	ther	6.	7.	
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		SRO Only	U/E/S	Explanation	
73			·		_										272000 GEN 2.3.1	
74						:									295013K301	
75															GEN 2.3.1 001	
						A Charles of the Control of the Cont					SRO O	NLY C	UESTI	ONS		
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					1										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						1									295014A203	
14															295030 GEN 2.1.32	
15								1							295026A201 - editorial changes	
16															295023A205	
17															295038 GEN 2.4.7	

	1.	2.	3	. Psycl	nomet	ric Flaw	'S	4.	Job Cont	ent Fla	aws	5. O	ther	6.	7.	
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only	U/E/S	Explanation	
18															295018A204	
19															GEN 2.2.33 - question rewritten - incorrect lesson plans supplied	
20															295030A201	
21															GEN 2.2.26	
22															295007A202	
23															295016A206	
24			:												295027 GEN 2.4.11	
25															GEN 2.1.10	
F94 175					A						RO O	NLY Q	JESTI	ONS		
1															215002K101	
2						100									201002K105	
3															218000 GEN 2.3.2	
4													<u> </u>		223001A304	
5															295012 GEN 2.1.2	
6									:						GEN 2.1.29 - question was replaced due to BC comment . Original too close to a JPM topic	
7								000							GEN 2.1.7 question replaced. Licensee stated this was not expected RO knowledge from memory.	
8															GEN 2.2.13	
9										_					GEN 2.2.3	
10															GEN 2.4.27 - extensive rewording to make question clearer	
11															204000A405 - Added noun names for valves	
12															262002K401	

	1.	2.	3	. Psycl	homet	ric Flaw	rs	4.	Job Cont	ent Fla	aws	5. O	ther	6.	7.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward		SRO Only	U/E/S	Explanation
13															216000K501 altered point on the KA and significantly
14															300000K501
15															290002A201
16															295023 GEN 2.1.1
17															GEN 2.1.27
18															295014K103
19															GEN 2.4.2 - reworded stem, intent of the question was not changed
20													:		295026K201 This question was reworded to ensure it was a task that would be performed by an RO
21															295018K202
22															295022K102
23															295036K2.01
24		-										1			295036K2.01 question was an SRON task. Question replaced with 400000K101
25				<b> </b>											205000 K608

		5 1 2000								
Facility: Browns Ferry Nucle	ear Plant Date of Exam: 09/21/01	Exam Level: RO/SRO								
		Initials								
lte.	em Description	a b c								
	copied before grading	& En								
	and question deletions justified and	Al for								
, , ,	ecked for addition errors < > 25% of examinations)	Al ysm								
4. Grading for all border detail	line cases (80% +/- 2%) reviewed in	Al Sm								
5. All other failing exam are justified	inations checked to ensure that grades	N/A for								
deficiencies and word										
	Printed Name / Signature	Date								
a. Grader	Gerard Laska/ Legic Tust	/0/ / / <sup>2001</sup> <del>10/21/2001</del>								
b. Facility Reviewer(*)	NA									
c. NRC Chief Examiner (*)	Larry S. Mellen/ fany 5. Mell	10/25/01								
d. NRC Supervisor (*)	Michael E. Ernstes/ Md E E	Z 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 Nucle	ear Plant	Date of Exam: 09/21/01	Exam Le	vel:R	OSRO				
					Initials	3				
	Ite	em Descriptio	on	а	b	С				
1. (	Clean answer sheets	copied before	re grading	As S		\$n				
	Answer key changes documented	and question	n deletions justified and	Ad	adisk s	dsn.				
	Applicants' scores check			AH	649 590 1925 59 645 394	Bm				
	Grading for all border detail	line cases (8	30% +/- 2%) reviewed in	A.		form				
	All other failing exami	inations ched	cked to ensure that grades	NA		fin				
(										
		Print	ed Name / Signature			Date				
a. Grad	der	Gerard Las	ka/ Serand Jus Ky	<del>_</del>	10/1 10/2	701 <del> 1/200</del> 1				
b. Faci	lity Reviewer(*)	NA								
c. NRC	Chief Examiner (*)	Larry S. Me	Ernstes/Midd E. E		19/9	25/0				
d. NRC	Supervisor (*)	Michael E.	Ernstes/Midd E.E.	<u>t.</u>	<u>/e/</u>	25/0,				
(*) 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	10/10/2001
9.	Examination report issued (refer to NRC MC 0610)	10/18/01
10.	Reference material returned after final resolution of any appeals	NIA