COVER SHEET

-- ADMINISTRATIVE DOCUMENTS --ALL IN ONE ADAMS DOCUMENT

SURRY EXAM 50-280/2000-301

SEPTEMBER 14 - 21, 2000

ES-201-1 - Exam Preparation Checklist

 \checkmark ES-201-2 - Exam Outline Quality Checklist ($2 \rho_{AGES}$)

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ES-301-4 - Simulator Scenario Quality Checklist

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ES-501-1 - Post Exam Check Sheet

Examination Preparation Checklist

Form ES-201-1

Facility: _ Examination	Facility: Surry Nuclear Plant Date of Examination: Written: September, 2000 Examinations Developed by: NRC Operating: September 18 - 22, 2000						
Target Date*	Task Description / Reference	Chief Examiner's Initials					
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	RSB					
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	RSB					
-120	3. Facility contact briefed on security & other requirements (C.2.c)	RSB					
-120	4. Corporate notification letter sent (C.2.d)	RSB					
[-90]	[5. Reference material due (C.1.e; C.3.c)]	RSB					
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	NA					
-70	 Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e) 	NA					
-45	 Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d) 	RSB					
-30	9. Preliminary license applications due (C.1.I; C.2.g; ES-202)	RSB/late					
-14	10. Final license applications due and assignment sheet prepared (C.1.I; C.2.g; ES-202)	RSB					
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	RSB					
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	RSB					
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	RSB					
-7	 Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204) 	RSB					
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	RSB					
-7	 Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i) 	RSB					
* Tar The witi [] Apj	 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. Applies only to examinations prepared by the NRC. 						

Examination Outline Quality Checklist

Facility	Surry Nuclear Plant Date of Examination: Written: September Operating: Septemb	_14,, 200 er 18 - 2	00 22,, 201	оо			
ltem	Task Description		Initials				
		a	b*	с			
1.	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	NA					
W R	b. Assess whether the outline was systematically prepared and whether all knowledge and ability categories are appropriately sampled.	NA	Şē6	-			
т Т	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	NA	ATTA Sela	rite Mai			
E N	d. Assess whether the repetition from previous examination outlines is excessive.	NA	QA Stre	-T			
2.	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.	ø		рив			
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.	Ø		Иb			
	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			
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. 	hart.		Ą			
4.2	 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. 	V ab		¢			
5 g.	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	pas		Ø			
	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.	NOD		Ø			
4.	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	fre		×			
G E	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	1 vab		8			
N F	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	ent		8			
R	d. Check for duplication and overlap among exam sections.	ist		*			
î	e. Check the entire exam for balance of coverage.	NSD.		8			
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	in		N			
a. Auth	or Richard S. Baldwin (Walk Through) Bonatol F All (Gimulator)	_8/8/0		75/			
р. насі c. Chie d. NRC	ITY Reviewer(") f Examiner Supervisor Herold O. Christensen MITE ENNETED THE Chard S. Baldwin (simulator Effective) Mas 8/24/6-	<u>7</u> ~/8,	1 <u>24</u> 71 11 [<u> </u>			
(*) Not a	applicable for NRC-developed examinations.						

Examination Outline Quality Checklist

Facility	Date of Examination:			
r acuity			nitials	
Item	Task Description	а	b,	с
1.	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	J.Hz	A	for
W R	b. Assess whether the outline was systematically prepared and whether all knowledge and ability categories are appropriately sampled.	9th /	A	Bm
I T T	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	John	Å	Asia
E N	d. Assess whether the repetition from previous examination outlines is excessive.	Ben	A	bin
2.	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.	4	NA	
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.		× ∧	
	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. 		NJA	
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	ļ		\sum
	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.			À
4.	 Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section. 	greet	A	psb
G	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	and	"A	M3
N	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	gion	X	M
R	d. Check for duplication and overlap among exam sections.	-	N/A-	>
L	e. Check the entire exam for balance of coverage.		NA-	>
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	2th	A	W
a. Aut b. Fac c. Chi d. NR	Printed Name / Signature James H. Warren JR/ Jamet Lauf Eility Reviewer(*) IF. Kenneth Grover / The Signature LS. Mellen 19.5, Mell / Resignment // Holden CSupervisor MEERNSTES / MEELTS		Dat 7/27 7/27 9/22 9/2/	7/00 7/00 1/00 90
(*) Not	applicable for NRC-developed examinations.			

Operating Test Quality Checklist

Facility : Surry Date of Examination: September 18 - 22, 2000 Operating Test 1	lumber	:1	
		Initials	5
1. GENERAL CRITERIA	а	b	с
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).	m		av
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.	(m)		V
c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	120		A.
d. Overlap with the written examination and between operating test categories is within acceptable limits.	NAD		Sp
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	Mp		Å
2. WALK-THROUGH (CATEGORY A & B) CRITERIA			
a. Each JPM includes the following, as applicable:			
 initial conditions initiating cues references and tools, including associated procedures 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: 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 	pas		Ą
b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	ph.		Ø
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.	psb.		Þ
d. At least 20 percent of the JPMs on each test are new or significantly modified.	pan		9
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.	had		Ø
a. Author Printed Name / Signature Richard S. Baldwin (Surry Chief) b. Facility Reviewer(*) N/A c. NRC Chief Examiner (*) Reputer F. Aettor (N. Anna Chief) d. NRC Supervisor (*) Michael E. Ernstes Michael F. & to	8/2 8/2 9	Date 2.4 4 111	20 20 20 20
(*) The facility signature is not applicable for NRC-developed tests; two independent NRC reviews are requi	red.		

Simulator Scenario Quality Checklist

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Form ES-301-4

Facility:	Surry Date of Exam: 9/18-21/00 Scenario Num	bers: 1 / 2 / Op	erating	Test	No.:1			
	QUALITATIVE ATTRIBUTES							
			а	b	с			
		-						
1.	The initial conditions are realistic, in that some equipment and/or instrument service, but it does not cue the operators into expected events.	ation may be out of	J.		iss			
2.	The scenarios consist mostly of related events.		X		pan			
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 without a credible preceding incident such as a seismic event.	into the scenario	je -		m			
5.	The events are valid with regard to physics and thermodynamics.		Ø		M			
6.	Sequencing and timing of events is reasonable, and allows the examination complete evaluation results commensurate with the scenario objectives.	team to obtain	Ø		pas			
7.	If time compression techniques are used, the scenario summary clearly so in have sufficient time to carry out expected activities without undue time const given.	ndicates. Operators traints. Cues are	a		pst			
8.	The simulator modeling is not altered.		9		120			
9.	The scenarios have been validated. Any open simulator performance deficient evaluated to ensure that functional fidelity is maintained while running the placement.	encies have been anned scenarios.	\$		pos			
10.	Every operator will be evaluated using at least one new or significantly modi other scenarios have been altered in accordance with Section D.4 of ES-301	fied scenario. All	8		pats			
11.	All individual operator competencies can be evaluated, as verified using For the form along with the simulator scenarios).	m ES-301-6 (submit	ä		(rev)			
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	×.		psis			
13.	The level of difficulty is appropriate to support licensing decisions for each c	rew position.	8		[fsr			
TARGE	T QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes						
1.	Total malfunctions (5-8)	7 / 6 /	Ũ		100			
2.	Malfunctions after EOP entry (1-2)	2 /2 /	×		pan			
3.	Abnormal events (2-4)	2 / 2 /	8		100			
4.	Major transients (1-2)	1 / 1 /	0		(as			
5.	EOPs entered/requiring substantive actions (1-2)	2 / 2 /	Ø		100			
6.	EOP contingencies requiring substantive actions (0-2)	1 / 1 /	0		port			
7.	Critical tasks (2-3)	2 /3 /	8		MAN			

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-301	Tra (Insient and Ev	ent Check TEST NO.	klist :	Fo	rm ES-3	
Applicant	Evolution	Minimum		Scenario	Number		
'Туре	Туре	Number	RO	1 BOP	RO 2	BOP	
	Reactivity	1	4	0	1	0	
	Normal	1	1	0	1a	1	
RO/BOP	Instrument	2	2	5	3	2	
	Component	2	3	6	. 4	3a	
	Major	1	6	6	5	5	
	Reactivity	1		4	1		
	Normal	0		1	1:	a	
As RO	Instrument	1		2	3		
	Component	1		3	4		
	Major	1		6	5		
SRO-I							
	Reactivity	0		4	1		
	Normal	1		1	1a		
As SRO	Instrument	1		2	2,3		
	Component	1		3	3a,4		
	Major	1		6	5	;	
	Reactivity	0		4	1		
	Normal	1		1	1	a	
SRO-U	Instrument	1		2	2,	3	
	Component	1		3	3a	,4	
	Major	1		6	5	5	
structions: (1) (2)	Enter the oper each evolutior Reactivity mar abnormal cond Section C.2.a	rating test num n type. nipulations ma ditions (refer to of Appendix D	nber and F by be cond o Section).	Form ES-D-1 lucted under D.4.d) but m	event num normal or d ust be sign	bers for controlle ificant pe	
uthor: hief Examiner:	Richard	F. Aiello S. Baldwin					

Initial Submittal, G:\Surry\Initial Examinations\Initial Exam 2000-301\Surry QA Forms\301-3-4-5-6.wpd, July 28, 2000 (9:38AM)

Competencies Checklist

Form ES-301-6

______ (i)

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

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:	Ronald F. Aiello	
Chief Examiner:	Richard S. Baldwin	

Initial Submittal, G:\Surry\Initial Examinations\Initial Exam 2000-301\Surry QA Forms\301-3-4-5-6.wpd, July 28, 2000 (9:38AM)

ES-301	Tra	insient and Ev	ent Checkl	ist	Fo	rm ES-301-5	
	(OPERATING	TEST NO.:			·····	
Applicant	Evolution	Minimum Number		Scenario	Number		
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		RO	1 BOP	RO 2	BOP	
	Reactivity	1	4	0	1	0	
	Normal	1	1	0	1a	1	
RO/BOP	Instrument	2	2	5	3	2	
	Component	2	. 3	6	4	3a	
	Major	1	6	6	5	5	
	Reactivity	1	4	4	1		
	Normal	0		1	1a		
As RO	Instrument	1		2	3		
As RO SRO-I As SRO	Component	1	:	3	4		
	Major	1	e	6	5		
SRO-I							
	Reactivity	0	4	4	1		
	Normal	1	1		1	a	
As SRO	Instrument	1	2		2,	3	
	Component	1		3	3a	,4	
	Major	1	(3	5		
	Reactivity	0	4	4	1		
	Normal	1		1	1	а	
SRO-U	Instrument	1	2	2	2,	3	
	Component	1	3	3	За	,4	
	Major	1	e	6	Ę	5	
Instructions: (1) (2)	Enter the oper each evolutior Reactivity mar abnormal cond Section C.2.a	rating test num htype. hipulations ma ditions (refer to of Appendix D	ber and Fo y be condu o Section D	orm ES-D-1 acted under 0.4.d) but m	event num normal or d ust be sign	bers for controlled ificant per	
Author:	Repato	Atello					
Chief Examiner:	∭ Richard	S. Baldwin					

Initial Submittal, G:\Surry\Initial Examinations\Initial Exam 2000-301\Surry QA Forms\301-3-4-5-6.wpd, August 8, 2000 (10:57AM)

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Competencies Checklist

Form ES-301-6

	RO/SRO-U		BOP	'SRO-U	SRO-I/SRO-U		
Competencies	SCENARIO		SCE	NARIO	SCENARIO		
	1	2	1	2	1	2	
Understand and Interpret Annunciators and Alarms	1,2,3,6	1,3,4,5,6 ,7	4,5,6	2,3a,5,6, 7	1,2,3,4,6	1,2,3,3a, 4,5,6	
Diagnose Events and Conditions	2,3,6	3,4,5,6,7	5,6 ·	2,3a,5,6, 7	2,3,5,6	2,3,3a,4, 5,6	
Understand Plant and System Response	1,2,3,4, 6	1,3,4,5,6 ,7	4,5,6	2,3a,5,6, 7	1,2,3,4,5 ,6	1,2,3,3a, 4,5,6	
Comply With and Use Procedures (1)	1,2,3,4, 6	1a,1,3,4, 5,6,7	4,5,6	2,3a,5,6, 7	1,2,3,4,6	1a,1,2,3, 3a,4,5,6	
Operate Control Boards (2)	1,2,3,4, 6	1a,1,3,4, 5,6,7	4,5,6	2,3a,5,6, 7	N/A	N/A	
Communicate and Interact With the Crew	1,2,3,4, 6	1a,1,3,4, 5,6,7	4,5,6	2,3a,5,6, 7	1,2,3,4,6	1a,1,2,3, 3a,4,5,6	
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	1,2,3,4,6	1a,1,2,3, 3a,4,5,6	
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	1,2,3,5	2,3,3a	

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:

Richard S. Baldwin_____ Chief Examiner:

Initial Submittal, G:\Surry\Initial Examinations\Initial Exam 2000-301\Surry QA Forms\301-3-4-5-6.wpd, August 8, 2000 (10:57AM)

Written Examination Quality Checklist

Form ES-401-7

Facility:	Da	te of Exam	1: 1:		en e	Exam Le	vei: R	D/SRO	
RO EXAM							Initial		
	Item Description						D *	C'	
1.	Questions and answers technically accurate and	applicable	to faci	lity		ARD	A	1pm	
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as avail	lable			• • •	giw.	A	fsm.	
3.	RO/SRO overlap is no more than 75 percent, and per Section D.2.d of ES-401	I SRO que	stions	are ap	propriate	AIN	A	fm	
4.	No more than 25 questions are duplicated from [p	oractice	NF	RC	Other				
	exams, quizzes, and the last two NRC licensing of enter the actual number of duplicated questions a	exams; at right	(2	0	1th	\square	15m	
5.	[No (Less than 5 percent) question duplication fro exam (if independently written)]	om the lice	nse sci	reenin	g/audit	gin	A	km	
6.	Bank use meets limits (no more than 50	Bank	Mod	ified	New	U			
	percent from the bank, at least 10 percent new, and the rest modified); enter the actual question distribution at right	0	C)	100	JW	A	ţm	
7.	Between 50 and 60 percent of the questions on	Memo	огу		C/A				
	the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	49)	5	5/	me)	Д	fm	
8.	References/handouts provided do not give away a	answers				91N	A	kn	
9.	Question distribution meets previously approved e are justified	examinatio	n outlir	ne; de	viations	Ja	Å	ßm	
10.	Question psychometric quality and format meet E	S, Append	ix B, g	uidelir	ies	gip	77	fish	
11.	The exam contains 100, one-point, multiple choice agrees with value on cover sheet	e items; th	e totai	is con	ect and	J.w	Å	Im	
a. Autho b. Facili c. NRC d. NRC	Printed Name / Signature Date a. Author Jawes H. Warren, JR / Amerik hamf, 7/38/0 b. Facility Reviewer(*) <u>F. Kenneth Grover</u> H. Lunner 1/28/0 c. NRC Chief Examiner(*) <u>LARRY S. Mellen / Jourg S. Mellen</u> 5/24/0 d. NRC Regional Supervisor(*) <u>MICHAEL É, ERMISTES / Michael P. E. to</u> 8/24/0								
Note:	 The facility reviewer's signature is not applicable NRC reviews are required. # See special instructions (Section E.2.c) for Item [] The items in brackets do not apply to NRC-prepared 	e for NRC- is 1, 4, 5, a pared exam	develo and 6. ninatio	ped e	xamination	is; two in	depend	dent	

NUREG-1021, Revision 8

Written Examination Quality Checklist

Form ES-401-7

Facility				<u>.</u>					
Facinity.									
	$>$ /< \bigcirc \leftarrow	XAN)			a	b*	c.	
1.	Questions and answers technically accurate and	applicable	to faci	lity		and	Å	for	
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as avai	lable				Am	A	fsm	
3.	RO/SRO overlap is no more than 75 percent, and per Section D.2.d of ES-401	I SRO que	stions	are ap	opropriate	and	Á	fsn	
4.	No more than 25 questions are duplicated from [r	oractice	NF	20	Other				
	exams, quizzes, and) the last two NRC licensing a enter the actual number of duplicated questions a	exams; at right		2	0	And	A	frin	
5.	[No (Less than 5 percent) question duplication fro exam (if independently written)]	om the lice	nse scr	eenin	g/audit	AA	A	15m	
6.	Bank use meets limits (no more than 50	Bank	Mod	ified	New				
	and the rest modified); enter the actual question distribution at right	0	С)	100	file	A	fan	
7.	Between 50 and 60 percent of the questions on	Memo	огу		C/A				
	written at the comprehension/analysis level; enter the actual question distribution at right	.41	}	Ę	-9	(AA)	A	fim	
8.	References/handouts provided do not give away a	answers	•			Alth	A	fm	
9.	Question distribution meets previously approved e are justified	examinatio	n outlir	ne; de	viations	ante	A	Asim	
10.	Question psychometric quality and format meet E	S, Append	ix B, gi	uidelir	ies	man	A	\$m	
11.	The exam contains 100, one-point, multiple choice agrees with value on cover sheet	e items; th	e total i	s con	ect and	alter	A	\$5m	
a. Autho b. Facili c. NRC d. NRC	Printed Name / Signature Date a. Author James H. James H. Warren, TR. Massen,								
Note:	 Note: The facility reviewer's signature is not applicable for NRC-developed examinations; two independent NRC reviews are required. # See special instructions (Section E.2.c) for Items 1, 4, 5, and 6. The items in brackets do not apply to NRC-prepared examinations. 								

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ES-4	1 01				·					W F	/ritten Reviev	Exan v Wor	nination Form ES-401-9 ⁄ksheet
<u> </u>			,					<u> </u>				T	
Q#	1. LOK	LOD		B. Psyc	chomeu I	Tic Flaws	s 1	4.	Job Con T	tent Fi	aws T	5.	6.
	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
1	н	2		X								s	New Place mode or temperature in stem. Remove reference to RRZR from stem. Ok
2	F	1	x									s	New - None of theses are immediate action. They are procedural steps. Perhaps, what is the first action required by OK are immediate action steps
З	н	3										s	New
4	F	2	x									s	New . Replace immediately stop the RCP with stop the affected RCP. This action is not an immediate action. OK corrected
5	F	2				x						s	New Distractor A - entry into ES-0.0 is never "required" The wording in the stem eliminates this as a possibility. Corrected - replaced distractors
6	н	2										S	New
7	F*	1										s	New
8	F*	1					х					s	New Is D an incorrect answer. If an operator attempted to insert the rod, would that action be incorrect? OK question stays as is
þ	н	3										s	New
10	н	3										s	New
11	н	2										s	New
12	F	2										s	New
13	F	2										s	New
14	F	2										s	New
15	F	1								İ —		s	New
16	н	3										s	New
17	н	3										s	New
18	н	3			<u></u>				-			s	New New - This question assumes there was no significant activity in the secondary side, since it was not included in the stem, that assumption seems valid. OK

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New

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~ "	1.	2.		3. Psyc	chometr	ic Flaws	s	4.	Job Con	tent Fla	aws	<mark>ا</mark> 5.	6.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
20	F	2										s	New
21	н	3										s	New
22	Н	3					x					S	New Temperature increase is due to RCPs running, under the conditions listed ir stem, will they always be running? If not the temperature may decrease because the RHR flow. Decay heat is the primary heat source - different from NA. Quest is OK
23	F	2										s	New
24	F	2										s	New
25	н	2										s	New
26	н	2										s	New
27	к	2								-		s	This question was not evaluated. The material supplied does not support the an because the procedure has no immediate actions Question is valid as written
28	F	1										s	New
29	Н	2					x					s	New Documents provided by North Anna for the same question stated that distractor D is a correct answer Feed and bleed is not intended to provide lon term core cooling. It is only an interim measure until secondary heat sink can be restored <u>OR</u> RHR can be placed in service. There seem to be two correct answ Update reviewed - did not resolve question. Please verify this is not correct at S This is a valid question
B0	н	2										s	New
31	F*	2										s	New
32	H	3										S	New. While the procedure says "when the reactor is tripped" I expect that it me when the first four steps of E-0 are complete. I believe the turbine must also be tripped, before this action is complete. If this is the case, then the answer is technically not correct. There may be no correct answers. The applicant will no the procedure in front of him and will have to reason the intent of the procedure. is in accordance with Surry directions. OK
33	н	3										s	New
34	н	2										s	New
35	н	2										s	New
36	F	2										s	New
37	F	2										s	New
38	н	2										s	New

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		1.	2.	;	3. Psyc	hometr	ic Flaws	5	4.	Job Cont	ent Fla	aws	5.	6.
	Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
	39	н	2										s	New
	40	н	2										s	New
	41	н	2										s	New
	42	F	2										s	New
	43	н	2										s	New
	44	F*	2										S	New
	45	F	1										s	New
	46	F	2										s	New (bank #1188 at NA)
	47	н	3										s	New
	48	F	2										s	New
	49	н	3										s	New
	50	F	1										S	New (Modified bank 1286 at NA) - add enough information in the stem to set up adverse containment. Lower pressure in A to 350. A remains the correct answer. Changes question to a Higher Level and LOD to 3. Update reviewed - S Review proposed changes to alter LOD - Leave question as ia. OK
	51	н∗	2										s	New
	52	к	2										s	New
	53	н	3										s	New
	<u>5</u> 4	н	2										s	New
	5 5	н	2										s	New
	56	н	2										s	New
	57	F	2										s	New
	58	F	2										s	New
	59	F*	2										s	New
	60	F	2										s	New
	61	F*	2										s	New
	62	F	2										s	New
	63	F	1										s	New

		<u></u>										_	
0#	1.	2.		3. Psyc	chomet	ric Flaws	s	4.	Job Con	tent Fla	aws	5.	6.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
64	F	1										s	New
65	F	2				-						s	New
66	F	2										s	New
67	F	2										S	New
68	F	2						-				s	New
69	F	2										s	New - this question was revised at N/A to provide reference comment from after revision - Update reviewed - If 1-PT-24.1 page 3 is the reference provide applicant, this makes this fundamental question a direct look-up. Solution - p entire procedure or provide not reference> Surry reviewer- do not provide reference OK
70	н	3										s	New
71	F	2										s	New
72	F	2										s	New
73	F	2										s	New
74	F	3	x									S	This makes the assumption that the upper or lower bearing temperatures have exceeded 200 degrees before the 2 minute mark. There is nothing in the ster states that this has not happened. It is possible there are no correct answers to stem - (Assume all bearing temperatures remain below 200 degrees F) Of
75	н	2										s	New - Reference must be provided for this question- OK
76	F	1										s	New
77	н	3							· · · ·	-		s	New - Add assume no operator action to stem OK
78													New - The curve for subcooling equal to zero includes loop uncertanty. The answer is the negative sign indicates the plant is below this line and may still subcooled or it may be saturated or superheated. There appear to be no cor answers as the question is written The question was reworded to correct a will be resubmitted.
79	F	2					1					s	New - E-0, Reactor Trip or Safety Injection, could be moved to the stem - Or
80	F	3					x					s	New - Distractor A may be worded better " to prevent excessive cooldown" T procedural step will actually prevent the entry into FR-P.1 OK no change n
B1	н	3										s	New - What is the purpose of "is noted to be" in the stem? Will modify stem
82	F	1										s	New
83	F	2										s	New

(1											(
· · · · · · · · · · · · · · · · · · ·	Ĩ	1.	2.	:	B. Psyc	chometr	ic Flaws	3	4.	Job Con	ent Fla	aws	5.	6.
	Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
	84	н	2					2					s	New
	85	F	2										s	New - This level of detail is not normally information an operator is expected to memorize. OK no change needed
	86	н	2										s	New
	87	F*	2										s	New
	88	F					x							New Distractors A and C are not plausible - suggest replacing them with 4200.00 rem/hr and 42000 rem/hr respectively . Revision made. OK
	89	F*	2										s	New - This question does not require the synthesis of facts to arrive at the answer. OK
	90	н	5										s	New
	91	к	2								_		S	New - rearrange distractors B and C so the answers are in descending order. OK change made
	92	н	3										s	New
	93	F	2										s	New
	9 4	н	2										S	New - to be consistent with the stem, distractor A should be worded - The normal cross-tie with the Station Instrument Air system. OK changed
	95	F	2										s	New
	96	н	3										s	New
	97	н	3										S	New - OPAP-0006 Revision 2 states"At the Discretion of the Shift Supervisor, thermal overload devices may be reset once The answer states"After determining the cause, the SRO may approve one reset of the thermal overload device" This answer is not correct. There are no correct answers for this question. Comment is invalid. OK
	98	F	2										S	New - Distractor B does not make sense. It indicates the pump was secured when it was started. Change the answers as follows: A. 2300 today, 1 hour B. 0600 tomorrow, 2 hours, C. 1200 tomorrow, 3 hours D. 1500 tomorrow, 3 hours. According to TS 3.10-3 04-11-91 the correct answer will be A. Question was
	┣													reworded. OK
	P 9	Н	2										s	New

~"	1.	2.		3. Psyc	chomet	ric Flaw	S	4.	Job Cont	tent Fl	aws	5.	6.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
100	Η	5										S	New - there are no correct answers. C is not a correct answer. Manual insert control rods is the RNO of the previous step. It MUST be attempted prior to g step 2, trip the turbine. Correct answer is Verify automatic control rod insertion not, begin manually inserting rods), then trip the turbine. The standard EOP u guidance will provide this as an acceptable alternative. The guidance provide OPAP-0002 states that the Immediate action steps of FR-S.1 shall be perform sequence. Question is valid. OK
101	F	1										s	New - This question has no discriminatory value. Not stopping SI will always the reduction in SI flow, regardless of the reason for the step. Valid - Question acceptable.
102	Η	3		X									New - TS 3.3 probably does not apply once you have the TSC manned. This in step 18. And the TSC is consulted during this step. There is probably a mechanical basis for this step and not an admin basis. The material comes fr lesson plan, but does not make sense question will remain unmodified after review.
103	н	3										s	New
104	н	2										s	New
105	F	1										s	New
106	F*	2										s	New
107	н	3										s	New
108			x	x		x							New - Distractor A is not plausible, the stem states the LHSI pumps did not si PRZR level is needed in stem. Answer is incorrect. The conditions for RCS depressurization do not exist. ECA 1.1 step 22 c RCS subcooling is between 95, so depressurization is not required. Will revise question Discussed mod question with Groover, will be resubmitted.
109	н	3											New - Distractor C is not plausible. Replace with P-6 permissive resets A. High flux RX Trip B. High Flux Rod Stop D. P-6> 10 E-10 amps Rx TripLeave the question as is. OK
110	F*	1										s	New - Question has low LOD
111	н	2										s	New
112	F	3										s	New
113	н	2										s	New
114	F	2										s	New _ add per VPAP-2203 to stem. Revised stem
115	н	2										s	New Normally we don't write questions that state which of the following is wr Details are in NUREG 1021 Appendix B 2.e. Ok question not revised

	<u> </u>											_	
0#	1.	2.	;	3. Psyc	chometr	ic Flaws	5	4.	Job Cont	ent Fl	aws	5.	6.
Q#	(F/H)	(1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
116	F*	2										s	New
117	н	2										s	New
118	н	2										s	Vogtle 1999
119	F*	2										s	New
120	н	3										s	New
121	F	2										s	New
122	н	2										s	New
123	н	3										s	New
124	4 H 3 S New												
125	н	2										s	New
											Ir	structio	ns
	_		·	•		[Re	fer to Ap	opendi	x B for a	ddition	al infor	mation r	egarding each of the following concepts.]
1.	En	ter the i	evel of I	knowle	dge (LC	DK) of e	ach que	stion a	is either ((F)und	amenta	lor(H)i	gher cognitive level.
2.	En		evelor		y (LOD) of eacl	n questi	on usi	ngai-c	easy	- amici	uit) ratin	g scale (questions in the 2 - 4 range are acceptable).
3.			approp The ster The ster The ans	m lacks m or dis wer ch	s suffici stractor oices a	ent focu s contai re a col	is to elic in cues lection c	it the (i.e., c) f unre	correct ar lues, spe lated true	nswer cific de /false	(e.g., ur etermine statem	nclear in ers, phra ents.	tent, more information is needed, or too much needless information). asing, length, etc).
	•	1	More the One or r	an one more d	distrac istracto	tor is no rs is (ar	e) partia	le. Ily cor	rect (e.g.	, if the	applica	int can r	make unstated assumptions that are not contradicted by stem).
4.	 Check the appropriate box if a job content error is identified: The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content). The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory). The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons). The question requires reverse logic or application compared to the job requirements. 												
5.	Ba	sed on	the revie	ewer's	judgme	nt, is th	e questi	on as	written (l	J)nacc	eptable	(requiri	ng repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
6.	For any "U" ratings, at a minimum, explain how the Appendix B psychometric attributes are not being met.												

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Form ES-401-9

	1.	2.	3	. Psyc	homet	ric Flaw	'S	4.	Job Cont	ent Fla	aws	5.	6.
Q#	LOK (F/H)	LOD (1-5)	Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	U/E/S	Explanation
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Written Examination Grading Quality Checklist

Facilit	ty:	Date of Exam:	Exam Le	vel: R	D/SRO
				Initials	
	lte	em Description	а	b	, c
1.	Answer key changes documented	and question deletions justified and	Ap	- 711	pos
2.	Applicants' scores ch (reviewers spot checl	ecked for addition errors < > 25% of examinations)	A) H	143
3.	Grading for all border detail	line cases (80% +/- 2%) reviewed in	M) 241	f 435
4.	All other failing exam are justified	inations checked to ensure that grades	A W	Z	Rais
5.	Performance on miss deficiencies and word questions missed by	ed questions checked for training ling problems; evaluate validity of half or more of the applicants	A	W	patr
		Printed Name / Signature	•		ate
a. Gr	ader	RICHSED 5. BADWIN)/ R. (a chor of		-7/2	100/02/08
b. Fa	cility Reviewer(*)	Roy Simmons 25 Jon	-drames	<u> </u>	1100
c. NF	RC Chief Examiner (*)	RICHARD S. BALDWIN Mid- do	alt .	10	lozlos
d. NF	RC Supervisor (*)	MICHAEL E. ERNITES/Mindal	5.45	Jol	16/00
(*)	The facility reviewer's NRC; two independent	s signature is not applicable for examination to the second structure is not applicable for examination to the second structure is a second structure in the second structure is a second structure in the second structure is a s	ons grade	ed by th	ne

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ES-201		
EXamination Security Agreemor	nt	the second s
		Form EC 201

1. <u>Pre-Examination</u>

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of <u>1/18/00</u> 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 authorized by the NRC.Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's 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 <u>**118**60</u>. 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)	
1. F.K. Grover	Sain Trate (Val. Val.	A.M.		Art	DATE NOTE
2. James H. Warren JR	Service Tastouter (AL In Algebon	while the first from the second	<u></u>	- Respice	10/4/00
3. AMY EPPS	PROCESS ANALYST Adama	and have the	<u> </u>	Jone Hilland.	10-4-00
4. DAVID L. ROWPEN	ASSISTENT Shift SUDV /OUS Norlid	King & Diddia	718.00	ungit spost	10-04-00
5. David K. Souza	54,F+ Supervisor Valia	Dars Jan	7-11-40	- Julies Portly in	10100
7 2:11 22 - 4. 6	Asst Shift Supr (5P) Valid	Ball	7-18-00	The	10-10-00
8. STEVEN TAVIS	A St Shift Supp / OPS (Vild)	Well From	7-25-00	Willy ?. Rem	10/5-00
9. Henry Juharan	POLOOS WILL	- Alton	7-25-00	LAKES	10-17-00
10. Fuss Hangeton		the some offer	7/25/40_	-lot-	10/11/00
11. Stalen K. Crownford	31. Inst. (NAC) / Exam Antimor . NAPS 6	and Rooman	7125/00	1 the fit	10/19/00
12. Kevin M. Spencer	Senior Zust. (Nuc) / LORP Deven	hen that	8/9/00 \$	1 Longow	10,31-00
14 LOURS C 5 FUTH	SIMULATUR SOFTWARE	Cfr. Thirth	811100	1.70st	10/8/00
15. Robert al Sodrahalm	Simulator Software	Haura lyror fr.	8/11/09 0	aurena Gras AB	10/5/00
	- active the completion ops	KAPAT N Ame	8/21/00	Chot i lon-	10/6/00

NOTES:

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ES-201 Examination Security Agreement	
Examination Security Agreement Fo	rm ES-201-3

1. <u>Pre-Examination</u>

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of <u>9/10/00</u> 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 authorized by the NRC. Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that

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 <u>1/800</u>. 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.

	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
2. William (2 Henry 3 T.F. 1 APTHING VIAN	SUPENCION SUPPORT CONDITION	pluse /	Speil no -	Jeme -	Der 4 200
4. Daniel Mozo 5. Jamon H. Horn	RO Value	A manufas	1 9-22-20	all Hart	12019-20
6. REPECCA F. LANE 7. JEFF T. Spence	Service Hemith Physics Top (SHE)	Att Ad	8-22-2400 8/24/00	A HI	10-18-2000
8. CurtisL. Dardente	Admin Support	Hit mence	8/26/00 9/13/00	Marshandie	10/000
10. Jeff T. A. Dr. 11. 11. Ecl Shore	Suguestorn	TATI 22	- 9/13/00 - - 9/18/10-	for an an	10/6/00
12. Kandy Johnson 13. Levin J. Labort	Spt obs/ operations Trastructor	O DATE-	9/19/00	Ranger-	10/18/05
15. Aul ORASEN	INSTRUCTOR - LICENSE CLASS	Rontantill -	1/1/00 / 9/20/00	With lill	10/18/00 10/18/00

NOTES:

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Surr	y Nuclear Plant		
	Task Description	Date Complete	
1.	Facility written exam comments or graded exams received and verified complete	9/25/00	
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	10/02/00	
3.	Operating tests graded by NRC examiners	10/13/00	
4.	NRC Chief examiner review of written exam and operating test grading completed	10/13/00	
5.	Responsible supervisor review completed	10/17/00	
6.	Management (licensing official) review completed	10/16/00	
7.	License and denial letters mailed	10/19/00	
8.	Facility notified of results	10/18/00	
9.	Examination report issued (refer to NRC MC 0610)	10/19/00 4	4
10.	Reference material returned after final resolution of any appeals	NIA	