Operations Branch Assignment Check Sheet:

(Includes ES-201-1 & ES-501-1 Rev. 8, Supplement 1 information)

Chief: T. Stetka

Facility/Task: CG IN EX

Task Start Date: 10/07/2002

	ITEM DESCRIPTION	DUE DATE		DATE
0	Exam/Inspection Schedule Agreement (C.1.a;C.2.a&b)	Apr 10, 2002	AATG	10/15/2001
1	NRC Staff & Fac. Contact Assigned (C.1.c;C.2.e)	Apr 10, 2002	AATG	10/15/2001
2	Facility contact briefed on security & other issues (C.2.c)	Apr 10, 2002	731	1/15/200Z
3	Corp. Notification Letter Sent (C.2.d) (Exams only)	Apr 10, 2002	V78	4/u/oz
3a	Inspection Announcement Letter Sent (PIR & LORT if req'd)	Aug 23, 2002	N/A	
4	Task Expectations, Issues, & Standards Discussed w/ BC	Jul 9, 2002	VF8	7/9/02
5#	[Reference Material Due (C.1.d;C.3.c)]	Jun 9, 2002	N/A	
6#	Integrated Exam Outlines Due (C.1.d&eC.3.d)	Jun 9, 2002	T78	6/6/02
7#	Outlines reviewed by NRC & Feedback Sent (c.2.h;C.3.e)	Jun 23, 2002	VF8	6/13/02
8#	Preliminary Applications Due (C.1.j;C.2.g;ES202)	Sep 7, 2002	13-8	9/9/02
9#	Draft Exams w/ Doc./Ref. Due (C.1.d/e/f;C.3.d)	Aug 8, 2002	V#8	8/13/02
10#	Peer Reviewer Initials As Reviewed All Parts*	Aug 18, 2002	V#8	9/5/02
11#	NRC Supervisor. Initials Approving for Fac. Rev. (C.2.h;C.3.f)*	Aug 18, 2002	AT	9/9/02
12#	Exams Reviewed w/ Fac. (C.1.h;C.2.f&hC.3.g)	Aug 18, 2002	VF8	9/9/0Z
13#	Final Appl. Due & Assign. Sheet Prepared (C.1.j;C.2.h;ES202)	Sep 23, 2002	VFS	9/23/02
14#	NRC Supervisor Approved Final Exams (C.2.i;C.3.h)*	Sep 30, 2002	AT	10/2/02
15#	Final Appl. Rec'd & Waivers Sent (C.2.g)	Sep 30, 2002	V78	10/2/02
16#	Proctor Rules Reviewed w/ Fac. & Written Authorized (C.3.k)	Sep 30, 2002	V 7 8	9/25/02
17	Exam/Insp Material to Team (C.3.i)	Sep 30, 2002	V I S	9/30/02
18#	Fac. graded exam & Comments Rec'd	Oct 19, 2002	V78	10/21/02
19#	NRC Written Grading Completed .	Oct 22, 2002	V7-8	11/6/02
20#	Examiners Finished Grading Op. Tests	Oct 22, 2002	V78	11/5/02
21#	NRC Ch. Ex. Review Completed	Nov 1, 2002	V78	11/6/02
22	NRC BC Review Completed*	Nov 2, 2002	Ar	11/1/02
23#	RPS/IP # Examinees Updated Before Report Issued	Nov 7, 2002	Y#S	11/8/02
24	License/Denials Signed & Report Issued	Nov 7, 2002	Y\$-8	11/8/02
25	Package Closed Out	Nov 28, 2002	V#8	01/04/03
	Final Inspection Report Issued, Exam Package to OLA, Facility.	Contact Notified		S

Not required for inspections, except as noted. * Note Supervisor/Peer initials required.

[] Required NRC-auth. exams only.

When complete, for exams, add to pkg & fwd copy to BC, for insp, fwd orig'l to BC. Last revised 10/15/01 S:\DRS\OB\EXAMS\WNP2\October 2002 Exam\exam assignment sheet.wpd

Examination Outline Quality Checklist

Facility	Date of Examination:						
			Initial	s			
Item	Task Description	a	b*	c#			
1. W	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	53	2 Eh	A 8			
R I T	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.	SS.	224	TO &			
Ť E	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	62	284	V38			
N	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	50	2.24	Ø\$			
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.	60	724	æ.			
S H 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.	80	R £4	PF-B			
	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.	án	724	138			
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. 	ED)	Zec.	7 3 .8			
	 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. 	AB)	Reh	VES			
	c. Verify that the required administrative topics are covered, with emphasis on performance- based activities.	64	944	178			
	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.	60	94.	TF8			
4.	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	A	7H.	VAP			
G E	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	6A	954	V#8			
N E	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	62	Reh	778			
R A	d. Check for duplication and overlap among exam sections.	<u>6</u> A	254	S## 8			
L	e. Check the entire exam for balance of coverage.	6	Réh	T#8			
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	62	284	W.			
a. Author b. Facility Reviewer (*) c. NRC Chief Examiner (#) d. NRC Supervisor							
Note:	 Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required. 						

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Written Examination Quality Checklist

Facility:	Gol. Gen. St	ation D	ate of Exam	n: Oc	<u>+ 2</u>	<u>1282</u>	Exam Le	evel: RC	SRO
								Initial	
		Item Description					a	b*	c *
1.	Questions and answe	rs technically accurate an	d applicable	to facili	ity		53	<i>RE4</i>	M
2.	a. NRC K/As reference b. Facility learning ob	ed for all questions jectives referenced as available	ailable				ES .	REG	M
3.	RO/SRO overlap is no per Section D.2.d of E	more than 75 percent, an S-401	nd SRO que	stions a	ire app	propriate	64	REG.	M
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process								M
5.	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 X the examinations were developed independently; or the licensee certifies that there is no duplication; or other (explain)							R EG	m
6.	Bank use meets limits	(no more than 75 at least 10 percent new,	Bank	Modi	fied	New			M
		; enter the actual question	36	5	5 59			REG	(1)
7.		ercent of the questions on	Mem	ory		C/A			
		new questions) are nension/analysis level; ion distribution at right	43		S	7	62	REG	(N
8.	References/handouts	provided do not give awa	y answers				5A	REG	M
9.		forms with specific K/A stand outline and is appropriate are justified					54	Réh	m
10.		c quality and format meet	ES, Append	dix B, gi	uidelin	es	BA	REG	M
11.		0, one-point, multiple cho					SA	REG	PL
	ior lity Reviewer (*) Chief Examiner (#) Regional Supervisor	Street Hytchisu Randy Guttine	<u> </u>	Signatu DD Stette	re		telles	D 8/ 8/ 8/ 8/	ate 8/02 12/02 2//10/2

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Written Examination Quality Checklist

Facility:	Col. Gou. Station De	ate of Exam	: 0	J Z	ωz_	Exam Le	evel: RC	SRO
							Initial	
	Item Description					а	b*	c*
1.	Questions and answers technically accurate and	applicable	to faci	lity		5A	Reh	M
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as ava	ilable				Es l	Réh	M
3.	RO/SRO overlap is no more than 75 percent, an per Section D.2.d of ES-401	d SRO que	stions	are app	propriate	岛	REG	M
4.	Question selection and duplication from the last appears consistent with a systematic sampling p		ensing) exam	S			M
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 K the examinations were developed independently; or the licensee certifies that there is no duplication; or other (explain)							M
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	BankModifiedNew43354				84	REG	R
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	Memo	огу		c/a 53	80	Réh	M
8.	References/handouts provided do not give away	answers		<u> </u>		51	REL	M
9.	Question content conforms with specific K/A stat approved examination outline and is appropriate assigned; deviations are justified	ements in t				SA	Rel.	R
10.	Question psychometric quality and format meet	ES, Append	dix B, g	uidelin	es	6A	Réh	M
11.	The exam contains 100, one-point, multiple choin agrees with value on cover sheet	ce items; th	e total	is corr	ect and	54	REL	M
a. Auth		ed Name / S	Signati		c		D: 8/	ate 8/02
c. NRC	Randy Cuthr. Chief Examiner (#) (MC (MAN (AN 72) // T Regional Supervisor ANTIONY T. GODY	e Z	cond reenst lody	Thom	nt th	145	8/23/0 101.	1202 52/10/2 202
Note:	 The facility reviewer's initials/signature are not # Independent NRC reviewer initial items in Col 							

Operating Test Quality Checklist

Form ES-301-3

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a. The operating test conforms with the previously approved outline: changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, satety function distribution). b. There is no day-to-day repetition between this and other operating tests to be administered during this examination. c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). c. The operating test shall not duplicate items from the applicants' audit designated license level. c. WALK-THROUGH (CATEGORY A & B) CRITERIA c. WALK-THROUGH (CATEGORY A & B) CRITERIA c. C. WALK-THROUGH (CATEGORY A & B) CRITERIA c. C. WALK-THROUGH (CATEGORY A & B) CRITERIA c. C. Metailed specific dress in the idaxiby locense c. specific performance offica by the facility locense c. specific performance offica by the facility locense c. specific performance of the task include: c. odtailed expected actions with exact criteria and nomerclature c. system response and other examiner cues c. statements describing important observations to be made by the applicant c. criteria for successful completion of the task c. identification of critical by the saccitate performance standards c. restrictions on the sequence of steps, if applicable b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. c. Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do	Facility:	Date of Examination: Operatin	g Test	Numb	er:					
 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). b. There is no day-to-day repetition between this and other operating tests to be administered during this examination. c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). d. Overlap with the written examination and between operating test categories is within acceptable limits. e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level. a. WALK-TRROUGH (CATEGORY A & B) CRITERIA a. Each JPM includes the following, as applicable: initiating cues references and tools, including associated procedures references and tools, including associated procedures e. specific performance ortifical by the facility licensee specific designated if demi limits (average time allowed for completion) and specific designation if dees earthing inportant observations to be made by the applicant e. ortification or drived at gene and their associated performance standards restrictions on the sequence of steps, if applicable b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. c. Repetition form operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity. d. At least 20 percent of the JPMs on each test are new or significantly modified. a. SIMULATOR (CATEGORY C) CRITERIA d. At least 20 percent of the user is the are new or significantly modified. d. At least 20 percent of the JPMs on each test are new or significantly modified. d. At least 20 percent of		1. GENERAL CRITERIA	a	T	ls c#					
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination. c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a). d. Overlap with the written examination and between operating test categories is within acceptable limits. e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level. 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 resonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee system response and other examiner cues system response and other examiner cues system response and there associated performance standards restrictions on the sequence of staps, if applicable b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. 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. d. At least 20 percent of the JPMs on each test are new or significantly modified. SiMULATOR (CATEGORY C) CHITERIA At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly modified. At least 20 percent of the JPMs on each test are new or significantly	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).	64	<i>Réh</i>						
d. Overlap with the written examination and between operating test categories is within acceptable Rule Rule </td <td>b.</td> <td>There is no day-to-day repetition between this and other operating tests to be administered</td> <td>64</td> <td>RE4</td> <td>M</td>	b.	There is no day-to-day repetition between this and other operating tests to be administered	64	RE4	M					
Initis. Initis. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level. 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 references and tools, including associated procedures references and tools including associated performance standards restrictions on the sequence of steps, if applicable b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. 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. d. At least 20 percent of the JPMs on each test are new or significantly modified. 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. b. Facility Reviewer(') c. NRC Chief Examiner (#) Themas F. Stecttal Themas F. Stattal Councily	с.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	60A	R24	me					
applicants at the designated license level. Image: Comparison of the sequence of the set the design the security modified. c. At teast 20 percent of the JPMs on each test are new or significantly modified. d. At teast 20 percent of the LPMs on each test are new or significantly modified. a. At teast 20 percent of the LPMs on each test are new or significantly modified. a. At teast 20 percent of the sequence of the set of the task for the sequence of the set of the task for the set of the set of the task for the set of the set of the task for the set of the set of the task for the set of the set of the task for the set of the task for the set of the set of the task for the task for the task for the set of the task for the	d.	Overlap with the written examination and between operating test categories is within acceptable limits.	84	Réh	V#8					
a. Each JPM includes the following, as applicable: initial conditions initial conditions initiating cues references and volos, including associated procedures resonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee 94611 resonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee 94611 resonable and obter examiner cues statements describing important observations to be made by the applicant 94641 criteria for successful completion of the task identification of critical steps and their associated performance standards 9464 restrictions on the sequence of steps, if applicable restrictions on the sequence of steps, if applicable restrictions on the sequence of steps, if applicable b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. Step PM 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. d.	e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.								
 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: detailed expected actions with exact criteria and nomenciature 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 b. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. 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. d. At least 20 percent of the JPMs on each test are new or significantly modified. a. 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. Printed Name / Signature a. Author the thisteen Advised to the set of the JPMs on each test are new of the set of the JPMs on each test are new or significantly modified. a. SIMULATOR (CATEGORY C) CRITERIA a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Market Market and a copy is attached. b. Facility Reviewer(*) c. NRC Chief Examiner (#) d. Attem thisteen Advised to the set of the JPM of the set of the		2. WALK-THROUGH (CATEGORY A & B) CRITERIA	-	_	_					
 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:	·a.	Each JPM includes the following, as applicable:								
D. The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301. *		Ð		gr						
acceptable limits (30% for the walk-through) and do not compromise test integrity. d. At least 20 percent of the JPMs on each test are new or significantly modified. 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. a. Author teac Hutchiseever Printed Name / Signature b. Facility Reviewer(*) c. NRC Chief Examiner (#) Themes F. Stetta / Themes the Stetta / Themes fields at the Stetta / Stetta / Stetta / Stetta / Stetta / Stetta / Stett	b.	The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	*		M					
3. SIMULATOR (CATEGORY C) CRITERIA -	с.	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.	æ	PEL.	er					
a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached. a. Author Steve Hutchison/APPrinted Name / Signature b. Facility Reviewer(*) c. NRC Chief Examiner (#) d. NRC Supervisor d. NRC Supervisor Themas F. Stetta/Themas T. Goby 10.7 Acdy d. NRC Supervisor a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Printed Name / Signature Date B 8 8 02 8 12 02 8 12 02 10/3/02	<u>d.</u>	At least 20 percent of the JPMs on each test are new or significantly modified.	<i>A</i> 3	Pés.	m					
Form ES-301-4 and a copy is attached. Printed Name / Signature a. Author Steve Hutchison/Steve Printed Name / Signature Date b. Facility Reviewer(*) Reard Nim Republic find the 8/8/02_ c. NRC Chief Examiner (#) Themas F. Stetta / Themas t Stutts 10/3/02_ d. NRC Supervisor Avido Ny T. Gody 0. T. Apody 10/3/02_		3. SIMULATOR (CATEGORY C) CRITERIA	-	-	-					
a. Author Steve Hutchison & Tim Republic finth 8/8/02 b. Facility Reviewer(*) Rend Att Randy Cuthrie 8/12/02 c. NRC Chief Examiner (#) Themas F. Stetta Themas & Itel & 10/3/02 d. NRC Supervisor ANTHONY T. GODY OT ADdy 10/3/02	а.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	H	<i>J¥</i> 4	gi-					
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.	b. Facility c. NRC C	* The facility signature is not applicable for NRC-developed tests.		8/12/ 8/12/	02 02)Z					

STATEMENT CONCERNING ADMIN (SEC. A) QUESTIONS

The RO Admin Exam contains prescripted questions for sections three and four. These questions are all closed reference, as approved on the original outline submitted.

Simulator Scenario Quality Checklist

Form ES-301-4

Facility	: COLUMBIA Date of Exam: 10/7/02 Scenario Numb	pers: 1123 Oper	ating T	est No	: 1
	QUALITATIVE ATTRIBUTES		ļ	Initial	5
			a	b*	C#
	•				
1.	The initial conditions are realistic, in that some equipment and/or instrumenta service, but it does not cue the operators into expected events.	ation may be out of	R	REG.	Nu
2.	The scenarios consist mostly of related events.		A-	LE4	m
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)	JP-	РЦ.	Ku	
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated i without a credible preceding incident such as a seismic event.	nto the scenario	AP	REG	o m
5	The events are valid with regard to physics and thermodynamics.	· ·	M	, RE4	M
6.	Sequencing and timing of events is reasonable, and allows the examination complete evaluation results commensurate with the scenario objectives.	N	REG	9ni	
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.	A.	₽EG,	K	
8	The simulator modeling is not altered.	R	724.	n	
9.	The scenarios have been validated. Any open simulator performance deficie evaluated to ensure that functional fidelity is maintained while running the pla	AP-	RZG.	the	
10.	Every operator will be evaluated using at least one new or significantly modil other scenarios have been altered in accordance with Section D.4 of ES-301	fied scenario. All	AP	Réh	Bu
11.	All individual operator competencies can be evaluated, as verified using For the form along with the simulator scenarios).	m ES-301-6 (submit	An	REG.	n
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	Ar-	REG.	n
13.	The level of difficulty is appropriate to support licensing decisions for each c	rew position.	M.	756	The
TARG	ET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes	-	-	_
1.	Total malfunctions (5-8)	81718	M	224	Ru
2.	Malfunctions after EOP entry (1-2)	2,2,2	Vir	REG	ne
3	Abnormal events (2-4)	215150	P	RE4	The
4	Major transients (1-2)	1111	p	744	ner
5.	EOPs entered/requiring substantive actions (1-2)	21112	12	REG.	0Eu
6.	EOP contingencies requiring substantive actions (0-2)	1111	In	RE4	nu
7.	Critical tasks (2-3)	5,3,3,	R	REG	The

O Seenario 2 has a negative of SLC piping without a credible preceding incident. Should have little impact on scenario.

- SPARE SCENARDS -Simulator Scenario Quality Checklist

ES-301

Form ES-301-4

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Facility:	COLIMBIA Date of Exam: 10/2/02 Scenario Numb	pers: 1/2/ Open	ating T	est No	SPAR		
	QUALITATIVE ATTRIBUTES			Initial	S		
			a	b*			
	•						
1.	The initial conditions are realistic, in that some equipment and/or instrumenta service, but it does not cue the operators into expected events.	ation may be out of	W2	<i>I</i> £4	The		
2.	The scenarios consist mostly of related events.		àr	<u>I</u> EL	The		
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)	j.	,4 44,	Ru			
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated i without a credible preceding incident such as a seismic event.	nto the scenario	A	REL,	m		
5	The events are valid with regard to physics and thermodynamics.		AL	Rel	Ber		
6.	Sequencing and timing of events is reasonable, and allows the examination to complete evaluation results commensurate with the scenario objectives.	AL_	<u>Je</u> L	gge			
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.						
8	The simulator modeling is not altered.	M	AEG.	2			
9.	The scenarios have been validated. Any open simulator performance deficie evaluated to ensure that functional fidelity is maintained while running the pla	ancies have been anned scenarios.	V2	REG	n		
10.	Every operator will be evaluated using at least one new or significantly modified other scenarios have been altered in accordance with Section D.4 of ES-301		JR_	REG	Be		
11.	All individual operator competencies can be evaluated, as verified using For the form along with the simulator scenarios).	m ES-301-6 (submit ℓ	NA	atta	NA		
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	NA	NA	VIA		
13.	The level of difficulty is appropriate to support licensing decisions for each cr	rew position.	M	<i>JE</i> 4	m		
TARG	ET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes	-	-	-		
1.	Total malfunctions (5-8)	7 171	W-	REG	m		
2.	Malfunctions after EOP entry (1-2)	2,3,	[M2	REL	W		
3.	Abnormal events (2-4)	2,3,	MP.	REG	W		
4.	Major transients (1-2)	211	2p	REG	No		
5.	EOPs entered/requiring substantive actions (1-2)	211	X	Ref.	Ne ,		
6	EOP contingencies requiring substantive actions (0-2)	0111	M^2	REG	19Ku		
7.	Critical tasks (2-3)	2,3,	W	REL	Mu/		

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.:

	-				<u></u>				_
		Applicant Type	Evolution Type	Minimum Number	s	cenari	o Num	ber	
	ļ		Туре	Trainbei	1	2	3	4	
			Reactivity	1	Λ				
			Normal	1	\square				
		RO	Instrument / Component	4	\square				
			Major	1		<u> </u>		/	
			Reactivity	1		\square			
		As RO	Normal	0		$ \rangle$			
	e #)		Instrument / Component	2			K		
			Major	1					
		SRO-I							
Upgrade		As SRO	Reactivity	0		Y		\sum	
aldine			Normal	1					
			Instrument / Component	2					
			Major	1	<u>/</u>	580			
	Г		Reactivity	0	580	-	$\langle \rangle$	7	ſ
		SRO-U	Normal	1	2	1	\mathbf{X}	/	
			Instrument / Component	2	3,4	3,5,6,7			
			Major	1	5	8			
	Instructions		er the operating te	st number an	d Form	1	1 even	it numbe	rs for
		(2) Rea abn	ch evolution type. activity manipulations may be conducted under normal or <i>controlled</i> normal conditions (refer to Section D.4.d) but must be significant per						
		(3) Whe be in	tion C.2.a of Appe enever practical, b ncluded; only thos ne applicant's com	oth instrumer	verifiat	ole acti	ons that	at provid	e insight
	Author:		Am Pado		it toward	a uno 11		in require	Anoil.
			V C O						
	NRC Revie	wer:	Lux		· · · · · · · · ·				

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.: Applicant Type Evolution Minimum Number Scenario Number Type 1 2 3 4 Reactivity 1 1 Normal RO 4 Instrument / Component 1 Major Reactivity 1 Normal 0 As RO Instrument / Component 2 1 Major SRO-I Reactivity 0 Normal 1 As SRO Instrument / Component 2 Major 1 520 SRD Reactivity 0 4 Z Normal 1 SRO-U Instrument / Component 2 3,4 3,7 Ð 5 1 Major (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 Section C.2.a of Appendix D. (3)

Upgrade #Z

Instructions:

- abnormal conditions (refer to Section D.4.d) but must be significant per
- 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.

adwml

Author:

NRC Reviewer

Transient and Event Checklist

Form ES-301-5

	OPERA	TING TEST N	10.:			
Applicant Type	Evolution	Minimum Number	S	cenari	o Num	ber
• 340	Туре		1	2	3	4
	Reactivity	1	Λ			
•	Normal	1	$ \rangle$			
RO	Instrument / Component	4				
	Major	1				/
	Reactivity	1				
As RO	Normal	0			/	
	Instrument / Component	2				
	Major	1		1		
SRO-I				7		
	Reactivity	0				\backslash
	Normal	1				\backslash
As SRO	Instrument / Component	2				
	Major	1	V			
	Reactivity	0 4	<u>k</u> 7	520	520	K
SRO-U	Reactivity Normal	0	$\wedge /$	1	4	+
	Instrument / Component	2	X	3,5, 6,7	3,7	
	Major	1	/	8	8	$/ \rightarrow$

Upgrade #3

Instructions:

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:

NRC Reviewer:

Transient and Event Checklist

Form ES-301-5

1

OPERATING TEST NO.:									
	Applicant Type	Evolution	Minimum Number	S	cenari	o Num	ber		
		Type	Number	1	2	3	4		
		Reactivity	1	\square			\square		
		Normal	1		\square				
	RO	Instrument / Component	4			\square			
		Major	1					, F	
		Reactivity	1	BOP	RO. 3				
	As RO	Normal	0	2	-			I	
		Instrument / Component	2	3	4,5,7				
		Major	1	5	8				
Instant #1	SRO-I					sec		*	
		Reactivity	0	Λ					
		Normal	1		<u> </u>	4	\rightarrow		
	As SRO	Instrument / Component	2			3,5,7	Δ		
		Major	1	V		8	<u>/</u>	•	
		Reactivity	0	\mathbf{N}					
		Normal	1						
	SRO-U	Instrument / Component	2		\geq	\smallsetminus			
		Major	1				\geq		
Instructio	() =	er the operating te	est number an	d Form	ES-D-	1 even	t number	s for	
	(2) Rea	h evolution type. ctivity manipulation	ons may be co	onducted	lunde	r norm	al or <i>con</i>	trolled	
	abn Sec	ormal conditions (tion C.2.a of Appe	refer to Section	on D.4.d) but n	nust be	e significa	ant per	
	 (3) Whenever practical, both instrument and component malfund be included; only those that require verifiable actions that pro- 							s should	
	to the applicant's competence count toward the minimum requirement								
Author:		/in Kall	om						
NRC Rev	iewer:	Stul		<u> </u>					
			25 of 26 NI	JREG-1	021, F	Revisio	n 8, Supp	plement 1	

Transient and Event Checklist

Form ES-301-5

			OPERA	TING TEST I	NO.:				
		Applicant Type	Evolution	Minimum Number	S	cenari	o Num	ber	
		туре	Туре	Number	1	2	3	4	
			Reactivity	1	\square				
			Normal	1		\square			
		RO	Instrument / Component	4			\square		
			Major	1	RO		. Bop		ļ
			Reactivity	1	1	Λ /	-		
		As RO	Normal	0	-	\mathbb{N}	4	1	
			Instrument / Component	2	4		5,67	\backslash	
			Major	1	5	/	8	\mathbf{V}	
T. Jan J	4 #2	SRO-I	[······································		Sto		Ă.	
J~~ TU~~ T			Reactivity	0	$A \neq$		ΛA	\square	
		As SRO	Normal	1	$ \downarrow \downarrow$		ΙΥΙ	+	
			Instrument / Component	2	$ \wedge$	5,7,6	$ \Delta $	/	
			Major	1	$\langle \rangle$	8	/		ļ
			Reactivity	0					
	-		Normal	1		\sum			
		SRO-U	Instrument / Component	2			\sum		
			Major	1				\searrow	
	Instruction	(2) eac (2) Rea abn Sec (3) What be i	er the operating te h evolution type. activity manipulatic ormal conditions (tion C.2.a of Appe enever practical, b ncluded; only thos ne applicant's com	ons may be co refer to Secti endix D. both instrume se that require	onducted on D.4.d nt and co e verifiab	l unde l) but n ompon lle acti	r norma nust be lent ma ons tha	al or <i>con</i> e significa alfunctior at provide	n <i>trollec</i> ant pe ns sho e insig
	Author:		Sim Kedl	wml					
	NRC Rev	iewer.	Juli						
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25 of 26 NUREG-1021, Revision 8, Supplement 1

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Transient and Event Checklist

Form ES-301-5

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OPERATING TEST NO.: Applicant Type Evolution Type Minimum Number Scenario Number 2 1 1 Reactivity Normal 1 Instrument / Component 4 Major 1 BOF 20

East	the	#2	

	Reactivity	1	Λ	l.	1	
	Normal	0	$ \setminus / $	L	·	\setminus /
As RO	Instrument / Component	2	$ $ \land	2,6,7	2,3,7	\backslash
	Major	1	/ N	00	ଷ	\mathbf{V}
SRO-I			SRO	·		X
	Reactivity	0	-			
	Normal	1	2			/
As SRO	Instrument / Component	2	3,4		$\left\langle \right\rangle$	
	Major	1	5			
			Ŕ T			<u> </u>
	Reactivity	0	$\left \right\rangle$			
	Normal	1		$\overline{)}$		
SRO-U	Instrument / Component	2		\geq	\leq	
	Major	1				

(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:

NRC Reviewer

Instructions:

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Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.: Applicant Type Minimum Number Evolution Scenario Number Type 1 2 3 4 Reactivity 1 Normal 1 RO 4 Instrument / Component Major 1 BOP 20 3 Reactivity 1 _ Z Normal 0 As RO Instrument / Component 2 4,5,7 3 8 5 Major 1 SRO-I Slo Instant #4 Reactivity 0 4 Normal 1 As SRO Instrument / Component 2 3,5,7 0 1 Major Reactivity 0 Normal 1 SRO-U Instrument / Component 2 1 Major 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: 0HIDNA NRC Reviewer: 25 of 26 NUREG-1021, Revision 8, Supplement 1

Transient and Event Checklist

Form ES-301-5

		OPERA	TING TEST I	NO.:
	Applicant Type	Evolution	Minimum Number	Scenario Number
	Туре	туре	Number	1 2 3 4
		Reactivity	1	
		Normal	1	
	RO	Instrument / Component	4	
		Major	1	
		Reactivity	1	
		Normal	0	- \/ 4 \ /
	As RO	Instrument / Component	2	4 / 5.6.7 /
		Major	1	5 8
Instant #5	SRO-I			5RO X
		Reactivity	0	$\Lambda - \Lambda \Lambda$
		Normal	1	
	AS SHO	Instrument / Component	2	5,6,7
		Major	1	/ \ 8 / V
		Reactivity	0	
		Normal	1	
	SRO-U	Instrument / Component	2	
	·	Major	1	
Instruction	eacl	h evolution type.		
	abn Sec	ormal conditions (tion C.2.a of Appe	refer to Section	on D.4.d) but must be significant per
	be ii	ncluded; only thos	e that require	e verifiable actions that provide insight
Author:	Ro I 2 3 4 Ro Normal 1 Imstrument / 4 1 Ro Instrument / 4 Imstrument / 4 Imstrument / 4 Imstrument / 4 As Ro Reactivity 1 Imstrument / 2 4 56.0 As Ro Instrument / 2 4 56.1 Imstrument / 2 4 As Ro Instrument / 2 4 56.1 Imstrument / 2 56.0 SRO-I Reactivity 0 - - - As SRO Instrument / 2 5.6.1 - - Major 1 C - - - As SRO Instrument / 2 5.6.1 - - - Major 1 C - - - - Major 1 B -<			
NRC Revi	iewer:	Male		
	1		25 of 26 NU	UREG-1021, Revision 8, Supplement 1

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.: Applicant Type Minimum Number Evolution Scenario Number Type 2 3 4 1 Reactivity 1 1 Normal RO Instrument / Component 4 1 Major BOP RO l Reactivity 1 ι Normal 0 As RO Instrument / Component 2 2,3.7 2,4,7 Ø R 1 Major SRO-I SRO 0 Reactivity 2 1 Normal As SRO Instrument / Component 2 3,4 5 Major 1 Reactivity 0 1 Normal Instrument / Component 2 SRO-U 1 Major Enter the operating test number and Form ES-D-1 event numbers for Instructions: (1) each evolution type. Reactivity manipulations may be conducted under normal or controlled (2) 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. Ð Author: NRC Reviewer:

25 of 26 NUREG-1021, Revision 8, Supplement 1

Instant #6

RO #1

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	s	cenari	o Num	ber
Туре	Туре	Number	R 0 1	Bop 2	3	4
	Reactivity	1	l	4		
•	Normal	1	-	1		
RO	Instrument / Component	4	4	2.6.7		
	Major	1	5	8	\checkmark	
	r	r	8	<u> </u>	1	/
	Reactivity	1	Λ			
	Normal	0	\square			
As RO	Instrument / Component	2				
	Major	1		<u> </u>		
SRO-I	•				/	
	Reactivity	0		\square		
	Normal	1			\bigvee	
As SRO	Instrument / Component	2			\square	
	Major	1			\Box	
			1	/	<u>, </u>	├ ───┐
	Reactivity	0	ļ/	[
	Normal	1				
SRO-U	Instrument / Component	2				
	Major	1	V			

Instructions: (1)

Enter the operating test number and Form ES-D-1 event numbers for each evolution type.

- 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
- (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:

NRC Reviewer:

ES-301

RO #2 Corrected

Form ES-301-5

OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number		cenari	o Num	ber
туре	Туре	Number	Bor	2	3	4
•	Reactivity	1	-	3	$\mathbf{\Lambda}$	\square
•	Normai	1	2	-		
RO	Instrument / Component	4	3	4,5,7		
	Major	1	5	8		
			Λ	r		X
	Reactivity	1	Δ			$- \mathcal{A}$
	Normai	0	\square			
As RO	Instrument / Component	2				
	Major	1		$\left \right\rangle$	-/ 1	• ·
SRO-I		· · · · · · · · · · · · · · · · · · ·	•		X	
	Reactivity	0				
	Normal	1		/		
As SRO	Instrument / Component	. 2				\mathbf{n}
	Major	1				
· · · · · · · · · · · · · · · · · · ·						
	Reactivity	0				
	Normal	1		\square		
SRO-U	Instrument / Component	2			\sum	
	Major	1				\square

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:

NRC Reviewer:

RO #2

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.:

		UPERA	TING TEST N	IO .:				
	Applicant Type	Evolution Type	Minimum Number	BOP 1	cenari Ro 2	o Num 3	ber 4	
		Reactivity	1	-	١	$\mathbf{\Lambda}$		
	•	Normal	1	1	-			
	RO	Instrument / Component	4	2,6,7	4			
		Major	1	8	5			
		Reactivity	1					
		Normal	0					
	As RO	Instrument / Component	2					
		Major	1		\Box			
#2	SRO-I				·/	X		
-		Reactivity	0					
		Normal	1	ļ,	<u>/</u>			
	As SRO	Instrument / Component	2				\sum	
		Major	1	V				
		Reactivity	0	\wedge				
		Normal	1		\geq	\angle		
	SRO-U	Instrument / Component	2			\sum		
		Major	1					
Instructio	eac (2) Rea abn Sec	er the operating te h evolution type. activity manipulatic ormal conditions (tion C.2.a of Appe	ons may be co refer to Section andix D.	onducted on D.4.d	d unde I) but r	r norm nust b	al or <i>con</i> e significa	ant per
	be i	enever practical, t ncluded; only thos ne applicant's com	e that require	e verifiat	le acti	ons th	at provide	e insight

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Author:

NRC Reviewer:

Transient and Event Checklist

OPERATING TEST NO.:

		OPERA	IING IEST I	NO				_
	Applicant Type	Evolution Type	Minimum Number	Ro 1	cenari	o Num	ber 4	
		Reactivity	1				<u> </u>	
	· ·	Normal	1	_	\square	4	\square	
	RO	Instrument / Component	4	4	ΙÅ.	5,6,7	Δ	
		Major	1	S	$\langle \rangle$	8	/	
		Reactivity	1					Q.,
		Normal	0	\square				
	As RO	Instrument / Component	2					
0		Major	1		\Box			
LO #3	SRO-I			<u></u>	····· /	<u>X</u>		
	As SRO	Reactivity	0			$\left \right\rangle$		
		Normal	1	ļ	<u> </u>		λ	
		Instrument / Component	2				\sum	
		Major	1	$V_{}$				
		Reactivity	0	$\overline{\mathbf{N}}$			\square	ſ
		Normal	1					
	SRO-U	Instrument / Component	2			\leq		
		Major	1					
Instructio	eac (2) Rea abn Sec (3) What be i	er the operating te h evolution type. activity manipulation ormal conditions (tion C.2.a of Appe enever practical, to ncluded; only thos ne applicant's corr	ons may be co (refer to Secti endix D. poth instrume se that require	onducted on D.4.c nt and c e verifiat	d unde l) but r ompor ble act	er norm nust b nent m ions th	nal or <i>con</i> e signific alfunctior at provid	n <i>trolled</i> ant per ns should e insight
Author:		Lin Ka	twm	·				
NRC Rev	viewer:	A Eule						

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Applicant

Type

OPERATING TEST NO.:

Form ES-301-5

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Ko #4 Corrected

Evolution Type Minimum Number Scenario Number Bot

	1	F		2 3 4	
•	Reactivity	1	-	$\Lambda / \cdot \Lambda$	Δ
·	Normal	1	2	$ \sqrt{ - } $	\square
RO	Instrument / Component	4	3	× 2,3,7	\square
	Major	1	5	/ 8/	7
	Reactivity	1	\mathbf{N}		Z
	Normai	0			
As RO	Instrument / Component	2			
	Major	1			
SRO-I				X	
	Reactivity	0		\square	
	Normal	1			
As SRO	Instrument / Component	_2			
	Major	1	<u>/</u>		Ν
	Reactivity	0			2
	Normai	1			
SRO-U	Instrument / Component	2			
	Major	1			\triangleleft

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:

NRC Reviewer:

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.: Applicant Evolution Minimum Number Scenario Number Type Type Bol Rg 2 4 ł Reactivity 1 4 1 Normal RO 4 Instrument / Component 4 5,67 8 5 1 Major Reactivity 1 0 Normal As RO Instrument / Component 2 1 Major SRO-I Reactivity 0 Normal 1 As SRO Instrument / Component 2 Major 1 Reactivity 0 Normal 1 SRO-U Instrument / Component 2 1 Major 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

Author:

NRC Reviewer:

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to the applicant's competence count toward the minimum requirement.

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RO #4

Transient and Event Checklist

OPERATING TEST NO.:

	Applicant Type	Evolution Type	Minimum Number	Scenario Number	4
i		Reactivity	1	3 -	\square
	•	Normai	1	V - 4 \	Д
	RO	Instrument / Component	4	45 5,67	\sum
		Major	1	1 18 81	
		Reactivity	1		\square
		Normal	0		
	As RO	Instrument / Component	2		
		Major	1		
	SRO-I			X	
5		Reactivity	0		
		Normal	1		
	As SRO	Instrument / Component	2		
		Major	1		
		Reactivity	0		ゴ
		Normal	1		
	SRO-U	Instrument / Component	2		
		Major	1		\leq
Instructio	(2) eac (2) Rea abn Sec (3) Who be i	h evolution type. Ictivity manipulatic ormal conditions (tion C.2.a of Appe enever practical, b ncluded; only thos	ons may be co refer to Section andix D. both instrumer se that require	d Form ES-D-1 event nu nducted under normal or n D.4.d) but must be sig t and component malfur verifiable actions that pr t toward the minimum re	r <i>controlled</i> Inificant per Inctions should Povide insight
Author:		Lin Kall	STAR		•
NRC Rev	iewer:	Eule			

RO #5

NRC Reviewer:

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ES-301		Transient	and Event Ch	hecklist Form ES-301-
		OPERA	TING TEST I	NO.:
	Applicant Type	Evolution Type	Minimum Number	Scenario Number
	•	Reactivity	1	$\Lambda - I \Lambda$
·		Normai	1	1.6 - /
	RO	Instrument / Component	4	2,4,7 2,3,7
· ·		Major	1	88/
		Reactivity	1	
		Normal	0	
	As RO	Instrument / Component	2	
10#6		Major	1	
Ro#6 Coscepted	SRO-I			X
Corrected		Reactivity	0	
	As SRO	Normal	1	
		Instrument / Component	_2	
		Major	1	
		Reactivity	0	
		Normal	1	
	SRO-U	Instrument / Component	2	
		Major	1	
Instruction		er the operating te h evolution type.	st number an	nd Form ES-D-1 event numbers for
	(2) Rea abn	ctivity manipulations (refer to Section	onducted under normal or <i>controlled</i> ion D.4.d) but must be significant per
	(3) Sec (3) Who be i	tion C.2.a of Appe enever practical, b nclude <u>d: o</u> nly thos	ndix D. oth instrumer e that require	ent and component malfunctions should e verifiable actions that provide insight nt toward the minimum requirement.
Author:	· E		<u>\$</u>	· · · · · · · · · · · · · · · · · · ·

Ro #6

Transient and Event Checklist

Form ES-301-5

OPERATING TEST NO.:

	[I	
	Applicant Type	Evolution Type	Minimum Number	Scenario Number
	rype	rype	Number	$1 \frac{609}{2} \frac{120}{3} 4$
		Reactivity	1	
	•	Normal	1	\/ 4 - \/
	RO	Instrument / Component	4	5.6.74.5
		Major	1	
		Reactivity	1	
	As RO	Normai	0	
		Instrument / Component	2	
		Major	1	
6	SRO-I			X
6		Reactivity	0	
		Normal	1	
	As SRO	Instrument / Component	2	
		Major	1	
		Reactivity	0	
		Normal	1	
	SRO-U	Instrument / Component	2	
		Major	1	
Instructio	eac (2) Rea	h evolution type. ctivity manipulatio	ns may be co	d Form ES-D-1 event numbers for nducted under normal or <i>controlled</i>
	abn	ormal conditions (refer to Section	on D.4.d) but must be significant per
	(3) Whe be i	ncluded; only thos	oth instrumen e that require	t and component malfunctions should verifiable actions that provide insight
	. io tr	e applicant s coff		t toward the minimum requirement.
Author:		Em Kad	WTHE	
NRC Rev	iewer.	1 Thomas ?	A Stute	

Competencies Checklist

Form ES-301-6

		A 11		4		Amuli		<u>"</u> 0		A		
		Applicant #1 Applicant #2 RO(SRO-USRO-U RO(SRO-USRO-U				Applicant #3 RO(SRO-I)SRO-U						
Competencies		SCENARIO			SCENARIO				SCENARIO			
	1	2	3	\mathbf{X}	1	2	3	\mathbf{X}	1	2	3	\mathbf{X}
Understand and Interpret Annunciators and Alarms	3	4, <i>5</i> , 7	23.54		4	2	5.6		3,4	2,4	2,3 7	
Diagnose Events and Conditions	3	4,5,	2,3,5 4,7		4	2,3	5,6		3,4	2,6	2,3 7	
Understand Plant and System Response	2,3	3,5, 7	ALL		1,4	ALL	4,5, 4		ALL	1,2 4	2,3 7	
Comply With and Use Procedures (1)	2,3	3,5, 7	Au		1,4	ALL	4,5 6		Arr	1,2 6	1,2 3,7	
Operate Control Boards (2)	2,3	3,4,			1,4		4,5,			1,2 4	1,2 3,7	
Communicate and Interact With the Crew	2,3	3,4 5,7	ALL		1,4	ALL	4,5		ALL	1,2 6	1,2 3,7	
Demonstrate Supervisory Ability (3)			ALL			ALL			Act			
Comply With and Use Tech. Specs. (3)			2,3			5,6			4			
Notes:												

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.

(alini Author: M NRC Reviewer:

Competencies Checklist

Form ES-301-6

		Applicant #14 Applicant #25 RO/SRO-IJSRO-U RO/SRO-IJSRO-U				RO,	Applicant #2 6 RO SRO-USRO-U					
Competencies		SCEN	VARIC)		SCE	NARI	0		SCE	VARI	0
	1	2	3	\mathbf{X}	1	2	3	\mathbf{X}	1	2	3	4
Understand and Interpret Annunciators and Alarms	3		236		4	2	5,4		3,4	4	2,3	
Diagnose Events and Conditions	3	4,5	2,3 5,6 7		4	2,4			3,4		2,3	
Understand Plant and System Response	2,3	3,4 5	ALL		1,4	ALL	4.5 4		ALL	2,6	1,2 3	
Comply With and Use Procedures (1)	2,3	3,4 5	ALL		1,4	ALL	4,5 4		ALL	2, 6 1	1,2 3	
Operate Control Boards (2)	2,3	3,4			1,4		4,5			2, 6 1	1,2 3	
Communicate and Interact With the Crew	2,3	3,4 5	ALL		1,4	Au	4,5		ALL	2, 8 1	1,2	
Demonstrate Supervisory Ability (3)			ALL			All			Au			
Comply With and Use Tech. Specs. (3)			2,3			5,6			4			
Notes:												

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:	Aun Pedwine	
NRC Reviewer:	AS Enle	

Competencies Checklist

Form ES-301-6

Competencies		Applicant #1 ROSRO-I/SRO-U SCENARIO				Applicant #2 ROSRO-I/SRO-U SCENARIO				Applicant #3 ROSRO-I/SRO-U SCENARIO				
	1	2	\searrow	X	1	2	3	4	1	2	3	4		
Understand and Interpret Annunciators and Alarms	4	2,6			3	7			4	5,4				
Diagnose Events and Conditions	4	2,6			3	4,5 7			4	5.6				
Understand Plant and System Response	1,4	1,2.			¥,3	3,4 5,7			1,4	45				
Comply With and Use Procedures (1)	1,4	1,2			2,3	3,4 5			1,4	4,5 4				
Operate Control Boards (2)	1,4	4			2,3	3,4 5			4,4	4,5				
Communicate and Interact With the Crew	1,4	1,2			2,3	3,4 5,7			1,4	4,5 4				
Demonstrate Supervisory Ability (3)														
Comply With and Use Tech. Specs. (3)														
Notes:														

(1) Includes Technical Specification compliance for an RO.

(2) Optional for an SRO-U.

(3) Only applicable to SROs.

Instructions:

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

Author:	/ in Radiono	
NRC Reviewer:	De Eule	

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ES-301

Competencies Checklist

Form ES-301-6

Competencies	RO	Applicant #14 (RO)SRO-I/SRO-U SCENARIO				Applicant #25 (RO)SRO-I/SRO-U SCENARIO				Applicant #8 6 (RO'SRO-I/SRO-U SCENARIO			
oonpetentes			3	X	2		3	X	X	2	3	\mathbf{X}	
Understand and Interpret Annunciators and Alarms	3		2,3		7		5,4			2,1 7	2,3		
Diagnose Events and Conditions	3		2,3		4,5 7		5,6			7	2,3		
Understand Plant and System Response	2,3		1,2 3		3,4 5,7		4,5			1,2 4,7	l,2 3		
Comply With and Use Procedures (1)	2,3		1,2		3,4 5,7		4,5 4			1,2 6,7	i, 2 3		
Operate Control Boards (2)	2,3		112 3		3,4 5		4,5 4		1	1,2	1,2 3		
Communicate and Interact With the Crew	2,3		1,2		3,4 5,7		4,5 6			1.2 47	1,2 3		
Demonstrate Supervisory Ability (3)													
Comply With and Use Tech. Specs. (3)													
Notes:													

(1) Includes Technical Specification compliance for an RO.

(2) Optional for an SRO-U.

(3) Only applicable to SROs.

Instructions:

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

atume Author: **NRC Reviewer**

Competencies Checklist

Competencies	RO	Applicant #1/4 ROSRO-I/SRO-U SCENARIO			RO)- /SF		RO	Applic SRO	-1/SF	1 <u>0-</u> U
Competencies			3	\mathbf{X}	2		3		X	2	3	\mathbf{X}
Understand and Interpret Annunciators and Alarms	3		2,3		7		5,4		2,6		2,3	
Diagnose Events and Conditions	3		2,3		4,5 7		5,6	Y	2,6		2,3	
Understand Plant and System Response	2,3		1,2		3,4 5,7		4,5		1,2		1,2 3	
Comply With and Use Procedures (1)	2,3		1,2				4,5 4		1 ₁ 2 4		1,2 3	
Operate Control Boards (2)	2,3		1,2		3,4 5		4,5 4		1,2	-	1,2	
Communicate and Interact With the Crew	2,3		3		3,4 5,7		4,5		1,2		1,2	
Demonstrate Supervisory Ability (3)												
Comply With and Use Tech. Specs. (3)		Í										
Notes:												
 (1) Includes Technical Specific (2) Optional for an SRO-U. (3) Only applicable to SROs. 	cation	comp	oliance	e for a	an R(D.		Minute				

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.

[#]wm0 Author: NRC Reviewer

Competencies Checklist

Form ES-301-6

		Applicant #1 RO/SRO-I/SRO-U			Applicant #2 RO/SRO-I / SRO-U				Applicant #3 RO/SRO-I			
Competencies		SCE	VARIC)		SCE	VARI	0	SCENARIO			
	1	2	$\left \right\rangle$	X	1	X	3	\mathbf{X}	\mathbb{X}	2	3	\searrow
Understand and Interpret Annunciators and Alarms	3,4	2,6			3,4		2,3 5,4			2,6	2,3 5,4	
Diagnose Events and Conditions	3,4	2,4 5,6			3,4		2,3 5,4			2,4 5,4	2,3 5,4	
Understand Plant and System Response	ALL	ALL			Act		ALL			ALL	A +**	
Comply With and Use Procedures (1)	ALL	ALL			ALL		ALL			ALL	ALL	
Operate Control Boards (2)										•		
Communicate and Interact With the Crew	Act	ALL			ALL		Acr			An	ALL	
Demonstrate Supervisory Ability (3)	ALL	Au			Acr		Actu			ALL	ALL	
Comply With and Use Tech. Specs. (3)	4	5,6			4		2,3			5,6	2,3	
Notes:												

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: NU **NRC Reviewer:**

Written Examination Grading Quality Checklist

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Facility: Columbia	Date of Exam:	10/4/02	Exam L	evel: R	O/SRO					
•			Initials							
It	em Description		а	b	с					
1. Clean answer sheets	s copied before grading		B	REG	VIS					
2. Answer key changes documented	and question deletions justil	ied and	84	RE4	VELS					
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)										
4. Grading for all borderline cases (80% +/- 2%) reviewed in M_{A}										
5. All other failing examinations checked to ensure that grades 34 REG ∇FS are justified										
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants										
	Printed Name / Sign	ature		D	ate					
a. Grader	SD-1	Strette	this	n <u>19</u>	17/02					
b. Facility Reviewer(*)	Randy Cuthice / &	End St	<u>D</u>	10	17/02					
c. NRC Chief Examiner (*)	Thomas F. Stetka Th	emas & the	the	_11	4/02					
d. NRC Supervisor (*)	1 10-11 11									
-	s signature is not applicable t nt NRC reviews are required		ons grad	ed by ti	ne					

Page 1 of 4 01/31/2003 Report 21	16:04:04	Operator Licensing Exam Schedule From 10/01/2002 To 10/31/2002	
Region: 4	Phase Code: 5 Operational		

Exam Week Site/Docket No./Insp Rpt #	# C	andidates	Туре	Exam Author Chief Examiner	Examiners Assigned
10/07/2002 Columbia Generating Station / 05000397 / 20 TAC #: X02226	002301 RO - 6 SROU - 3	SROI - 6	Admin	STETKA, THOMAS F.	BUNDY, HOWARD F. LANTZ, RYAN E. MCKERNON, THOMAS O. STETKA, THOMAS F.

Page 2 of 4 01/31/2003 Report 21	16:04:04		-	r Licensing Exam Schedule n 10/01/2002 To 10/31/2002
Region: 4	Phase Code: 5 Op	erational		
Summary By Date	e			
10/2002 WNP - Co	olumbia Generating Station			
RO - 6	S SROI - 6	SROU - 3	LSRO - 0	Total for Columbia Generating Station: 15

Sites: WNP Orgs: 4620 Exam Author: ALL

Page 3 of 4 01/31/2003 Report 21	16:04:04	Operator Licensing Exam Schedule From 10/01/2002 To 10/31/2002	
Region: 4	Phase Code: 5 Operational		
Summary By Sit	te		

WNP - Columbia Generating Station RO - 6 SROI - 6 S

SROU - 3 LSRO - 0

Total for Columbia Generating Station: 15

Sites: WNP Orgs: **4620** Exam Author: ALL

Page 4 of 4 01/31/2003 16:04:04 Réport 21				Licensing Exam Schedule 1 10/01/2002 To 10/31/2002	
Region: 4	Phase Code: 5 (Operational			
Summary By Region					
Region 4					
RO - 6	SROI - 6	SROU - 3	LSRO - 0	Total for Region 4: 15	

Sites: WNP Orgs: 4620 Exam Author: ALL **Examination Security Agreement**

Form 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 _______ 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.Furthernore, 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. <u>Post-Examination</u>

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 ______. 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 T	TILE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2) DAT	ENOTE
1. John S. Sims Conte	n. TRNG Cooord.	John A. Sem	(12C/02-=	Richard Jourson	11
2. Doillin & War 20	Dup. 15 pace	An hand Louis	7/2/02	John P. Suns	16/12/02
4. Jotta HEOGELORIC CRS		All R	76/02	and the second	1/20/03
5. MARK Huntsmm Roll E. JAMUS M REDRO RO	crs	Mg (Pap	7/3/02		1/24/03
T. AJMOORE CA	25	M redno	7/9/02	Marino	1115/02
	0	REW Lang	7-10-02	1 M & Weary	45/02 11-5-02
	sterns Analyt	man	7/11/02	C ACO	11-5-02
11. Clan Zlatnik RO	s	- all all and a second	7-17-2002	Main fainter	1-17-00
12. ORA PATTON RO	ids an al is	May w	2802	U.G.h.	11-19-02
14. Nicholas E. Viere CI	es mant clerk	Mar and atten	7-31-02	ly Leven	12-4-0Z
15. Neil Patroy Tra	in log spec.	mit	8-70 V	a france	10-11-02
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NUREG-1021, Revision 8, Supplement 1

ES-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 _______ 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. <u>Post-Examination</u>

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 ______. 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) D	ATENOTE
1. GARY Henorick 2. Donald T. Hughes 3.	OPERATIONS PROduction MGR Training Specifict 111	Man B. Hdi?	8/5/02 10/10/02	-	> 11.2/02
4 5					
6					
6					
9 10					· · · · ·
11					
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14 15	·				
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ES-201	Everyingtion Coourity Americant	E ED 004 0
	Examination Security Agreement	Form ES-201 -3
والمحادث والمحاد والمحاد والمحاد		
		ويستمسن ويهوي بري الألفنين ويها سنان بيهي الثاني المتعالية المتعالية والمحدد بيبيا المنطقة فتعاقلان والنكار الا

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

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of _______ 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 ficensing 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 ______. 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) DA	TENOTE
1. M. PRATT	OPS PROCEDURE, LEAD	Matta	7/28/02	Muto	1/12/02
2. TIMOTHY LINDSLEY	KAINING SPECIALIST IL	Manne	07-24-02	ON A	10-17-02
3. John Pielli	TRAINING SPECIALIST JUE	the think	10/6/02	John Y. Tulli	10/17/02_
4		2		7	
5		-			
6					
7					• ••••••
6					
9					-
10	· · · · · · · · · · · · · · · · · · ·				·
11					
12					-
13		· · · · · · · · · · · · · · · · · · ·	••••••		A
14			~~~~~		
15	and a second		·····		
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NUREG-1021, Revision 8, Supplement 1

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Examination Security Agreement

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>14-10(b)20</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.Furthernore, 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. <u>Post-Examination</u>

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 ______. 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) DA	TENOTE
1. MAURICE C. PETENSON 2. Steve Hutchiscu	<u>SAFEGUAR DS SPECIALIS</u> TRNG SREC	Mickelin	3/4/02	Micheten	10/13/02
3. JUM KEDWINE	TRAK SPEC	2 Al	3/4/02	SIC-	15/12/02
4. Ron Hayden 5. Carl E Galiabtly	Training Specialist	T. M. Marglen	3/1/62	Ruten	10/10/02
E. Partrick Basan	Simulator SUpr. Truc Spec	Call June	- 4/2/02_	auto pla	iol no
T. CL FRYBERGER E. Mark Naulty	RO	- Exampleigen	<u>9/14/02</u> <u>8/1/4/02</u>	2 Allena	19NOVO2
9. K. Elliott	CRS	King Elist	5-8-02	mark halt	11-19.02
10. R. Warnick 11. J.F. VALDEZ	Simulator Eng ISC TECH	Ref U.I.	5/8/02		10/3/02
12. W. HART	RO	Mary	5-8-02	kung in	10-17-02
13. T.K. RAVINGANATE - 14. M. Heilges	PRIVER ENCURER		5-8-02/ 5-1-VL	- Alla	11-19-02
15. Randy Cruthrie	Opsting Manager	- Rand All	5-8-02	Rend Alla	11-20-02
NOTES:				Jacity 2010	10/17/02

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