

SHEARON HARRIS
EXAM 2002-301

50-400
AUGUST 26 - 29, 2002

Administrative Documents
(Yellow Paper)

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

Facility: <u>Harris</u>		Date of Examination: <u>8/29/02</u>
Examinations Developed by: Facility / NRC (circle one)		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	<u>PK</u>
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	<u>PK</u>
-120	3. Facility contact briefed on security & other requirements (C.2.c)	<u>PK</u>
-120	4. Corporate notification letter sent (C.2.d)	<u>PK</u>
[-90]	[5. Reference material due (C.1.e; C.3.c)]	<u>PK</u>
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	<u>PK</u>
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	<u>PK</u>
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	<u>PK</u>
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	<u>PK</u>
-14	10. Final license applications due and assignment sheet prepared • (C.1.i; C.2.g; ES-202)	<u>PK</u>
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	<u>PK</u>
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	<u>PK</u>
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	<u>MT 8/20</u>
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	<u>PK</u>
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	<u>PK</u>
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.l)	<u>PK</u>
<p>* Target dates are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.</p> <p>[] Applies only to examinations prepared by the NRC.</p>		

Facility: HARRIS		Date of Examination: 26-Aug-02		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	WJG	ATB	①
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all knowledge and ability categories are appropriately sampled.	WJG	ATB	①
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	WJG	ATB	①
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	WJG	ATB	①
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	WJG	ATB	①
	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 scenario and scenarios will not be repeated over successive days.	WJG	ATB	①
	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.	WJG	ATB	①
3. W /	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3) *no tasks are duplicated from the applicants audit test(s), and ① (4) no more than 80% of the operating test is taken directly from the licensee's exam bank.	WJG	① ATB	①
	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.	WJG	ATB	①
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	WJG	ATB	①
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no more than 30% of the items are duplicated on successive days.	WJG	ATB	①
	e. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	WJG	ATB	①
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	WJG	ATB	①
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	WJG	ATB	①
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	WJG	ATB	①
	d. Check for duplication and overlap among exam sections.	WJG	ATB	①
	e. Check the entire exam for balance of coverage.	WJG	ATB	①
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	WJG	ATB	①
Printed Name / Signature		Date		
a. Author	William J. Gross / <i>William J. Gross</i>	30 May 2002		
b. Facility Reviewer(*)	Andy T. Barbee / <i>Andy T. Barbee</i>	7 June 2002		
c. Chief Examiner(#)	George T. Hopper / <i>George T. Hopper</i>	8/20/02		
d. NRC Supervisor	Michael E. Ernest / <i>Michael E. Ernest</i>	8/20/02		
Note: * Not applicable for NRC-developed examinations. ① See attached # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

- ① In accordance with ES-301, Section D.1.a; Walk-Through Test Items B.1.c and e are similar to those tested on the Audit Examination.

Reviewed and changes made to
B.1.c + e to ensure adequate differences.

A handwritten signature in black ink, appearing to be "H. Lee Smith", written in a cursive style.

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of August 26, 2002 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC. Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of August 26, 2002. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1. William J. Gross	Author	<i>Will J. Gross</i>	5/1/02	<i>T.T. Toler per telecom</i>	9/10/02 ①
2. <i>T.T. Toler</i>	<i>Instructor</i>	<i>T.T. Toler</i>	5/15/02	<i>T.T. Toler</i>	8/30/02
3. Ken Bailey	SRO	<i>K Bailey</i>	5-20-02	<i>K Bailey</i>	9-9-02
4. Sam Miller	RO	<i>Sam Miller</i>	5-20-02	<i>Sam Miller</i>	9-5-02
5. Archie Lucky	Instructor	<i>Archie Lucky</i>	5-20-02	<i>Archie Lucky</i>	9-3-02
6. Andy T. Barbee	Superintendent - Operations Trng	<i>Andy T. Barbee</i>	6-5-02	<i>Andy T. Barbee</i>	9-3-02
7. Robert Stephenson	RO	<i>Robert Stephenson</i>	6-22-02	<i>Robert Stephenson</i>	9/5/02
8. Duane J. McDermott	Prime Spec Simulation Support.	<i>Duane J. McDermott</i>	6-26-02	<i>Duane J. McDermott</i>	9/9-02
9. Bob Winkler	SCO	<i>Bob Winkler</i>	7-3-02	<i>Bob Winkler</i>	9-9-02
10. Teresa Midgette	DMA I	<i>Teresa Midgette</i>	7-11-02	<i>Teresa Midgette</i>	9-3-02
11. Mitch Burton	EP	<i>Mitch Burton</i>	7-16-02	<i>Mitch Burton</i>	9-9-02
12. Keith Butner	SRO	<i>Keith Butner</i>	8-12-02	<i>Keith Butner</i>	9/9/02
13. Clarence Matthews	Instructor	<i>Clarence Matthews</i>	8/22/02	<i>Clarence Matthews</i>	9/3/02
14. Michael Munroe	MANAGER-TRAINING	<i>Michael Munroe</i>	8/26/02	<i>Michael Munroe</i>	9/3/02
15. Ron L. Bright	Simulation Support	<i>Ron L. Bright</i>	8/27/02	<i>Ron L. Bright</i>	9/3/02

NOTES:

① Signed for Bill Gross per telecom 9/10/02 1500 T.T. Toler

ATTACHMENT 3

EXAMINATION SECURITY AGREEMENT


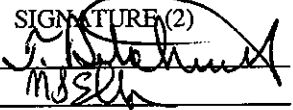
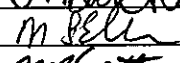
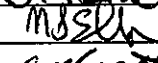


1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the period indicated below as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC. Furthermore, I am aware of the physical security measures and requirements 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 period indicated below. 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.

Examination Period 8/26/02 to 8/30/02

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1.	Thomas Detchemandy	SEP specialist		8/26/02		9/9/02	
2.	Mark Elin	SEP specialist		8/26/02		9/5/02	
3.	Scotty Scott	RO / Board Operator		8/26/02		9/5/02	
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							

NOTES:

Facility: <u>HARRIS</u>		Date of Examination: <u>26-Aug-02</u>
Examination Level: <u>RO</u>		Operating Test Number: <u>Final</u>
Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions (KA #)	
A. 1 CONDUCT OF OPERATIONS	Determine Rod Misalignment Using Thermocouples (AOP-001) (2.1.19)	
	Perform a Manual Power Range Heat Balance Calculation (OST-1204) (2.1.25)	
A. 2 EQUIPMENT CONTROL	Review an Equipment Clearance (OPS-NGGC-1301) (2.2.13)	
A. 3 RADIATION CONTROL	Perform Licensed Operator Actions to Establish a Liquid Waste Release (2.3.11) Radiological Controls @	
A. 4 EMERGENCY PLAN	Activate the Emergency Response Organization - Dialogic System (PEP-310) (2.4.43)	

Facility: <u>HARRIS</u>		Date of Examination: <u>26-Aug-02</u>
Examination Level: <u>SRO</u>		Operating Test Number: <u><i>Final</i></u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions (KA #)
A. 1	CONDUCT OF OPERATIONS	Perform Review of Daily Surveillance Requirements Log (OST-1021) (2.1.18)
		Perform a Manual Power Range Heat Balance Calculation (OST-1204) (2.1.25)
A. 2	EQUIPMENT CONTROL	Review an Equipment Clearance (OPS-NGGC-1301) (2.2.13)
A. 3	RADIATION CONTROL	Question Topic - License Requirements for Conducting a Waste Release with Inoperable Instrumentation and Administrative Controls Ensuring Requirements Met (2.3.6) Question Topic - Selection Process for Individuals Performing Emergency Entries into Radiation Fields Resulting in Exceeding Permissible Exposure Limits (2.3.4)
A. 4	EMERGENCY PLAN	Perform an Emergency Action Level Classification and Recommend Protective Actions (PEP-110) (2.4.41 / 2.4.44)

Facility:	HARRIS	Date of Examination:	26-Aug-02
Examination Level:	RO	Operating Test Number:	2002-301

B.1 Control Room Systems		
System/JPM Title	Type Code*	Safety Function (KA #)
a. Respond to a Failed High Pressurizer Pressure Channel (AOP-019)	NAS	3 (010.A2.03)
b. LOOP While Paralleling EDG from MCB for Testing (OP-155)	NAS	6 (064A4.01)
c. Secure One Train of CCW to the RHR HXs (OP-145)	DS	8 (008A2.01)
d. Manually Align Containment Spray (PATH-1)	DASL	5 (026A4.01)
e. Transfer to Hot Leg Recirculation (EPP-011)	DASL	2 (006A4.05)
f. Start an RCP Following Maintenance (OP-100)	DSL	4P (003A4.06)
g. Power Range NI Gain Adjustment (OP-105)	NS	7 (015A4.02)
B.2 Facility Walk-Through		
a. Local Actions for a Dropped Rod Recovery (AOP-001)	DL	1 (003AA1.02)
b. Manually Align Charging Due to a Loss of IA (AOP-017)	DRL	2 (004A2.11)
c. Start Up a Hydrogen Recombiner (OP-125)	DL	5 (028A4.01)
*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol Room, (S)imulator, (L)ow-Power, (R)CA		

Facility: <u>HARRIS</u>	Date of Examination: <u>26-Aug-02</u>
Examination Level: <u>SRO-I</u>	Operating Test Number: <u>2002-301</u>

B.1 Control Room Systems		
System/JPM Title	Type Code*	Safety Function (KA #)
a. Respond to a Failed High Pressurizer Pressure Channel (AOP-019)	NAS	3 (010.A2.03)
b. LOOP While Paralleling EDG from MCB for Testing (OP-155)	NAS	6 (064A4.01)
c. Secure One Train of CCW to the RHR HXs (OP-145)	DS	8 (008A2.01)
d. Manually Align Containment Spray (PATH-1)	DASL	5 (026A4.01)
e. Transfer to Hot Leg Recirculation (EPP-011)	DASL	2 (006A4.05)
f. Start an RCP Following Maintenance (OP-100)	DSL	4P (003A4.06)
g. Power Range NI Gain Adjustment (OP-105)	NS	7 (015A4.02)
B.2 Facility Walk-Through		
a. Local Actions for a Dropped Rod Recovery (AOP-001)	DL	1 (003AA1.02)
b. Manually Align Charging Due to a Loss of IA (AOP-017)	DRL	2 (004A2.11)
c. Start Up a Hydrogen Recombiner (OP-125)	DL	5 (028A4.01)
*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol Room, (S)imulator, (L)ow-Power, (R)CA		

Facility: HARRISDate of Examination: 26-Aug-02Examination Level: SRO-UOperating Test Number: 2002-301**B.1 Control Room Systems**

System/JPM Title	Type Code*	Safety Function (KA #)
a. Respond to a Failed High Pressurizer Pressure Channel (AOP-019)	NAS	3 (010.A2.03)
b. LOOP While Paralleling EDG from MCB for Testing (OP-155)	NAS	6 (064A4.01)
c.		
d.		
e.		
f.		
g.		

B.2 Facility Walk-Through

a. Local Actions for a Dropped Rod Recovery (AOP-001)	DL	1 (003AA1.02)
b. Manually Align Charging Due to a Loss of IA (AOP-017)	DRL	2 (004A2.11)
c. Start Up a Hydrogen Recombiner (OP-125)	DL	5 (028A4.01)

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol Room, (S)imulator, (L)ow-Power, (R)CA

Facility: Harris		Date of Examination: 26 August 2002		Operating Test Number:	
1. GENERAL CRITERIA			Initials		
			a	b*	c#
a. The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).			WJS	ATB	(K) ATB
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.			WJS	ATB	(K) ATB
c. The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).			WJS	ATB	(K) ATB
d. Overlap with the written examination and between operating test categories is within acceptable limits.			WJS	ATB	(K) ATB
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			WJS	ATB	(K) ATB
2. WALK-THROUGH (CATEGORY A & B) CRITERIA			---	---	---
a. Each JPM includes the following, as applicable:					
<ul style="list-style-type: none"> - initial conditions - initiating cues - references and tools, including associated procedure - reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee - specific performance criteria that include: <ul style="list-style-type: none"> - detailed expected actions with exact criteria and nomenclature - system response and other examiner cues - statements describing important observations to be made by the applicant - criteria for successful completion of the task - identification of critical steps and their associated performance standards restrictions on the sequence 			WJS	ATB	(K) ATB
b. The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.			WJS	ATB	(K) ATB
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.			WJS	ATB	(K) ATB
d. At least 20 percent of the JPMs on each test are new or significantly modified.			WJS	ATB	(K) ATB
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.			WJS	ATB	(K) ATB
Printed Name / Signature		Date			
a. Author	<u>William J. Gross</u>	<u>6/30/02</u>			
b. Facility Reviewer(*)	<u>Andy T. Barbee</u>	<u>7/11/02</u>			
c. NRC Chief Examiner (#)	<u>George T. Hopper</u>	<u>8/20/02</u>			
d. NRC Supervisor	<u>Michael E. Erastes</u>	<u>8/20/02</u>			
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in column 'c'; chief examiner concurrence required.					

Facility: Harris		Date of Exam: 26 August 2002		Operating Test No.:	
QUALITATIVE ATTRIBUTES			Initials		
			a	b*	c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	WJS	ATB	(D)	AT
2.	The scenarios consist mostly of related events.	WJS	ATB	(R)	AT
3.	Each event description consists of <ul style="list-style-type: none"> 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) 	WJS	ATB	(R)	
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	WJS	ATB	(R)	
5.	The events are valid with regard to physics and thermodynamics.	WJS	ATB	(R)	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	WJS	ATB	(R)	
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.	WJS	ATB	(R)	
8.	The simulator modeling is not altered.	WJS	ATB	(R)	
9.	The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	WJS	ATB	(R)	
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.4 of ES-301.	WJS	ATB	(R)	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	WJS	ATB	(R)	
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	WJS	ATB	(R)	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	WJS	ATB	(R)	
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)		Actual Attributes			
1.	Total malfunctions (5-8)	7 / 6	WJS	ATB	(R)
2.	Malfunctions after EOP entry (1-2)	2 / 1	WJS	ATB	(R)
3.	Abnormal events (2-4)	4 / 4	WJS	ATB	(R)
4.	Major transients (1-2)	2 / 1	WJS	ATB	(R)
5.	EOPs entered/requiring substantive actions (1-2)	2 / 3	WJS	ATB	(R)
6.	EOP contingencies requiring substantive actions (0-2)	1 / 1	WJS	ATB	(R)
7.	Critical tasks (2-3)	2 / 2	WJS	ATB	(D)

OPERATING TEST NO.: 2002-301

Applicant Type		Evolution Type	Minimum Number	Scenario Number / Candidate / Position			
				SCENARIO #1		SCENARIO #3	
			RO-1 (RO)		RO-1 (BOP)		
RO	Reactivity	1	1				
	Normal	1			5		
	Instrument / Component	4	3-4		2-4		
	Major	1	5-6		6-7		
			SRO-I1 (SRO)	SRO-I2 (RO)	SRO-I1 (RO)	SRO-I2 (SRO)	
As RO	Reactivity	1		1	5		
	Normal	0					
	Instrument / Component	2		3-4	1-3		
	Major	1		5-6	6-7		
As SRO	Reactivity	0					
	Normal	1	1			5	
	Instrument / Component	2	2-3-4			1-2-3-4	
	Major	1	5-6			6-7	
			SRO-U1 (SRO)		SRO-U2 (SRO)		
SRO-U	Reactivity	0					
	Normal	1	1		5		
	Instrument / Component	2	2-3-4		1-2-3-4		
	Major	1	5-6		6-7		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
 - (2) Reactivity manipulations may be conducted under normal or controlled abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
 - (3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

- Notes:
- (1) Only those events prior to the major event are counted in the Transients and Events.
 - (2) The simulator crew composition is as follows:

Position	Scenario #1		Scenario # 3	
	Exam 1	Exam 2	Exam 1	Exam 2
USCO	SRO-I1	SRO-U1	SRO-I2	SRO-U2
RO	RO-1	SRO-I2	SURROGATE	SRO-I1
BOP	SURROGATE	SURROGATE	RO-1	SURROGATE

- (3) Simulator exams will be split over 2 days.
- (4) Scenario #1 will be used one day, Scenario #3 the other.
- (5) Each RO and SRO-I candidate will get one Scenario each day.
- (6) The SRO-U candidates will get one scenario.
- (7) Surrogates will be used to fill 1 position in each of the scenarios.

Author:

Will J. Gross / William J. Gross

NRC Reviewer:

Kathleen O'Neil
ATP

OPERATING TEST NO.:

SCENARIO POSITION Competencies	RO-1		RO-2		SRO-I1		SRO-I2		SRO-I3		SRO-U1	SRO-U2
	1	2	1	2	1	2	1	2	1	2	2	2
	RO	BOP	BOP	RO	SRO	RO	SRO	RO	RO	SRO	SRO	SRO
Understand and Interpret Annunciators and Alarms	3-4-5-6	2-3-5	1-2-3-5-6	1-2-3-5	ALL	1-2-3-5	ALL	1-2-3-5	3-4-5-6	1-2-3-5	1-2-3-5	1-2-3-5
Diagnose Events and Conditions	3-4-5-6	2-3-5	1-2-3-5-6	1-2-3-5	ALL	1-2-3-5	ALL	1-2-3-5	3-4-5-6	1-2-3-5	1-2-3-5	1-2-3-5
Understand Plant and System Response	2-3-5-6	2-4-5	2-3-5-6	1-2-4-5	2-3-5-6	1-2-4-5	2-3-5-6	1-2-4-5	2-3-5-6	1-2-4-5	1-2-4-5	1-2-4-5
Comply With and Use Procedures (1)	2-3-4-5-6	2-3-4-5	1-2-3-5-6	ALL	ALL	ALL	ALL	ALL	2-3-4-5-6	ALL	ALL	ALL
Operate Control Boards (2)	2-3-4-5-6	2-3-4-5	1-2-3-5-6	ALL		ALL		ALL	2-3-4-5-6			
Communicate and Interact With the Crew	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Demonstrate Supervisory Ability (3)					ALL		ALL			ALL	ALL	ALL
Comply With and Use Tech. Specs. (3)					1-3		1-3			1-3	1-3	1-3

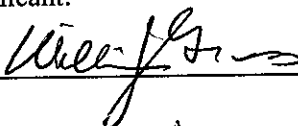
Notes:

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

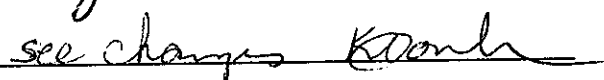
Instructions:

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:



NRC Reviewer:



Facility: Harris		Date of Exam: 26-Aug-02			Exam Level: RO		
Item Description					Initial		
					a	b*	c#
1.	Questions and answers technically accurate and applicable to facility				WJS	ATB	Q
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available				WJS	ATB	Q
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401				WJS	ATB	Q
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process						Q
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or other (explain)				WJS	ATB	Q
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank 100 44 43	Modified 31	New KQ 25 26	WJS	ATB	Q
7.	Between 50 and 60 percent of the questions on the exam (including 10% new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory P 50	CIA P 50		WJS	ATB	Q
8.	References/handouts provided do not give away answers				WJS	ATB	Q
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the Tier to which they are assigned; deviations are justified				WJS	ATB	Q
10.	Question psychometric quality and format meet ES, Appendix B, guidelines				WJS	ATB	Q
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet				WJS	ATB	Q
a. Author		William J. Gross / <i>William J. Gross</i>			Date 6/30/02		
b. Facility Reviewer(*)		Andy T. Barbaree / <i>Andy T. Barbaree</i>			7/11/02		
c. NRC Chief Examiner(#)		George T. Hopper / <i>George T. Hopper</i>			8/21/02		
d. NRC Regional Supervisor		MICHAEL E. ERNSTES / <i>Michael E. Ernstes</i>			8/21/02		
Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.							

Facility: Harris		Date of Exam: 26-Aug-02		Exam Level: SRO																																
Item Description				Initial																																
				a	b*	c#																														
1.	Questions and answers technically accurate and applicable to facility			YJS	ATB	(P) MK																														
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			YJS	ATB	(P) MK																														
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401			YJS	ATB	(P) MK																														
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process					(P) MK																														
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or other (explain)			YJS	ATB	(P) MK																														
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest modified); enter the actual question distribution at right	Bank	Modified	New	YJS	ATB (P) MK																														
		82 41	31	29 28																																
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right	Memory	C/A		YJS	ATB (P) MK																														
		124 40	89 60																																	
8.	References/handouts provided do not give away answers			YJS	ATB	(P) MK																														
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the Tier to which they are assigned; deviations are justified			YJS	ATB	(P) MK																														
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			YJS	ATB	(P) MK																														
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet			YJS	ATB	(P) MK																														
<table border="0"> <tr> <td></td> <td colspan="4">Printed Name / Signature</td> <td>Date</td> </tr> <tr> <td>a. Author</td> <td colspan="4"><u>William J. Gross / Will J. Gross</u></td> <td><u>6/30/02</u></td> </tr> <tr> <td>b. Facility Reviewer(*)</td> <td colspan="4"><u>Andy T. Barbee / Andy T. Barbee</u></td> <td><u>7/11/02</u></td> </tr> <tr> <td>c. NRC Chief Examiner(#)</td> <td colspan="4"><u>George T. Hopper / George T. Hopper</u></td> <td><u>8/21/02</u></td> </tr> <tr> <td>d. NRC Regional Supervisor</td> <td colspan="4"><u>MICHAEL E. ERNITES / Michael E. Ernites</u></td> <td><u>8/21/02</u></td> </tr> </table>								Printed Name / Signature				Date	a. Author	<u>William J. Gross / Will J. Gross</u>				<u>6/30/02</u>	b. Facility Reviewer(*)	<u>Andy T. Barbee / Andy T. Barbee</u>				<u>7/11/02</u>	c. NRC Chief Examiner(#)	<u>George T. Hopper / George T. Hopper</u>				<u>8/21/02</u>	d. NRC Regional Supervisor	<u>MICHAEL E. ERNITES / Michael E. Ernites</u>				<u>8/21/02</u>
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Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.																																				

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
<p align="center">Instructions</p> <p align="center">[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]</p> <ol style="list-style-type: none"> Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable). Check the appropriate box if a psychometric flaw is identified: <ul style="list-style-type: none"> The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information). The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc). The answer choices are a collection of unrelated true/false statements. More than one distractor is not credible. One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem). Check the appropriate box if a job content error is identified: <ul style="list-style-type: none"> 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. <u>Check questions that are sampled</u> for conformance with the approved K/A and those that are <u>designated SRO-only</u> (K/A and license level mismatches are unacceptable). Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory? At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met). 																

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
RO/SRO COMBINED QUESTIONS																
COMMON QUESTIONS																
1	H	2										✓		S	N	055K3.1- no comment, 2 not 3
2	H	3										✓		S	N	061A3.03- no comment
3	F	3										✓		S	B	022A3.01 -no comment
4	F	2										✓		S	N	071G2.2.25-no comment, 2 not 3
5	F	3										✓		S	N	025AK2.05 - no comment
6	F	3										✓		E	M	056A2.04 - need bank question to validate modified : <u>validated</u> . <u>QUES NOW SAT</u>
7	H	2										✓		S	B	065AA2.08 - no comment, 2 not 3
8	F	2				X						✓		E	B	T3G2.2.24 - need TS to validate distractor wrong, 2 not 4: <u>validated distractor adequate: QUES. NOW SAT</u>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
9	H	2										✓		S	M	001K4.11 - no comment, 2 not 3
10	F	1		X		X						✓		U	B	103K4.04 - delete teaching, need better distractors, little discrimination validity (attribute for RO or SRO), 1 not 2: <i>licensee explained plant specific attributes; is 2 not 1, QUES. NOW SAT</i>
11	H	2		X								✓		E	M	013K6.01 - delete teaching, 2 not 3, <i>rephrased stem QUES. NOW SAT</i>
12	F	2										✓		S	B	T3G2.3.11 - no comment, 2 not 3
13	F	3										✓		S	N	055G2.4.18 - F not H
14	F	2										✓		S	N	076G2.4.18 - no comment, 2 not 3
15	H	2										✓		S	M	016K4.03 - no comment, 2 not 3
16	F	2				X						✓		U	B	062G2.1.27 - distractors not realistic, 2 not 3, <i>rephrased explained distractors. QUES. NOW SAT</i>
17	H	2										✓		S	N	022G2.1.25 - (reference provided) no comment, 2 not 3
18	F	3										✓		S	M	062AA2.06 - no comment
19	H	2										✓		S	B	075G2.1.25 - (reference provided) no comment
20	H	2										✓		S	B	T3G2.1.25 - (reference provided) no comment
21	H	3										✓		E	M	001K5.42 - rephrase to use initial in stem vs each distractor : <i>corrected: QUES. NOW SAT</i>
22	H	3										✓		E	B	010K1.06 - "Progressively"? : <i>deleted "progressively form stem. QUES. NOW SAT</i>
23	F	1										✓		U	B	012K1.08 - little discrimination validity (attribute for RO or SRO), 1 not 2: <i>replaced question: QUES. NOW SAT</i>
24	F	2										✓		S	N	029K4.02 - no comment, 2 not 4
25	H	3										✓		S	B	063K2.01 - no comment
26	H	2										✓		S	B	011K5.06 - no comment, 2 not 3
27	F	2										✓		S	B	086A1.01 - no comment, 2 not 3
28	H	2										✓		E	N	T3G2.3.10 - rephrase to avoid "not", 2 not 3: <i>revised: QUES. NOW SAT</i>
29	H	3										✓		S	B	015/017AA1.08 - no comment
30	H	2										✓		S	N	040AA1.22 - no comment, 2 not 3
31	F	2										✓		S	M	022K2.01 - no comment F not H, 2 not 3

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only			
32	H	3										✓		S	M	004A1.06 - no comment
33	F	1										✓		U	B	008K4.07 -no discrimination validity (attribute for RO or SRO), 1 not 2: <i>revised quest.:</i> <u>QUES. NOW SAT</u>
34	H	3										✓		S	N	001AK1.16 (reference provided), 3 not 4
35	H	2				X						✓		S	M	014G2.1.11 - need better distractors, need reference, 2 not 3: <u>revised</u>
36	F	2										✓		S	B	T3G2.1.2 - no comment
37	H	2										✓		S	N	005K4.08 - no comment, 2 not 3
38	F	2										✓		S	B	033A2.03 - no comment
39	F	3										✓		S	B	002K6.03 - no comment
40	F	2										✓		S	B	059AA2.05 - no comment, 2 not 3
41	F	3				X						✓		U	B	T3G2.4.7 - rephrase distractors, B only one that has backfill capability at all (RCS < SG); <i>revised C distractor:</i> <u>QUES. NOW SAT</u>
42	H	2										✓		S	N	003G2.4.6 - no comment, 2 not 3
43	F	2										✓		S	B	003A4.08 - no comment
44	H	3										✓		S	N	039A1.05 - no comment (reference)
45	H	3										✓		S	M	072K3.01 - no comment
46	H	2										✓		S	M	026AK3.01 - no comment, 2 not 3
47	F	3										✓		S	M	026A2.08 - no comment
48	F	3										✓		S	N	078K1.03 - no comment
49	H	2										✓		S	N	045A1.06- no comment
50	H	2										✓		S	B	W/E09EK1.02 -no comment 2 not 3
51	H	2										✓		S	M	059K1.02 - no comment, 2 not 3
52	H	3										✓		S	M	056AA2.22 - no comment
53	H	3										✓		S	M	008AA2.12 - no comment
54	H	3										✓		S	N	015K5.06 - no comment
55	F	2										✓		S	M	068K1.07 - no comment
56	H	4										✓		S	N	058AA2.03 - no comment

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
57	H	3										✓		S	M	004K3.08 - no comment
58	F H	3										✓		E	M	017A3.01 - contains NOT - rephrase, F not H, <i>rephrased H not F</i> , <u>QUES. NOW SAT</u>
59	H	3										✓		S	B	T3G2.2.13 - no comment
60	H	3										✓		S	N	064K3.03 - no comment 3 not 4
61	F	2										✓		S	B	W/E08EK2.02 - no comment 2 not 3
62	F	3										✓		S	B	073A4.02 - no comment
63	H	3										✓		S	N	011EA1.01 - no comment
64	F	3										✓		S	B	W/E05EK2.01 - no comment
65	F	2										✓		S	M	007EK1.03 - no comment
66	H	3										✓		S	M	027AA2.15 - no comment
67	H	3										✓		E	M	057AA2.15 - rephrase "not" statements: <i>rephrased QUEST</i> <u>NOW SAT</u>
68	H	3				X						✓		E	N	037AA1.13 - rephrase distractor B too obvious: <i>revised: QUES.</i> <u>NOW SAT</u>
69	H	3										✓		S	M	074EA1.05 - no comment
70	H	2										✓		S	M	T3G2.4.2 - no comment, 2 not 3
71	F	2										✓		S	B	068AA1.21 - no comment
72	H	3										✓		S	M	035A3.01 - no comment
73	F	3										✓		S	B	038EK3.08 - no comment
74	F	2										✓		S	B	006A4.08 - no comment
75	F	2										✓		S	B	029EK3.12 - no comment

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
SRO ONLY QUESTIONS																	
76	H	2										✓	✓	S	N	T3G2.4.30 - no comment	
77	H	2										✓	U	U	N	028AA2.02 - this is not SRO only level: <u>replaced with original RO only #86</u>	
78	H	2										✓	✓	E	B	W/E14G2.3.10 - inadequate reference material to validate. <u>validated QUEST NOW SAT</u>	
79	F	2										✓	✓	U	N	W/E16EA2.01 - all answers could be argued to be true <u>rephrased QUEST NOW SAT</u>	
80	H	2	X									✓	✓	U	B	T3G2.1.4 - clarify correct answer, could argue no correct answer' <u>rephrased QUES. NOW SAT</u>	
81	F H	2										U	✓	U	B	036G2.2.8 - quest is about interlocks not procedure <u>replaced ques QUES NOW SAT NOW H NOT F</u>	
82	H	2										U	✓	U	B	T3G2.2.25 - questions how the TS is met not bases <u>rephrased ques QUES NOW SAT</u>	
83	F	3				X						✓	✓	E	M	T3G22.26- 2 correct answers <u>rephrased QUES NOW SAT</u>	
84	F H	2										✓	✓	E	B	T3G2.2.6 - describe the situation and let them determine it requires a deviation and how to approve it: <u>replaced QUES. NOW SAT NOW H NOT F</u>	
85	H	3				X						✓	✓	E	M	054G2.4.16 - need references to validate question, correct answer stands out because of title, <u>rephrased QUES. NOW SAT</u>	
86	F	3										✓	✓	S	B	T3G2.1.33 - no comment	
87	H	2										✓	✓	S	M	W/E02EA2.02 - no comment	
88	H	3										✓	✓	S	M	W/E032.4.22 - no comment	
89	H	2										✓	✓	S	N	055G2.4.1 - no comment	
90	F	2										✓	✓	S	M	T3G2.4.40 - no comment	
91	H	2										✓	✓	S	B	024G2.1.20 - no comment	
92	H	3										✓	✓	S	B	W/E06EA2.01 - no comment	
93	H	2										✓	✓	U	N	W/E11EA2.02 - correct stem - as written all answers are correct <u>rephrased, QUES. NOW SAT</u>	
94	F	3										✓	✓	S	B	033G2.4.4 - no comment	
95	F	2										U	✓	S	B	T3G2.4.21 - does not meet K/A, <u>NRC re-assigned K/A QUES NOW SAT</u>	
96	H	2										✓	✓	S	B	T3G2.4.4 - no comment	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
97	F	2										✓	✓	S	M	W/E04EA2.01 - no comment
98	H	2										✓	✓	S	M	005AA2.03 - no comment
99	H	2										✓	✓	E	N	067AA2.13 - Typo (no comment) <i>corrected</i>
100	H	3										✓	✓	S	N	009EA2.01 - no comment

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only				
RO ONLY QUESTIONS																	
76	F	2										✓		S	B	T3G2.3.2 - no comment	
77	F	2										✓		E	M	007A4.01 - need system diagram <i>validated</i> <u>QUES NOW SAT</u>	
78	F	4 2										✓		U	M	024AK2.01- no discriminating value: <i>replaced ques</i> <u>QUES NOW SAT</u>	
79	F	2				X						✓		E	B	033AK1.01 -Need new distractors, BC not feasible <i>explained site specific</i> <u>QUES NOW SAT</u>	
80	F	2										✓		S	N	059a1.03 -no comment	
81	F	2										✓		S	B	079A4.01 - no comment	
82	H	3	X									✓		E	N	T32.4.17 - typo, delete teaching <i>rephrased</i> <u>QUES NOW SAT</u>	
83	F	4 2										✓		U	B	028G2.1.32 - replace with another L&P #6, no doscriminating value <i>replaced ques</i> <u>QUES NOW SAT</u>	
84	F H	4 2	X			X						✓		U	B	051AK3.01 - incorrect as stated. F not H need new quest, No discriminating value <i>rewrote ques</i> <u>QUES NOW SAT</u>	
85	F	2										✓		S	M	076G2.4.10 - F NOT H,	
86	H	3	X					X				✓		E	N	T3G2.2.12 - does the ro declare operability? <i>No not RO level replace with original SRO only # 77</i> <u>QUES NOW SAT</u>	
87	H	3										✓		E	M	005AK1.02 - Do they have adequate information to answer this? <i>Yes</i> <u>QUES NOW SAT</u>	
88	H	2										✓		E	B	036AA1.04 - can this be accomplished manually? <i>No</i> <u>QUES NOW SAT</u>	
89	F	2										✓		U	B	W/E14EK3.02 - rephrase get rid of NOT", c is also true <i>rephrase</i> <u>QUES NOW SAT</u>	
90	F	3										✓		S	M	003k1.03 - no comment	
91	F	4 2										✓		U	B	T32.1.29 - no discriminating value - replace question <i>replaced question</i> <u>QUEST NOW SAT</u>	
92	F	3										✓		S	B	009EEK3.20 - no comment	
93	F	3										✓		S	B	001K2.02 - no comment	
94	F	2										✓		E	B	060AA2.06 - need system diagram to verify K/A met <i>validated</i> <u>QUEST NOW SAT</u>	
95	H	3	X									U		U	B	015A4.03 - currently tests for loss of power not bistable position <i>rephrased to meet K/A</i> <u>QUEST NOW SAT</u>	

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S		7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
96	F	2										✓		E	N	004K4.16 - restructure to pull repeditive phrase from ques <i>rephrased</i> <u>QUEST NOW SAT</u>
97	H	3	X									✓		E	N	061K2.02 - typo, rephrase stem <i>rephrased</i> <u>QUEST NOW SAT</u>
98	F	2										U		E	B	W/E02EA1.01 - Meet K/A? Rephrase as marked <i>rephrased</i> , <i>validated to meet K/A</i> <u>QUEST NOW SAT</u>
99	F	2	X									✓		E	M	T3G2.1.20 - rephrase the stem - too confusing <i>rephrased</i> <u>QUEST NOW SAT</u>
100	H	2										✓		E	M	013A2.01 - define immediate? , rhr suction valve position in condition described? <i>rephrased</i> <u>QUEST NOW SAT</u>

CHANGES TO SHEARON HARRIS AUGUST 2002 NRC INITIAL LICENSE EXAMINATION OUTLINE BASED ON NRC AND HARRIS VALIDATION TEAM COMMENTS

CHANGES TO WALK-THROUGH JPM OUTLINE

- 1) Replaced "JPM COM-B..1.a, Perform Control Rod Exercise Test," per NRC Lead Examiner request. Replaced with new, alternate path JPM, "JPM COM-B.1.a, Respond to Failed High Pressurizer Pressure Channel." JPM is Safety Function 3 which ensures required distribution of Safety Functions is still met.
- 2) Changed "JPM SRO-B.1.f, Start an RCP Following Maintenance," to "JPM COM-B.1.f, Start an RCP Following Maintenance," making it a common JPM to both RO and SRO-I candidates. The original "JPM RO-B.1.f, High RCS Pressure While Solid," used the same AOP as "JPM COM-B.1.a, Respond to Failed High Pressurizer Pressure Channel," and was considered to not be valid as a different system / function JPM during validation.
- 3) Replaced "JPM COM-B.1.c, Decreasing CCW Surge Tank Level," with "JPM COM-B.1.c, Secure One Train of CCW to the RHR HXs," using OP-145. The original JPM is on the Audit Exam and cannot be used on the NRC Exam. This replacement JPM meets the same Safety Function as the original JPM so the required distribution of Safety Functions is still met. This change is reflected in the RO and SRO-I outlines.
- 4) "JPM COM-B.1.e, Transfer to Hot Leg Recirculation," has an identically titled JPM on the Audit Exam. Review of these two JPMs indicates that there is a significant difference between the two JPMs (NUREG-1021, ES-201, D.3.b). The Audit Exam JPM allows the candidates to successfully complete the task with no failures, while the NRC Exam JPM contains as alternate path which requires the candidates to take a different success path to arrive at a different end configuration. No replacement should be required for this JPM.
- 5) The KA for "JPM COM-B.2.b, Manually Align Charging Due to a Loss of IA," has been changed to better reflect the task and there is no change required to the Safety Function.

CHANGES TO SHEARON HARRIS AUGUST 2002 NRC INITIAL LICENSE EXAMINATION OUTLINE BASED ON NRC AND HARRIS VALIDATION TEAM COMMENTS

- 6) The above changes reflect a change in the Direct / Modified / New distribution of JPMs. The limits of no more than 30% from the last NRC Exam (NUREG-1021, ES-201, D.3.b) is met. The allowed bank usage (NUREG-1021, ES-201, D.3.b) of no more than 80% of any walk-through JPM exam being taken directly from the facility's testing materials without significant modification is also met. The new distributions are as follows:

	DIRECT (LAST NRC EXAM)	SIGNIFICANTLY MODIFIED	NEW
RO	7 (1)	0	3
SRO-I	7 (1)	0	3
SRO-U	3 (0)	0	2

CHANGES TO ADMINISTRATIVE JPM OUTLINE

- 1) Replaced "JPM SRO-A.1-1, Change the Dedicated SPDS Screen Location," to "JPM SRO-A.1-1, Perform Review of Daily Surveillance Requirements Log," due to concerns raised about discriminatory value of original JPM.
- 2) Expanded "JPM SRO-A.4, Determine Protective Action Recommendations," to "JPM SRO-A.4, Perform an Emergency Action Level Classification and Recommend Protective Actions," per NRC Lead Examiner request. Also included grading criteria such that the classification following the scenario counts toward 20% of the grading of this JPM, the classification within the JPM counts toward 20% of the grading of this JPM, and the PAR determination counts the remaining 60% of the grading.
- 3) No changes made to RO Administrative JPM Outline.

CHANGES TO SCENARIO OUTLINES

SCENARIO #1

- 1) Replaced Event 2, "Main Turbine High Vibration Requiring Plant Power Reduction," with Event 1, "Continued Plant Power Reduction," due to concern of plant validation team that crew is likely to trip the plant since vibration levels do not decrease as turbine load decreases (simulator model). This still meets the requirement to perform a power change.

CHANGES TO SHEARON HARRIS AUGUST 2002 NRC INITIAL LICENSE EXAMINATION OUTLINE BASED ON NRC AND HARRIS VALIDATION TEAM COMMENTS

- 2) Previous Event 1 is now Event 2.
- 3) Replaced Event 4, "RCP High Vibration," with "Pressurizer Level Channel Failure" since NRC Lead Examiner expressed opinion that a RCP Vibration problem resulting in tripping the reactor and stopping the pump was not a valid component failure. Resulted in a slightly different entry path to PATH-1, now being caused by the loss of offsite power. Also reordered events to make this replacement Event 3 instead of Event 4.
- 4) Previous Event 3 is now Event 4.
- 5) No changes to Events 5 or 6.
- 6) Designated Event 7, "EDG A Restart Following SG Depressurization," as a component failure for the BOP and SRO only, eliminating the designation for the RO. This event was not counted in the original Competencies Checklist as a required event for any candidates as it occurs following EOP entry.
- 7) No change to Event 8 (classification).

SCENARIO #2

- 1) Changed initial conditions to make this a "low power" scenario. Now start at approximately 52% power with one train of FW in service.
- 2) Added Normal event for BOP as Event 1 in scenario, requiring the position to "Place the Second Train of FW (Condensate and Condensate Booster Pump) in Service."
- 3) Previous Event 1 is now Event 2.
- 4) Changed previous Event 2 from "Normal Service Water Pump A Trip" to "Normal Service Water Pump A Shaft Shear" to provide more required actions for RO candidate in response to failure. Also now is Event 3 instead of Event 2.
- 5) Added new Event 4, an instrument malfunction for the BOP, "Failure of a SG PORV Pressure Transmitter," as the NRC Lead Examiner determined a SG Tube Leak is not to be considered a component failure.
- 8) Events 3, 4, and 5 are now Events 5, 6, and 7, respectively.
- 6) No change to Event 8 (classification).

**CHANGES TO SHEARON HARRIS AUGUST 2002
NRC INITIAL LICENSE EXAMINATION OUTLINE
BASED ON NRC AND HARRIS VALIDATION TEAM
COMMENTS**

SCENARIO #3 (Spare)

- 1) Changed Event 1 title from "LCV-115A, VCT Divert Valve Control Failure to HUT" to "LT-112, VCT Level, High Failure". Event is same, but better described by new title.
- 2) No changes to Events 2, 3, 4, and 5.
- 3) Changed initiating malfunction and changed title of Event 6 from "RCS Loop A Cold Leg Leak at Approximately 1000 gpm leak, Ramped in Over 15 Minutes" to "RCS Loop A cold leg small break LOCA, Ramped in Over 15 Minutes." There are no actual changes to the expected crew response.
- 9) No changes to Events 7 and 8.
- 4) No change to Event 9 (classification).

Tier/Group	Randomly Selected K/A	Reason for Rejection
1 / 1	068AA1.01	Exceeds number of topics in E/APE allowed
1 / 1	055EA2.05	Exceeds number of topics in E/APE allowed
1 / 1	026AK3.04	Exceeds number of topics in E/APE allowed
1 / 1	0052.4.4	Exceeds number of topics in E/APE allowed
1 / 1	027AK1.01	Exceeds number of topics in E/APE allowed
1 / 1	015/017AK1.04	Exceeds number of topics in E/APE allowed
1 / 2	008AA2.15	Exceeds number of topics in E/APE allowed
1 / 2	033AA2.12	Exceeds number of topics in E/APE allowed
1 / 2	022AK3.01	Exceeds number of topics in E/APE allowed
1 / 2	W/E01EA2.02	Exceeds number of topics in E/APE allowed
1 / 2	029EK1.03	Exceeds number of topics in E/APE allowed
1 / 2	001AA2.01	Exceeds number of topics in E/APE allowed
1 / 2	001AA1.01	Exceeds number of topics in E/APE allowed
1 / 2	022AA2.04	Exceeds number of topics in E/APE allowed
1 / 2	W/E05EA2.01	Exceeds number of topics in E/APE allowed
1 / 2	033AA1.01	Exceeds number of topics in E/APE allowed
1 / 2	037AK3.08	Exceeds number of topics in E/APE allowed
1 / 2	011EA2.01	Exceeds number of topics in E/APE allowed
1 / 2	009EA2.32	Exceeds number of topics in K/A allowed

Tier/Group	Randomly Selected K/A	Reason for Rejection
1 / 2	029EK3.12	Exceeds number of topics in E/APE allowed
1 / 3	056AA1.11	Exceeds number of topics in E/APE allowed
2 / 1	001K5.39	Exceeds number of topics in System allowed
2 / 1	004K5.35	Exceeds number of topics in System allowed
2 / 1	004K6.14	Exceeds number of topics in System allowed
2 / 1	001K4.14	Exceeds number of topics in System allowed
2 / 2	012K6.11	Exceeds number of topics in System allowed
2 / 2	002A4.06	Exceeds number of topics in System allowed
2 / 2	0022.4.18	Exceeds number of topics in System allowed
2 / 2	011A3.01	Exceeds number of topics in System allowed
2 / 2	006K6.18	Exceeds number of topics in System allowed
2 / 2	0862.1.12	Exceeds number of topics in K/A allowed
2 / 2	014A1.03	Exceeds number of topics in System allowed
2 / 2	062K4.10	Exceeds number of topics in System allowed
2 / 2	0862.1.32	Exceeds number of topics in K/A allowed
2 / 2	002K5.14	Exceeds number of topics in System allowed
2 / 2	006A2.10	Exceeds number of topics in System allowed
2 / 2	062A2.06	Exceeds number of topics in System allowed
2 / 2	011K5.02	Exceeds number of topics in System allowed

Tier/Group	Randomly Selected K/A	Reason for Rejection
2 / 2	012K3.01	Exceeds number of topics in System allowed
2 / 2	075A4.01	Exceeds number of topics in System allowed
2 / 2	011A2.06	Exceeds number of topics in System allowed
2 / 2	0642.1.32	Exceeds number of topics in System allowed
2 / 2	006A2.12	Exceeds number of topics in System allowed
2 / 2	039A1.10	Exceeds number of topics in System allowed
2 / 2	026A3.01	Exceeds number of topics in System allowed
2 / 2	033A2.01	Exceeds number of topics in System allowed
2 / 2	063A2.01	Exceeds number of topics in System allowed
2 / 2	010A1.07	Exceeds number of topics in System allowed
2 / 2	002K5.01	Exceeds number of topics in System allowed
2 / 3	008K4.09	Exceeds number of topics in System allowed
2 / 3	005A2.01	Exceeds number of topics in System allowed
2 / 3	008A3.05	Exceeds number of topics in System allowed
3	2.1.4	Exceeds number of topics in Category allowed
3	2.1.32	Exceeds number of topics in Category allowed

Tier/Group	Randomly Selected K/A	Reason for Rejection
2/1	061K6.01	Replaced by 061A3.03 – improved KA match – reviewed / discussed with NRC
2/1	022K4.01	Replaced by 022A3.01 – Harris has no Containment Penetration Cooling – reviewed / discussed with NRC
1/3 (1/2)	065AA1.02	Replaced by 065AA2.08 - improved KA match – reviewed / discussed with NRC
2/3 (2/2)	103A4.06	Replaced by 103K4.04 - improved KA match – reviewed / discussed with NRC
1/2 (1/1)	059AA2.03	Replaced by 059AA2.05 - improved KA match – reviewed / discussed with NRC
2/1	0682.1.32	Replaced by 068K1.07 - improved KA match – reviewed / discussed with NRC
2/3 (RO Only)	007A4.04	Replaced by 007A4.01 – Harris has no Control Board indications / control of PRZ vent valve – reviewed / discussed with NRC
3 (RO Only)	2.4.19	Replaced by 2.4.17 - improved KA match – reviewed / discussed with NRC
2/3 (RO Only)	0282.1.27	Replaced by 0282.1.32 - improved KA match – reviewed / discussed with NRC
2/1 (RO Only)	004A3.08	Replaced by 004K4.16 - improved KA match – reviewed / discussed with NRC
3 (SRO Only)	2.3.4	Replaced by 2.4.30 - improved KA match – reviewed / discussed with NRC
1/3 (SRO Only)	028AA2.13	Replaced by 028AA2.02- Harris uses no graphs to allow for interpretation of uncompensated PRZ level – reviewed / discussed with NRC
1/1 (SRO Only)	WE14.2.3.10	Replaced by WE14.2.4.20 - improved KA match – reviewed / discussed with NRC
3 (SRO Only)	2.1.10	Replaced by 2.2.6 - improved KA match – reviewed / discussed with NRC
1/1 (SRO Only)	051AA2.02	Replaced by 055.2.4.1 – originally selected KA closely matches another KA (055K3.01) previously selected and would result in ‘double jeopardy’ – replaced with different system KA since only KAs in 051 E/APE with importance ≥ 2.5 relate to same topic – reviewed / discussed with NRC

Tier/Group	Randomly Selected K/A	Reason for Rejection
3 (SRO Only)	2.4.41	Replaced by 2.4.40 - improved KA match – reviewed / discussed with NRC
2/3	008K2.02	Replaced by 008K4.07 - improved KA match – reviewed / discussed with NRC
1/2 (1/1)	029EK3.11	Replaced by 029EK3.12 - improved KA match – reviewed / discussed with NRC
3 (SRO Only)	2.4.21	Replaced by 2.4.14 – improved KA match – selected by NRC during exam review

Facility:		Date of Exam:		Exam Level <u>RO/SRO</u>	
Item Description		Initials			
		a	b	c	
1.	Clean answer sheets copied before grading	<u>CM</u>	<u>AL</u>	<u>AD</u>	
2.	Answer key changes and question deletions justified and documented	<u>NA</u>	<u>NA</u>	<u>MA</u>	
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<u>CM</u>	<u>AL</u>	<u>AD</u>	
4.	Grading for all borderline cases (80% +/- 2%) reviewed in detail	<u>na</u>	<u>NA</u>	<u>N/A</u>	
5.	All other failing examinations checked to ensure that grades are justified	<u>na</u>	<u>NA</u>	<u>MA</u>	
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	<u>CM</u>	<u>AL</u>	<u>AD</u>	
Printed Name / Signature		Date			
a. Grader	<u>CP Matthews / CP Matthews</u>	<u>9/3/02</u>			
b. Facility Reviewer(*)	<u>Archie Lucky / Archie Lucky</u>	<u>9/3/02</u>			
c. NRC Chief Examiner (*)	<u>Kathleen O'Donnell / Kathleen O'Donnell</u>	<u>9/16/02</u>			
d. NRC Supervisor (*)	<u>George T. Hoyer / George T. Hoyer</u>	<u>9/16/02</u>			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Facility:		Date of Exam:		Exam Level: RO(SRO)	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	TM	AL	R		
2. Answer key changes and question deletions justified and documented	na	na	na		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	TM	AL	R		
4. Grading for all borderline cases (80% +/- 2%) reviewed in detail	na	na	na		
5. All other failing examinations checked to ensure that grades are justified	na	na	na		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	TM	AL	R		
Printed Name / Signature		Date			
a. Grader	CP Matthews / CP Matthews	9/3/02			
b. Facility Reviewer(*)	Archie Lucky / Archie Lucky	9/3/02			
	Kathleen O'Donoghue / Kathleen O'Donoghue	9/16/02			
c. NRC Chief Examiner (*)	George T. Hopper / George T. Hopper	9/16/02			
d. NRC Supervisor (*)					
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Task Description	Date Complete
1. Facility written exam comments or graded exams received and verified complete	9/5/02
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	9/6/02
3. Operating tests graded by NRC examiners	9/6/02
4. NRC Chief examiner review of written exam and operating test grading completed	9/6/02
5. Responsible supervisor review completed	9/11/02
6. Management (licensing official) review completed	9/11/02
7. License and denial letters mailed	9/13/02
8. Facility notified of results	9/11/02
9. Examination report issued (refer to NRC MC 0610)	9/14/02
10. Reference material returned after final resolution of any appeals	NA 9/13/02