COVER SHEET

HARRIS EXAM
50-40012004-301

FEBRUARY 23 - 27,2004
& MARCH 4,2004 (WRITTEN)

-- ADMINISTRATIVE DOCUMENTS --
ALL IN ONE ADAMS DOCUMENT

✓ [X]	ES-202-1 - Exam Preparation Checklist
✓ [X]	ES-201-2 - Exam Outline Quality Checklist
✓ [X]	ES-201-3 - Exam Security Agreements
✓ [X]	ES-301-1 - Admin Topics Outline
✓ [X]	E%-301-2= Control Room Systems & Facility Walk-through Test Outline
✓ [X]	ES-301-3 - Operating Test Quality Checklist
✓ [X]	ES-301-4 - Simulator Scenario Quality Checklist
✓ [X]	ES-301-5 - Transient & Event Checklist
✓ [X]	ES-301-6 - Competencies Checklist
1/18?]	ES-401-7 - Written Exam Quality Checklist
✓ [X]	ES-401-9 - Written Exam Review Worksheet
✓ [X]	ES-403-1 - Written Exam Grading Quality Checklist
✓ [X]	ES-501-1 - Post Exam Check Sheet

Facility: Harris Date of Examination: 2/23-03/04/2004

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)	
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	
-120	3. Facility contact briefed on security & other requirements (C.2.c)	
-120	4. Corporate notification letter sent (C.2.d)	
[-90]	[5. Reference material due (C.1.e; C.3.c)]	N/A
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	
-30	9. Preliminary license applications due (C.1.l; C.2.g; ES-202)	
-14	10. Final license applications due and assignment sheet prepared (C.1.l; C.2.g; ES-202)	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	14. Final applications reviewed: assignment sheet updated; waiver letters sent (C.2.g, ES-404)	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	

* Target dates are keyed to the examination date identified in the corporate notification letter. They are *for* planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.

[ ] Applies only to examinations prepared by the NRC.

Facility: HARRIS Date of Examination: 2/23-27/04 3/04/04

Item	Task Description	Initials a	Initials b	Initials c
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.			
	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.			
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.			
	d. Assess whether the repetition from previous examination outlines is excessive.			
2. SIM	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.			
	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 on subsequent days.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W/T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3) *no task are duplicated from the applicants audit test(s), and (4) no more than 80% of the operating test is taken directly from the licensee's exam bank.			
	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) 4 6 (2 – 3 for SRO-U) of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.			
	c. Verify that the required administrative topics are covered.			
	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 subsequent days.			
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.			
	h. Assess whether the 10 CFR 55.41143 and 55.45 sampling is appropriate.			
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.			
	d. Check for duplication and overlap among exam sections.			
	e. Check the entire exam for balance of coverage.			
	f. Assess whether the exam fits the appropriate job level (RO or SRO).			

	Printed Name / Signature	Date
a. Author	William Gross / William Gross	12/03/03
h. Facility Reviewer(*)	Homer Carter / Homer Carter	12/9/03
c. Chief Examiner	Lee R Miller / Lee R. Miller	12/23/03 / 2/17/04
d. NRC Supervisor	George T. Hopper / George T. Hopper	2/17/04

(*) Not applicable for NRC-developed examinations

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 2-23-04 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 2-23-04. 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.	Archie Lucky	Operations Instructor	Archie Lucky	10/22/03	Archie Lucky	3/5/04	
2.	Hamer Carter	SUPV - OIT	Hamer Carter	10/22/03	Hamer Carter	3/5/04	
3.	D.D. McDade	Sim. Support	D.D. McDade	12/8/03	D.D. McDade	3/4/04	
4.	Ron L. Bright	Sim. Support	Ron L. Bright	12/8/03	Ron L. Bright	3/4/04	
5.	Jim Pierce	SSO	Jim Pierce	12/29/03	Jim Pierce	3/4/04	
6.	Randy Wilson	R.O.	R. Wilson	12-29-03		3/10/04	⊛
7.	Matt Fulks	RO	Matt Fulks	12/30/03	Matt Fulks	3/10/04	
8.	Mike Weber	Supt Ops Support	Mike Weber	12/30/03	Mike Weber	3/10/04	
9.	Chris Kamilakis	Supt Ops Training	Chris Kamilakis	1/20/04	Chris Kamilakis	3/4/04	
10.	Cooper Jernigan	Supt. Ops/Training	Cooper Jernigan	1/21/04	Cooper Jernigan	3-9-04	
11.	Rob Winkler	SCO / WCC	Rob Winkler	1-30-04	Rob Winkler	3-4-04	
12.	Ken Olive	Operations Instructor	Ken Olive	2-4-04	Ken Olive	3-5-04	
13.	Mark Christopherson	SCO	Mark Christopherson	2-6-04	Mark Christopherson	3-4-04	
14.	Dennis McLaughlin	RO	Dennis McLaughlin	2-6-04	Dennis McLaughlin	3-7-04	
15.	Richard Bretton	Ops Instructor	Richard Bretton	2-6-04	Richard Bretton	3-4-04	

NOTES: ⊛ Per telecom with Archie Lucky on 3/10/04

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 2/23/03 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 2/23 & 3/4/04. 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 MRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	BATE	SIGNATURE (2)	DATE	NOTE
1.	William J. Gross	Author		9/15/03		3/10/04	
2.	Teresa Midgette	Data management Asst.		2/17/04		3/4/04	
3.	RAYMOND E. Moore	Control Operator		2/19/04		3/5/04	3/10/04
4.	Clarence Matthews	OPS Instructor		2/23/04		3/5/04	
5.	Chris S. Allen	Sr. IT Specialist		2/23/04		3/4/04	
6.	JEFF TROGDON	CRS		2-23-04		3/10/04	
7.	ED WILLS	MGR - OPS		2-23-04		3/4/04	
8.	George Stoner	Security		2-25-04		3/10/04	
9.	Odessa Cox	Security		2-24-04			
10.	Robyn Brixey	OPS Instructor		2-24-04		3-4-04	
11.	Eric McCarthy	Training Manager		2/24/04		3/8/04	
12.	David H. Walker	OPS Instructor		2/24/04		3-4-04	
13							
14.							
15							

NOTES: (*) Per telecom with Archie Lucky on 3/10/04

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 2/23/04 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 agreernent 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 2/23 & 3/4/04. 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		9/15/03 (X)		3/10/04	
2.	Teresa Midgette	Data management Asst.		2/17/04		3/4/04	
3.	RAYMOND E. Moore	Control Operator		2/19/04 (X)		5/5/04	3/10/04
4.	Clarence Matthews	OPS Instructor		2/23/04		3/3/04	
5.	Chris S. Allen	Sr IT Specialist		2/23/04		3/4/04	
6.	JEFF TROGDON	CRS		2-23-04 (X)		3/10/04	
7.	ED WILLS	MGR - OPS		2-23-04		3/4/04	
8.	George STONER	Security		2-23-04		3/10/04	
9.	Odessa Cox	Security		2-24-04		3/10/04	
10.	Robyn Brixey	OPS Instructor		2-24-04		3-4-04	
11.	Eric McCarthy	Training Manager		2/24/04		3/8/04	
12.	David H. Walker	OPS Instructor		2/24/04		3-4-04	
13.							
14.							
15.							

NOTES: (X) Pi telecom with Archie Luck on 3/10/04

Facility: HARRIS Date of Examination: 2/23-27/04

Examination Level: RO Operating Test Number: 1

Administrative Topic (see Note)	Describe Activity to be Performed (KA # - RO Imp / SRO Imp)
Conduct of Operations	Perform a manual Shutdown Margin Calculation per **OST-1036** (2.1.25 - **2.8**/ 3.1)
Conduct of Operations	Determine Average RCS Boron Concentration per EOP-EPP-002 **(2.1.20 4.3 14.2)**
Equipment Control	Determine clearance requirements for a CSIP per OPS-NGGC-**1301** (2.2.13 - **3.6**/ 3.8)
Radiation Control	Determine TEDE While Working in a High Airborne Area (2.3.10 - **2.9**/ 3.3)
Emergency Plan	NOT APPLICABLE FOR **RO**

NOTE: All items (5 total) are required for **SROs.** RO applicants require only **4** items unless they are retakin only the administrative topics, when 5 are required.

Facility: HARRIS	Date of Examination: 2/23-27/04
Examination Level: SRO	Operating Test Number: 1

Administrative Topic (see Note)	Describe Activity to be Performed (KA # - RO Imp / SRO Imp)
Conduct of Operations	Perform a manual Shutdown Margin Calculation per OST-1036 (2.1.25 - 2.8 / 3.1)
Conduct of Operations	Determine Average RCS Boron Concentration per EOP-EPP-002 (2.1.20 - 4.3 / 4.2)
Equipment Control	Determine clearance requirements for a CSIP per OPS-NGGC-1301 (2.2.13 - 3.6 13.8)
Radiation Control	Determine TEDE While Working in a High Airborne Area (2.3.10 - 2.9 13.3)
Emergency Plan	Determine Protective Action Recommendations per PEP-110 (2.4.44 - NA / 4.0)

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retakin only the administrative topics, when 5 are required.

Facility: HARRIS Date of Examination: 2/23-27/04

Examination bevel: RO Operating Test Number: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

System/JPM Title	Type Code*	Safety Function (KA # - RO Imp)
a. Transfer 6.9KV Buses from Unit Auxiliary Transformers to the Startup Auxiliary Transformers per OP-156.02	N / A / S	6 (062A4.07 - 3.1)
b. Perform Containment Cooling System Operability Test per OS 1010	D / S	5 (02284.01 - 3.6)
c. Isolate the **SI** Accumulators following a LOCA per PATH-1 and OP-110	N / A / S / L	3 (000011EA1.13 - 4.1)
d. Start the Turbine Driven Auxiliary Feedwater Pump per OP-137	M / S / L	4S (061A3.01 - 4.2) (061A3.01 - 4.2)
e. Transfer to Cold Leg Recirculation per EOP-EPP-010	M / A / S / L	2 (006A4.05 - 3.9)
f. Perform Control Rod and Rod Position Indicator Exercise per OST-1005	D / A / S	1 (001A2.11 - 4.4)
g. Place Audio Count Rate Drawer in Service per OP-105	N / S	7 (015A4.02 - 3.9)
h. Align CCW to Support RHR System Operations per OP-145	D / L / S	8 (008A4.01 - 3.3)
In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. Local Makeup **to** the VCT Using the Emergency Boration Valve	D / R	1 (004A2.07 - 3.4)
j. Perform local actions for placing an **OTAT** channel in Test per OWP-RP-01	N	7 (012A4.04 - 3.3)
k. Locally operate **a** SG PORV per EOP-EPP-012 and OP-126	D / R	4S (000074EA1.04 - 3.9)

*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: 02/23-27/04

Examination Level: SRO-U Operating Test Number: 1

Control Room Systems (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)

	System/JPM Title	Type Code*	Safety Function (KA # - SRO Imp)
a.	Transfer 6.9KV Buses from Unit Auxiliary Transformers to the Startup Auxiliary Transformers per OP-156.02	N / A / S	6 (062A4.07 - 3.1)
b.	NOT APPLICABLE FOR SRO-U		
c.	Isolate the SI Accumulators following a LOCA per PATH-1 and OP-1I 0	N / A / S / L	3 (000011EA1.13 - 4.2)
d.	NOT APPLICABLE FOR SRO-U		
e.	NOT APPLICABLE FOR SRO-U		
f.	NOT APPLICABLE FOR SRO-U		
g.	NOT APPLICABLE FQR SRO-U		
h.	NOT APPLICABLE FOR SRO-U		

In-Plant Systems (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)

i.	Local Makeup to the VCT Using the Emergency Boration Valve	D / R	1 (004A2.07 - 3.7)
j.	Perform local actions for placing an QTAT channel in Test per OWP-RP-01	N	7 (012A4.04 - 3.3)
k.	Locally operate a SG PORV per EOP-EPP-012 and OP-126	D / R	4 s (000074EA1.04-4.1)

*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: **February 23-27 2004** LW Operating Test Number:

	Initials		
1. GENERAL CRITERIA	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).	wfs	Jc	g LM
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.	wfs	Jc	g LM
c. The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	wfs	Jc	g LM
d. Overlap with the written examination and between different parts of the operating test is within acceptable limits.	wfs	Jc	g LM
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	wfs	Jc	g LM
2. WALK-THROUGH CRITERIA	---	---	---

a. Each JPM includes the following, as applicable:
- 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:
  - 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
  - restrictions on the sequence of steps, if applicable
	wfs	Jc	g LM

b. 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.	wfs	Jc	g LM
c. At least 20 percent of the JPMs on each test are new or significantly modified.	wfs	Jc	g LM
3. SIMULATOR CRITERIA	---	---	---
a. The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	wfs	Jc	g LM

	Printed Name / Signature	Date
a. Author	William J. Gross / William J. Gross	1/9/04
b. Facility Reviewer(*)	Homer K. Carter / Homer K. Carter	1-9-04
c. NRC Chief Examiner (#)	Lee R. Miller / Lee R. Miller	2/17/04
d. NRC Supervisor (*)	George T. Hopper / George T. Hopper	2/17/04

(*) 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: 2/23-27/04 Operating Test No.:

QUALITATIVE ATTRIBUTES	Initials a	Initials b	Initials 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.	wfs	JL	LM
2. The scenarios consist mostly of related events.	wfs	JL	LM
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)	wfs	JL	LM
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.	wfs	JL	LM
5. The events are valid with regard to physics and thermodynamics.	wfs	JL	LM
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	wfs	JL	LM
7. If time compression techniques are used, the scenario summary clearly so indicates Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	NA	NA	NA
8. The simulator modeling is not altered.	wfs	JL	LM
9. The scenarios have been validated. Pursuant to 10CFR55.46(d),any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	wfs	JL	LM
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.5 of ES-301.	wfs	JL	LM
11. All individual operator competencies can he evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	wfs	JL	LM
12. Each applicant will he significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	wfs	JL	LM
13. The level of difficulty is appropriate to support licensing decisions for each crew position.	wfs	JL	LM

TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.5.D)	Actual Attributes	---	---	---
1. Total malfunctions (5-8)	8 / 7 / 7			
2. Malfunctions after EOP entry (1-2)	3 / 1 / 2			
3. Abnormal events (2-4)	4 / 5 / ~~4~~ 5			
4. Major transients (1-2)	2 / 1 / 1			
5. EOPs entered/requiring substantive actions (1-2)	2 / 1 / 2			
6. EOP contingencies requiring substantive actions (0-2)	1 / 0 / 0			
7. Critical tasks (2-3)	4 / 2 / 4			

A. William J. Gross / William J. Gross Author

B. Facility Reviewer

C. Lee R. Miller / Lee R. Miller NRC Lead Examiner

HARRIS 2/25-27/04 OPERATING TEST NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number 1 RO	1 BOP	2 RO	2 BOP	3 RO	3 BOP	SPARE 4 RO	SPARE 4 BOP
RO	Reactivity	1*	5		4		4		4	
	Normal	1*		1		4		4C		
	Instrument / Component	4*	2 4	3 5	2 3 5 6	1 6	2 5	3 4 1	1 3	2 4
	Major	1	6 7	6 7	7 8	7 8	6	6	5	5
As RO	Reactivity	1*								
	Normal	0								
	Instrument / Component	2*								
	Major	1								
SRO-I										
As SRO	Reactivity	0								
	Normal	1*								
	Instrument / Component	2*								
	Major	1								
SRO-U	Reactivity	0								
	Normal	1*	1		4		4S			
	Instrument / Component	2*	2 3 4 5		1 2 3 5 6		1 2 3 4 5		1 2 3 4	
	Major	1	6 7		7 8		6		5	

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.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one-for-one basis.
(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: William J. Gross / William J. Gross

NRC **Reviewer:** & Lee R. Miller / Lee R. Miller

\RRIS 2/23-27/04

Competencies	SRO				RO				BOP			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4 SP	1	2	3	4 SP	1	2	3	4 SP
Interpret / Diagnose Events and Conditions	2 3 4 5 6 7	1 2 3 5 6 7 **8**	1 2 3 4 5 **6**	2 2 3 4 5	**2 4 6 7**	2 3 5 6 7 8	2 5 6	1 3 5	3 5 6 7	1 6 7 8	1 3 4 6	2 4 5
Comply With and Use Procedures (1)	ALL	ALL	ALL	ALL	2 4 5 6 7	2 3 4 5 6 7 8	2 4 5 6	1 3 4 5	1 3 5 6 7	1 4 6 7 8	3 4 6	2 4 5
Operate Control Boards (2)	N/A	N/A	N/A	N/A	2 4 5 6 7	2 3 4 5 6 7 8	2 4 5 6	1 3 4 5	1 3 5 6 7	1 4 6 7 8	3 4 6	2 4 5
Communicate and Interact	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
Demonstrate Supervisory Ability (3)	ALL	ALL	ALL	ALL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Comply With and Use Tech. Specs.. (3)	2 3 4	3 6	2 3 5	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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: William J. Gross / William J. Gross

NRC Reviewer: Lee R. Miller / Lee R. Miller

Facility: **HARRIS** Date of Exam: ~~FEBRUARY 2004~~ 2/04/04 Exam Level: **RO / SRO**

	Item Description	Initial a	b*	c#
1.	Questions and answers technically accurate and applicable to facility			
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			
3.	SRO questions are appropriate per Section D.2.d of ES-401			
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			*
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: √ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other			
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 RO/SRO-only question distribution(s) at right Bank: ~~20%/12%~~ ~~33%/15%~~ ~~24%/8~~ Modified: ~~46.67%/32%~~ ~~43%/42%~~ ~~28%/8~~ New: ~~33.33%/56%~~ ~~24%/43%~~ ~~48%/8~~			
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO/SRO-only question distribution at right Memory: ~~48%/44%~~ 45.33%/40% C/A: ~~52%/56%~~ 54.67%/60%			
8.	References/handouts provided do not give away answers			
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			
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet			

	Printed Name / Signature	Date
a. **Author**	William J. Gross / William J. Gross	1/4/04
b. Facility Reviewer(')	Karen L Castro / Karen L Castro	1-9-04
c. NRC Chief Examiner(*)	LEE R. Miller / Lee R Miller	2/17/04
d. NRC Regional Supervisor(^)	~~George T. Hopper~~ / George T. Hopper	2/18/04

Note: * The facility reviewer's signature is not applicable for NRC-developed examinations
Independent NRC reviewer initials items in column 'c'; Chief Examiner concurrence required

* 17 Questions from the Previous 2 NRC Exams that would appear inconsistent with a Systematic Sampling Process were either Modified or replaced.

Harris **2004** Review Worksheet

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= WA	SRO Only	U/E/S	Explanation

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level

2. 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).

3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - One or more distractors 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).

4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The auestion rewires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from
n y)
   - The ti contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in ;)
   - The ti requires reverse logic or application compared to the job requirements.

5. Check questions that are sampled for conformance with the approved WA and those that are designated SRO-only (K/A and license level mismatches are unacceptable).

6. 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?

7. 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 Question															
1	F	2	X	X							X			U	007EA1.10 Teaching in stem (procedure directs that the RCS be maintained at ...)Actually no calculation is required, only memorization that 1092 psig is the normal pressure for no load conditions and that equates to 84%. OP-126 Need to change the temperature that the shift supervisor wants to maintain plant temp. (MOD) Although the question was modified. it retains enough of the original characteristics that the original question can be recognized. The correct answer position was not changed for the modified question. Modified Question to ***maintain*** a ***different*** temperature and changed the position of the correct answer. (MOD) Question Acceptable after modifications.
2	H	2	X				X							U	02262.4.4 Distractors C and D also correct **On** (Harris **2000 Exam)** The correct answer can easily be picked by the information provided in the stem To elicit the correct answer without allowing no other correct answer. the stem must include " in accordance with Alarm Panel Procedure ALB-06-7-3 and ALE 06-8-4 because the AQP is the first procedure referred to. Question to be Replaced Replaced Question. Question acceptable after **replacement** (MOD)
3	H	3												S	013K3.03 (MOD)

)#	1. OK F/H)	2. .OD 1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	;red Dist.	Partia	lob-.ink	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
4	F	2												E	003AA1.02 (MOD) Although the question was modified, it retains enough of the original characteristics that the original question can be recognized. The correct answer position was not changed for the modified question. Change the position of the correct answer. Change the word "senses..." in the correct answer. Suggest - "indicates an all rods in condition". Made Changes as requested. Question **acceptable after changes**.
5	H	2			X	X								**U**	WE14EA1.2 I irsl section of s not required (Teaching ir stem) On **Harris 2002 Exam**) Question to be Replaced ***Question*** Replaced. Distractor B is **not credible.** (NEW) Distractor ***reworked*** Question acceptable. .
6	F	3												E	054AK1.02 (NEW) Change the question to ask "which of the following describes the strategy used to re-establish feed under these conditions. Made Changes as requested (NEW)
7	H	2									X	X		U	003A4.01 K/A is to manually operate or monitor in the cont ol room: seal injection. This is actually monitoring charging flow. Backwards (MOD) Question does **not** match **K/A** Replaced Question. (Direct). **Question replaced acceptable.**

Q#	1. LOK (F/H)	2. .OD 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		
8	H	3												S	006K4.11 (MOD)
9	H	1												U	013K6.01* Question very simple **On bast Harris NRC Exam.2002** to ***he*** Replaced ***Replaced Question.(***Direct) ***Question* acceptable**.
10	H	2												S	001K4.07 Colon required after **Given** the following condition:s: (MOD) Change the order of the choices and the correct answer, ***Made changes as requested.*** ***Question* Acceptable.**
11	F	2												S	028G2.2.22 (DIRECT)
12	F	3												S	055EA1.07 (NEW)
13	F	2												S	G2.1.23 Very wordy.(NEW)
14	F	1						X				X		U	G2.3.2 GET material. Question **On Last Harris NRC Exam.2002** to be Replaced, also close to question 63. ***Replaced Question*** (MOD) **New Question Acceptable.**
15	F	1												U	022G2.1.28 very simple (MOD). ***Question Replaced.*** **Replacement Question Acceptable.**

#	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		
6	F	2		X										U	008G2.1.28 Teaching in stem. Very simple (MOD) helps answer SRO # 1. Removed Portion of stem that was teaching. Changed ***SRO #1. (MOD)*** **Question Acceptable**.
7	H	2												E	025AK3.01Need to add procedure to stem (IAWAOP-020.) .(NEW) Added ***IA***W A ***OP-020.*** Question Acceptable
8	F	2												**S**	056AA2.09 (MOD)
9	F	2				X						X		**U**	**005KAK2.02**Does not match WA. Distractors A and D may not be credible. (MOD) Replaced ***Question***.(NEW) Question Acceptable
0	H	2	X									X		E	074 EA2.01 Question could be asked without the top bullet in the stem and would be the same. Disconnect betwen stem anc bullets add conditions to fit C.1. (MOB) *Removed* top bullet from stem of question **Did not address the disconnect between stem and bullets (conditions do not fit C.1. (MOD)** **Question Accepted as is due to dealing with superheat**
1	H	2										X		U	022K3.02 LO and K/A mismatch WA and Question do not match (NEW) Is it fair to assume that the other parameters don't change. Replaced *Question. (NEW)* **New Question Acceptable.**

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		
22	H	2												S	003A1.01 (MOD) Reference material answers # 61 ***No Changes made to question*** (MOD)
23	H	2										X		U	007K4.01 Does not meet K/A, hank question with a drawing that is a direct lookup. (DIRECT). ***Replaced Question.*** **(New)** ***question written, does not really match KIA*** ***Question Reworked.*** ***Reworked Question acceptable.***
24	F	2				X		X						U	064K2.03 Distractors A and **B** not credible, very convoluted.(MOD) Requires a level of knowledge beyond 1 hr T/S. Beyond Scope for RO. ***Replaced Question (NEW)*** ***New question acceptable***
25	H	2	X											E	025K5.10 Need to add IAW GOP-005 to stem Stem should ***state*** that indications converted to per cent where required. (MOD) ***Made changes as requested.***
26	F	2				X								E	029A1.03 B distractor may not be plausible: add AH-82A fan inlet damper has failed to open. (NEW) C distractor not plausible, ***Replaced C distractor. Made other changes as requested.*** ***New auestion acceptable***

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		
27	H	2					X							U	039A2.05 May have more than one correct answer if procedure guidance is not included in stem IAW .. (NEW) Made changes as requested. New uestion acceptable
28	H	2												S	G2.1.25 *On Harris NRC Exam.2000 (MOD) Discuss using the whole procedure if it does not answer other questions. This will better match K/A Obtain and interpret. Drawing provided needs to be reprinted to avoid confusion with Normal Operations and Abnormal Operations Areas. **Question Left as written.**
29	F	2						X						U	G2.3.11 The K/A is not met, there is no ability to control a radioactive release in the question, this more fits,2.3.8, and does not have a high enough Importance Factor for an RO. (DIRECT). Replaced Question.(NEW) **New question acceptable**
30	F	2												E	WE04EK1.2 (DIRECT). Distractor A analysis does not fit distractor. Changed ***distractor*** analysis.
31	F	2												S	009EK3.23 (DIRECT).
32	H	2										X		U	027AK2.03 K/A not met. If you took away the statement that a malfunction had occurred; the question could be asked as is and the answer would be the same. Very similar question to RO #1 No calculation is really required. (MOB) Replaced Question. (MOD) New question **acceptable**

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		
33	F	2				X								U	056G2.1.28 Do not believe distractors A and B are plausible.(DIRECT). **Changed *distractors. Still very simple.*** **Question acceptable**
34	H	3									X			U	**037AA2.10 On Harris NRC Exam.2000 (MOD)** **Backwards Logic** **Question was not changed, due to comments** from **licensee.** Seemed **exceptable.**
35	F	2				X								U	**WE15EK1.2 Distractors A and** C may **not be plausibe. (DIRECT)** **Replaced *Distractors*** **Question acceptable**
36	H	3												S	WE11EK1.1 (MOD)
37	H	2	X											U	004A1.06 **Question should ask what is** CVCS **response. Question** to **be Replaced On Last Harris NRC Exam.2002** **Replaced Question *(NEW)*** **New question acceptable**
38	F	2												S	008A3.08 (DIRECT)
39	H	2												S	059A4.08 (MOD)
40	H	3												S	011K6.04 (MOD)

#	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		
1	H	3	X											U	035K1.01 Stern is somewhat confusing does the AFW isolation come from conditions on B S/G. Does this also give a Feed Water isolation (MOD) TOO close to #45. Replaced Question. *(New)* New question acceptable
2	F	3										X		U	WE05EK2.2 Question to be Replaced On NRC Exam 2000 Replaced Question. May have more than one correct answer. (Direct) Reworked question Question acceptable
3	F	2												S	62.2.1 need to rearrange the answers so that they are different than the bank question. (MOB) In stem Six hours has (8) associated with it. Made changes as requested.
4	F H	1 2										X		U	G2.4.31 Very simple Discriminatory value K/A match (MOD). Replaced *Question.(NEW)* **New question acceptable**
5	H	3												S	059K4.19 Too Close to # 41. (NEW) Changed question # 41 Question acceptable
6	F	2												S	011EK3.06 (MOD)

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		
47	H*	2	X											E	029EA2.01 Add Required by S.1 in stem. (MOD) ***Made changes as requested.***
48	H	2				X								E	061K6.01 (**requires a statement with NO** OPERATOR **ACTION** (MOD) ***Made changes as requested.***
49	F	2												U	059AG2.4.4 Question to be Replaced **On Harris NRC Exam.2000** ***Replaced Question.***(Direct) **New Question acceptable**
50	F*	2										X		U	WE08G2.1.30 All of the distractor analysis refer to FRP-S.1The K/A is ability to locate local controls that pertain to a PTS event. None of the distractors actually discuss locating controls. **Needs to be changed. NEW** WA **mismatch.** **Made changes *to question(.New)*** **Question acceptable**
51	F	2												E	062A4.04 **Change answer and distractors to indicate local operation of breaker. (DIRECT).** ***Made changes as requested.***
52	H	2					X							U	004A2.06,B also correct.(MOD) **Made changes as requested.** **New question acceptable**

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		
53	H	2				X								U	**010K1.06** Question to be Replaced On Last Harris NRC Exam.2002 Replaced *Question.* Distractor D is also correct. Need to refine stem or distractor. Reworked question **Question acceptable**
54	H	2		X										U	063A1.01 Teaching in the stem. Give some conditions and allow the operator to figure it out. Helps answer #24 on SRO exam. (NEW) Made changes to ***stem.***(NEW) Question acceptable
55	H	3												S	015A2.05 (DIRECT).
56	H	2												S	**045K4.06** (MOD)
57	H	2												E	064A3.07 is loading of the sequencers different between a loss of power and *a* Safety injection signal (MOD) ***No*** Changes ***made.***(MOD) Question acceptable.
58	F	1				X								U	**G2.2.24** Question On Last Harris NRC Exam.2002 to be Replaced Replaced question (MOD) New question acceptable

Q#	1. LOK (F/H)	2. .OD 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		
59	H	2					X							U	G2.4.3 Question On Last Harris NRC Exam.2000 Change the order of the distractors and nswer. Change the stem and 700 psig to 690 psig This will be the correct answer. ***Question to be replaced*** ***Replaced Question (MOB)*** **Replacement Question acceptable.**
60	F	3				X								U	058G2.1.33 Distractors A and B not credible. (MOD) ***Replaced Question (NEW)*** **New question acceptable**
61	F	2												U	015/017AA2.08 Having the AOP 018 reactor colant pump trip limits in the references makes this a direct lookup. (MOD) From # 22. ***Removed reference page***.(MOD) ***Question acceptable.***
62	F	2	X			X								U	038EA1.36 ***IAW*** what procedure, Distractor C and D is not plausible (DIRECT). ***Modified Question (MOD)*** ***Question acceptable***
63	H	3						X				X		U	073K5.02 Does not meet WA. (NEW) Job link similar to# 14. ***Changed stem to address job link***.(NEW) **Question Acceptable.**
64	H	2										X		U	068AK3.13 Does not meet K/A (NEW) ***Reworked question.*** ***Question Acceptable***

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	#/ Ba[illegible] units [illegible]		Q= K/A	SRO Only		
65	H	2					X							E	012K2.01 Question to be Replaced 2000 Harris NRC **Exam.** ***Replaced Question (MOD)*** **NEW** Question Acceptable
66	H	3												S	076K1.15 (MOD)
67	H	3												S	005K5.09 Need to make sure there are not other precautions or limitations that would require boron requirements to be different, or include in the stem IAW procedure..(NEW) License checked to see if any other precautions **and** limitations were applicable. Appears that none are. Question Acceptable
68	F	1				X								U	068A3.02 Distractors B and C does not appear to be credible. (MOD) Distractors reworked **Question Acceptable**
69	H	2												S	078K3.02 (MOD)
70	H	2												S	017K3.01 (NEW)
71	F	2	X											U	G2.4.1 Why is the statement "Containing NO immediate [illegible] Actions" included in the stem this makes the [illegible]uestion a[illegible]iti[illegible] question. (NEW) Replaced Question. (NEW) **New Question Acceptable**
72	F	2												S	103.G2.4.6 (DIRECT)

Q#	1. LOK (F/H)	2. LOD (1-5)	3 Psychometric Flaws					4 Job Content Flaws				5 Other		6	7
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
73	F	2												S	G2.2.13 Question to be Replaced **On Last Harris NRC Exam.2002** **Question Replaced (Direct)** **New Question Acceptable**
74	H	2		X		X								U	WE12EK2.1 Teaching in stem, Due to excessive cooldown rate the operators...Distractors C and D are not credible. (NEW) **Removed teaching in stem and reworked distractors.(NEW)** **Question Acceptable**
75	F	2												S	026A2.08 Question to be Replaced **On Last Harris NRC Exam.2002** Replaced Question.(Direct) **New Question Acceptable**
SRO ONLY															
1	H	3											X	U	008AA2.30 Not SRO only. (NEW) Does not match listed objective. RO #16 helps answer this question. ***Utility changed answers to contain a selection of correc procedure.*** ***Question Acceptable***
2	F	2												E	024G2.2.25 (IAW what procedure, T/S etc) (MOD) Need to have a clear connection to basis etc. ***Utility added procedure to stem and referenced T/S and its bases.*** ***Question Acceptable***

)#	1. LOK (F/H	2. .OD 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		
3	H	2										X	X	U	006A2.04 Not SRO only, also does not meet part b of K/A (use procedures to correct, control or mitigate the consequences of those malfunctions or operations). (NEW) *Utility replaced with a modified Harris bank question, appears to address K/A* **New Question Acceptable**
4	H	3												E	001G2.4.6 tough question. ATWS needs to mentioned in ste m or scram attempted from control room etc.(NEW) *Utility Added In accordance with FRP-S.1 in the stem.* *Question Acceptable*
5	H	2											X	U	G2.1.2. Not SRO **only knowledge** *(DIRECT)* *Utility requested new K/A.* NRC *Replaced* K/A *withG2.1.7* *Utility replaced question. Matches K/A* *New Question Acceptable*
6	H	2											X	U	*01* 1G2.4 6 Teaching in stem (Heat sink conditions) and swer 'Large break LOCA). Not SRO only (MOD) *Utility modified question to eliminate "teaching" and added a decision point to make SRO only.* **Question Acceptable**

Q#	1. LOK (F/H)	2. OD 1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem focus	Cues	T/F	Cred. Dist.	artial	ob-ink	Minutia	#/ units	ack-ward	Q= K/A	SRO Only	U/E/S	Explanation
7	H	2										X		U	032AA2.09 Ability to determine and interpret the following as they apply to the Loss of Source range Nuclear Instrumentation: Effects of improper HV setting. The questions states that the HV was improperly adjusted, but the applicant is not using an ability to determine or interpret the improper HV setting. (NEW) ***Utility revised stem to eliminate statement that HV is improperly set to require applicant to determine cause of improper indication and required actions. Matches K/A.*** **New Question Acceptable**
8	**H**	3											X	U	012G2.4.6 Distractors C and D not credible. SI cannot be reset for a certain period of time. Return to S.1 only when directed by path 1 not credible. Not SRO only. Q On Harris NRC Exam.2000 lo he Re d **Utility replaced question with *Harris Bank question EPP-3.15-R511 meets K/A.*** (Direct) **New Question Acceptable**
9	**F**	2										X		U	014A2.02 Not possible to lose all power to DRPI and not effect the rest of the plant. Does not address the A portion of the K/A. does not have a 43 b (5) tie as indicated <1 hr tech spec. (MOD) **Editorial changes *to* question to create *a* condition where *if is possible to* loose power *to* just *DRPI,* changed *43(b) tie to 2.*** **Having De nand pos indicators in the distractors makes the question much easier.** **Question Acceptable**

#	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		
0	F	2											X	U	G2.1.1 Not SRO Only. K/A Does not have a 43 tie. (NEW) tied to 43.1 will send reference. *Utility* sent *SRO only objective* to verify 43 tie. Also modified *the* question to pertain to the *SRO* position. Question Acceptable
1	F	2				X	X							U	038EA2.08 Two possible answers B and D. Question On Last Harris **NRC Exam.2002** to be Replaced Question replaced with new question. **Dete** Determine if Preferred procedure is required to be in the stem.(NEW) Question modified and is acceptable.
2	H	3												S	2.2 did not include actions of EPP-12 to verify that two ctmt spray pumps not required. SAT.(MOD) Revised answer b per *EPP-012* Provided reference to *verify* that only *1* CSP is required.
3	H	3										X	X	U	013A2.01 Question daes not meet K/A Not SRO only knowledge. On Harris **NRC Exam.2000** to be Replaced *Replaced* with New question.. (NEW) **New Question Acceptable**
4	F	1	X										X	U	G2.2.19 Not SRO Only knowledge. Question On Harris **NRC Exam.2000** to be Replaced Replaced with Direct Harris Bank Question ***PP-2.4S6*** 2 (Direct) Remove date in stem if not required. **New Question Acceptable**

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		
15	H	3	X											U	040G2.1.32 Given the conditions in the stem, it appears that A is also a correct answer. (NEW) **Replaced with new question** **Stem and answers not in sync. Attempt to close which MSIV prior to isolating the other S/Gs.** ***Reworked* Question** **Question Acceptable**
16	H	3												S	WE0662.1.32 State the procedure that the crew has entered. (NEW) ***Added second identification of procedure* in stem per *NRC recommendation*.**
17	H	2	X											U	062G2.2.22 Drop reasons from the answers, this is teaching. (These are not required to match the K/A. (NEW) Drop the Why in the stem also. **Made changes *as* requested.** **Question Acceptable**
18	F	2										X		U	G2.2.10 Does not match K/A. (DIRECT) **Replaced with new question** **Watches K/A** (DIRECT) **from INPO bank** **Question Acceptable**
19	H	2									X	X	X	S	056AA2.14 Not SRO only knowledge. Does not match K/A. Backward logic. (NEW) ***Replaced* with new question.** **Matches K/A.** **Question Acceptable**

#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. /E/ S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
0	H	3												S	WE09G2.1.32 D is also correct. (MOD) More than one correct answer. *In accordance with EPP-006 D* ***Is*** *not correct. (Additional* ***information).*** **Question Acceptable**
1	F	2										X		U	G2.1.7 (NEW) Does no match K/A *Utility requested new K/A.* *KIA replaced with 2.3.10* *Replaced with modified Harris LOCT Exam Bank* ***question # 531.*** *Matches WA need to see bank question to ensure question le modified.* **Question Acceptable**
2	H	3					X							U	057G2.2.22 Are Answers A and B may be correct (MOD) ***Clarified*** *to place plant in a certain* ***condition,revised*** *stem and distractors* ***io*** *eliminate* ***concern for*** *more than 1 correct answer.* *Question* **Acceptable**
3	F	2												S	G2.4.22 (NEW)
4	F	2										X	X	U	058G 2.2.25 Not SRO only knowledge Does not match K/A (MOD) *Utility requested new MA.* *New WA randomly selected 058G 2.1.33* ***Utility*** *replaced question with new question for new MA.* **Matches K/A** **Question Acceptable**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
25	F	2									X			U	G2.4.14 **(MOB) Negative question ask in positive** form. **in** ***remove*** **stem** ***and*** ***logic.*** **Question Acceptable**

Facility:	Date of Exam:	Exam Level: RO/SRO		
		Initials		
	Item Description	a	b	c
1.	Clean answer sheets copied before grading	AL	CRK	LM
2.	Answer key changes and question deletions justified and documented	AL	CRK	LM
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	AL	CRK	LM
4.	Grading for all borderline cases (80 +/- 2% overall and 70 +/- 4% on the SRO-only) reviewed in detail	AL	CRK	LM
5.	All other failing examinations checked to ensure that grades are justified	AL	CRK	LM
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	AL	CRK	LM

	Printed Name / Signature	Date
a. Grader	Archie Lucky / Archie Lucky	3/9/04
b. Facility Reviewer(*)	CHRIS KAMILARIS /	3/10/04
c. NRC Chief Examiner (*)	LEE Miller /	3/15/04
d. NRC Supervisor (*)	MICHAEL E. ERNSTES / Michael E. Ernstes	3/17/2004

(*) 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	3/8/04
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	3/10/04
3.	Operating tests graded by NRC examiners	3/10/04
4.	NRC Chief examiner review of written exam and operating test grading completed	3/12/04
5.	Responsible supervisor review completed	3/15/04
6.	Management (licensing official) review completed	3-22-2004
7.	License and denial letters mailed	3-24-2004 & 4-14-2004
8.	Facility notified of results	4-14-2004 & 3-24-2004
9.	Examination report issued (refer to NRC MC ~~0610~~ 0612)	4-6-2004
10.	Reference material returned after final resolution of any appeals	N/A