Facility:		Date of Examination:		
Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	①		
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.			
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.			
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.			
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	a	B	
	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, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	a	B	
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	a	B	
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	a	B	
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	a	B	
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	a	B	
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	①		
	b. Assess whether the 10 CFR 55.41/43 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.	a	B	
	e. Check the entire exam for balance of coverage.	a	B	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	a	B	

	Printed Name/Signature	Date
a. Author	Archie Lucky / Archie Lucky	3-5-09
b. Facility Reviewer (*)	Ken Bailey / K Bailey	3·5·09
c. NRC Chief Examiner (#)	Frank J. Ehrhardt / Frank / [illegible]	3/5/09
d. NRC Supervisor	MALCOLM T. MIDDLEBROOKS / [illegible]	03/05/09

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.
* Not applicable for NRC-prepared examination outlines

① Previously approved by NRC on 8·21·08 a/B

Final - Copy

Facility: Date of Examination:

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	①		
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.			
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.			
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.			
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	a/L	B	
	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, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	a/L	B	
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	a/L	B	
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	a/L	B	
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	a/L	B	
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	a/L	B	
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	①		
	b. Assess whether the 10 CFR 55.41/43 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.	a/L	B	
	e. Check the entire exam for balance of coverage.	a/L	B	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	a/L	B	

	Printed Name/Signature	Date
a. Author	Archie Lucky / Archie Lucky	3-5-09
b. Facility Reviewer (*)	Ken Bailey / K Bailey	3-5-09
c. NRC Chief Examiner (#)	Frank J. Ehrhardt	3/5/09
d. NRC Supervisor	WILLIAM T. WIDEMAN	03/05/09

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.
* Not applicable for NRC-prepared examination outlines

① Previously approved by NRC on 8.21.08 a/B

Craig,

This is the last correspondence that was still open dealing with the Harris Nuclear plant 2009 exam that was administered in March. Enclosed you will find the original NRC Examination Security Agreement.

There are two (2) notes associated with the Post Examination Signatures. The first note (note 1) is for a contractor that worked for one week during the initial development of questions for the exam. His role was to attempt to write new questions for the K/A's on the SRO outline. He was unable to perform this at the level we expected and subsequently he was released from employment. I have contacted the company that he was hired through and they ended his contract when we released him. They provided me with his cell phone number. I called and left a message on his cell phone but he has not called me back. He had very limited knowledge of the exam and did not see any of the questions that were eventually developed for the SRO examination. I have spoke to Frank Ehrhardt about this situation.

The second note (note 2) identifies all individuals that I have personally read the Post Examination statement to over the phone and received their word that they did not divulge any information. Due to these individuals working off site I wrote down the day that I spoke to them and indicated this information with Note 2.

Please inform Frank Ehrhardt that you have received the signed agreement.

Thank you,

Archie Lucky

Senior Nuclear Operations Instructor

Licensed Operator Continuing Training
Harris Nuclear Plant
919-362-3386

Progress Energy

2009q NRC Exam
HNP

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 9-2-08 to ~~3-25-09~~ 3-20-09 (20) af 3-20-09

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1	Archie Lucky	Sr. Nuclear Inst. / Exam Lead	Archie Lucky	9/2/08	Archie Lucky	3-20-09	
2	Matt Folks	OTU SRO	[illegible]	9/2/08	[illegible]	3/20/09	
7	Ken Bailey	Supv - OCT	K Bailey	9.2.08	K Bailey	3/20/09	
X	Gary Johnston	Exam Consultant	[illegible]	9/26/2008		3/23/09	1
6	Terry Toler	Supv - OIT	[illegible]	10/7/08	[illegible]	3/20/09	
3	JOHN DALTON	SNOTI	[illegible]	10/7/08		3/25/09	2
8	~~Ken Bo~~ 9-2-08						
8	Mike McDade	Sim Spec	[illegible]	10/21/08	[illegible]	3/25/09	
9	Rick Moore	RNP - Sr. Nuc OPS INST	[illegible]	10/22/08		3-26-09	2
14	Ron Bright	Simulator Support	[illegible]	10/30/08	[illegible]	3/23/09	
11	ALAN KENNEDY	SR Nuclear Inst / Support	[illegible]	11-4-08		3/25/09	2
12	Jackie Greene	NTA	[illegible]	11-6-08	[illegible]	3/23/09	
13	M. Sean Tippens	RO / OPS	[illegible]	11-17-08	[illegible]	3/25/09	
12	DON MACDougall	SRO / OPS	[illegible]	11/17/08		3-26-09	2

NOTES: af - Note 1 No longer employed by Progress Energy and unable to contact. Exam involvement was limited to outline review early in exam preparations.

Note 2 - Per Telecom w/ Archie Lucky

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2009a NRC Exam
HNP

ATTACHMENT 3

EXAMINATION SECURITY AGREEMENT

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2. Post-Examination

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Examination Period 9-2-08 to 3-~~23~~ 20-09 (3-20-09 ✓)

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
(19) ✓	1. Michael Spellman	CRS		12/1/08		3-26-09	(2)
(15) ✓	2. Edward Lipetzky	SSO		12-1-08		4-6-09	
(13) ✓	3. Matthew Leech	RO		12-1-08		3-25-09	
✓	4. Eddie Rau	LEAD INSTRUCTOR		12-15-08		3-25-09	(2)
✓	5. Jim Jones	OpsTrng Sup - RNP		12/16/08		3-30-09	(2)
(11) ✓	6. Larry Taylor	STA		1/6/09		3-23-09	
(17) ✓	7. William Gunter	RNSO		1/21/09		3/20/09	
✓	8. Bruce Horne	RO		1/29/09		3/25/09	
(16) ✓	9. Lonnie Hickerson	SRO		1/29/09		3/25/09	
(5)	10. Jeffery White	EP		2-24-09		4/6/09	(2)
(20) ✓	11. Thomas A Craig	OTU		3/6/09		3/20/09	
(3) ✓	12. Mark Christopherson	CRS		3/6/09		3/20/09	
✓	13. ANDREW SPENCER	NOTI		3/9/09		3/23/09	
✓	14. MICHELLE MALONEY	NLOFT		3/10/09		3-23-09	

NOTES:

Note (2) - Per Telecom w/ Archie Lucky

2009 a
NRC Exam

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.

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Examination Period 9/2/08 to ~~3/23/09~~ 3/20/09 3-20-09 [illegible].

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
✓	1. Mike Weber	Supt Ops Support	[signature]	3-10-09	[signature]	3-23-09	
✓	2. Scotty Scott	OIT Supervisor	[signature]	3-12-09	[signature]	3/23/09	
✓	3. Scott Saunders	MGR-OPS	[signature]	3-13-09	[signature]	3/20/09	
	4.						
	5.						
	6.						
	7.						
	8.						
	9.						
	10.						
	11.						
	12.						
	13.						
	14.						

NOTES:

Facility: Shearon Harris Date of Examination: 3/9/2009

Exam Level: **RO** Operating Test No.: 05000400

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M, R	Determine Rod Misalignment Using Thermocouples (JPM-CR-139) *K/A G2.1.7* **2009a NRC RO A1-1**
Conduct of Operations	D, R	Perform A Manual Shutdown Margin Calculation (JPM-ADM-019) *K/A G2.1.25* **2009a NRC RO A1-2**
Equipment Control	M, R	Perform Quadrant Power Tilt Ratio Surveillance (JPM-CR-036) *K/A G2.2.12* **2009a NRC RO A2**
Radiation Control	D, R	Determine TEDE While Working in a High Airborne Area (JPM-ADM-022) *K/A G2.3.4* **2009a NRC RO A3 (Common)**
Emergency Procedures/Plan	N/A	**NOT SELECTED FOR RO**

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

* Type Codes & Criteria:
(C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

2009a NRC RO Admin JPM Summary

2009a NRC RO A1-1 – Determine Rod Misalignment Using Thermocouples
(JPM-CR-139 Modified)

G2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
(CFR: 41.5 / 43.5 / 45.12 / 45.13) RO 4.4 SRO 4.7

The plant is at 90% power with a load decrease in progress when a control rod is observed indicating 24 steps higher than group demand. The candidate must perform Attachment 2 of AOP-001, Malfunction of Rod Control and Indication System, to calculate the temperature difference between the affected thermocouple and its symmetric thermocouples. This is a bank JPM that has been modified by changing the initial conditions, the misaligned rod, and the final outcome (the calculation will be within 10°F, indicating that the rod is NOT misaligned rod but instead is a rod position indication problem).

2009a NRC RO A1-2 – Perform A Manual Shutdown Margin Calculation
(JPM-ADMIN-019)

G2.1.25 Ability to interpret reference materials, such as graphs, curves, tables, etc.
(CFR: 41.10 / 43.5 / 45.12) RO 3.1 SRO 2.8

The plant is operating at 75% power and the USCO will direct the candidate to complete OST-1036, Shutdown Margin Calculation Modes 1-5, Section 7.3, for the current plant conditions.

2009a NRC RO A2 – Perform Quadrant Power Tilt Ratio Surveillance
(JPM-CR-036 Modified)

G2.2.12 Knowledge of surveillance procedures
(CFR: 41.10 / 45.13) RO 3.7 SRO 4.1

The candidate will perform a QPTR calculation as required for a misaligned rod in accordance with OST-1039, Calculation of Quadrant Power Tilt Ratio. This is a bank JPM that has been modified by changing the NIS values and the initial power level.

2009a NRC RO A3 – Determine TEDE While Working in a High Airborne Area
(JPM-ADM-022)

G2.3.4 – Knowledge of radiation exposure limits under normal or emergency conditions.
(CFR: 41.12 / 43.4 / 45.10) RO 3.2 SRO 3.7

The candidate must calculate and determine if a respirator is required or should not be worn when working in an area with a known dose rate and airborne contamination for a given length of time.

Facility: Shearon Harris Date of Examination: 3/9/2009

Exam Level: **SRO** Operating Test No.: 05000400

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	M, R	Determine Rod Misalignment Using Thermocouples (JPM-CR-139) *K/A G2.1.7* **2009a NRC SRO A1-1**
Conduct of Operations	D, R	Determine Boric Acid Addition Following Control Room Evacuation (JPM-IP-049) *K/A G2.1.25* **2009a NRC SRO A1-2**
Equipment Control	M, R	Perform Quadrant Power Tilt Ratio Surveillance (JPM-CR-036) *K/A G2.2.12* **2009a NRC SRO A2**
Radiation Control	D, R	Determine TEDE While Working in a High Airborne Area (JPM-ADM-022) *K/A G2.3.4* **2009a NRC SRO A3 (Common)**
Emergency Procedures/Plan	D, R	Classify an Event (JPM-CR-193) *K/A G2.4.41* **2009a NRC SRO A4**

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

* Type Codes & Criteria:
(C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

2009a NRC SRO Admin JPM Summary

2009a NRC SRO A1-1 - Determine Rod Misalignment Using Thermocouples (JPM-CR-139 Modified)

G2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
(CFR: 41.5 / 43.5 / 45.12 / 45.13) RO 4.4 SRO 4.7

The plant is at 90% power with a load decrease in progress when a control rod is observed indicating 12 steps higher than group demand. The candidate must perform Attachment 2 of AOP-001, Malfunction of Rod Control and Indication System, to calculate the temperature difference between the affected thermocouple and its symmetric thermocouples. This is a bank JPM that has been modified by changing the initial conditions, the misaligned rod, and the final outcome (the calculation will be within 10°F, indicating that the rod is NOT misaligned but instead is a rod position indication problem). The SRO will determine Tech Spec requirements for the determined conditions.

2009a NRC SRO A1-2 - Determine Boric Acid Addition Following Control Room Evacuation (JPM-IP-049)

G2.1.25 Ability to interpret reference materials, such as graphs, curves, tables, etc.
(CFR: 41.10 / 43.5 / 45.12) RO 3.9 SRO 4.2

The Control Room has been evacuated and the MCB transfer to the ACP has been completed. Plant management has directed a plant cooldown to mode 5 utilizing AOP-004. Given an OST-1036 cold shutdown boron requirement, the candidate must use curves to calculate gallons of Boric Acid and change in Boric Acid Tank level to complete section 3.2 step 25.

2009a NRC SRO A2 – Perform Quadrant Power Tilt Ratio Surveillance (JPM-CR-036 Modified)

G2.2.12 Knowledge of surveillance procedures
(CFR: 41.10 / 45.13) RO 3.7 SRO 4.1

The candidate will perform a QPTR calculation as required for a misaligned rod in accordance with OST-1039, Calculation of Quadrant Power Tilt Ratio. This is a bank JPM that has been modified by changing the NIS values and the initial power level. The SRO will determine Tech Spec requirements for the determined conditions.

2009a NRC SRO A3 - Determine TEDE While Working in a High Airborne Area (JPM-ADM-022)

G2.3.4 Knowledge of radiation exposure limits under normal or emergency conditions.
(CFR: 41.12 / 43.4 / 45.10) RO 3.2 SRO 3.7

The candidate must calculate and determine if a respirator is required or should not be worn when working in an area with a known dose rate and airborne contamination for a given length of time.

2009a NRC SRO Admin JPM Summary

2009a NRC SRO A4 - Classify an Event (JPM-CR-193)

G2.4.41 Knowledge of the emergency action level thresholds and classifications (CFR: 41.10 / 43.5 / 45.11) RO 2.9 SRO 4.6

Given a set of initial conditions and the EAL Flow Path, the candidate must classify the appropriate Emergency Action Level for the event in progress.

	APPENDIX E - REGION II OPERATING TEST J . PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
All												Generic comments: MAKE SURE A "KEY" IS FILLED OUT FOR THE EXAMINER FOR EACH JPM THAT REQUIRES A CALCULATION OR FORM. SRO applicants should be evaluated in greater scope and depth on administrative topics per ES-301 B.1 and D.3.c. SRO A4 is unique to the SRO position. Modify SRO A1-1, SRO A1-2 and/or SRO A2 to require additional SRO-level knowledge/ability (e.g. Technical Specifications.) Discuss with Chief Examiner. FJE 12/17/08.
RO A1-1 SRO A1-1												K/A G2.1.7 Determine Rod Misalignment Using Thermocouples Will need to specify tolerances for critical steps and the logic for the tolerance band. How will TC values be provided for a classroom setting? Use of pictures (e.g. RVLIS console, OSI-PI) may be preferable to a list that requires the applicant to merely transfer data from one form to another. Discuss with Chief Examiner. If the rod position indication problem will result in a Tech Spec entry, consider differentiating the SRO version of this JPM by requiring applicants to evaluate Tech Specs. See general comments. FJE 12/17/08 • Tolerance for all critical steps was calculated within ± 2°F. This tolerance was in the approved JPM that was modified for use in the Admin section of the exam. The approved JPM was used for LOCT and was approved by Operations and during validation. • Grid map of RVLIS printout will be provided to candidate with the JPM CUE SHEET. They will not be given a list. They must pick the correct temperature from the printout. (Similar to a photo) • The SRO version of the JPM is specific to SRO's. It contains a

	APPENDIX E - REGION II OPERATING TEST PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
												Tech Spec evaluation for compliance of malfunctioning DRPI indication. AWL 1/13/09

RO A1-2												K/A G2.1.25 Determine Boric Acid Addition Following Control Room Evacuation Will need to specify tolerances for critical steps and the logic for the tolerance band. FJE 12/17/08 • This calculation is to be performed by the USCO therefore it is not considered a RO task. The JPM will replace the 'Determine Time To Boil' SRO JPM. • The RO JPM will be 'Perform A Manual Shutdown Margin Calculation' (In Mode 1) K/A 2.1.25 RO 3.1 SRO 2.8 Conditions: The plant will be at 75% power and the USCO will direct the candidate to complete OST-1036, Shutdown Margin Calculation Modes 1-5, Section 7.3 for the current plant conditions. AWL 1/13/09
SRO A1-2												K/A G2.1.25 Determine Time to Boil What procedure directs the use of these curves? Will need to specify tolerances for critical steps and the logic for the tolerance band. Does the JPM end with the calculation or Is subsequent procedure flowpath dependent on time to boil? If so, this may be an opportunity to test the SRO applicants on appropriate procedure selection. See general comments. FJE 12/17/08 • Replaced JPM with 'Determine Boric Acid Addition Following Control Room Evacuation' K/A G2.1.25 (originally selected as RO A1-2) • Tolerance for the JPM is based upon readability of the curves that are required to perform the calculations and are specified in the JPM. AWL 1/13/09

RO A-2												K/A G2.2.12 Perform Quadrant Power Tilt Ratio Surveillanc Perform a Quadrant Power Tilt Ratio (QPTR) calculation with a control rod misaligned. (OST-1039) appeared on the 2008 NRC examination, but this is not indicated on Form ES-301-1 ("P".) How was this topic selected and how is this JPM different? Will need to specify tolerances for critical steps and the logic for the tolerance band. FJE 12/17/08 • The JPM was randomly drawn from the HNP Admin JPM bank. It was selected for use in the exam because the criteria allows for using ≤ 1 randomly selected JPM from the previous 2 exams. The JPM has been modified from the bank JPM (JPM-CR-036) by having one NI inoperable such that the calculation is now performed using the other three (this is a P & L in the procedure). NI readings were changed to make the calculations different than those on the 2008 exam. • Tolerances chosen were in the Bank JPM and accepted by Operations and approved through validation. AWL 1/13/09
SRO A-2												K/A G2.2.12 Review Surveillance for MDAFW Pump 'B' Are the errors that SRO applicants are expected to identify the same types of errors that an RO applicant would be expected to identify? If the errors will result in a Tech Spec entry, consider differentiating the SRO version of this JPM by requiring applicants to evaluate Tech Specs. See general comments. FJE 12/17/08 • The error would have been the same that an RO applicant would be expected to identify (no errors should be expected) so the SRO JPM was replaced with 'Perform Quadrant Power Tilt Ratio Surveillance' (same as RO A-2). SRO's will determine Tech Spec requirements with the UNSAT condition. AWL 1/13/09

RO A-3 SRO A-3												K/AG2.3.4 Determine TEDE While Working in a High Airborne Area In order to meet the K/A, the JPM must require some knowledge of exposure limits in order to complete the task. 12/17/08 • After determination of the lowest exposure, the candidate must use this value and compare it to the individuals dose limit and available dose to determine if the individual can perform the work. AWL 1/13/09
SRO A-4												K/A G2.4.41 Classify an Event Ensure the JPM is discriminating, i.e. use of EAL flowchart requires assessment (e.g. fission product barriers) rather than a 'direct lookup' of matching conditions. Do not plan to administer this JPM in a group format due to time critical. FJE 12/17/08 • Two fission product barriers are breached or jeopardized. Candidate will be required to make this determination and arrive at the right classification. AWL 1/13/09 Make a line on each JPM candidate cue sheet for them to list the EAL classification number and another line for the "Why" the classification was chosen. (could include an examiner note)

Instructions for Completing Matrix
This form is not contained in or required by NUREG-1021. Utilities are not required or encouraged to use it. The purpose of this form is to enhance regional consistency in reviewing operating tests. Check or mark any item(s) requiring comment and explain the issue in the space provided.

1. Safety function characteristics: RO & SRO-I JPMs should evaluate different safety functions for the simulator/control room, and separately for the in-plant JPMs. SRO-Us should evaluate 5 different safety functions. One SRO-U should evaluate an engineered safety feature. At least one should be shutdown or low power, 4-6 should be alternate path for the RO/SRO-I and 2-5 for the SRO-Us.
2. Determine whether the task is dynamic (D) or static (S). A dynamic task is one that involves continuous monitoring and response to varying parameters. A static task is basically an system reconfiguration or realignment
3. Determine level of difficulty (LOD) using established 1-5 rating scale. Levels 1 and 5 represent inappropriate (low or high) discriminatory level for the license being tested.
4. Check the appropriate box when an attribute weakness is identified:
   - The initiating cue is not sufficiently clear to ensure the operator understands the task and how to begin.
   - The JPM does not contain sufficient cues that are objective (not leading).
   - All critical steps (elements) have not been properly identified.
   - Scope of the task is either too narrow (N) or too broad (B).
   - Excessive overlap with other part of operating test or written examination.
5. . Check the appropriate box when a job content error is identified:
   - Topics not linked to job content (e.g., disguised task, not required in real job).
   - Task is trivial and without safety significance.
6. Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)satisfactory?
7. Provide a brief description of problem in the explanation column. Provide conclusion on whether JPM SET criteria satisfied (i.e., number/distribution of safety functions, A.3 and A.4 integrated with parts B/C, Admin topics per section meet ES).

Facility: Shearon Harris Date of Examination: 3/9/2009

Exam Level: RO SRO-I **SRO(U)** Operating Test No.: 05000400

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for **SRO-U**, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. Restore Power to Emergency Buses (EPP-001, Attachment 1) *K/A 062A4.01*	N, S	6
b. Use ESW System As A Backup Source of Water To AFW (PATH-1, OP-137) (JPM-CR-107) *K/A 054 AA1.01*	**L, D, S**	**4S**
c. Manually Align SI Equipment After LOSP (EOP-EPP-003) (JPM-CR-056) *K/A 006 A4.02*	**A, D, EN, S**	**2**
d. Place Normal Letdown In Service (OP-107) (JPM-CR-222) *K/A 004 A4.06*	A, D, S	1
e. Containment Cooling to Max Cooling Mode (OP-169) (JPM-CR-033) *K/A 022 A4.01* **RO ONLY**	D, S	5
f. Loss of All CCW (AOP-014) (2007 NRC Exam JPM h.) *K/A 008 A2.01*	P, A, S	8
g. Respond to High RCS Pressure while Solid (AOP-019) (JPM-CR-052) *K/A 010 A1.07*	L, D, S	3
h. Startup a Reactor Coolant Pump following Maintenance (OP-100) (JPM-CR-005) *K/A 003 A2.02*	**A, L, M, S**	**4P**

Facility: Shearon Harris	Date of Examination: 3/9/2009	
Exam Level: RO SRO-I **SRO(U)**	Operating Test No.: 05000400	
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for **SRO-U**)		
i. Reset Safety Injection Locally (PATH 1, Attachment 1) *K/A 013 A2.06*	E, N	2
j. Local Inspection of Annunciator Cabinets (AOP-037, Attachment 1) (JPM-IP-144) *K/A 016 A2.02*	**D, E**	**7**
k. Local M/U to VCT via Manual Emergency Boration (AOP-003, Attachment 2) (JPM-IP-088) *K/A 004 A2.14*	**D, E, R**	**1**

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path	4-6 / 4-6 / 2-3	(4/4/2)
(C)ontrol room		
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4	(7/6/4)
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1	(3/3/2)
(EN)gineered safety feature	- / - / ≥1	(1/1/1)
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1	(3/3/2)
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1	(3/3/1)
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2	(1/1/0)
(R)CA	≥ 1 / ≥ 1 / ≥ 1	(1/1/1)
(S)imulator		

2009a NRC Control Room/In-Plant JPM Summary

JPM a - Restore Power to Emergency Buses (New)

062 A4.01 Ability to manually operate and/or monitor in the control room: All breakers (including available switchyard)
(CFR: 41.7 / 45.5 / to 45.8) RO 3.3 SRO 3.1

A loss of offsite power and a failure of both diesels has occurred requiring entry into EPP-001, Loss of AC Power to 1A-SA and 1B-SB Buses. The candidate will be informed that Offsite Power has been restored. The task will be to restore power to both of the Emergency Buses from Offsite Power using Attachment 1 of EPP-001.

JPM b - Using ESW System As A Backup Source of Water To AFW (JPM-CR-107)

054 AA1.01 – Ability to operate and / or monitor the following as they apply to the Loss of Main Feedwater AFW controls, including the use of alternate AFW sources
(CFR 41.7 / 45.5 / 45.6) RO 4.5 / SRO 4.4

Following a LOCA the operator is informed that a leak developed in the Condensate Storage Tank (CST). The CST level has decreased to < 10%. The candidate is directed to supply ESW from the A Header to both the A AFW Pump and the Turbine Driven AFW pumps. This will require shutting down the B MDAFW Pump and 'A' Train of Containment Fan Coolers in addition to the ESW valve alignment.

JPM c - Manually Align SI After LOSP (JPM-CR-056) Alternate Path, Engineered Safety Feature

006 A4.02 Ability to manually operate and/or monitor in the control room: Valves
(CFR: 41.7 / 45.5 to 45.8) RO 4.0 SRO 3.8

Following a reactor trip and loss of offsite power, the crew transitions to recovery procedure EPP-003, Loss of All AC Power Recovery with SI Required. The candidate will be directed to align SI valves and establish an injection flow path for SI. During the lineup a CSIP Alternate Miniflow valve will fail to stoke requiring the candidate to complete the alternate path step to shut the associated block valve.

JPM d – Place Normal Letdown in Service (JPM-CR-222) Alternate Path

004 A4.06 - Ability to manually operate and/or monitor in the control room: Letdown isolation and flow control valves (CFR: 41/7 / 45.5 to 45.8) RO 3.6 / SRO 3.1

With the plant operating at 100% steady state the candidate will be informed that letdown was out of service for maintenance. Maintenance has been completed. The clearance has been removed and Excess letdown has just been taken off.

The candidate will place letdown in service IAW OP-107. When the candidate places the letdown pressure control valve in automatic it will fail closed causing letdown pressure to rapidly increase. The candidate will be expected to recognize the failure and return pressure to normal. This can be accomplished by either closing the in service letdown valve or place the pressure controller back to manual (per OMM-001 guidance), adjust pressure to normal and report the failure to the SCO. After the report is made the candidate will be instructed to complete placing letdown in service while controlling pressure in manual.

2009a NRC Control Room/In-Plant JPM Summary (continued)

JPM e - Containment Cooling to Max Cooling Mode (JPM-CR-033)

022 A4.01 Ability to manually operate and/or monitor in the control room: CCS fans (CFR: 41.7 / 45.5 to 45.8) RO 3.6 SRO 3.6

In preparation for an upcoming Containment entry, Containment Cooling is to be placed in Maximum Cooling Mode. This will require the candidate to realign fans and dampers in accordance with OP-169, Containment Cooling System. The candidate will have to report that a 1 hour Tech Spec condition exists due to Containment Pressure. The candidate will also have to verify the correct damper alignment using status light box indications.

JPM f - Loss of All CCW (2007 NRC Exam JPM h) Alternate Path

008 A2.01 Ability to (a) predict the impacts of the following malfunctions or operations on the CCWS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of CCW Pump (CFR: 41.5 / 43.5 / 45.3 / 45.13) RO 3.3 SRO 3.6

With the plant at 100% power and one CCW pump under clearance the candidate will be tasked with responding to a loss of the running CCW pump. This will require the candidate to obtain AOP-014, Loss of Component Cooling Water, and complete the actions of loss of all CCW. The candidate will be required to complete the RNO actions of isolating letdown and charging. Since CCW will not be available in less than 10 minutes the candidate will be required to manually trip the Reactor, secure the Reactor Coolant Pumps and shut the Pressurizer Spray Valves.

JPM g - Respond to High RCS Pressure while Solid (JPM-CR-052) Time Critical

010 A1.07 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: RCS pressure (CFR: 41.5 / 45.5) RO 3.7 SRO 3.7

Solid plant Mode 4 operations will be in progress. The candidate will have to respond to a failure of the RCS pressure control valve that causes RCS pressure to rapidly increase. The candidate will perform the immediate actions of AOP-019, Malfunction of RCS Pressure Control, and stop the running CSIP.

JPM h - Startup a Reactor Coolant Pump following Maintenance (JPM-CR-005 Modified) Alternate Path

003 A2.02 Ability to (a) predict the impacts of the following malfunctions or operations on the RCPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Conditions which exist for an abnormal shutdown of an RCP in comparison to a normal shutdown of an RCP (CFR: 41.5 / 43.5/ 45.3 / 45/13) RO 3.7 SRO 3.9

A plant startup will be in progress with the 'A' and 'B' RCPs in operation. Maintenance has been completed on the 'C' RCP and the candidate will be directed to start the 'C' RCP in accordance with OP-100, Reactor Coolant System. Soon after the RCP is started it will develop abnormal vibrations as indicated on the RCP Vibration Monitor in the MCR and MCB annunciators. The candidate will be expected to determine that entry conditions are met for AOP-018, Reactor Coolant Pumps Abnormal Conditions and enter the AOP. The RCP vibrations will continue to rise until they exceed the operational trip limits of AOP-018 Attachment 1 (>20 mils shaft). The candidate is expected to secure the 'C' RCP IAW AOP-018.

2009a NRC Control Room/In-Plant JPM Summary (continued)

JPM i - Reset Safety Injection Locally (New) Alternate Path

013 A2.06 Ability to (a) predict the impacts of the following malfunctions or operations on the ESFAS; and (b) based Ability on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations; Inadvertent ESFAS actuation
(CFR: 41.5 / 43.5 / 45.3 / 45.13) RO 3.7 / SRO 4.0

Following an inadvertent SI actuation and meeting SI termination criteria per Path-1 the crew is directed to reset SI. The candidate will be informed that SI Train 'B' did not reset from the MCR. The candidate will then be directed to locally reset Safeguards Train 'B' per Attachment 12 of PATH-1 Guide. This will require the candidate to go to the SSPS cabinet and simulate placing protection system breakers to the OFF position and then positioning the appropriate test switch to locally place the Protection System Train 'B' in test.

JPM j - Local Inspection of Annunciator Cabinets (JPM-IP-144)

016 A2.02 Ability to (a) predict the impacts of the following malfunctions or operations on the NNIS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of power supply
(CFR: 41.5 / 43.5 / 45.3 / 45.5) RO 3.9 SRO 3.2

The candidate will be directed by the MCR to locally inspect System 1 Annunciator Power Supply Cabinets for the cause of a MCR alarm using Attachment 1 of AOP-037, Loss of Main Control Room Annunciators. They will be required to locate the cabinets, determine which power supplies have failed, and then report the findings to the MCR.

JPM k - Local Makeup to VCT via Manual Emergency Boration (JPM-IP-088)

004 A2.14 Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Emergency boration
(CFR: 41.5/ 43/5 / 45/3 / 45/5) RO 3.8 SRO 3.9

The candidate will be informed that the Reactor Makeup Control System has malfunctioned requiring the candidate to locally makeup to the VCT in accordance with Attachment 2 of AOP-003, Malfunction of Reactor Makeup Control. Without a procedure the candidate will be directed by the Main Control Room to locate the manual Emergency Boration and Reactor Makeup Water valves and then simulate positioning these valves to the Control Rooms mark.

	APPENDIX E - REGION II OPERATING TEST PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
All												Generic comments: JPM type codes E (Emergency or abnormal in-plant) and S (Simulator) are mutually exclusive (in-plant ≠ simulator.) FJE 12/18/08.
a.	6											K/A 062A4/01 Restore Power to Emergency Busses The JPM has type codes E (Emergency or abnormal in-plant) and S (Simulator) assigned. These codes are mutually exclusive (in-plant ≠ simulator.) Re-code. Consider having the applicant restore power to only one Emergency Bus. If the two trains of power are configured and operated the same way, there may be little to be gained from watching an applicant demonstrate the same knowledge and ability twice. FJE 12/18/08 • Removed the 'E' coding N/A for this type of JPM. • The time to complete the second bus restoration is minimal but enhances MCR habitability and provides power to redundant safety equipment when performed correctly. Additionally, restoring power to the second bus provides emergency lighting power to in the MCR (lighting will return to normal when both sources of power are restored). AWL 1/7/09
b.	4S										**U**	K/A 041A4.08 Shift Steam Dump Control to Tavg Mode The JPM consists of two simple switch manipulations and appears to be minimally discriminating with respect to knowledge and ability associated with system operation and related applicant competencies, especially for Upgrade SROs. **Replace the JPM with one that allows the applicant to demonstrate a wider range of K/A and associated competencies.** The JPM description states that plant conditions include a power level of

JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
												18% and the JPM has a type code of L (Low Power / Shutdown) assigned. However, ES-301, D.4.b (footnote 1, page 14 of 27) defines low power as criticality to 5%.) Re-code or change initial conditions. FJE 12/18/08 • Agree the initial conditions of shifting steam dump control to Tavg Mode was not a low power condition as explained in ES-301, D.4.b. The replacement JPM for b is coded (L) because the initial conditions are during plant shutdown conditions. ES-301 reads "At least one of the tasks shall be related to a shutdown or low-power condition". JPM's g and are also coded (L) - 'shutdown'. • Replaced JPM b with another Shutdown (L) Direct (D) Safety Function 4S K/A 054 AA1.01 – Ability to operate and / or monitor the following as they apply to the Loss of Main Feedwater AFW controls, including the use of alternate AFW sources (CFR 41.7 / 45.5 / 45.6) RO 4.5 / SRO 4.4 'Using ESW System As A Backup Source of Water To AFW' PATH-1 Foldout A requires an operator to monitor CST level for AFW supply switchover criteria. **AFW SUPPLY SWITCHOVER CRITERIA**: IF CST level decreases to less than 10%, THEN switch the AFW water supply to the ESW system using OP-137, "AUXILIARY FEEDWATER SYSTEM", Section 8.1. Conditions: Following a LOCA the operator is informed that a leak developed in the Condensate Storage Tank (CST). The CST level has decreased to < 10%. The candidate is directed to supply ESW from the A Header to both the A AFW Pump and the Turbine Driven AFW pumps. This will require shutting down the B MDAFW Pump and 'A' Train of Containment Fan Coolers in addition to the ESW valve alignment. AWL 1/7/09 NRC Comment - Consider having the leak active so the candidate must

	APPENDIX E - REGION II OPERATING TEST JPM PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
												make the switchover prior to the CST level decreasing to 0%. NOTE: AFW pumps have a low suction pressure trip at 6 psig (alarm at 9 psig, trips at 6 spig after 3 second time delay). This pressure will not be reached until actual level in the CST is below 0% indicated. (See AOP-036.02 Attachment 3) At 0% CST indicated level the tank still contains ~10,000 gallons of water (See tank curve book figure D-6). Even if the pump were allowed to reach the low suction pressure trip there would be no damage to the pump and when a suction source was restored the pump could be restarted. There is little/no value added by activating a leak to make this a "time critical" JPM.
c.	2											K/A 006A4.02 Manually Align SI Equipment after LOSP No comments on outline. FJE 12/18/08
d.	1										**U**	K/A 004A4.07 Perform Boration of RCS Scenario #1 and #2 contain power reductions and associated reactivity manipulations – presumably borations. The JPM does not appear to be significantly different from the boration(s) that will occur during these scenarios. The only difference appears to be that the boration fails to stop and requires the applicant to place the RMW Control switch to stop. See ES-301, D.4, page 13 of 27 regarding overlap. For alternate path JPMs, applicants are expected to be able to use alternative methods to perform tasks. For this JPM, although a failure will require the applicant to perform an action other than what would be performed when the system responds normally, the task of boration will be complete (no alternative method is required to borate.) See Appendix C, Section C regarding alternate path JPMs. **Replace the JPM with one that contains less overlap with simulator events and better meets the intent of alternate path JPMs.** FJE 12/18/08

JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
												• Replaced with another Alternate Path (A) Direct (D) that has the same Safety Function (1). This JPM does not overlap any of the tasks that will be performed in the Scenarios. K/A 004 A4.06 - Ability to manually operate and/or monitor in the control room: Letdown isolation and flow control valves (CFR: 41/7 / 45.5 to 45.8) RO 3.6 / SRO 3.1 'Place Normal Letdown in Service' Initial conditions: With the plant operating at 100% steady state the candidate will be informed that letdown was out of service for maintenance. Maintenance has been completed. The clearance has been removed and Excess letdown has just been taken off. The candidate will place letdown in service IAW OP-107. When the candidate places the letdown pressure control valve in automatic it will fail closed causing letdown pressure to rapidly increase. The candidate will be expected to recognize the failure and return pressure to normal. This can be accomplished by either closing the in service letdown valve or place the pressure controller back to manual (per OMM-001 guidance), adjust pressure to normal and report the failure to the SCO. AWL 1/7/09 NRC comment - Consider having the candidate complete placing letdown in service with PK-145 in manual control. This will allow the evaluation of "Placing Letdown in Service" Revised JPM to include completing placing letdown in service with PK-145 in manual control. Evaluation with operators will be conducted during Prep Week. Saved revised JPM as Rev 2 and placed Rev 1 in archive. NOTE: The time validation is no longer valid for this JPM. This change will make the completion of the task several minutes longer. AWL 2/3/09

	APPENDIX E - REGION II OPERATING TEST PERFORMANCE MEASURE QUALITY REVIEW MATRIX											
JPM#	1. Safety function	2. Dyn (D/S)	3. LOD (1-5)	4. Attributes					5. Job Content Errors		6. U/E/S	7. Explanation (See below for instructions)
				IC Focus	Cues	Critical Steps	Scope (N/B)	Over-lap	Job-Link	Minutia		
e.	5											K/A 022A4.01 Containment Cooling to Max Cooling Mode – RO Only What knowledge/ability or competencies are required in order to successfully complete the task? The JPM appears to be minimally discriminating, but acceptable. Will re-evaluate this JPM with respect to discrimination of the overall following revisions to other JPMs. FJE 12/18/08 • Tech Spec 1 hour action • Ability to perform the actions directed in a procedure in proper sequence and verification of proper shifting of dampers Placing Containment Cooling in this mode requires the candidate to perform the actions in the proper sequence for the realignment of the dampers. After this alignment is completed Containment pressure will lower causing Containment Air High Vacuum annunciator (ALB-028-5-1) to alarm indicating a 1 hour Tech Spec (3.6.1.4) action statement is now in effect. This will require the candidate to inform the SCO of the TS. AWL 1/7/09

f.	8											K/A 008A2.01 Loss of All CCW The JPM description may better fit K/A 026 (Loss of Component Cooling Water), e.g. AA.102. Please evaluate. Still safety function 8 per ES-401-2. The JPM has type codes E (Emergency or abnormal in-plant) and S (Simulator) assigned. These codes are mutually exclusive (in-plant ≠ simulator.) Re-code. FJE 12/18/08 • K/A evaluated • Removed the code 'E' from JPM (N/A for Simulator) AWL 1/7/09
g.	3											K/A 010A1.07 Respond to High RCS Pressure while Solid The JPM has type codes E (Emergency or abnormal in-plant) and S (Simulator) assigned. These codes are mutually exclusive (in-plant ≠ simulator.) Re-code. The JPM description indicates that this is a time critical task. Please include the basis for the critical time in the JPM. Additionally, during prep and exam weeks, be prepared to measure and record the time from the initiating component failure to the time the applicant secures the pump. FJE 12/18/08 • Removed the code 'E' from JPM (N/A for Simulator) • The basis for critical time was Operator judgment. Per AOP-019 Basis Document - On a pressure increase, RCS over-pressurization is a concern. Continued attempts to control plant pressure using solid plant pressure control are not justified. The actions that are taken by the operator for this condition is an 'immediate action' in the AOP. Completing this action within 2 minutes was chosen to be the timeframe to accomplish operator actions to alleviate this type of overpressure concern. Start and Stop times are appropriately placed in the JPM for the evaluator to record the operator reaction time.

												• The critical task time has not been modified from th ginally approved JPM. This time was reviewed and accepted as appropriate during validation by the operating crew. AWL 1/7/09 NRC comment - Remove the time critical piece for the JPM. There is no procedural justification on the time. Additional comment on 2/3/09 to add additional verifiable actions to JPM. There is currently only one action. Rev. 2 completed on 2/3/09 Removed time critical from JPM. Added additional steps to continue with Section 3.2 of procedure for additional verifiable actions. Then placed Rev 1 in the archive material folder. AWL 2/3/09
h.	4P											K/A 003A2.02 Start a Reactor Coolant Pump following Maintenance No comments on outline. FJE 12/18/08 • Due to recoding In-plant JPM i (not an alternate path JPM) JPM h will be used as one of the SRO-U JPM's instead of JPM a. This switch is necessary to have a minimum of 2 Alternate Path JPM's during the SRO-U evaluation. AWL 1/7/09
i.	3?										**U?**	K/A 006A4.08 Reset Safety Injection Locally How is this task an alternate path JPM? Although the examinee may perform actions other than those performed when a system responds normally, it does not appear that the applicant makes decisions and takes an alternate course of action based on a malfunction that is diagnosed during the performance of his/her task. Consider feasibility of starting in the MCR and providing cued indications (pictures?) that SI did not reset. Applicant must determine that SI didn't reset and then decide to implement alternate path. 006A4 is "Ability to manually operate and/or monitor in the control room." The JPM is performed in-plant. Find a K/A that matches an in-plant JPM (this may change the safety function.) Consider 013A2 or A3 (safety function 2.)

												Will Operations permit access to SSPS cabinets during administration? Would use of photographs be desirable? FJE 12/18/08 • (A) Alternate path inappropriately identified and removed from the code for this JPM. Although the candidate implements PATH-1 Attachment 12 from a RNO action they do not make the decision to take the RNO actions. • Not feasible at this time to provide photo cues with determination that SI didn't reset. • K/A changed to 013 A2.06 making the JPM SF2. This SF change will affect the SRO-U JPM selection. JPM j is now selected as SRO-U instead of JPM i in order to have 5 different systems for SRO-U's JPM's. • Yes, Operations will permit access to SSPS cabinets during administration of the JPM. • Yes, but we are unable to obtain photos of the interior of these cabinets at this time. The use of digital photography in this area is restricted. AWL 1/7/09 During in-plant JPM's reinforce that this is a simulation and to NOT get close to actual equipment.
j.	7											K/A 016A2.02 Local Inspection of Annunciator Cabinets Will Operations permit access to these cabinets during administration? Would use of photographs be desirable? FJE 12/18/08 • Yes, Operations will permit access for administration of the JPM. • No, we are unable to obtain photos of the interior of these cabinets at this time. The use of digital photography in this area is restricted. • NOTE: JPM j will now be used as a SRO-U JPM instead of JPM i. This is due to the change in K/A assignments for JPM i. AWL 1/7/09

k.												K/A 004A2.14 Local M/U to VCT via Manual Emergency Bo on No comments on outline. FJE 12/18/08

Instructions for Completing Matrix
This form is not contained in or required by NUREG-1021. Utilities are not required or encouraged to use it. The purpose of this form is to enhance regional consistency in reviewing operating tests. Check or mark any item(s) requiring comment and explain the issue in the space provided.

1. Safety function characteristics: RO & SRO-I JPMs should evaluate different safety functions for the simulator/control room, and separately for the in-plant JPMs. SRO-Us should evaluate 5 different safety functions. One SRO-U should evaluate an engineered safety feature. At least one should be shutdown or low power, 4-6 should be alternate path for the RO/SRO-I and 2-5 for the SRO-Us.
2. Determine whether the task is dynamic (D) or static (S). A dynamic task is one that involves continuous monitoring and response to varying parameters. A static task is basically an system reconfiguration or realignment
3. Determine level of difficulty (LOD) using established 1-5 rating scale. Levels 1 and 5 represent inappropriate (low or high) discriminatory level for the license being tested.
4. Check the appropriate box when an attribute weakness is identified:
   - The initiating cue is not sufficiently clear to ensure the operator understands the task and how to begin.
   - The JPM does not contain sufficient cues that are objective (not leading).
   - All critical steps (elements) have not been properly identified.
   - Scope of the task is either too narrow (N) or too broad (B).
   - Excessive overlap with other part of operating test or written examination.
5. . Check the appropriate box when a job content error is identified:
   - Topics not linked to job content (e.g., disguised task, not required in real job).
   - Task is trivial and without safety significance.
6. Based on the reviewer's judgment, is the JPM as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)satisfactory?
7. Provide a brief description of problem in the explanation column. Provide conclusion on whether JPM SET criteria satisfied (i.e., number/distribution of safety functions, A.3 and A.4 integrated with parts B/C, Admin topics per section meet ES).

Facility: Date of Examination: 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).	AL	B	FE
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.	AL	B	FE
c. The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	AL	B	FE
d. Overlap with the written examination and between different parts of the operating test is within acceptable limits.	AL	B	FE
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	AL	B	FE
2. Walk-Through Criteria	--	--	--
a. Each JPM includes the following, as applicable: • initial conditions ✓ • initiating cues ✓ • references and tools, including associated procedures ✓ • reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee ✓ • operationally important specific performance criteria that include ✓ – detailed expected actions with exact criteria and nomenclature ✓ – system response and other examiner cues ✓ – statements describing important observations to be made by the applicant ✓ – criteria for successful completion of the task ✓ – identification of critical steps and their associated performance standards ✓ – restrictions on the sequence of steps, if applicable ✓	AL	B	FE
b. Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	AL	B	FE
3. Simulator Criteria	--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	AL	B	FE

		Printed Name / Signature	Date
a.	Author	Archie Lucky / Archie Lucky	2/27/09
b.	Facility Reviewer(*)	Ken Bailey / K Bailey	2·27·09
c.	NRC Chief Examiner (#)	Frank Ehrhardt / [illegible]	3/3/09
d.	NRC Supervisor	MICHAEL T. WIDMANN / [illegible]	03/03/09

NOTE: * The facility signature is not applicable for NRC-developed tests.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Facilty: Harris Date of Exam: 3/9/2009 Scenario Numbers: 1/2/Spare/4 Operating Test No.: 05000400

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.	AL	B	FR
2. The scenarios consist mostly of related events.	AL	B	FR
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)	AL	B	FR
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.	AL	B	FR
5. The events are valid with regard to physics and thermodynamics.	AL	B	
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	AL	B	FR
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.	N/A	N/A	FR
8. The simulator modeling is not altered.	AL	B	FR
9. The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	AL	B	FR
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.	AL	B	FR
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	AL	B	FR
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).	AL	B	FR
13. The level of difficulty is appropriate to support licensing decisions for each crew position.	AL	B	FR

Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes 1 / 2 / Spare / 4	--	--	--
1. Total malfunctions (5–8)	8 / 7 / S / 9	AL	B	FR
2. Malfunctions after EOP entry (1–2)	3 / 2 / S / 2	AL	B	FR
3. Abnormal events (2–4)	4 / 4 / S / 6	AL	B	FR
4. Major transients (1–2)	1 / 1 / S / 2	AL	B	FR
5. EOPs entered/requiring substantive actions (1–2)	2 / 3 / S / 2	AL	B	FR
6. EOP contingencies requiring substantive actions (0–2)	0 / 2 / S / 2	AL	B	FR
7. Critical tasks (2–3)	2 / 2 / S / 2	AL	B	FR

Facility: Harris Date of Exam: 3/9/2009 Operating Test No.: 05000400

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 (Spare) CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
RO RO-1	RX		1											1	1	1	0
	NOR						1							1	1	1	1
	I/C		3,4,9				2,4							5	4	4	2
	MAJ		6				6							2	2	2	1
	TS													0	0	2	2
RO RO-2	RX		1											1	1	1	0
	NOR						1							1	1	1	1
	I/C		3,4,9				2,4							5	4	4	2
	MAJ		6				6							2	2	2	1
	TS													0	0	2	2
RO RO-3	RX		1											1	1	1	0
	NOR												1	1	1	1	1
	I/C		3,4,9										5, 6, 11	6	4	4	2
	MAJ		6										8, 10	3	2	2	1
	TS													0	0	2	2
RO RO-4	RX											1		1	1	1	0
	NOR			1			1							2	1	1	1
	I/C			2,5,7, 8			2, 4					3, 4, 7		9	4	4	2
	MAJ			6			6					8, 10		4	2	2	1
	TS													0	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
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 1-for-1 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 requirements specified for the applicant's license level in the right-hand columns.

Facility: Harris Date of Exam: 3/9/2009 Operating Test No.: 050004000

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1			2			3 (Spare)			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO	RX											1		1	1	1	0
RO-5	NOR			1										1	1	1	1
	I/C			2,5, 7,8								3, 4, 7		7	4	4	2
	MAJ			6								8, 10		3	2	2	1
	TS													0	0	2	2
RO	RX											1		1	1	1	0
RO-6	NOR			1										1	1	1	1
	I/C			2,5, 7,8								3, 4, 7		7	4	4	2
	MAJ			6								8, 10		3	2	2	1
	TS													0	0	2	2
RO	RX					1								1	1	1	0
RO-7	NOR												1	1	1	1	1
	I/C					3,5, 7,8							5, 6, 11	7	4	4	2
	MAJ					6							8, 10	3	2	2	1
	TS													0	0	2	2
RO	RX					1								1	1	1	0
RO-8	NOR												1	1	1	1	1
	I/C					3,5, 7,8							5, 6, 11	7	4	4	2
	MAJ					6							8, 10	3	2	2	1
	TS													0	0	2	2

Instructions: See page 1

Facility: Harris Date of Exam: 3/9/2009 Operating Test No.: 050004000

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	ATC	BOP	2 CREW POSITION SRO	ATC	BOP	3 (Spare) CREW POSITION SRO	ATC	BOP	4 CREW POSITION SRO	ATC	BOP	TOTAL	MINIMUM(*) R	I	U
SRO-U	RX													0	1	1	0
U-1	NOR	1									1			2	1	1	1
	I/C	2, 3, 4, 5, 7, 8, 9									3, 4, 5, 6, 7, 11			13	4	4	2
	MAJ	6									8, 10			3	2	2	1
	TS	2, 3, 4, 5									2, 3, 4, 5			8	0	2	2
SRO-U	RX													0	1	1	0
U-2	NOR	1									1			2	1	1	1
	I/C	2, 3, 4, 5, 7, 8, 9									3, 4, 5, 6, 7, 11			13	4	4	2
	MAJ	6									8, 10			3	2	2	1
	TS	2, 3, 4, 5									2, 3, 4, 5			8	0	2	2
SRO-I	RX					1								1	1	1	0
I-1	NOR	1									1			2	1	1	1
	I/C	2,3,4,5, 7,8,9				3,5,7,8					3, 4, 5, 6, 7, 11			17	4	4	2
	MAJ	6				6					8, 10			4	2	2	1
	TS	2,3,4,5									2, 3, 4, 5			8	0	2	2

Instructions: See page 1

Facility: Harris Date of Examination: 3/9/2009 Operating Test No.: 05000400

Competencies	APPLICANTS															
	RO-1				RO-2				RO-3				RO-4			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	3, 4, 6, 9	2, 4, 6			3, 4, 6, 9	2, 4, 6			3, 4, 6, 9			5, 6, 8, 10, 11	2, 5, 6, 7, 8	2, 4, 6		3, 4, 7, 8, 9, 10
Comply With and Use Procedures (1)	1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9			1, 5, 6, 8, 10, 11	1, 2, 5, 6, 7, 8	1, 2, 4, 6		1, 3, 4, 7, 8, 9, 10
Operate Control Boards (2)	1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9			1, 5, 6, 8, 10, 11	1, 2, 5, 6, 7, 8	1, 2, 4, 6		1, 3, 4, 7, 8, 9, 10
Communicate and Interact	1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9	1, 2, 4, 6			1, 3, 4, 6, 9			1, 5, 6, 8, 10, 11	1, 2, 5, 6, 7, 8	1, 2, 4, 6		1, 3, 4, 7, 8, 9, 10
Demonstrate Supervisory Ability (3)																
Comply With and Use Tech. Specs. (3)																

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

Instructions:

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

Facility: Harris Date of Examination: 3/9/2009 Operating Test No.: 05000400

Competencies	APPLICANTS															
	RO-5				RO-6				RO-7				RO-8			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	2,5, 6, 7,8			3, 4, 7, 8, 9, 10	2,5, 6, 7,8			3, 4, 7, 8, 9, 10		3, 5, 6, 7, 8		5, 6, 8, 10, 11		3, 5, 6, 7, 8		5, 6, 8, 10, 11
Comply With and Use Procedures (1)	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11
Operate Control Boards (2)	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11
Communicate and Interact	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10	1, 2,5, 6, 7,8			1, 3, 4, 7, 8, 9, 10		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11		1, 3, 5, 6, 7, 8		1, 5, 6, 8, 10, 11
Demonstrate Supervisory Ability (3)																
Comply With and Use Tech. Specs. (3)																

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

Instructions: Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Facility: Harris Date of Examination: 3/9/2009 Operating Test No.: 05000400

Competencies	APPLICANTS											
	U-1				U-2				I-1			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	2, 3, 4, 5, 6, 7, 8, 9			2, 3, 4, 5, 6, 7, 8, 9, 10, 11	2, 3, 4, 5, 6, 7, 8, 9			2, 3, 4, 5, 6, 7, 8, 9, 10, 11	2, 3, 4, 5, 6, 7, 8, 9	3, 5, 6, 7, 8		2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Comply With and Use Procedures (1)	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 3, 5, 6, 7, 8		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Operate Control Boards (2)	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 3, 5, 6, 7, 8		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Communicate and Interact	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 3, 5, 6, 7, 8		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Demonstrate Supervisory Ability (3)	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9			1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Comply With and Use Tech. Specs. (3)	2, 3, 4, 5			2, 3, 4, 5	2, 3, 4, 5			2, 3, 4, 5	2, 3, 4, 5			2, 3, 4, 5

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

Instructions: Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Tier / Group	Randomly Selected K/A	Reason for Rejection
T2/G1	005K5.05	K/A 005K6.08 RO/SRO K/A values are < 2.5 Selected for use as RO Question # 31 New K/A provided by Frank Ehrhardt on 11-17-2008 per telecom to Archie Lucky
T1/G2	067AA2.13	K/A 051AA2.02 Utility requested new K/A. We were not able to write a SRO level of knowledge question to this K/A. Selected for use as SRO Question #7 New K/A provided by Frank Ehrhardt on 1/21/09 per telecom to Matt Fulks

Facility: Date of Exam: Exam Level: RO ☒ SRO ☒

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	AL	B	F/E
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	AL	B	F/E
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	AL	B	F/E
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).			F/E
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 X the licensee certifies that there is no duplication; or __ other (explain)	AL	B	F/E
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank: 17 / 4 Modified: 6 / 3 New: 52 / 18	AL	B	F/E
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 question distribution(s) at right.	Memory: 34 / 10 C/A: 41 / 15	AL	B	F/E
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	AL	B	F/E
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.	AL	B	F/E
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	AL	B	F/E
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	AL	B	F/E

	Printed Name / Signature	Date
a. Author	Archie Lucky / Archie Lucky	3/2/09
b. Facility Reviewer (*)	Ken Bailey / K Bailey	3·2·09
c. NRC Chief Examiner (#)	Frank J. Ehrhardt / F. J. Ehrhardt	3/5/09
d. NRC Regional Supervisor	MALCOLM T. WIDMANN / [illegible]	03/05/09

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.

ES-401 **Written Examination Review Worksheet** **Form ES-401-9**

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.
   - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - 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 question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
6. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
8. 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. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
RO QUESTIONS																
1	H	3												N	S	007EK2.03 Question is Satisfactory. No comments. FJE 12/30/08
2	H	2												N	S	009EA2.15 Please verify in the simulator that CSIP amp readings are consistent with plant conditions. If FI-943 fails, is the bottom of the scale 0 gpm, or is it more likely to peg low at something less than 0 gpm? Question is Satisfactory. FJE 12/30/08 Per facility, above items are consistent with plant/simulator response. FJE 2/1/09
3	F	2												B	S	011EG2.2.44 Question is Satisfactory. No comments. FJE 12/30/08

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
4	H	2					X							B	~~E~~ S	022AK1.03 Enhancement to remove required assumption in answer. Answer B merely states that a failure has occurred without specifying the nature of the failure, as in distractors C and D (high/low). The applicant has to assume that the failure occurred in the Shut direction to arrive at the correct answer. Consider rewriting answer B and distractor A to specify the nature of the failure, e.g. Charging Flow Control demand has failed high/low. FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
5	F	3	X				X							N	~~E~~ S	025AG2.4.34 Enhancement for stem focus/partial correct answer. Stem has the pressure instrument failure as a given plant condition. Should this be something in The Following Occurs category? Question asks for the action outside the control room to "recover 'B' RHR"? What constitutes recovery? Given the maintenance in progress (1RH-40 SHUT/declutched?) is repositioning the test switch sufficient to establish flow? Would swapping power appear to be sufficient, i.e. plausible (assuming the valve is declutched)? Second half of answer B is different than distractor D ("interlock for…vs. interlock to). Make answer options the same. FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
6	F	2	X											N	~~E~~ S	026AA2.04 Enhancement for stem focus. Add the word "latest" to the question to preclude multiple correct answers, i.e. "… the latest time the reactor…" If the reactor is required to be tripped at 15:37 then it's also required to be tripped at 15:41. Concern is multiple correct answers. FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
7	F	2												B	~~E~~ S	027AA1.03 Enhancement to remove ambiguity. Answer and distractors seem to assume that "the controller" is PK-444A. Please be specific regarding which controller output or set point is being raised/lowered, either by modifying the question or the options. Examiner Note: 2008 NRC RO exam FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
8	H	3					X							N	~~E~~ S	029EG2.1.20 Enhancement to verify only one correct answer. Please verify that your background document clearly states or implies that NO RCPs should be tripped (ALL must be operated) under any circumstance until power is less than 5%. Is it clearly wrong to trip one RCP that has abnormal conditions when the other RCPs are operating properly? Concern is potential for multiple correct answers. The sequence of actions in distractor B seems backwards in that if you do something before tripping the RCP, then tripping it isn't immediate. Consider "Complete FRP-S.1 immediate actions and then trip the 'B' RCP" FJE 12/30/08 Facility clarified reference with examiner and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
9	H	2												N	~~E~~ S	038EK1.01 Enhancement to verify correct answer. Please check your data and calculation. I get Tsat = 587 F for 1385 psig, which gives 87 F subcooling (choice D) for 500 F. Did you use 1335 psig? What is the context for performing the calculation in PATH-2? SI termination and subcooling display is broken? Consider providing a context for why the calc is being performed and the procedure, e.g. "Which ONE of the following is the value for subcooling, when calculated in accordance with the User's Guide?" FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
10	H	2												N	S	057AA2.04 Question is Satisfactory as is. Answer analysis (not required) is silent on why Channel III is included in the stem and how it affects answer/distractor plausibility. Also, extinguished is misspelled. FJE 12/30/08
11	H	2	~~X~~			~~X~~								N	~~U~~ S	058AA1.02 Unsatisfactory for two implausible distractors. The second half of B and D ', ...125 VDC is NOT available due to low battery voltage caused by the loss of chargers' is not plausible. An immediate (stem asks for immediately after the event) loss of DC due to loss of the battery chargers is not plausible. Would ALB-015-4-4 already be lit due to the clearance on 1B-SA Battery Charger? Answer A and distractor C contain conditional statements (as long as the DC input breaker remains closed). Why is this necessary? Would this information be reported by the field operator? Answer options are a mix of three items: Normal 480VAC, Backup 480 VAC, 125VDC. Why would someone pick either of the choices that don't mention Normal 480V AC? Suggestion only: Might be able to write a more direct question that directly tests more aspects of the K/A by using a similar stem and asking whether the UPS trouble alarm (ALB) is lit or not and, if so, why. FJE 12/30/08 The facility rewrote the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
12	F	2												N	~~E~~ S	062AK3.03 Enhancement to resolve potential for two correct answers. Is the one minute mentioned in AOP-22 a hold point or a limit? Why would it be incorrect to immediately stop the 'A' CSIP and isolate letdown if a rupture is known to have occurred and there is no 'A' ESW flow? Remove contingent actions (if's) from answer options and place conditions and information in the stem. FJE 12/30/08 Facility discussed with examiner and made changes to address the above comments. The question is Satisfactory. FJE 2/1/09
13	H	3												N	S	065AK3.04 Question is Satisfactory. No comments. FJE 12/30/08
14	~~H~~ F	3				~~X~~								N	~~U~~ S	077AA1.05 Unsatisfactory two implausible distractors. The second half of "A" does not appear plausible. Opening breaker 105 will de-energize safety bus 1A-SA, but B-train safety equipment is operating per the stem and would remain running and attached to the degraded grid. The second half of 'D' does not appear plausible. Opening breaker 125 de-energizes safety bus 1B-SB, and the running CSIP, until 1B-SB is reenergized by the B EDG and the sequencer re-starts the B CSIP. Seal flow would be interrupted from the time the bus is re-energized until the B CSIP is re-started. FJE 11/20/08 Revised question is Satisfactory. FJE 12/30/08

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
15	~~F?~~ H	2		~~X~~										N	~~E~~ S	WE04EK2.2 Enhancement to remove psychometric cues: Answer A is a subset of distractor B (and C is a subset of D). Add "only" to the second half of A and C. Also, the second half of the question seemed confusing to me. Is "...and which RHR pump(s) must be secured per EPP-13?" clearer? What is the basis for the Higher COG level? Required knowledge seems to be recall of EPP-13 procedure steps. FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
16	H	2				~~X~~								B	~~U~~ S	WE05EK3.2 Unsatisfactory for two implausible distractors. Distractors A and D do not seem plausible. If I transitioned to Loss of Heat Sink because I don't have one, and SG's are required for a heat sink, why would I go back to Path-1? Similarly, if I don't need the SG's for a heat sink, why remain in H-1? FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
17	F	2	X			X								B	~~E~~ S	WE11EK2.1 Enhancement for single distractor plausibility and to potentially eliminate unnecessary information from the stem. Distractor B does not seem plausible. The function of the switch in question concerns SI, as does the components in A, C, and D. Why would an SI switch affect CS? Does the EPP-012 background document contain any other information on why this step is performed or its effects? Is any part of the Plant Conditions necessary to answer the question? Consider "Which one of the following describes the effect of resetting the SI Suction Auto Switchover when performing EPP-012, Loss of Emergency Coolant Recirculation?" FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
18	H	3		X										M	~~E~~ S	WE12EK1.2 Enhancement to eliminate cues. Choice D is the only option that mentions total AFW flow – all other options are only concerned with flow to individual SGs. This also makes choice D much longer than the others. These are specific determiners (cues). One option would be to ask which of the following complies with EPP-015 and provide various AFW flow values for each S/G FJE 12/30/08 Facility discussed with examiner and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
19	H	~~1~~ 2				~~X~~								N	~~U~~ S	001AA1.05 Unsatisfactory for two implausible distractors. The first half of A and B, inadvertent dilution is not plausible. If rods are stepping while in manual, then the event is a rod control malfunction, regardless of Tave, Tref, Lpzr, or Ppzr. Distractor D may also be correct because the stem does not tie (limit) the answer to a technical reference, i.e. "in accordance with (procedure name)." Need to preclude multiple correct answers without cues. Stem does not explicitly state whether the conditions are observed in the absence of operator action. An applicant could assume that the rods are being moved in manual in response to the temperature deviation, resulting in no correct answer. FJE 12/30/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
20	H	3												B	S	005AG2.4.31 Question is Satisfactory. FJE 12/30/08

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
21	~~F~~ H	2	~~X~~			~~X~~								~~B~~ N	~~E~~ S	024AK1.02 Enhancement for stem focus and single distractor plausibility. What is the question? 1) Which is the preferred flow path, or 2) Which results in the fastest power reduction? What is the basis for the preference in flow path – fastest power reduction? Need to ensure question ties to reactor power per K/A. Distractor A is incomplete and may therefore be less likely to be selected. Step 6 actions include: Open 1CS-291 and 1CS-292 Shut 1CS-165 and 1CS-166 FJE 12/31/08 **Facility states they will revise 1/30/09** Facility wrote new question. New question is SAT. FJE 3/4/09
22	H	3		~~X~~										N	~~E~~ S	033AK1.01 Enhancement to remove unnecessary information (possible cue) from stem. There is unnecessary information in the stem (N-36 decreases to 4.5E-11 amps) that could provide cues on other questions. Reword to remove cue, e.g. "…and the effect on SR Nis as power decreases into the source range?" FJE 12/31/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
23	H	2	~~X~~											N	~~E~~ S	037AA2.05 Enhancement to preclude multiple correct answers. Add the word "latest" to the question to preclude multiple correct answers (subsets). If the reactor is required to be in Mode 3 at 0900, then it's also required to be in Mode 3 at 1000. Please label columns of data in the stem: Time Leak Rate FJE 12/31/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
24	F	2												N	S	074EA1.27 Question is Satisfactory – no comments. FJE 12/31/08
25	F	~~3~~ 2				~~X~~	~~?~~						~~?~~	N	~~E~~ S	076AK3.05 Enhancement for question on license level, possible additional correct answer, and single distractor plausibility. Question requires knowledge of procedure strategy, which could be considered SRO-only knowledge. Is this RO knowledge at Harris? Please support with details of referenced learning objective. Is Item 1 potentially correct in that it may be a subset of Tech Spec actions or AOP-32? What is the purpose of the power reduction per AOP-32, step 9? Are any of the TS 3.4.8 compliance actions taken to minimize FP barrier challenges per the TS background document? Item 2 seems to assume that SGTL exists. Consider changing to "… identify potential Steam Generator….." FJE 12/31/08 **Facility states they will revise 1/30/09** Facility rewrote the question. The question is SAT. FJE 3/4/09
26	H	2												B	S	WE03EK2.2 Question is Satisfactory – no comments. FJE 12/31/08

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
27	H	~~2~~ 3				~~X~~								N	~~E~~ S	WE09EK3.2 Enhancement for distractor plausibility. A value of 60 gpm charging flow (distractors C and D) would result in increasing pressurizer level for the given conditions. This does not seem consistent (plausible) with either of the reasons given. Matching charging to letdown, without considering seal injection or seal return, also doesn't seem consistent with how the CVCS is operated in other AOPs/EOPs. Examiner discuss with facility. Consider testing concept rather than value, e.g. omit Lpzr and CVCS values and ask WWOTF describes how charging should be adjusted before and during depressurization? Control charging flow to balance inventory gains & losses (reasons) Control charging flow to maintain constant pressurizer inventory (reasons) FJE 12/31/08 **Facility states they will revise 1/30/09.** Facility revised the question to address the above items. The revised question is SAT. FJE 3/4/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
28	H	3	~~?~~			~~X~~	~~?~~							N	~~E~~ S	003A4.04 Enhancement to verify single correct answer per reference material and improve plausibility of single distractor. The question and option A use the word "should," implying that the actions listed are not requirements, but options. The P&L states that the pump "must not be operated" but does not provide a time limit for securing it. Concern is no correct answer or multiple partially correct answers. What procedural guidance makes B correct and C incorrect? Would it be reasonable to leave B RCP running until another RCP could be started (to meet the 160 F P&L)? What is the purpose of the 160 F P&L? Plausibility for option A relies upon applicant thinking RCP must remain operating above 160 F. However, a temperature is not provided in the stem and Mode 5 is less than or equal to 200 F. Provide RCS temperature (above 160 F) and pressure in stem, in place of Mode, to increase plausibility of A. FJE 12/31/08 **Facility states they will revise 1/30/09** Facility revised the question. Question is SAT. FJE 3/4/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
29	H	~~2~~ 3	~~X~~	~~X~~										N	~~2~~ ~~E~~ S	004G2.1.19 How is the computer alarm, ALB-7-5-5, used to evaluate system status? The question appears to test knowledge that use of the computer point is required to monitor VCT level if LT-115 fails vs. ability to use of the computer alarm (or computer point) to diagnose/evaluate. If so, then the question does not meet the K/A and is unsatisfactory. The question asks whether or not the Emergency Makeup Signal is available. Two answer options introduce an action not mentioned in the question stem or other options, i.e. lifting leads. In the stem, state that no operator action has been taken and change second half of B and D to "Unavailable." Will re-evaluate the question after further discussion and/or modification. FJE 11/18/08 Revised Question: Enhancement for focus/specific determiner.
																The second half of the answer options consist of a mixture of four elements: 1) Emergency M/U available 2) Emergency M/U in progress 3) Emergency M/U not available (only appears in answer) 4) Action to lift leads (only appears in answer) Knowledge of how to restore M/U and whether M/U is in progress is not required by the K/A. Consider revising the second half of the question as '…. and the status of Emergency Makeup from the RWST (assuming no operator action)?" and the second half of the answers as merely "Available" or "Unavailable." Examiner Note: Plant has no level indicator in MCR for LT112. Use of computer point is necessary to diagnose failure. FJE 12/31/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
30	H	3	X			X	?							M	~~E~~ S	004K1.06 Enhancement to prevent possible second correct answer and for plausibility of single distractor. Revise C and D for clarity and to prevent two correct answers. One way to read D is that flow stops, as a result of FCV-114A closing, due to an automatic flow deviation. Consider replacing "as a result of" with "caused by" in C and D. Distractor B does not appear plausible, since, on a SI the he CSIPs align to the RWST and isolate from the VCT in order to provide borated inventory. Consider asking what Reactor Makeup Water flow will do in the stem rather than "the dilution" since a dilution can also mean a specific valve lineup. (stem focus) FJE 12/31/08 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
31	H	3												N	S	005K5.05 (replacement K/A for 005K6.08) Question is Satisfactory – no comments. FJE 12/31/08

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
32	F	2										~~X~~		N	~~U~~ S	006A1.01 Question is Unsatisfactory because it does not meet the K/A. The K/A topic is avoiding thermal and pressure stresses due to (ECCS) pump starts. However, the question is focused on why SI is terminated (securing pumps). Other aspects of this question were not evaluated. Consider asking a question regarding limits/effects and reasons regarding ECCS pump starts, e.g. SI reinitiation or administrative requirements concerning ECCS pumps in lower modes/LTOP/solid plant ops. FJE 12/31/08 Facility wrote a new question. The new question is Satisfactory. FJE 2/1/09
33	H	2												N	S	007A3.01 Please verify proper system response in the simulator. Simulator Service Request number 07-0248 was generated following the 2007 NRC exam due to a PRT modeling issue. Ensure that there is no related issue that could confuse applicants via negative training. Answer is supported by reference material. Question is Satisfactory. FJE 12/31/08 Per T. Toler, system response was verified in simulator. FJE 2/1/09
34	~~H~~ F	3												M	~~E~~ S	007G2.4.31 Question is listed as New, but appears to be Modified from 2007 NRC exam (K/A 007A1.02). Facility evaluate/explain. Enhancement until resolved. Question is otherwise Satisfactory. FJE 12/31/08 Changed to LOK = F, Modified. Question is Satisfactory. FJE 2/1/09
35	H	2												N	S	008K3.02 Question is Satisfactory – no comments. FJE 1/2/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
36	H	2	X											B	~~E~~ S	008K4.09 Enhancement for potential for two correct answers. What makes D wrong? B CCW pump auto starting is due to the A CCW pump tripping, but that's not what provides the auto start signal. Please reword stem and/or answer options to ensure a single correct answer. Additionally there is a difference in style between B and C/D in that B uses "auto start from" and C/D use "auto start due to." Make all options consistent. FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
37	H	~~2~~ 3												N	~~E~~ S	010K2.03 Enhancement – verify that applicant has sufficient information to answer the question. Information in stem that MSIVs have shut apparently allows applicant to determine that 125VDC DP1A-SA and/or DP1B-SB have deenergized (rule out DP1A-1?). Answer analysis does not discuss how applicant uses additional information in stem (1CS-11, 1MS-72) to determine correct answer. Please include explanation regarding how all information in the stem is used to arrive at the correct answer. Will evaluate LOD/credible distractors after clarification regarding the above is provided. The last portion of the question (within 1 hour) is not necessary to answer the question. Delete. Potential to provide cues on other questions. FJE 1/2/09 Facility explained system to examiner and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
38	F	~~1~~ 2												B	~~E~~ S	012A1.01 Enhancement for LOD. Low LOD. Discuss w/ facility. Consider asking what decreases the OTdT setpoint. Student text seems to imply that the OTdT setpoint is not reduced until Tave goes above 588.8 F. If so, consider replacing B with 'Increasing power to 85%' and D with 'Increasing temperature to 588.' FJE 1/2/09 Facility discussed LOD w/ examiner and made a minor change the question to address the above comment. The revised question is Satisfactory. FJE 2/1/09
39	F	2					~~X~~							N	~~E~~ S	012K5.02 Enhancement to verify and ensure single correct answer. Doesn't a Power Range High Flux Trip also limit kW/ft? Verify that B is incorrect under any circumstance (one place to look might be the COLR.) Additionally, tie the question to the technical reference. That is, add "in accordance with Technical Specification bases." FJE 1/2/09 Facility discussed w/ examiner. Per T. Toler, no additional correct answer per COLR. Question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
40	F	2				X	X							N	~~U~~ S	013K3.03 Unsatisfactory for two implausible distractors. The first half of C and D (higher peak pressure) is not plausible given the volume and flow rate of CS chem add. Choice D could also be argued as correct because the stem states that containment pressure is rising, and, with no operator action, containment pressure will be higher. The question does not ask for the effect of the failure on containment. Any reference material to support testing the implications of not removing Iodine (at the RO level)? What is the basis for the Higher COG level? **Facility stated they will revise/rewrite 1/30/09** Facility rewrote the question. The new question is SAT. FJE 3/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
41	F	2				~~2~~								N	~~2~~ S	022K2.01 ~~Did not evaluate.~~ ~~Distractor analysis did not include discussion of plausibility. Are all answer options non-safety 480VAC? Reference provided did not include 'key' for electrical nomenclature.~~ ~~Also, technical reference provided is a lesson plan. Is this a controlled document? If not, then please reference controlled technical reference, e.g. electrical lineup, load list, drawing, etc. for the correct answer.~~ ~~Will evaluate after discussion of system or receipt of electrical references.~~ ~~FJE 11/19/08~~ Facility stated reference is OP-169, Rev. 16, Containment Cooling and Ventilation. Please add this reference to the question report. Question is Satisfactory. Two editorial comments: Distractor B: OP-169 lists component as "Primary Shield Cooling Fan." Consider adding the word "Primary" Distractor D: OP-169 lists component as "RX Support Cooling Fan." Consider capitalizing the "X," i.e. "RX." FJE 12/8/08 Facility added technical reference and revised distractor B per above. FJE 1/2/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
42	H	3												B	~~E~~ S	026A1.01 Enhancement to verify basis for credit as Modified question. The answer and two of the distractors in the modified question appear to be essentially the same as in the original question. What were the plant conditions associated with the original question? What was modified (besides grammar) to meet ES-401 D.2.f, 4th bullet? The grammar in the question is awkward because the stem and answer options are all stated in the present tense. Please revise (i.e. plant conditions and A/B in past tense, C/D in future tense). FJE 1/2/09 Facility changed to Bank and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
43	F	~~1~~ 2												~~B~~ N	~~U~~ S	026K1.01 Unsatisfactory due to low discriminatory value and specific determiners. LOD = 1 for trained operator. The stem wording leads the applicant to an automatic function. A and B are likely to be eliminated because the stem does not contain the words "must be" manually aligned and does not reference a procedure for performing the manual action. FJE 1/2/09 Facility rewrote the question to address the above comments. The question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
44	F	2	X											N	~~E~~ S	039K5.05 Enhancement due to potential for no correct answer. Table 4:4-6 states the max cooldown rate in terms of degrees in any 1 hour period vs. per hour, as stated in the question. Revise question to be consistent with technical reference. Additionally, the stem does not tie the answer choice to the technical reference. Include in accordance with (procedure) and/or Tech Spec Bases Section 3.4. FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
45	H	2		X										N	~~E~~ S	059A4.08 Enhancement to remove specific determiners. Second half of answer options differs in language (adjust vs. establish). Procedure step is to establish feed flow (using AFW or main feed flow using feed reg bypass valves in manual). Change second half of B and D to same as A/C – Adjust Main Feed Reg Bypass Valves manually to control level. Do you need "manually" in any options? FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
46	H	~~2~~ 3	~~X~~			~~2~~								N	~~E~~ S	061A2.02 Enhancement for stem focus. Answer options do not follow from the question asked. Question asks for the status of AFW isolation (valve position). Options would be variations on "occurred" or "did not occur," vs. "should have occurred." Question then adds knowledge of the isolation signal to the lead in for the answer options. If asking about the status of AFW Isolation, then the first half of A and B are not plausible. AFW cannot be isolated if all S/Gs have 80 KPPH AFW flow. FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
47	H	3	~~X~~											N	~~E~~ S	062K4.03 Enhancement for stem focus/clarity. The question is potentially confusing as written. Is the Generator Lockout in the question related to the breaker 52-9 fault in the stem? If the same thing, then consider merely stating that a generator lockout occurred (applicant should know what this does). Why 35%/AOP-015? Output restricted for 52-7 open? Could the question be simplified as Which one of the following describes the operation of the 6.9 kV electrical distribution system following a generator lockout? Discuss w/ facility. Automatic fast bus transfer to the SUT will occur 6.9 kV busses can be manually transferred by the operator FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09 Facility subsequently discovered no correct answer upon validation and revised the question. The revised question is SAT. FJE 3/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
48	F	2	X											B	~~E~~ S	063K2.01 Enhancement for stem focus ('teaching in the stem') All options within each part contain two redundant elements: 1) voltage, 2) source. The applicant should know the voltage value of each source and the question is not testing this knowledge. The source would seem to be the more operationally valid aspect of the question. Revise the question to ask for the power source, e.g.: SSPS DC Vital Bus FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
49	F	2												B	S	063K3.01 Question is Satisfactory – no comments. Examiner Note: 2007 NRC RO exam. FJE 1/2/09
50	H	2										X		M	~~U~~ S	064A3.13 The question is Unsatisfactory because it does not meet the K/A. Other aspects of the question were not evaluated. This K/A implies the ability to predict/monitor EDG rpm/MW when output breaker is opened/closed. The question tests applicant knowledge of EDG response to an ESFAS signal. The first half of the question concerns the response of the output breaker. The second half of the question concerns the mode of operation. Neither element tests knowledge of rpm/MW response. FJE 1/2/09 Facility discussed K/A w/ examiner and NRC peer checker and made minor editorial changes. Question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
51	~~F~~ H	2												N	S	064K6.08 Question is Satisfactory as is. Noted the comment regarding choice of adding FODT gallons vs. use of graph. If no level indicators read in gallons and graph is available in MCR, then use of graph would have provided more operational validity and use of graph would not have been direct look up since applicant would have to correctly use the graph vs. look up something 'directly' in a table. Distractor analysis for D mentions that B EDG FODT is below the alarm setpoint. Consider providing the A and B FODT alarm status in the stem – if applicants recognize less than alarm setpoint, they're likely to ask anyway. Distractor analysis C and D mention a Tech Spec FODT min limit of 40%. Is this a TS limit, or an approximate minimum for 0.83 SG from the graph? FJE 11/19/08 Facility made minor editorial changes. Original question was "L" but question requires use of graph and recall/comparison. FJE 1/2/09 Facility changed LOK to H. Question remains Sat. FJE 2/1/09
52	H	3			~~?~~									N	~~E~~ S	073A2.01 Enhancement for potential T/F. Discuss w/ facility. What components reposition when the Control Room Isolation Signal occurs? What is the additional action that must be taken to isolate the OAI per the TS requirement? FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
53	F	2										~~?~~		B	~~E~~ S	076A3.02 Enhancement to resolve K/A match w/ facility. K/A is ability to monitor automatic operation of emergency SWS heat loads. What auto operation of ESW system/heat loads is being tested? How does including the SI in the stem affect the answer choices? The question would appear to be 'WWOTF lists ESW heat loads' which is knowledge of loads (076K1.19) vs. ability. Discuss w/ facility. FJE 1/2/09 Facility explained the system, tie to the K/A and made minor editorial changes. The question is Satisfactory. FJE 2/1/09
54	H	3	~~X~~											N	~~E~~ S	078G2.2.44 Enhancement for stem focus to prevent multiple correct answers. Without the word "minimum" in the question, B is a subset of A (and D is a subset of C) so A could not logically be correct unless B is also correct (two correct answers). See App B, pg. 14 m(4) FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
55	F	2		~~X~~										B	~~E~~ S	103K1.02 Enhancement for specific determiner. Answer consists of a system only. Distractors are all specific components or locations within systems. Ensure all answer options are similar with respect to systems/components or locations. How are sample valves labeled on MCB? FJE 1/2/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
56	F	2												N	S	001K2.05 Question is Satisfactory – no comments. FJE 1/2/09
57	H	3				~~?~~								~~B~~ N	~~E~~ S	011A1.01 Possible enhancement for distractor plausibility. Please clarify the explanation associated with distractor B. Please state program level for 40% power in answer analysis for D. FJE 1/5/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
58	F	3												N	S	014A4.01 Question is Satisfactory – no comments. FJE 1/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
59	H	~~3~~ 2	~~X~~			~~X~~								M	~~E~~ S	015K5.15 Enhancement for stem focus and distractor plausibility. Why is the second half of B and D plausible? The stem does not provide information regarding current power level. If a small decrease due to the rod misalignment, the magnitude of the dilution is small. If less than 75% for recovery, then a larger dilution is required. Additionally, distractors B and D differ in favorableness in that they use the word "will" whereas the answer and distractor C use the word "may." Question stem refers to rod as "dropped" but reference provided is for "misaligned rod." Is the rod considered "dropped" or "misaligned"? The question is vague due to the use of the phrase "operational implications." Implications could include limits on rod speed and the need to reduce power, in addition to potential consequences. Consider wording this portion of the question more directly, e.g. 'the reason for imposing a time limit on rod recovery?' … to minimize local power peaking to prevent clad damage … to minimize dilutions required to compensate for Xe buildup in order to maintain adequate SDM. The technical reference provided (3/4.2 bases) does not directly address the time limit for rod recovery. Please include the portion of 3.1.3.1 bases that directly addresses a time limit to recover a misaligned or dropped rod. FJE 1/5/09 **Facility stated that they will revise the question 1/30/09** Facility revised the question. The revised question is SAT. FJE 3/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
60	H	2	~~X~~											B	~~E~~ S	017K3.01 Enhancement to clarify the question/responses. The question asks for the effect (of the failure) and there is no effect. Consider clarifying the question as: …and the effect of these failures on RCS subcooling as indicated on the ICCM? Value – Indicated subcooling will read less than/greater than actual Value – No effect – indicated subcooling will read actual subcooling Additionally, the first and second lines of the stem do not appear to be necessary to answer the question. Since subcooling is a natural circulation indication, the K/A is met without placing the question in the context of a natural circulation cooldown. FJE 1/5/09 Facility made changes that address the above comments. The revised question is Satisfactory. FJE 2/1/09
61	~~H~~ F	~~3~~	~~X~~	~~X~~										~~B~~ N	~~E~~ S	035G2.2.42 Enhancement for stem/answer option focus. Stem asks for requirements. Answer options A and B consist of no requirements and future plant conditions (~ reason no action is required). Remove future conditions ("provided…") from answer options. Since A and B contain incorrect SG levels, testing and/or in these two options is irrelevant. Applicant can identify incorrect SG value and eliminate these distractors without knowing and/or. Note: K/A requires recognition of T.S. entry, not necessarily associated actions. FJE 1/5/09 **Facility stated that they will revise the question 1/30/09** Facility revised question to address above comments. Revised question is SAT. FJE 3/4/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
62	H	3					X							N	~~E~~ S	045A3.05 Enhancement to prevent two potentially correct answers. How do I know that D is incorrect if I don't know reservoir level? Please clarify that the question is testing automatic operatin of the DEH pump by stating in the stem that no operator action has occurred or adding "auto" or similar wording to the distractors. FJE 1/5/09 Facility explained system/procedure and made changes that address the above comments. The question is Satisfactory. FJE 2/1/09
63	F	2				X								N	~~U~~ S	071K4.04 Unsatisfactory due to two implausible distractors. The second half of A and C do not appear plausible. Why would I not use the setpoint listed in the release package? Consider testing a different knowledge item for the second half of the question in order to have four plausible answer options. FJE 1/5/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
64	F	3												M	S	079K1.01 Question is Satisfactory – no comments. FJE 1/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
65	F	2												N	~~E~~ S	086K6.04 Enhancement for terminology (editorial). Please verify that terminology in the question is the same as in plant reference material. FP-002 refers to the "Diesel Generator Building" and the "Security Building" vs. an "EDG Building" Concern is to prevent confusion/two correct answers. Question is otherwise satisfactory. FJE 1/5/09 Facility verified terminology and revised question. Question is SAT. FJE 3/4/09
66	F	2												N	S	G2.1.30 Question is Satisfactory – no comments. FJE 1/5/09
67	F	2				X								N	~~E~~ S	G2.1.44 Enhancement for distractor plausibility. The first half of C and D are marginally plausible. Why would applicant believe that operation of the gate valve is warranted? The stem provides no information regarding location of fuel assemblies. If a fuel assembly were in the cavity, this action would be incorrect per GP-009 P&Ls. Use of "should" in stem implies that actions are optional. Use "must" or revise question as appropriate. FJE 1/5/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
68	F	3	~~X~~											N	~~E~~ S	G2.2.20 Possible enhancement for stem focus. Is the troubleshooting being conducted with a clearance order and work order already in place? Item 4 states to add to the work order, but the conditions do not say that the troubleshooting is being performed under a work order. Is a work order always required to perform troubleshooting? Additionally, item 4 contains an action (add to) as well as a form (work order). What is implied in 1-3, initiate, add to, fill out… Might be clearer to ask which are acceptable methods to document the lifted leads and make all options read like #4. FJE 1/5/09 Facility explained plant TS&R procedure. No changes. Question is Satisfactory. FJE 2/1/09
69	F	~~1~~ 2				~~?~~								B	~~U~~ S	G2.2.25 The question is unsatisfactory due to low discriminatory validity. Why is the second half of B and D plausible? Is there a trip that ensures the pzr safety valves will not lift? Recall of trip setpoint values for a trained operator is not discriminating. See App. B, C.1. Note that the K/A requires knowledge of bases for LCOs/safety limits, but not setpoint values. Second half of all answer options consists of two parts – whether trip provides primary or backup protection and what it is preventing. Whether it's primary or backup is less operationally relevant than what the trip is preventing and is not necessary to answer the question. Distractor analysis states that 78% is the value for a high S/G water level reactor trip. Does the plant have a high S/G water level reactor trip or a turbine trip that causes a reactor trip above some power level? FJE 1/5/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
70	F	2		X										N	~~E~~ S	G2.3.11 Enhancement to remove specific determiner. Options C and D appear incomplete and appear to be equivalent options, ruling out both options for an examinee that recognizes the equivalence. Option C states to place the PORV in manual and adjust demand to 0%, but does not address when, if ever, to open the PORV. Option C states to place the PORV in manual, presumably at 0% demand, and only open the PORV (demand greater than 0%) if pressure exceeds 1145 psig. The only hard copy reference provided was the EOP-GUIDE-2 Foldout page. What is on the foldout page that is relevant? What is the basis for the Higher LOK? This appears to be recall of a procedure step with no diagnosis or complications. FJE 1/5/09 Facility changed LOK to F and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
71	F	2												B	S	G2.3.5 Examiner Note: 2007 NRC RO exam. Question is Satisfactory – no comments. FJE 1/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
72	F	3	X											N	~~E~~ S	G2.3.7 Enhancement for stem focus. Stem does not appear to include all information necessary to arrive at the correct answer regarding approvals. Since no dose rate information is provided, it appears that the applicant can only eliminate the incorrect option rather than deduce the correct one, since depending on dose rates, either the RPM or RC Supervisor can authorize entry. Additionally, since the question does not ask for the lowest level of approval required, could C also be considered correct? FJE 1/5/09 **Facility stated that they will rewrite/revise 1/30/09** Facility revised question to address above concerns. Question is SAT. FJE 3/5/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
73	H	3	X			?	X			?				N	E S	G2.4.17 Enhancement for stem focus/single correct answer. Discuss w/ facility. Question regarding distractors A and D: Where has crew taken action that would demonstrate that pressure can or can't be controlled at this point? Is the stem of the question putting them after SI reduction or termination? Is the control or lack of control meant to be inferred from the Temp/Press trend? What is the total increase in subcooling from 1400 to 1406? Is this within the subcooling instrument inaccuracy? Why is C clearly incorrect? The pressure trend is literally lowering. Do you have any conduct of operations guidance that discusses how to evaluate trends? Are there clearly correct and incorrect decisions (operational implication) that could be made based on this trend? Do you have simulator grading criteria that would apply to this question? FJE 1/6/09 Facility discussed procedure and changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
74	H	3												N	S	G2/4/32 Since the answer and distractors only concern ALB-001 and ALB-002, what is the purpose of including ALB-003 and -004 in the stem? Question is satisfactory as is. FJE 1/6/09
75	H	3												N	S	G2.4.9 Question is Satisfactory – no comments. FJE 1/6/09
SRO QUESTIONS																

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
1	F	3				X								N	~~U~~ S	025AG2.2.36 The question is Unsatisfactory for 2 implausible distractors. Distractor analysis for A and B states that restoring power to the 'B' RHR pump is plausible if the applicant believes that two RHR pumps are required to be operable. However, merely restoring power to the 'B' RHR pump would be insufficient to make any pump operating due to the loss of offsite power. As stated in C and D, the 'A' RHR pump must be started (to obtain flow). Merely restoring power to a pump is a much less favorable distractor than starting a pump to achieve cooling flow. The first half of A and B is not plausible. The first portion of options C and D contain information that is not necessary to answer the question – "after Load Block 9 on the Sequencer" - and may provide cues. Since the question is not testing when the pump can be started, omit the information regarding the sequencer from these answer options. FJE 1/7/09 Facility revised the question to address the above comments. Revised question is SAT. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
2	F	3		X										M	~~E~~ S	029EA2.09 Enhancement for consistent style (specific determiner/cue) in all distractors. The second half of the question asks for the basis for a procedure step, which is typically either to prevent or ensure something. The second half of A and C discuss preventing, but B and D state that a parameter is insufficient. Make all options consistent in style. Rewrite the second half of B and D to either prevent or ensure, e.g. "to ensure sufficient boration flow. The second half of B and D (boration flow is insufficient) is more specific than the second half of A and C (prevent a challenge to.) Clarify the challenge, e.g. "prevent lifting the pressurizer safety valves. Editorial: Use the same tense consistently throughout the stem. …Feedwater pumps have tripped …FRP-S.1 has been entered …BOP has tripped the … Can simplify the last bullet as "The RO reports that Pressurizer Pressure is 2385 psig and rising." Examiner Note: Question is SRO only because it requires detailed knowledge of the WOG basis for an RNO step in a procedure (not an immediate action step). FJE 1/7/09 Facility made changes to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
3	H	2	~~?~~				~~X~~							N	~~E~~ S	055EA2.03 Enhancement to verify single correct answer based on technical references. At what step does the technical reference clearly state that the EDG without the emergency trip present must be started? If the technical reference is ambiguous in this regard, then the question contains two correct answers and is unsatisfactory. Based on the logic in the answer analysis, a reference is not necessary to answer the first portion of the question. The MCB annunciators for both EDGs are identical and provide no information regarding answer selection. The applicant must compare the local annunciators for the EDG and recognize that one of the B EDG local annunciators is an emergency trip. This is systems knowledge. Use of the word "should" in the question and the SRO justification that answering the question requires "judgment" imply that there is a preferred answer vs. a correct answer. Why is EPP-004 clearly incorrect? Ensure there is enough information in the stem such that there is only one correct answer. 4th bullet in the stem is a report from "Method." Who or what is this and why is it relevant to answer/distractors? FJE 1/7/09 Facility made changes/explained the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
4	F	2				X								N	~~E~~ S	057AG2.2.40 Enhancement to discuss plausibility of second half of B and D. Plausibility is based on a postulated misconception. Do any tech spec actions require series actions vs. parallel actions from time of non-compliance? If not, the misconception, and associated distractors, are not plausible. More plausible options might include 2 hour (3/4.8.3 Action B – met) and 6 hour times from failure (many other TS and 4x shorter than answer). Discuss w/ facility. FJE 1/7/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
5	H	3	X											M	~~E~~ S	058AG2.4.20 Enhancement for stem focus/consistent style of options. The question asks for the "limiting" Tech Spec action, which could be ambiguous. Additionally, the second half of A and C differ in style from B and D. A and C contain a directive action (place the plant), but B and D are a non-action. Revise the question to ask "..and the action required by Technical Specifications as a result of the plant conditions." Change B and D to match A and C, e.g. maintain current plant Mode. Examiner Note: Modified from 2007 NRC SRO Q79, K/A 058G2.1.14 FJE 1/7/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
6	~~H~~ F	3					~~?~~							N	~~E~~ S	077AA2.10 Enhancement: Concern for multiple/partial correct answers if other documents (e.g. operating procedures) also contain similar Cautions. Initial conditions meet AOP-28 entry conditions. Consider stating in the stem that the crew has entered AOP-28 and then, in the stem, ask for the basis for the trip IAW AOP-28. This will bound answers to AOP-28 basis. FJE 11/19/08 Facility revised question. Revised question is Satisfactory. FJE 1/6/09
7	~~F~~ H	~~1~~ 3				~~X~~							~~?~~	N	~~U~~ S	051AA2.02 Unsatisfactory for three implausible distractors. The stem of the question states that there is a loss of vacuum and a failure of an expansion joint in the Circ Water system. Only the answer and none of the distractors addresses the flooding/loss of Circ Water. Merely attempting to restore vacuum, as in A, B, and D is not plausible given a large CW system failure. Additionally, tripping the turbine above P-10 (distractor D) is not plausible for a trained operator. Since the answer can be determined merely by knowing one element of the overall strategy of AOP-12 (address a CW leak), the question may not be at the SRO-only level. FJE 1/7/09 **Replaced K/A 051AA2.02 with 067AA2.13**. Facility wrote a new question and the new question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
8	H	2				X								N	~~E~~ S	061AG2.4.41 Enhancement for single distractor plausibility. How does the applicant potentially arrive at distractor A, EAL 2-1-1, using only side 1 of the EAL flow path as stated in the References to be provided section? FJE 1/7/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
9	F	2					X							B	~~E~~ S	WE08EG2.4.47 Enhancement to ensure correct answer based on reference material. Procedure states cooldown limit in terms of degrees in a 60 minute period vs. F/hr. A rate greater than 50 F/hr would not appear to be limiting as long as the temperature change in the one hour period did not exceed 50 F. Verify answer is technically correct. Concern is no correct answers based on technical reference. What is basis for Higher COG level? Question seems to be recall of 100F/60 min = soak and associated procedure cooldown limit. FJE 1/7/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
10	H	4	~~X~~											N	~~E~~ S	WE13EA2.1 Enhancement for stem focus. The stem uses the word "should" which implies that the answer is not a requirement and that there may be more than one correct answer. Use the word "must" and tie the question to a procedural requirement to remove ambiguity and ensure a single correct answer. FJE 1/7/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09
11	~~F~~ H	2											~~X~~	N	~~U~~ S	006A2.13 The question is unsatisfactory because it is not written at the SRO level. The question can be answered using systems knowledge. Options A and B can be eliminated knowing the system flowpath (RO knowledge) because these options would result in deadheading the operating CSIP, potentially causing damage to the pump. Option D can be eliminated by knowing the minimum flow requirement for a CSIP – 60 gpm – as stated in the CVCS student text and OP-107. This is RO knowledge. What is the strategy/procedure for an inadvertent SI when the SI can't be reset from the MCR? FJE 1/8/09 The facility wrote a new question. The new question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
12	H	3	X				X							N	~~E~~ S	012A2.01 Enhancement for stem focus and subset answer. What is the failure that would cause the plant conditions in the second part of the stem? Concern is operational validity. Any chance that this set of circumstances could be interpreted as an ATWS? Does your conduct of operations manual address this situation and preclude tripping? Concern is having a correct answer. The stem uses the word "should" which implies that the answer is not a requirement and that there may be more than one correct answer. Use the word "must" and tie the question to Tech Spec requirements to remove ambiguity and ensure a single correct answer. Option B is a subset of answer D. B is partially correct in that to get to Mode 3 in 13 hours you at least need to reduce power to less than 75% in a shorter time period. Revise B and/or D to eliminate answer subsets. Option A would be more clearly incorrect if "while" was replaced by "until" The AFD Target value in the first part of the stem does not appear to be necessary to answer the question or lend plausibility to the distractors. Delete this information from the stem. FJE 1/9/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
13	F	2												N	S	039A2.02 What is the basis of Higher COG level? Diagnosis of single safety failure is provided in the stem (making the plant conditions largely irrelevant to answering the question). Question is then recall of AOP entry and recall of PR trip value for single safety valve failure. Examiner Note: The first half of the question is RO LOK –AOP entry conditions. The second half is SRO knowledge – recall of below the line greater than 1 hour actions. If the single safety valve failure (vs. e.g. a PORV failure) can be unambiguously diagnosed from the given plant conditions, then consider writing the question such that the applicant must diagnose the failure (Higher COG). The question is otherwise Satisfactory. FJE 1/8/09 Facility changed LOK to F. Question remains Satisfactory. FJE 2/1/09
14	H	3				X								B	~~E~~ S	076G2.4.30 Enhancement for distractor plausibility. Can the ESW isolation valves to the B-SB Containment Fan Cooler be closed (Distractor D) with 1B2-SB tripped (condition in the stem)? If not, distractor D is not plausible. If valve is required to be shut locally, clarify in the distractor. FJE 1/8/09 Facility explained system, which addresses the comment above. No changes. Question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
15	H	3												N	S	103G2.4.4 Question is Satisfactory. Grammar: Consider "Which ONE of the following correctly describes the required procedure transition and when transition back to Path-1 is allowed?" Question requires analysis of plant conditions and application of status tree/procedure rules and is Higher COG level vs. "L". FJE 11/19/08 Facility made editorial revisions per above and changed COG to H. Question remains Sat. FJE 1/6/09
16	H	3	X			X								N	~~E~~ S	002A2.01 Enhancement for single implausible distractor and stem focus to ensure a single correct answer. The question asks for the correct procedure to implement. Choices A, B, and D are specific procedures. Choice C is a general answer, vs. a specific procedure and is not plausible because it does not answer the question directly. What procedure will be used after Path-1 and before EPP-009? Why is A clearly wrong? The stem appears to put the crew at the point of attempting to close 1RC-118 (step 31.b or 31.b RNO). The crew would have to remain in FRP-H.1 through step 31.d RNO to get to the correct answer. In other words, the crew remains in H.1 for a short period of time before going to Path 1. FJE 1/8/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
17	H	2												B	S	034G2.1.23 Question is Satisfactory. Please correct distractor analysis for "D": 152-8 = 144. Did you mean 168-8? Please specify revision of procedure to be provided in notes section. FJE 11/19/08 Facility made above changes, which do not affect the question stem or answer options. Question remains Sat. FJE 1/6/09
18	F	~~2~~ 3				X								N	~~U~~ S	068A2.04 The question is Unsatisfactory for two implausible distractors. Since 1ED-164 would not shut from the MCR (and is in the open position), the first half of A and B do not appear plausible. As stated in the distractor analysis, this action would only be correct if 1ED-164 were shut, which it is not. Consider replacing with "Shut 1ED-161. Fuses for 1ED-161 do <u>not</u> need to be removed." Notes section (but not the question) states that a reference is to be provided. What was intended? If to be provided, what revision and page(s)? A reference does not appear to be necessary. "within the next 4 hours' in the question appears to be redundant, since the answer options are limited to two actions, both with 4 hour requirements. What is the technical reference for the second half of the question (limiting operational concern)? Will re-evaluate question after receipt of associated reference. FJE 11/19/08 Facility revised question. **What is basis for Higher COG level?** Revised question is otherwise Satisfactory. FJE 1/7/09 Facility changed LOK to F. Question remains Sat. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
19	F	2												B	S	G2.1.41 Question is satisfactory – no comments. Examiner Notes: 2008 NRC 034G2.1.34. SRO due to knowledge of administrative requirements associated with the refueling process. FJE 1/8/09
20	F	2	X			X								M	~~E~~ S	G2.2.13 Enhancement to prevent multiple implausible distractors and partially correct answers. The second half of A and C, "restore power" is a subset of the second half of B and D, "restore power AND…" Add the word ONLY to A and C. The question does not specify the minimum permission level required. Although PLP-702 specifically identifies the USCO, would it be acceptable for the SSO to provide permission if cognizant of the maintenance and plant conditions and the USCO were busy? What is actual shift practice? Concern is to prevent a second possible correct answer. Examiner Note: SRO-only due to operability determinations being the exclusive function of the SRO position. FJE 1/8/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
21	~~H~~ F	3	~~X~~			~~X~~								~~M~~ N	~~U~~ S	G2.2.40 Unsatisfactory for two implausible distractors. The second half of distractors C and D is not plausible. With the 'A' DC bus energized by the battery charger and the 'B' DC bus unaffected, it is implausible to believe that sufficient instrumentation is or will be no longer available in the absence of some other complicating event. Enhancement for stem focus. The question includes two topics: 1) time, and 2) condition (shut down) and asks for "the reason why". The reason why could be interpreted to mean the reason for the time requirement or the reason to shut down. Please be specific. Tie the question to the technical reference, Tech Specs, to ensure a single correct answer. Editorial: Please ensure consistent tense in stem of question. …has reported or reported …has been declared or was declared Examiner Note: Modified from Harris bank question based on 2008 Robinson NRC exam. FJE 1/8/09 Facility wrote a new question. The new question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
22	H	2	X											N	~~E~~ S	G2.3.12 Enhancement to ensure single correct answer. The stem uses the word "should" which implies that the answer is not a requirement and that there may be more than one correct answer. Additionally, using an operator older than 45 years old with no acute dose is a recommendation (should) vs. a requirement (shall) in the technical reference. Tie the question to the technical reference (add IAW PEP-330 to the question) to remove ambiguity and ensure a single correct answer. Is the acute dose mentioned in distractors A and B a single acute dose or a total of multiple acute doses? It's not clear to me from the reference that a number of smaller acute doses would preclude another dose greater than 25 Rem. Editorial: Remove "only" from the 4th bullet. Consider moving the first part of the question to the stem for readability, i.e. Four operators have volunteered for the task and all are fully aware of the risks involved. The stem refers to operators, the options to workers. Change to be consistent throughout the question. FJE 1/8/09 Facility changed the question to address the above comments. The revised question is Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
23	H	2	X	X		X						?		N	U S	G2.3.14 The question is Unsatisfactory for multiple psychometric flaws. The question asks for action(s) per AOP-031. The answer options are a mix of action(s) (choices A and B) and an action and a reason (choices C and D). The answer does not follow from the question. Additionally, the reason in C (not required per question) provides a cue to eliminate A and B. The first portion of distractor B is not plausible for fuel movements within containment (manipulator crane) since the fuel would need to be placed in the upender, sent through the transfer tube, and then stored in the SFP. Note that if the applicant is not required to know the dose rate that constitutes a hazard, in order to select or eliminate an answer option, then the question may not meet the K/A. Editorial: Please ensure consistent use of tense in the second part of the stem. FJE 1/8/09 Facility rewrote the question. The revised question is satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
24	H	~~2?~~ 2	~~X~~											N	~~E~~ S	G2.4.30 Enhancement for single implausible distractor, stem focus, and level of difficulty. The second half of C is not plausible. The one-hour follow-up notification is based on the time of the last notification, which, for the NRC, would be 0901 + 1hr. Question does not match answer options. Answer options ask for who and when. The question asks for the next notification, which is a change in classification level (or an update, as implied by distractor analysis). The event being reported (required by K/A) seems to be implied by the times in the answers and distractors. Question is minimally discriminating at the SRO level. The question can be correctly answered by knowing that 1) State and County officials must be notified within 15 minutes of a change in classification level and 2) State and Local agencies are always notified before the NRC. If an event notification is a JPM, then this question will overlap with the operating test and this question will likely require a change. FJE 11/19/08 Facility revised question. What is the basis for the lower COG level? Applicant must perform calculations and comparisons. Would it be more logical (easier for applicants to sort through answer options) to first list the times, in ascending order, and then the organizations? Revised question is Satisfactory. FJE 1/7/09 Facility changed LOK and changed order of answer options. Question remains Satisfactory. FJE 2/1/09

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
25	~~F~~ H	~~3~~ 2	~~X~~				~~X~~						~~X~~	N	~~U~~ S	G2.4.46 The question is Unsatisfactory because it is not written at the SRO level. The second halves of all distractors, although part of the Tech Spec bases, are directly related to systems purpose/function and are RO knowledge. For example, distractors B and D can be eliminated using RO knowledge of system purpose/function – reflooding the core. The question asks for the expected alarm during the given plant conditions. ALB-006-1-3 will annunciate and then clear during this process per the distractor analysis and is therefore an expected alarm and a potentially correct answer. Revise the question to ensure only one potentially correct answer, e.g. ask which alarm will remain locked in after the clearance is completely hung. The justification for why this question is SRO-only states that a procedure is being prescribed. This is incorrect. FJE 1/7/09 The facility wrote a new question. The new question is Satisfactory. FJE 2/1/09

Facility: HARRIS Date of Exam: 03/20/09 Exam Level: RO X SRO X

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

	Printed Name/Signature	Date
a. Grader	MARK J. RICHES / Mark J. Riches	04/15/09
b. Facility Reviewer(*)	N/A	
c. NRC Chief Examiner (*)	Kontz	04/16/09
d. NRC Supervisor (*)	MICHAEL T. WIDMANN	04/16/09

(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.