Administrative Documents

(Yellow Paper)

1.	Exam Preparation Checklist	ES-201-1	
2.	Exam Outline Quality Checklist DRAFT + FINAL	ES-201-2	
3.	Exam Security Agreement(s)	ES-201-3	
4.	Administrative Topics Outline (Final) D & F	ES-301-1	
5.	Control Room Systems & Facility Walk-through Test Outline (Final)	ES-301-2	
6.	Operating Test Quality Check Sheet F	ES-301-3	
7.	Simulator Scenario Quality Check Sheet F	ES-301-4	
8.	Transient and Event Checklist F	ES-301-5	
9.	Competencies Checklist F	ES-301-6	
10.	Written Exam Quality Check Sheet F	ES-401-6	
11.	Written Exam Review Worksheet	ES-401-9	
12.	Written Exam Grading Quality Checklist	ES-403-1	
13.	Post-Exam Check Sheet	ES-501-1	
14.	Facility Submittal Letter – 4 5-18-2007 6-15-2007 8-2-2007 8-21-2007		[ ]

HARRIS AUG EXAM 05000400/2007301

Facility: Harris Date of Examination: 8/6/07

Examinations Developed by: Facility: Written / Operating Test

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	/FJE
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	/FJE
-120	3. Facility contact briefed on security and other requirements (C.2.c)	/FJE
-120	4. Corporate notification letter sent (C.2.d)	/FJE
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	
{-45}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6), and reference materials due (C.1.e, f, g and h; C.3.d)	
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204)	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	

* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.
[Applies only] {Does not apply} to examinations prepared by the NRC.

DRAFT - OUTLINE
5/23

ES-201 **Examination Outline Quality Checklist** **Form ES-201-2**

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.	JD	DGL	F/R
	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.	JD	DGL	F/R
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JD	DGL	F/R
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JD	DGL	F/R
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.	JD	DGL	F/R
	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.	JD	DGL	F/R
	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.	JD	DGL	F/R
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.	JD	DGL	F/R
	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	JD	DGL	F/R
	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.	JD	DGL	F/R
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	JD	DGL	F/R
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JD	DGL	F/R
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JD	DGL	F/R
	d. Check for duplication and overlap among exam sections.	JD	DGL	F/R
	e. Check the entire exam for balance of coverage.	JD	DGL	F/R
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JD	DGL	F/R

	Printed Name/Signature	Date
a. Author	JOHN DALTON	21 MAY 07
b. Facility Reviewer (*)	Greg Kilpatrick / GK	21 May 07
c. NRC Chief Examiner (#)	Robert J. Schaaf	6/5/07
d. NRC Supervisor	Robert HAAG / Robert Haag	6/5/07

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

FINAL

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.		DGK	*
	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.		DGK	*
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.		DGK	*
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.		DGK	*
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.		DGK	
	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.		DGK	
	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.		DGK	
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.		DGK	
	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		DGK	
	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.		DGK	
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.		DGK	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.		DGK	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.		DGK	
	d. Check for duplication and overlap among exam sections.		DGK	
	e. Check the entire exam for balance of coverage.		DGK	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).		DGK	

	Printed Name/Signature	Date
a. Author	JOHN DALTON	8/7/07
b. Facility Reviewer (*)	Greg Kilpatrick	08/9/07
c. NRC Chief Examiner (#)		8/9/07
d. NRC Supervisor	Robert HAAG	8/9/07

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

* Approval of operating Test only 8/9/07

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.	JD	TM	
	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.	JD	TM	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JD	TM	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JD	TM	
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.			
	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.	N/A		
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W/T	a. Verify that 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.	N/A		
	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			
	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.			
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	JD	TM	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JD	TM	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JD	TM	
	d. Check for duplication and overlap among exam sections.	JD	TM	
	e. Check the entire exam for balance of coverage.	JD	TM	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JD	TM	

	Printed Name/Signature	Date
a. Author	JOHN DALTON /	8/21/07
b. Facility Reviewer (*)	Terry Toler /	8/21/07
c. NRC Chief Examiner (#)		
d. NRC Supervisor		

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

ES-201 **Examination Outline Quality Checklist** **Form ES-201-2**

FINAL

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.	JD	TM	F/E
	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.	JD	TM	F/E
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JD	TM	F/E
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JD	TM	F/E
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.			
	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.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W/T	a. Verify that 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.			
	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			
	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.			
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	JD	TM	F/E
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JD	TM	F/E
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JD	TM	F/E
	d. Check for duplication and overlap among exam sections.	JD	TM	F/E
	e. Check the entire exam for balance of coverage.	JD	TM	F/E
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JD	TM	F/E

	Printed Name/Signature	Date
a. Author	JOHN DALTON /	8/21/07
b. Facility Reviewer (*)	Terry Toler /	8/21/07
c. NRC Chief Examiner (#)	F.J. Ehrhardt /	8/21/07
d. NRC Supervisor	Robert HAAG /	8/4/07

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

* Written exam only F/E 8/21/07

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 4/2/2007 to 8/29/07.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1.	John Dalton	Instructor / Exam Lead	[signature]	4/2/07	[signature]	29AUG07	
2.	Greg Kilpatrick	Supt - Ops Trn	[signature]	02Apr07	[signature]	29Aug07	
3.	Ron L. Bright	Simulator Support	[signature]	4/16/07	[signature]	13Sept07	
4.	Duane DMcWade	Simulator Support	[signature]	4/16/07	[signature]	9/17/07	
5.	W.A. Sylvester	Instructor/Mentor	[signature]	4-26-07	[signature]	9-12-07	
6.	Ray Moore	CRS 'C' Shift Ops	[signature]	4-23-07	[signature]	9-12-07	
7.	Frank Jackson	control operator	[signature]	4-23-07	[signature]	9-13-07	
8.	Duane McLaughlin	Control Operator	[signature]	4-23-07	[signature]	9-17-07	
9.	Teresa M. Jette	Adm Mgmt Asst I	[signature]	4-23-07	[signature]	9/12/07	
10.	Michael D. Ritch	Sr IT Analyst/IT work	[signature]	5-21-07	[signature]	10/2/07	
11.	Louis V Parente	RO	[signature]	6-4-07	[signature]	9/17/07	
12.	James E O'Keefe	CRS D-Shift	[signature]	6-4-07	[signature]	8-29-07	
13.	Don MacDougall	RO/SRO	[signature]	6/4/07	[signature]	9/13/07	
14.	Reuben Prichard	STA	[signature]	6-4-07	[signature]	9-13-07	

NOTES:

10-31-07

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 4/2/2007 to 8/29/2007.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1.	Michael H. Weber	Supt Ops Support		6/21/07		9-12-07	
2.	Lennox D. Barry	I&C Maint		7-12-07		10-3-07	
3.	Archie Lucky	Senior Ops Instructor		7-12-07		8-27-07	
4.	William Detwiler	EP Specialist/Support		7/19/07		9/13/07	
5.	Mark Christopherson	CRS		7/25/07		8-29-07	
6.	Sage Moreno	OPS INSTRUCTOR		8/2/07		9/4/07	
7.	William D. Gunter	SSO		8/2/07		9/13/07	
8.	Roy L. Downs	SNOTI-IR		8/8/07		8/29/07	
9.	Lonnie Hickerson	CO		8/9/07		8/29/07	
10.	Stephanie Banker	SR ENGINEER		8/9/07		8/29/07	
11.	Terry Toler	OIT-Supv		8/9/07		9/11/07	
12.	Donald McIree	Mgr- Shift Ops		8/10/07		9/13/07	
13.	Eric J. Szkolnyj	NLO		8/16/07		10/2/07	
14.							

NOTES:

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 4/2/07 to 8/29/07.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1.	Matt Folks	SRO		6/5/07		9/13/07	
2.	DENNIS THORNBURG	sim SUPPORT		6/17/07		9/17/07	
3.	M Seeley	RO		6/19/07		9/12/07	
4.	Bob Winkler	SRO		8-7-07		9-13-07	
5.	James D. Abraham	√-SO		8-15-07		9/17/07	
6.	~~Mike Seeley~~	RO		9/12/07	9/12/07		
7.						10-1-07	*
8.							
9.							
10.							
11.							
12.							
13.							
14.							

NOTES: * Post Exam Signature for James Abraham

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 4/2/07 to 8/29/07.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	PRE-EXAMINATION SIGNATURE (1)	DATE	POST-EXAMINATION SIGNATURE (2)	DATE	NOTE
1.	John Reinsborrow	BNP / Peer Review	[signature]	7-3-07	PER TELCOM	9/27/07	*
2.							
3.							
4.							
5.							
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12.							
13.							
14.							

NOTES: * CONTACTED AND Signed off VIA telephone.

FINAL

Facility: SHEARON-HARRIS	Date of Examination: 8/6/2007
Examination Level (circle one): **RO** / SRO	Operating Test Number: **NRC**

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations (A1-1)	M	Perform the Train "A" Emergency Service Water System Essential Flow Path Valve Alignment Verification (Control Room Valves only) in accordance with OST-1015, EMERGENCY SERVICE WATER SYSTEM OPERABILITY MONTHLY INTERVAL MODES 1-2-3-4. 2.1.31 Ability to locate control room switches, controls and indications and to determine that they are correctly reflecting the desired plant lineup. (4.2)
Conduct of Operations (A1-2)	N	Given a set of conditions, complete OP-107, CHEMICAL AND VOLUME CONTROL SYSTEM, ATTACHMENT 17 – Blender Manual Operation Calculation Sheet. 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. (3.9)
Equipment Control (A2)	P, M	Perform OST-1026, REACTOR COOLANT SYSTEM LEAKAGE EVALUATION, as directed by AOP-016, EXCESSIVE PRIMARY PLANT LEAKAGE. 2.2.12 Knowledge of surveillance procedures. (3.0)
Radiation Control (A3)	M	Given a set of conditions, a survey map, and an RWP, determine the applicable facility dose limit and calculate the stay time. 2.3.1 Knowledge of 10CFR20 and related facility radiation control requirements. (2.6)
Emergency Plan		**Category not selected for RO candidates**

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

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

SHEARON-HARRIS 2007 NRC RO ADMINISTRATIVE JPM SUMMARY

A1-1: Perform the Train "A" Emergency Service Water System Essential Flow Path Valve Alignment Verification (Control Room Valves only) in accordance with OST-1015, EMERGENCY SERVICE WATER SYSTEM OPERABILITY MONTHLY INTERVAL MODES 1-2-3-4. The applicant will be directed to verify the control room valve lineup for the Emergency Service Water System. Two (or more) valves/controls will not be aligned as specified in the attachment. A JPM (not in the facility bank) from a previous AUDIT Examination was modified by changing the system. RO only.

A1-2: Given a set of conditions, complete OP-107, CHEMICAL AND VOLUME CONTROL SYSTEM, ATTACHMENT 17 – BLENDER MANUAL OPERATION CALCULATION SHEET. The applicant will apply the attachment formulas to determine the flow controller setpoints for makeup water and boric acid when a blender manual operation is required to raise Refueling Water Storage Tank Level. New JPM. RO-SRO common.

A2: Perform OST-1026, REACTOR COOLANT SYSTEM LEAKAGE EVALUATION, as directed by AOP-016, EXCESSIVE PRIMARY PLANT LEAKAGE. The applicant will calculate RCS leak rate using the computer program in manual. This task is a randomly selected repeat from the 2006 NRC examination. The JPM conditions will be modified to change the leak rate and the classification of the leakage. The calculation is RO-SRO common.

A3: Given a set of conditions, a survey map, and an RWP, determine the applicable facility dose limit and calculate the stay time. The applicant will evaluate a survey map to determine dose rate for a specific task and apply the facility limit to determine stay time for the task. While there are no similar JPM's in the facility bank, this is a common approach at other facilities for addressing ES-301 requirements of "Radiation Control" and is therefore designated as an "M". RO-SRO common.

FINAL

Facility: SHEARON-HARRIS	Date of Examination: 8/6/2007
Examination Level (circle one): RO / **SRO**	Operating Test Number: **NRC**

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations (A1-1)	M	Given a set of conditions, complete GP-002, Attachment 5 – Minimum Equipment List (MEL) for Entry into Mode 4 2.1.12 Ability to apply technical specifications for a system. (4.0)
Conduct of Operations (A1-2)	N	Given a set of conditions, complete OP-107, CHEMICAL AND VOLUME CONTROL SYSTEM, ATTACHMENT 17 – Blender Manual Operation Calculation Sheet. 2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. (3.9/4.0)
Equipment Control (A2)	P, M	Perform OST-1026, REACTOR COOLANT SYSTEM LEAKAGE EVALUATION, as directed by AOP-016, EXCESSIVE PRIMARY PLANT LEAKAGE. 2.2.12 Knowledge of surveillance procedures. (3.4)
Radiation Control (A3)	M	Given a set of conditions, a survey map, and an RWP, determine the applicable facility dose limit and calculate the stay time. 2.3.1 Knowledge of 10CFR20 and related facility radiation control requirements. (2.6/3.0)
Emergency Plan (A4)	M	Given a set of conditions, determine the Emergency Action Level (EAL) and make a Protective Action Recommendation (PAR) in accordance with the facility Emergency Plan. 2.4.44 Knowledge of emergency plan protective action requirements. (4.0)

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

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

SHEARON-HARRIS 2007 NRC SRO ADMINISTRATIVE JPM SUMMARY

A1-1: Given a set of conditions, complete GP-002, Attachment 5 – Minimum Equipment List (MEL) for Entry into Mode 4. The applicant will be provided with an equipment status list and be directed to finish a partially completed GP-002, Attachment 5; an assessment of technical specification compliance for entering Mode 4. There will be two or more non-complying systems/components. Modify a previous AUDIT Examination JPM that is not in the facility bank by changing the Mode and equipment status. SRO only.

A1-2: Given a set of conditions, complete OP-107, CHEMICAL AND VOLUME CONTROL SYSTEM, ATTACHMENT 17 – BLENDER MANUAL OPERATION CALCULATION SHEET. The applicant will apply the attachment formulas to determine the flow controller setpoints for makeup water and boric acid when a blender manual operation is required to raise Refueling Water Storage Tank Level. New JPM. RO-SRO common.

A2: Perform OST-1026, REACTOR COOLANT SYSTEM LEAKAGE EVALUATION, as directed by AOP-016, EXCESSIVE PRIMARY PLANT LEAKAGE. The applicant will calculate RCS leak rate using the computer program in manual. This task is a randomly selected repeat from the 2006 NRC examination. The JPM conditions will be modified to change the leak rate and the classification of the leakage. The calculation is RO-SRO common. SRO applicants will be required to enter the proper technical specification.

A3: Given a set of conditions, a survey map, and an RWP, determine the applicable facility dose limit and calculate the stay time. The applicant will evaluate a survey map to determine dose rate for a specific task and apply the facility limit to determine stay time for the task. While there are no similar JPM's in the facility bank, this is a common approach at other facilities for addressing ES-301 requirements of "Radiation Control" and is therefore designated as an "M". RO-SRO common.

A4: Given a set of conditions, determine the Emergency Action Level (EAL), make a Protective Action Recommendation (PAR), and hand write an Emergency Notification Form in accordance with the facility Emergency Plan. This is a time critical JPM. There are Bank JPM's for determining an EAL and Bank JPM's for making a PAR but none that do both. No bank JPM's were used to develop this JPM. SRO only.

Facility:	SHEARON-HARRIS	Date of Examination:	8/6/2007
Exam Level (circle one):	RO / SRO(I) / **SRO (U)**	Operating Test No.:	**NRC**

Control Room Systems@ (8 for RO; 7 for SRO-I; 2 or 3 for SRO-U)			
	System / JPM Title	Type Code*	Safety Function
a.	**Pull control rods to reactor criticality/MSSV fails OPEN after reactor is critical** **001 A1.07 (3.7/4.0)**	**D, L**	**1**
b.	Transfer to Hot Leg Recirculation EPE 011 EA1.11 (4.2/4.2)	D, A, E	3
c.	**Isolate ECCS Accumulators** **006 A4.02 (4.0/3.8)**	**P, D, A, E**	**2**
d.	**Initiate RCS Feed and Bleed** **E05 EA1.1 (4.1/4.0)**	**M, A, E**	**4P**
e.	Control RCS temperature following a reactor trip 041 A2.02 (3.6/3.9)	N, A, E	4S
f.	Reduce Containment Spray flow 026 A4.01 (4.5/4.3)	N, E	5
g.	Restore Offsite power to an Emergency Bus 062 A4.01 (3.3/3.1) ***RO ONLY***	D, E	6
h.	Respond to a loss of all CCW APE026 AA1.02 (3.2/3.3)	D, A, E	8
In-Plant Systems@ (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)			
i.	Inhibit both trains of SSPS 012 G2.1.30 (3.9/3.4)	P, D, E	7
j.	**Locally close the MSIV's** **039 G2.1.30 (3.9/3.4)**	**D, R, E**	**4S**

k.	**Respond to a radiation alarm with a WG release in progress** **071 G2.1.30 (3.9/3.4)**	**D, R**	**9**

@ All control room (and in-plant) systems must be different and 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
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

HARRIS 2007 NRC JPM OUTLINE SUMMARY

a. Pull to criticality in accordance with GP-004/MSSV fails OPEN after reactor is critical. The applicant will assume the watch with the reactor at the third doubling and then pull rods until criticality is identified. When criticality is identified a main steam safety valve will fail open causing Tave to lower to a point requiring a manual reactor trip. This is a JPM from a previous AUDIT exam that is not in the facility bank. Modify by changing the point of criticality. To be performed by all applicants.

b. Transfer to Hot Leg Recirculation in accordance with EPP-011, TRANSFER BETWEEN COLD LEG AND HOT LEG RECIRCULATION. The applicant will assume the watch with conditions met for transferring to hot leg recirculation. The alternate path is an RNO action for failure of a valve to re-position. Bank JPM CR-066. To be performed by RO and SROI applicants.

c. Isolate ECCS Accumulators in accordance with EPP-009, LOCA COOLDOWN AND DEPRESSURIZATION. The applicant will assume the watch at the point for isolating the ECCS accumulators to prevent discharge. The alternate path is an RNO action for failure of an isolation valve to close. This is a randomly selected task from the 2004 NRC Exam that is not in the facility bank. The failed accumulator isolation valve has been changed from "C" to "B". To be performed by all applicants.

d. Initiate RCS Feed and Bleed in accordance with FRP-H.1, RESPONSE TO LOSS OF SECONDARY HEAT SINK. The applicant will assume the watch with conditions met for initiating RCS Feed and Bleed. Modify Bank JPM CR-068 by allowing only one Pressurizer PORV to open. This will require RNO actions to establish adequate vent paths. To be performed by all applicants.

e. Control RCS temperature following a reactor trip in accordance with EPP-004, REACTOR TRIP RESPONSE. The applicant will assume the watch at the EPP-4 entry point. At the RCS temperature evaluation step the applicant will be required to take RNO actions for open SG blowdown valves and a stuck open steam dump valve. New JPM to be performed by RO and SROI applicants.

f. Reduce Containment Spray flow in accordance with EPP-012, LOSS OF EMERGENCY COOLANT RECIRCULATION. The applicant will assume the watch at the "Determine Containment Spray Requirements" step with two Containment Spray Pumps and four Containment Coolers running. This will require an evaluation of Containment Pressure and RWST level, applying those conditions to a table and stopping both Containment Spray Pumps. New JPM to be performed by RO and SROI applicants.

g. Restore Offsite power to an Emergency Bus in accordance with OP-156.02, AC ELECTRICAL DISTRIBUTION. The applicant will assume the watch with one de-energized vital bus and off-site power restored. Bank JPM CR-027. To be performed by RO applicants only.

h. Respond to a loss of all CCW IAW AOP-014, LOSS OF COMPONENT COOLING WATER. The applicant will assume the watch at 100% power. Shortly afterwards the running CCW Pump will trip and the standby pump will fail to start. This will require RNO actions to isolate various components and eventually to initiate a MANUAL reactor trip and to stop all Reactor Coolant Pumps. This is a JPM from a previous AUDIT exam that is not in the facility bank. To be performed by RO and SROI applicants.

i. Inhibit both trains of SSPS IAW AOP-036, SAFE SHUTDOWN FOLLOWING A FIRE. The applicant will simulate disabling both protection trains by removing electrical power. Randomly selected JPM from the 2006 NRC Exam. To be performed by RO and SROI applicants.

j. Locally close the MSIV's in accordance with EPP-14, FAULTED SG ISOLATION. The applicant will close one MSIV by simulating isolation and venting the instrument air line. Bank JPM IP-109. To be performed by all applicants.

k. Respond to a radiation alarm with a WG release in progress in accordance with OP-120.07, WASTE GAS PROCESSING. The applicant will simulate manual isolation of a waste gas release due to a related radiation monitor going into ALERT. Bank JPM IP-183. To be performed by all applicants.

FINAL

Facility: HARRIS Date of Examination: 8/13/07 Operating Test Number: NRC

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

	Printed Name / Signature	Date
a. Author	John Dalton / [signature]	8/7/07
b. Facility Reviewer(*)	Greg Kilpatrick / [signature]	07Aug07
c. NRC Chief Examiner (#)	Frank Ehrhardt / [signature]	8/9/07
d. NRC Supervisor	Robert Haag / [signature]	8/9/07

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

FINAL

Facility: **Shearon-Harris** Date of Exam: **8/6/07** Scenario Numbers: **1/2/3/4** Operating Test No.: **NRC**

	QUALITATIVE ATTRIBUTES	Initials a	b*	c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.			
2.	The scenarios consist mostly of related events.			
3.	Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)			
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			
5.	The events are valid with regard to physics and thermodynamics.			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.			
8.	The simulator modeling is not altered.			
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.			
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.			
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			
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).			
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.			

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

FINAL

Facility:	**Shearon-Harris**	Date of Exam:	**8/06/2007**	Operating Test No.:	**NRC**

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

Instructions:

1. Circle 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 service in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 requirement.

Author: _____

NRC Reviewer: _____

FINAL

Facility:	Shearon-Harris	Date of Exam:	8/06/2007	Operating Test No.:	NRC

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

Instructions:

1. Circle 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 service in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 requirement.

Author: _____

NRC Reviewer: _____

FINAL

Facility: Harris	Date of Examination:				8/6/2007 Operating Test No.:											
Competencies	APPLICANTS															
	RO1				RO2				RO3				RO			
	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	4,6 7,8	2,3 6,7 8,9			4,6 7,8	2,3 6,7 8,9			2,3 5,7 9	4,6 7,8 9						
Comply With and Use Procedures (1)	1,4 6,7 8,9	2,3 6,7 8,9			1,4 6,7 8,9	2,3 6,7 8,9			1,2 3,5 7,9	1,4 6,7 8,9						
Operate Control Boards (2)	1,4 6,7 8,9	2,3 6,7 8,9			1,4 6,7 8,9	2,3 6,7 8,9			1,2 3,5 7,9	1,4 6,7 8,9						
Communicate and Interact	1,4 6,7 8,9	2,3 6,7 8,9			1,4 6,7 8,9	2,3 6,7 8,9			1,2 3,5 7,9	1,4 6,7 8,9						
Demonstrate Supervisory Ability (3)	NA	NA			NA	NA			NA	NA	NA					
Comply With and Use Tech. Specs. (3)	NA	NA			NA	NA			NA	NA	NA					

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

Instructions:

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

Author:

NRC Reviewer:

FINAL

Facility: Harris	Date of Examination: 8/6/2007	Operating Test No.:

Competencies	APPLICANTS															
	SROU1				SROU2				SROI1				SROI2			
	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	2,4 5,6 7,8 9				2,4 5,6 7,8 9				2,3 5,7 9	3,4 5,6 7,8				3,4 5,6 7,8	3,6 8,9	
Comply With and Use Procedures (1)	1,2 4,5 6,7 8,9				1,2 4,5 6,7 8,9				1,2 3,5 7,9	1,3 4,5 6,7 8				1,3 4,5 6,7 8	1,3 6,8 9	
Operate Control Boards (2)	NA				NA				1,2 3,5 7,9	NA				NA	1,3 6,8 9	
Communicate and Interact	All				All				1,2 3,5 7,9	All				All	1,3 6,8 9	
Demonstrate Supervisory Ability (3)	1,2 4,5 6,7 8,9				1,2 4,5 6,7 8,9				N/A	1,3 4,5 6,7 8				1,3 4,5 6,7 8	NA	
Comply With and Use Tech. Specs. (3)	2,6				2,6				N/A	2,5				2,5	NA	

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

Instructions:

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

Author: _____

NRC Reviewer: _____

FINAL

Facility: Harris	Date of Exam: 8/23/07	Exam Level: RO/SRO

Item Description				Initial a	Initial b*	Initial c#
1.	Questions and answers technically accurate and applicable to facility.			JD	TM	T/L
2.	a. NRC K/As referenced for all questions. b. Facility learning objectives referenced as available.			JD	TM	T/L
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401			JD	TM	T/L
4.	The sampling process was random and systematic. (If more than 4 RO and 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL Program Office)			JD	TM	T/L
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 XX the licensee certifies that there is no duplication, or ___ other (explain)			JD	TM	T/L
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: 20 / 5	Modified: 6 / 5	New: 49/15	JD	TM	T/L
7.	Between 50 and 60 percent of the question 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: 37 / 7	C/A: 38 / 18		JD	TM	T/L
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.				JD	TM	T/L
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.				JD	TM	T/L
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.				JD	TM	T/L
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet.				JD	TM	T/L

		Printed Name / Signature	Date
a.	Author	JOHN DALTON	8/21/07
b.	Facility Reviewer (*)	Terry Toler	8/21/07
c.	NRC Chief Examiner (#)	Frankie Thomas	8/21/07
d.	NRC Regional Supervisor	Robert HAAG	8/21/07

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, Rev. 9 **Written Examination Review Worksheet** **Form ES-401-9**

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

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. 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?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
RO															
1	F	~~2~~ 1	X			X								U	003K4.03 Editorial: None Non-editorial: B is not plausible because the stem does not provide sufficient information to determine a time delay between the start of the oil lift pump and the start of the RCP. D is not plausible because the stem does not provide a value for oil reservoir level (which the operator would presumably know before attempting a pump start). Alternatively, the information in the stem could be eliminated and the question re-worded as "Which of the following is an interlock that will prevent starting an RCP with inadequate bearing lubrication?" Unsat for two implausible distractors. FJE 6/19/07 Facility attempted to change question to address comments and subsequently agreed to rewrite the question to address LOD and operational relevance, Question remains Unsat. FJE 6/28/07
	F	2	~~X~~											~~E~~ S	Revised Question Editorial: Non-editorial: Use absolute values for A, B, and D, e.g. (similar to B) "Oil lift pressure is 575 psig." Concern is teaching in stem and operational validity. Need to somehow define "prevent", e.g. ..."will prevent starting and RCP when the control switch is placed to START?" to prevent potential for multiple correct answers. FJE 7/23/07 Facility reworded question to address above comment. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
2	F	2												S	003K6.14 Editorial: Re-write question to incorporate the referenced procedure, i.e. "…. could result in damage to the "A" RCP in accordance with OP-100, (title)?" This precludes multiple correct answers or no correct answer if documents with conflicting guidance exist. Non-editorial: None FJE 6/19/07 Facility made above change. FJE 6/28/07 Facility changed value in distractor C to 0.85 gpm to ensure a single correct answer based on validation. Question remains SAT. FJE 8/17/07.
3	F	2	X											~~E~~ S	004K2.06 Editorial: Question is confusing and seems to imply that two failures are necessary. Consider rewriting as "Which of the following lists the Instrument Busses that, if lost, will require MANUAL control…." A. SI or SII B. SI or SIII C. SII or SIII D. SIII or SIV Add that all control systems are aligned normally to the stem in order to preclude an assumption that pressurizer level control or charging flow are already in manual control (i.e. no right answer). Non-editorial: K/A 004 is Chemical and Volume Control System. Question appears to be written to K/A 011, Pressurizer Level Control System. Reword question to better match K/A, e.g. … that will require MANUAL control of (charging flow control valve) … Logic for match to K/A 004 is that pressurizer level is an input to CVCS control system. FJE 6/19/07 Facility made changes to address the above concerns. Question is SAT. FJE 6/28/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
4	H	3												E S	005K5.05 Editorial: Consider adding governing procedure to 1st and/or 3rd bullets in stem. Add demand for charging controller to stem (i.e. something greater than 0%). Non-editorial: Reference provided does not directly support correct answer (highlighted reference discusses RHR temperature). Provide plant-specific reference that supports correct answer (or validate in simulator). How does letdown pressure control valve respond to RHR pump trip? Question requires Enhancement until comment resolved. FJE 6/19/07 Facility agreed to provide reference supporting correct answer or validate on simulator. Question is otherwise SAT. FJE 6/28/07. Facility provided technical reference. FJE 8/17/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
5	~~F~~	~~2~~										~~X~~		~~U~~	006A1.14 Editorial: Question asks for an action. Answers include both a value for level and an action. Reword question to ask for what is given in options. Non-editorial: K/A is Emergency Core Cooling System: Ability to predict and/or monitor changes in parameters associated with operating the ECCS controls, including: Reactor vessel level. Question concerns pressurizer level, not reactor vessel level, and does not meet the 2nd part of the K/A. Unsat due to not meeting 2nd part of K/A. Distractor plausibility: Use adverse number for pressurizer level in distractors (more credible) and include containment pressure in stem. Consider changing 2nd half of A and C to "start a second CSIP" and changing the question to "... describes the next action required to be performed per the EPP-009 foldout page if pressurizer level continues to lower?" FJE 6/20/07 Facility requested new K/A due to inability to write question for system that relates to RVLIS. CE provided 006A1.16 Question remains Unsat. FJE 6/28/07
	H	2												S	006A1.16 New question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
6	H	2		X										~~E~~ S	007A1.02 Editorial: Non-editorial: Why is PRT pressure rising if level and temperature are stable? Is this consistent with expected system response? Leaky N2? Simplify the question by and eliminate the cue ("actions required to restore PRT pressure" = vent) by rewriting as follows: Which ONE (1) of the following correctly describes the action required to restore PRT parameters to normal per ALB-009-8-1 AND the pressure at which the PRT rupture disk will rupture? Get rid fill in the blank and numbering. 2nd half of distractors are not homogeneous. B(2) and D(2) provide both a location for draining the PRT and a reason. A(2) and C(2) provide only an action. Change 2nd half of all distractors to either "Vent the PRT using OP-100" or "Drain the PRT using OP-100" Improve plausibility of draining the PRT by placing level closer to the high level setpoint. Level in the stem as written is 7% above the low level setpoint and 14% below the high level setpoint. FJE 6/20/07 Facility reviewed comments and agreed on need to make changes. CE to re-review after changes submitted. FJE 6/28/07 <u>Revised Question:</u> Editorial: Consider placing items (1) and (2) of the question on separate lines. Non-editorial: None. Question is SAT. FJE 7/23/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
7	H	2	~~X~~											~~E~~ S	007A3.01 Editorial: Consider rewording the question more directly, e.g. "For the conditions given above, which ONE (1) of the following describes how 1CS-38 responds and which tank level will increase as a direct result of the failure." A. 1CS-38 fails closed. RCDT level will increase. Non-editorial: Question assumes that letdown is in service and aligned normally. Place this assumption in the stem (Enhancement). FJE 6/20/07 Facility made changes to address comments. Question is SAT. FJE 6/28/07 Facility deleted the word "failed" from answer and distractors to ensure correct answer (validation comment.) Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
8	F	2										~~X~~		~~E~~ S	008K3.03 Editorial: Question assumes that RCPs are operating. State 100% in stem. Non-editorial: K/A is Knowledge of the effect that a loss or malfunction of the CCWS will have on the following: RCP. Question is written to ask for a procedure limitation and does not directly address the effect. Consider rewriting to more closely match the K/A as follows: Which ONE (1) of the following correctly describes the maximum time allowed to trip the RCPs per AOP-014 and the components that may be damaged if RCPs are not tripped? A. Immediately. RCP motor bearings. B. Immediately. RCP pump bearings. C. 10 minutes. RCP motor bearings. D. 10 minutes. RCP pump bearings. FJE 6/20/07 Facility reviewed comments and agreed on need to change question to address comments. FJE 6/28/07 <u>Revised Question</u>: Editorial: None Non-editorial: Consider a bullet in the stem stating thet all RCP temps are below their (alarm?) limits in order to prevent an assumption that would make A correct. Enhancement until no potential for more than one answer. FJE 7/23/07 Facility added bullet specifying seal injection flow to eliminate assumptions and ensure single correct answer (validation comment). Question is SAT. FJE 8/17/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
9	H	2	~~X~~											~~E~~ S	010K4.03 Editorial: Re-order 1st and 2nd parts of C and D to allow easier comparison of all answer options. Question abbreviates pressurizer as PZR, training material as PRZ. Consider asking the question more directly, e.g. "Which … describes the response of the PRZ PORV(s) and spray valves if the trend above continues?" Non-editorial: Does the answer depend on assuming that all controls are aligned normally and in auto? If so, state so. Does the answer depend on controlling channel selected? Could not determine from training reference provided. Potential for no correct answer? Enhancement pending resolution. FJE 6/20/07 Facility made changes to address above issues and provided satisfactory resolution for single correct answer. Question is SAT. FJE 6/28/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
10	H	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	010A2.01 Non-editorial: The stem provides no value for pressurizer level that would allow the applicant to evaluate distractor A. Additionally, the distractor directs the operator to ensure that level is above the setpoint for de-energization and to then either energize or de-energize the heaters. Additionally, the distractor does not specify which heaters to energize and/or de-energize. The distractor is not plausible. C does not appear plausible because two heater groups are operating normally (energized). The portion of option D that states to locally close D heater power supply breakers is not plausible because the stem states that heater group D is already energized. AOP-019, Secion 3.1 contains multiple steps for addressing PRZ heaters. Stem states that initial actions to stabilize the plant have been taken, but does not specify the crew's current location within AOP-19. Concern is multiple correct answers based on assumption. For example, the note before step 9.b states that cycling a heater C/S to off and back to AUTO will restore normal function. Step 16.a states to place the C/S to off and back to ON. 16.b.RNO states to locally open or close PRZ heater breakers as needed. Training material states that heaters A, B, and D have three positions (Off, Auto, On) but does not discuss positions for C heaters. Answer B implies that C also has three positions. If not so, answer is not correct as written. Unsat due to three non-credible distractors. Re-write to address only groups B and C separately within each answer option. FJE 6/20/07 Facility reviewed comments and stated they wished to table discussion until after they have formulated a solution. Question remains Unsat. FJE 6/28/07. Facility rewrote question to address all comments. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
11	F	2				X								E S	012K5.01 Non-editorial: Provide technical reference (e.g. Tech Specs, Bases, FSAR) to support single correct answer. Training material is presumably not a controlled document. Enhancement pending resolution. Does RPS have multiple power range flux trips, e.g. PR Hi flux Low, PR Hi flux Hi? If so, specify which PR Flux trip is intended. High pressurizer level (or pressure) does not appear plausible for a parameter that degrades with decreasing pressure. Replace distractor C. FJE 6/20/07 Facility made revisions to address above concerns. Question is SAT. FJE 6/28/07
12	H	3	X			X								E S	013K1.12 Editorial: Question asks for output breaker response. Options consist of a mix of output breaker response, reason for response, sequencer operation, and operator action. Reword question. Remove space before period at the end of answer C. Non-editorial: What does "reset and restart the EDG mean in D? Does this imply that the EDG automatically tripped or will be tripped? Additionally, the breaker opening and remaining open does not appear plausible without additional complications. Since the first half of the correct answer is only used once, no knowledge of required operator actions are necessary to answer the question. If intent is to test actions, then include procedure reference in question, i.e. what actions are required per (procedure). K/A requires Knowledge of cause/effect, not Ability to respond. Consider rewriting to omit actions and focus on EDG and/or EDG breaker response for ESFAS signals (e.g. SI vs. LOOP, time delay, voltage setpoints, etc.) FJE 6/20/07 Facility made changes to address above concerns. Question is SAT. FJE 6/28/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
13	F	2				X						X		~~E~~ S	013K5.01 Non-editorial: K/A is Knowledge of the operational implications of the following concepts as they apply to the ESFAS: Definitions of safety train and ESF channel. Question tests concept of train, but not channel. Additionally, question tests whether train is energize or de-energize to actuate (not required). Issue is incomplete K/A match. Distractor A (1 of 2 switches on 1 train) is not plausible for applicants trained in the simulator that manual CS will not work without turning 2 switches. Distractor analysis is incorrect (see Tech Spec Table 3.3.3 Function 2.a) There are two channels of manual containment spray initiation and 4 channels of containment spray initiation on High-3 containment pressure. Consider the following suggestion to address all of the issues above: Which ONE (1) of the following correctly describes the MINIMUM required logic for AUTOMATIC actuation of the Containment Spray System on High-3 containment pressure?" A. 1 of 2 channels on 1 of 2 trains must be in the trip condition B. 1 of 2 channels on 2 of 2 trains must be in the trip condition C. 2 of 4 channels on 1 of 2 trains must be in the trip condition D. 2 of 4 channels on 2 of 2 trains must be in the trip condition FJE 6/20/07 Facility made revisions to address above concerns. Question is SAT. FJE 6/28/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
14	F	2				X								~~E~~ S	022K2.01 Editorial: From the reference provided it appears that each CFC contains two fans (each powered from the same MCC). Change fan to fan(s) plural in question. Non-editorial: If Aux Busses listed are non-safety related or are in a different location than MCCs, then substitute other AH power supplies to increase distractor plausibility. Enhancement. FJE 6/21/07 Facility made editorial revision and agreed to supply technical reference supporting the correct answer. Question is otherwise SAT FJE 6/28/07 Editorial change to match answer/distractors with nomenclature in plant procedures (validation comment) and provided technical reference. Question remains SAT. FJE 8/17/07
15	H	2												S	026A3.01 Editorial: Consider asking a more direct question, e.g. "Which ONE (1) of the following correctly lists the position of 1CT-24 and 1CT-50 for the current conditions listed? Non-editorial: None Highlighted reference material provided did not address 1CT-50. FJE 6/201/07 Facility agreed to supply technical reference to address above concern. FJE 6/28/07 Minor change to question to eliminate confusion and change to distractors to match nomenclature (validation comments). Provided technical reference. Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
16	~~F~~ H	2										~~X~~		~~U~~ S	039A2.03 Non-editorial: Since all choices contain actions for a "B" SGTR, no diagnosis of the event based on plant parameters is required. Question can be rewritten as "Which ONE (1) of the following correctly describe the actions that will be taken to isolate a ruptured SG?" and the options would remain essentially the same. 2nd half of K/A is "Indications and alarms for main steam and area radiation monitors (for a SGTR)" Because no knowledge of rad monitor indications or alarms is required to answer the question, the question does not meet the K/A. Unsat due to not meeting second half (A2.03) of K/A. Additionally, since all choices involve the "B" S/G, and no diagnosis of the event (SGTR) is required, the options are a series of T/F statements for a ruptured S/G. Although distractor analysis does not provide basis for plausibility of options, diagnosis as a faulted S/G is not plausible. Rewrite to incorporate rad monitors and actions per A2(b) of K/A. Consider AOP to EOP transition based on rad monitor response to leak rate and/or diagnosis if rad monitor(s) have isolated before the SGTR. Fundamental LOK based on no diagnosis and recall of procedure steps. FJE 6/22/07 Facility was not prepared to address the comments. FJE 6/28/07 Facility wrote a new question. New question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
17	F	2												S	039G2.4.49 Editorial: Would A and D read more clearly as "...an identified ruptured SG..." Could also remove from options and state in stem "Assuming that the crew has correctly identified the event, which ONE..." Option B: "prior to the steps that check" seems redundant with the information in the stem. Consider deleting to remove redundant words and make answer same length as others. Option D: Do you say "isolation of" or "closing the" in relation to an MSIV? Non-editorial: Are you allowed to reduce AFW flow to minimum for 3 faulted S/Gs before being directed? If not, this would might make a better distractor than B. Examiner Note: No immediate actions required for EOPs directly related to subject system. Question meets intent of K/A. FJE 6/22/07 Facility made editorial revisions. Question is SAT. FJE 6/28/07 Facility reworded (editorial) to improve clarity based on validation comment. Question remains SAT. FJE 8/17/07
18	H	2										~~X~~		~~E~~ S	059K4.18 K/A is Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following: Automatic feedwater reduction on plant trip. Question tests whether or not MFPs and turbine or reactor trip on S/G high level. Plant trip is presumed to have occurred by K/A, i.e. not required to be tested in answer options. Rewrite to test applicant knowledge of response of MFW system (FRV, FRV bypass, FRV iisolation, and/or MFPs) following plant trip with normal or abnormal (Low Tave) conditions. FJE 6/25/07 Facility reviewed comments and agreed on need to revise question. FJE 6/28/07 Facility revised question to address above comments. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
19	~~H~~	~~2~~				~~X~~						~~X~~		~~U~~	061K1.04 Editorial: Place value and reason on separate lines to make answer options easier to compare. Non-editorial: K/A is Knowledge of the physical connections and/or cause-effect relationships between the AFW and the following systems: RCS. Question is written to require knowledge of procedure step related to AFW and basis, which does not explicitly address cause/effect. Can second part of distractors be re-stated to more directly address cause/effect? All answer options consist of three parts: 1) Which AFW pumps to operate, 2) minimum value for AFW flow, 3) reason. In B and D, operating only the MDAFW pumps is paired with an AFW flow rate of 210 KPPH. In A and C, operating all AFW pumps is paired with an AFW flow rate of 400 KPPH. Therefore the information regarding which AFW pumps to operate is redundant with respect to the required AFW flow rate. Operating only the MD AFW pumps is not plausible (B and D). Step 3 of S.1 is an immediate action step to verify all AFW pumps running. There is no other information in the stem that would require securing AFW pumps (e.g. faulted S/Gs). Unsat due to 2 implausible distractors. Options state value for AFW flow in KPPH. Other questions, e.g. SRO #81, state value for AFW flow in gpm. What are the units on the instruments the operators use in the MCR? Highlighted reference provided supports actions in correct answer, but not basis. Include background document when testing basis. Examiner Note: Potential conflict with SRO #81 (E05EA2.2) depending on how question is re-written. FJE 6/25/07 Facility requested new K/A due to concerns with K/A identified above and concerns regarding overlap with other questions identified during review meeting. CE provided K/A 061K1.07. Question remains Unsat. FJE 6/28/07
	F	2												S	061K1.07 New K/A. New question is SAT. FJE 8/17/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward.	Q= K/A	SRO Only		
20	H	~~1~~ 2				~~X~~								~~U~~ S	062A2.09 Editorial: Consider placing effect and action on separate lines or use two column format. Specify which instrument bus you're asking about in the question, e.g. "…. the current status of Instrument Bus 1DP-1A-S1?" Non-editorial: A and B are not plausible because, if the bus were energized, the crew would not go to AOP-25 (as stated in the stem), per ALB-024, 1-2 or AOP-25 entry conditions. Low LOD for given conditions/answer options. The first step of AOP-25, an immediate action step, is to check a CSIP running and to isolate letdown if a CSIP is not running. Since the crew would not be in AOP-025 unless the bus was deenergized, and since the affected train of CSIP is the same train as the affected emergency bus, the crew must isolate letdown. Unsat due to two implausible distractors and low LOD. FJE 6/25/07 Facility was not prepared to address the comments. FJE 6/28/07 Facility rewrote question. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
21	F	2	~~X~~											~~E~~ S	063K2.01 Editorial: Typo – "following" is misspelled, delete the "a." State in the stem that no operator action has occurred. Non-editorial: Option A, B, and C provide an option, a power source, and an intermediate component. The intermediate component is redundant because each power source is unique. Option D describes a current status and an action, which is not solicited by the question and is different than the other options. Consider rewriting options as: A. Energized from 1A21-SA B. Energized from DP-1A-SA C. Energized from PP-1A21-SA D. Deenergized. Please provide basis for Higher LOK. Appears to require recall (memory) of system response. Question is low LOD. Consider rewriting to increase LOD. Examiner Note: Meets K/A because inverter may be a major DC load when the normal power supply is not available. FJE 6/25/07 Facility made changes to address above issues and changed to memory (F) LOK. Question is SAT. FJE 6/28/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
22	F	2	X				X							U E S	063K3.01 Editorial: Consider placing effect on EDG and effect on circuit breakers on separate lines for easier comparison Non-editorial: Please provide technical reference, e.g. AOP-25 A and C appear to be the same answer, i.e. if all (automatic) breaker trips are disabled, then the breakers can only be manually operated locally. Unsat for two correct answers. FJE 6/25/07 Facility reviewed comments and agreed on need to rewrite (2nd half of answer/distractors) due to two correct answers. FJE 6/28/07 Revised Question: Editorial: None. Non-editorial: Answers assume that trip breaker is closed. State so in stem or give power level. What is the reason for testing knowledge of the response of trip breakers vs. some other aspect related to EDGs or bus? Could it be started locally per an AOP? Knowledge of effect on trip breakers is not required per K/A. Enhancement pending resolution of comments. FJE 7/23/07 Facility revised to test EDG subsystems and output breaker. Question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
23	F	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	064K6.07 Editorial: The second bullet appears to be missing a verb, i.e. Air Receiver is unaffected. Does the receiver contain enough air for only exactly 5 start attempts, or a minimum of 5 attempts? Be more specific regarding the remaining receiver, e.g the pressurized receiver or 1A-SA receiver. Which pressure are you referring to in the second half of the options? Air receiver pressure? Non-editorial: Option C is a subset of answer A in that if the receiver contains enough air for 5 start attempts, then it also contains enough air for one start attempt. Consider adding the word ONLY to C and D. The question asks for the effect (of the maintenance) on the ability to start the EDG. The second half of the options is a statement and it is not clear how this relates to the question. Does this mean that pressure is maintained at the specified value before or after the start attempt(s)? Why would pressure be less than half of required with one receiver out of service? Clarify question and/or options. Depending on intent, this may or may not be related to the K/A (effect of a loss or malfunction of the air receiver on the EDG vs receiver normal operating pressure) One start attempt is not plausible for a piece of emergency equipment. Change to two attempts (5/2 rounded down). Please provide technical reference to support answer. OP-155 and Tech Spec 3.8.1 surveillance requirements reference a minimum of 190 psig, which is the low alarm setpoint. 100 psig would also be a plausible value for air pressure per OP-155 section 8.14.2, as would the status of the Unit Available Emergency Status Light. Unsat pending resolution of psychometric issues listed above. FJE 6/25/07 Facility was not prepared to address the comments. FJE 6/28/07 Revised to address above comments. Question is SAT. FJE 8/21/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
24	F	2				X						X		U S	073A4.03 Editorial: Technical reference provided refers to the "**" symbol as a "status symbol" and not the "Check Source Test Failure" symbol. The wording of the question implies that the ** symbol is unique to this failure. Consider changing to "Status symbol (**) is displayed for Channel Check Source Test Failed indication." Non-editorial: If the C/S button on either the RM-11 or RM-23 consoles do not flash for another malfunction, then A and B are not plausible. A more plausible distractor would be that the C/S button remains lit. Distractor analysis states that the RM-23 does not have indication of a check source failure, so distractor D is not plausible. A, B and D may test whether an applicant recognizes that an indication physically exists or can occur at all but not whether an applicant can monitor a check source for an operability determination (2nd half of K/A statement). Unsat for implausible distractors. Rewrite to include one plausible/one correct indication of channel check source failure and status of the monitor (Operable/NOT operable). FJE 6/26/07 Facility was not prepared to address the comments. FJE 6/28/07 Facility agreed to rewrite for RM-11 indications and operability (after checking with Ops). Fje 7/13/07. <u>Revised Question:</u> Discussed comments w/ facility. Facility revised to address comments except operability (for RO) and explained plausibility of RM-23 indications. Revised question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
25	F	2	X											E S	076A4.02 Editorial: Consider removing assumption by stating in the stem: Plant conditions are as follows: - ESW is aligned (normally??) with the 'B' NSW pump supplying the 'A'ESW header. Which ONE (1) of the following.... Non-editorial: Question is attempting to test more combinations of responses than can be achieved using a four answer option format. For example, if the applicant knows the position of 1SW-39 and 1SW-275, then no knowledge of the remaining components is required. Rewrite to eliminate redundant options. Distractor analysis does not address plausibility of incorrect answers. Discuss NSW system configuration and plausibility during in-office review(s). FJE 6/26/07 Facility revised question to address above concerns and provided satisfactory explanation of distractor plausibility. Question is SAT. FJE 6/28/07 Facility made formatting changes for clarity (validation comment). Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
26	F	2	~~X~~			~~X~~								~~E~~ S	078K3.02 Editorial: First paragraph of stem is not required to answer the question. Remove. Non-editorial: AOP-17 only directs throttling of 1RH-30 and 1RH-66 in section 3.3, Loss of Air When Shutdown, RHR In Service. The question stem does not provide a context (e.g. Mode of Operation) for the applicant to determine the applicable portion(s) of AOP-17. If the applicant assumes that the plant is in Mode 1, then throttling these components would not be required per AOP-17 and no answer would be completely correct. If the applicant knows the reason for throttling 1RH-30 and 1RH-66 then no knowledge of failure position is required because the correct reason only appears in one answer option. Note that K/A does not require ability to predict the impact or control the consequences of the failure, only the effect that a loss of instrument air will have on the system. Consider rewriting as follows: Which ONE (1) of the following correctly describes the position of 1RH-30, RHR Heat XCHG A Out Flow CONT (HC-603A1) and 1-RH-20, RHR Heat XCHG A Bypass Flow CONT (FK-605A1), following a complete loss of Instrument Air with no operator action? 1RH-30 1RH-20 A. shut shut B. shut open etc. FJE 6/26/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
27	~~F~~ H	2												S	103K1.08 Editorial: First (LOCA) and fourth bullets (PATH-1) do not appear to be necessary to answer the question. Consider deleting Consider moving the condition in the question (if reset) to a statement in the stem, e.g. The RO has depressed the RESET pushbuttons for Containment Isolation Phase A and Phase B. Which ...describes the status of CIPA and CIPB after the RO depresses the reset pushbuttons? Non-editorial: Justify Higher LOK. Appears to be memory level based on knowing that both are capable of reset even though SI is reset and that CIPB can be reset above the actuation setpoint. FJE 6/26/07 Facility justified higher LOK. FJE 8/17/07
28	~~F~~ H	~~1~~ 2					~~X~~					~~X~~		~~E~~ S	103A3.01 Editorial: None Non-editorial: K/A is Ability to monitor automatic operation of the containment system, including: Containment isolation. Question stem states that containment isolation phase A has already occurred and asks for additional ESF signals that have actuated. K/A requires ability to monitor automatic operation. Rewrite to incorporate elements of operation (e.g. components that reqposition) for one or more containment isolation signals and/or actuation logic. Low LOD – memory of ESF setpoints with no complicating factors. Analysis for distractor D states that CVI has occurred, however CVI is only listed in a single incorrect distractor. Correct answer is potentially incomplete. FJE 6/26/07 Facility agreed to rewrite to test at the component level. FJE 6/29/07 Facility revised to test at component level. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
29	F	2				X								~~E~~ S	011K2.01 Editorial: None. Non-editorial: Disagree that A is plausible. Question is low LOD as written. Consider rewriting question to ask for effect on unit assuming no operator action. Replace A with plausible bus 1E load that reenergizes, but state that it remains deenergized. Reword D to "remains deenergized." Another option would be to have a DG surveillance in progress and iterate on if/when the B CSIP reenergizes. Justify Higher LOK. Question appears to be a memory (F) level question based on memorization of bus loads. FJE 6/20/07 Facility rewrote to address above concerns and changed to lower (F) LOK. Question is SAT. FJE 6/29/07
30	F	~~1~~ 2	X			X								~~E~~ S	017A3.02 Editorial: None. Non-editorial: Question asks for the readings that may be obtained from ICCM panel. Answer options list locations and methods. Make question and options consistent. Why are distractors plausible? Do PIC Rooms C-17 RAB 286 and PIC Room RAB 305 contain CRT monitors and keyboards? What are they used for? What parameters are measured locally as compared to in the MCR? Enhancement pending resolution. FJE 6/21/07 Facility gave explanation and made changes to address above concerns and agreed to add operating procedure reference to stem. Question is SAT. FJE 6/29/07 Facility added AOP reference to stem. Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
31	M	2	~~X~~				~~X~~							~~E~~ S	028K3.01 Non-editorial: Options C and D contain conditional statements (unless) concerning containment purge. All distractors are not homogeneous and question does not ask about containment purge. A and B assume CP is not in service? Consider rewriting as follows: Put loss of B train recombiner in stem "Which ONE (1) of the following correctly describes how H2 concentration will be limited for the given plant conditions? A. H2 conc will remain less than 4% with CP secured. B. H2 conc will increase to greater than 4%, but remain less than 8%, with CP secured. C. H2 conc will remain less than 4% ONLY if CP is in service. D. H2 conc will increase to greater than 4%, but remain less than 8% ONLY if CP is in service. Highlighted reference material does not appear to support answer analysis. From stem, it appears that both trains of recombiners have been lost. Concern is incorrect answer. Enhancement pending resolution. FJE 6/21/07 Facility requested to defer discussion while they searched for a technical reference to support the answer and determined if they can rewrite to meet the K/A at the RO level. FJE 6/29/07 Facility revised question to address above concerns. Question is SAT. FJE 8/17/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
32	F	2				X								U S	029G2.2.22 Editorial Second half of distractors A and B are not plausible, otherwise a containment release for pressure control or containment entry would not be possible. Unsat for two implausible distractors. Consider rewriting to incorporate other aspects of 029 K/A, e.g. tech specs for rad monitors, flow rate, vent isolation signal. FJE 6/21/07 Facility agreed to attempt to rewrite for two implausible distractors. FJE 6/29/07. Facility asked examiner to reconsider plausibility of A and B. Examiner obtained a peer check, which confirmed original comment. Facility agreed to rewrite. FJE 7/19/07 Facility revised to address above concerns. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
33	~~F~~ H	~~1~~ 2				~~X~~								~~U~~ S	033A1.01 Editorial: Define or bound "appropriate" in the question, e.g. per ALB-23-4-17. Non-editorial: How does a field operator measure level? Is there marks for feet and inches, or high and low alarm, on the side of the pool? Does the stem contain the specific information that would be reported by a local operator? What other alarms associated with Tech Spec parameters alarm after the tech spec value has been exceeded? If none, then first half of distractors A and B are not plausible. Second half of B and D, use of 'dirty' water, is not plausible for non-emergency situations. Unsat for three non-credible distractors. Justify Higher LOK. Question appears to be based on a series of memory items - alarm setpoint, tech spec level, and which source of water is clean. FJE 6/21/07. Facility rewrote to address above concerns. Question is SAT. FJE 6/29/07. Facility clarified stem to eliminate potential confustion (validation comment). Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
34	H	2	~~X~~				~~X~~							~~U~~ S	034A4.01 Editorial: Stem refers to Cnmt Pre-Entry Purge Monitor as -0352B-SB, AOP-13 Step 8 refers to same monitor as -0352B. Typo in question or AOP? Non-editorial: Question asks for actions and options state isolate or isolate/ start. All highlighted steps in AOP related to answer options are Verify, indicating that plant ventilation response is automatic. Answer D is the only option that contains starting a fan. If applicant recognizes need for fan start, no knowledge of purge is required. Stem states that REM-01LT-3502B-SB (pre-entry purge) is in ALERT, not HIGH alarm. Per step 8, if HIGH alarm is clear, pre-entry purge should not have auto isolated. Stem states that rad levels are rising, but references only Ctmt RCS Leak Det and Pre-Entry Purge. Are these area rad monitors? Training handout categorizes these two monitors as Airborne monitors as opposed to Area monitors. Stem would need to include trend for area rad monitors for D to be correct, otherwise Pre-Entry would not be isolated and fan would not be running. Unsat pending resolution of stem focus/potential no correct answer/non-homogeneous answer options. FJE 6/21/07 Facility rewrote to address concerns above and added a statement in notes that justifies K/A match. Question is SAT. FJE 7/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
35	H	~~3~~ 2	~~X~~	~~X~~										~~U~~ S	035A2.01 Editorial: Distractor A does not stat which PORV controller to adjust. Non-editorial: Answer B does not appear to be supported by references (Path-2 background and WOG background) provided. Background step 6a (has SG PORV in auto with controller setpoint adjusted to 1145 psig. RNO 6b. is to locally shut block valve when pressure is below 1145 psig. Path-2 Rev. 11 is consistent with background document. Answer B states to place controller in Manual and close the PORV. Option C appears to be the correct answer. Answer B contains specific determiners (length and actions on how to close PORV are specific). Change "locally isolate" in C and D to be more specific, e.g. "Locally shut the "A" SG PORV block valve…" Distractor analysis for A states that PORV controller has failed. Can this be determined from stem? Has the crew attempted to adjust the controller setpoint and place in auto (required before performing RNO)? Could "A" PORV remain throttled due to a valve actuator or valve problem? Unsat pending resolution of answer and psychometric flaws identified. FJE 6/21/07 Facility requested to defer discussion in order to resolve conflicting reference material described above. FJE 7/20/07 Question revised to eliminate flaws identified above. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
36	F	~~2~~				~~X~~								~~E~~ S	068K6.10 Editorial: Question includes various abbreviations (Treated L&HS, TL&HS) as well as full system title, for various components. Are these consistent with each other as well as the nomenclature used in operating procedures? Non-editorial: A is not plausible. While it is reasonable to assume a loss of function, as stated in the distractor analysis, the loss of function would result in a "fail-safe" condition terminating the release. Does a High alarm occur on a loss of power to a rad monitor? The supplied reference, APP-ALB-010 states that various release points isolate when the repective rad monitor goes into high alarm, but does not address loss of power. Consider retaining bank question as written provided limits on repeat questions from past NRC exams are not violated (see Form ES-401-6). Examiner Note: Distractor A replaces a distractor from a previous bank question in order to take credit for a modified question. FJE 6/25/07 Facility agreed to replaced question with original (Bank) question. Examiner to re-review when replaced. FJE 7/20/07 Facility replace with original question and made minor editorial changes to the original question. The question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
37	F	2				X								~~E~~ S	071K4.02 Editorial: The answer options consist of a source and a function. Consider wording the question more specifically, e.g. "Which ONE (1) of the following correctly describes the source of water for, and the function of, Waste Gas Compressor seal water?" Consider placing source and function on separate lines to make it easier to compare answer options. Non-editorial: A portion of the 2nd half of B and D are restatements of the question, i.e. Q: Which of the following describes the sealing water supply for the Waste Gas Compressors? A: (Seal water supply) provides seal water to the compressor mechanical seals. These two distractors are not plausible as written because they contain a restatement of the question. Rewrite B and D. K/A is for both interlocks and design features. Alarms, trips, and control setpoints would meet the K/A if applicable. FJE 6/26/07 Facility rewrote to address above concerns. Question is SAT. FJE 7/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
38	F	2			X									~~U~~ ~~E~~ S	086K1.01 Editorial: Place each portion of each answer option on separate lines to permit easy comparison of answer options (See App. B, C.2.c). Is the valve in question a three-way valve? If not, consider rewording as follows: "A valve…….may be manually opened to align ESW to the Fire Protection……." Non-editorial: The answer options consist of a collection of true/false statements. The question could be re-written as "Which ONE of the following statements is TRUE?" Unsat due to question construction (T/F). Concept acceptable for K/A. Provide a technical reference, not student text, to support answer regarding operability. FJE 6/26/07 Facility agreed to rewrite to address above concerns. FJE 6/29/07. Facility proposed to rewrite as two-part question concerning 1) alternate source, 2) operability FJE 7/13/07 Revised Question: Editorial: Add "ESW" to the operability column for the choices so the system being described is obvious without having to refer to the question. Non-editorial: Add "in accordance with OP-139" to question to provide RO applicants a frame of reference for operability (other than Tech Specs). Enhancement pending resolution. FJE 7/23/07. Facility modified question to resolve above comment. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
39	H	3	X				X							~~E~~ S	007EK1.06 Editorial: Some options consist of multiple actions. Change question to action(s). Consider asking the question more directly, e.g. "Which ONE (1) of the following describes the next action required to stabilize and maintain RCS temperature in accordance with...." Would also need to change 2nd bullet to "The crew has just entered EPP-004, Reactor Trip Response." Non-editorial: Table contains open bullet items. Does this mean that the SRO can pick actions as applicable (and all may not be required)? Concern is for no correct answer. Some options state "stop dumping steam" or "raise AFW flow" but stem provides no status. Increase steam dump is vague. Change answer/distractors to be more specific and to more closely resemble steps in table. Consider the following suggestion: A. Dump steam using S/G PORVs and raise AFW flow to (value) to maintain S/G levels. B. Raise AFW flow to greater than (value) until level in one S/G is greater than 25% C. Shut MSIVs and Bypass valves. D. Dump steam using S/G PORVS and raise AFW flow to establish and maintain RCS Tave between 555 and 559 F. FJE 6/19/07 Facility rewrote to address above concerns. Question is SAT. FJE 6/29/07 Facility made editorial changes to improve clarity (validation comment). Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
40	H	2				~~X~~								~~E~~ S	008AK1.02 Editorial: Change 1st bullet of Current Conditions to "The stuck open Pressurizer PORV cannot be isolated." Consider asking the question as "Which ONE (1) of the following correctly describes the current RCS leak rate and CSIP flow as compared to the initial values?" Non-editorial: Question assumes no operator actions (e.g. regarding ECCS alignment). State no actions in stem. Knowing that CSIP flow goes up as RCS pressure goes down is fundamental knowledge and not discriminating. Is there a way to make a more discriminating and plant-specific question by asking the operator to recognize a normal value for these conditions, e.g. flow is higher or lower than some value besides 220 gpm (e.g. greater or less than runout flow)? FJE 6/20/07 Facility changed question to address above concerns and agreed to re-validate using system curves and/or simulator. Question is SAT if successfully validated. FJE 6/29/07 Facility provided basis for correct answer. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
41	~~F~~ H	~~2~~					~~X~~					~~X~~		~~E~~ S	009G2.2.25 Editorial: Consider asking the question more directly, e.g. Which ONE (1) of the following describe the reactor trip designed to protect against a small break LOCA (SBLOCA) and the core power distribution limit it protects? This would also address the K/A (Small Break LOCA: Knowledge of the bases in technical specifications for limiting conditions for operation and safety limits) more directly. Non-editorial: Tech Specs contain both a heat flux hot channel factor and an enthalpy rise hot channel factor. Which is intended in the distractors? Training reference provided does not directly support correct answer. Please provide Tech Spec, Basis, or FSAR that supports correct answer and shows distractors are incorrect. Concern is no correct answer / multiple correct answers. Enhancement pending resolution of comment. Please justify Higher LOK. Question appears to be memory level (F). FJE 6/20/07 Facility revised to address above concerns, including LOK. Facility agreed to provide technical reference. SAT pending receipt of reference. FJE 6/29/07 Facility provided technical reference. Question remains SAT. FJE 8/17/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
42	~~F~~	~~1~~										~~X~~		~~U~~	011EK3.11 Non-editorial: K/A is Knowledge of the reasons for the following responses as they apply to the Large Break LOCA: NC and PC. Stem Focus / K/A: Question does not match the K/A because plant conditions during a Large Break LOCA preclude the establishment of natural circulation or reflux boiling. The K/A requires knowledge of a plant response that does not exist. Additionally, the question is fundamental (GFES) knowledge, does not test plant-specific information, and is minimally discriminating. Note: Modified from Robinson 2007 exam. FJE 6/20/07 Facility requested new K/A. Examiner supplied K/A 062AK3.01
	F	2												S	062AK3.03 New K/A. New question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
43	H	3				X								E S	015AK3.02 Editorial: Consider revising the order of the bullets in the stem. The crew would presumably not enter AOP-14 until they evaluated CCW surge tank level. A and B do not specify which RCP Oil Reservoir has the CCW leak (presumably "B"). Specify which RCP in the options. C and D state that CCW has isolated to the RCP bearing oil coolers. Is this meant to imply that CCW has isolated to all RCP bearing oil coolers or all B RCP bearing oil coolers? Clarify. May need to modify distractors accordingly. Place each action on a separate line to facilitate comparing options. Non-editorial: Potential overlap (cues) with 003K4.03 depending on how comments are addressed. Why is B RCP pump bearing temperature rising? Consistent w/ event? Second part of D does not appear plausible for loss of CCW to (all?) RCP bearing oil coolers. Replace. Enhancement pending resolution of comments. FJE 6/20/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07. Facility made changes to improve plausibility of distractors. Question remains SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
44	H	~~2~~				~~X~~	~~X~~	~~X~~						~~U~~	022AK3.05 Editorial: None. Non-editorial: Why is emergency boration not available? Do the plant conditions given place the unit in a Tech Spec action (shutdown/) statement for boration sources? If so, provide in stem. Reference a procedure in the question, i.e. correct in accordance with (procedure). Reference material provided does not directly support correct answer. Question should ask what is required or what is allowed. Concern is for multiple correct answers or no correct answer. Is distractor A specifically prohibited by plant procedure. Is it allowed in any AOPs or EOPs? Can you emergency borate from your RWST? Why would this be done for routine maintenance? Postponing a downpower for routine planned maintenance would presumably never be wrong, so A and B don't seem plausible. Distractor C is a T/F statement. If the applicant recognizes that dilution and not boration is used to compensate for Xenon during a downpower, then reading the question is not necessary. Unsat for multiple implausible distractors. This type of decision would seem to be an SRO/Ops Management decision vs. an RO decision. Could the question be more focused on RO job content by asking for plant effects if the SRO did order a down power? FJE 6/21/07 Facility requested new K/A. Examiner supplied 038EK3.01. FJE 7/2/07.
	F	2												S	038EK3.01 New K/A. New question. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
45	H	3					X					X		~~U~~ S	025AA1.01 Editorial: Stem can be shortened by eliminating irrelevant information. e.g. previous temperature and current heatup rate are irrelevant since question asks for actions associated with a temperature threshold, not a heatup rate. Plant conditions are as follows: The plant is in Mode 5 The Containment Airlock is open The Equipment Hatch is in place with all bolts removed. The "A" RHR Pump just tripped. The crew has entered AOP-20 RHR has NOT been restored RCS temperature is 190 o F and rising Non-editorial: K/A is Ability to operate and/or monitor the following as they apply to the Loss of Residual Heat Removal System: RCS/RHRS cooldown rate. The question stem asks for an action associated with a temperature threshold (during a heatup) not an action or limit associated with a cooldown rate (or heatup rate). Do plant procedures have cooldown limits or component limitations associated with RHR cooldown (or heatup), e.g. two RH trains are in service and one is lost – what is the C/D limit? A question directly addressing heatup rate would also meet the intent of the K/A. Unsat due to not meeting K/A. Options A/B and C/D are not consistent. A/B are contingent on a future condition. Consider rewriting A. as "The crew must actuate Ph A isolation immediately after temperature exceeds 200 oF" Additionally, if the conditions in the stem indicate that containment integrity is not verified, then the second part of A is not necessary and only confuses with a possible assumption. Highlighed reference concerning CSIP should be section 3.5, not steps 9 and 10. Head is not off in Mode 5 (step 7) so RNO directs GO TO section 3.5. Step 3 RNO of Section 3.5 directs verifying an available CSIP is running before RCS temp reaches 200 oF. Since question does not specify the NEXT action that must be performed, D also appears correct. FJE 6/21/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
46	H	2		~~X~~										~~E~~ S	026AA2.02 Editorial: Consider revising the 3rd and 4th bullets. It is not clear if the surge tank level is decreasing with the makeup valve open, or the makeup valve was opened in response to decreasing tank level (and trend is currently?). Non-editorial: Surge tank level increases for all distractors A, C, and D, because all systems are at a higher pressure than CCW. The last bullet in the stem is a cue that is not necessary to answer the question based on knowing that the seal return heat exchanger is the only system at a lower pressure than CCW (for the plant parameters given). FJE 6/21/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
47	H	2	X											~~E~~ S	027AK2.03 Editorial: Question assumes no operator action in response to failure. State this in the stem. Non-editorial: Answer options A and B consist of three parts: 1) pressure trend, 2) reason for pressure trend, and 3) how terminated (not part of question). Answer options C and D consist of two parts 1) pressure trend, 2) reason. These options also imply that the pressure decrease is not terminated. Answer options are not homogeneous. Additionally, if applicant knows how system works, pressure trend is not discriminating (heaters on = pressure up; heaters off/sprays on = pressure down). Rewrite to address above items. Consider rewriting as Which ONE (1) of the following correctly describes the effect of the above failure on RCS pressure assuming no operator action? A. Pressure will increase and stabilize at (plausible value associated with spray operation) B. Pressure will increase and stabilize at (value associated with PORV operation). C. Pressure will decrease to the Low Pressure SI setpoint and then increase and stabilize at (value associated with PORV operation) May need to modify above if PORVS have low pressure interlocks. FJE 6/21/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
48	F	2										~~X~~		~~U~~ S	029EK1.02 Editorial: Initial conditions are not necessary for answering the question. Delete. Non-editorial: K/A is Knowledge of the operational implications of the following concepts as they apply to the ATWS: Definition of reactivity. The question (which more closely matches 029EK3.12) does not directly address concept of reactivity, the second half of the K/A. Unsat due to not meeting K/A. Question would meet intent of K/A if reactivity is explicit in answer options, e.g. A. Prevent an uncontrolled cooldown from adding positive reactivity. B. Prevent an uncontrolled cooldown from causing pressurized thermal shock. C. Ensure immediate insertion of negative reactivity. D. Minimize the peak pressure transient for the event. Supply technical reference that directly supports the answer/refutes distractors for any re-write. FJE 6/21/07. Facility revised to address above concern and agreed to provide technical reference. SAT pending receipt of tech reference. FJE 6/29/07. Facility modified a single distractor to prevent two correct answers (validation comment) and provided technical reference. Question remains SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
49	F	2										~~X~~		~~U~~ S	040G2.2.22 Editorial: None. Non-editorial: K/A is Steam Line Rupture: Knowledge of limiting conditions for operations and safety limits. The K/A is clearly tied to tech specs for the Main and Reheat Steam Systems (K/A 039), but not the event (Steam Liine Rupture). Unsat due to not meeting K/A. Rewrite as : Initial Conditions… A Steam Line Rupture Occurred Current Conditions… Which one of the following correctly describes the LCOs that have been violated as a result of the event? Make answer choices combinations of 2 correct and 2 incorrect (plausible) options. FJE 6/22/07 Facility agreed to revise to address above comments. FJE 6/29/07. Facility rewrote question to address above concerns. Question is SAT. FJE 8/17/07.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
50	F	2										~~X~~		~~U~~ ~~E~~ S	054AA2.07 Editorial: Not evaluated. See below. Non-editorial: K/A is Ability to determine and interpret the following as they apply to the Loss of Main Feedwater (MFW): Reactor trip first-out panel annunciator. Question supplies the diagnosis of loss of MFW in the stem. Question can be answered without diagnosing the event because the knowledge tested is the setpoints of the first-out alarms listed, and the status of the alarm light when it is acknowledged and reset (not unique to loss of MFW). Unsat due to not meeting 1st half of K/A. Rewrite to require diagnosis of loss of MFW based on plant parameters and first out alarm received or diagnosis of loss of MFW and determination of first out alarm that should be received. Knowledge of how to reset first out is not required to meet K/A. FJE 6/22/07 Facility was not prepared to address the comments. FJE 6/28/07 Facility justified K/A and will provide explanation with question. Facility agreed to provide sufficient information for applicant to make diagnosis of loss of MFW rather than state this in the stem. Question is "E" pending changes. FJE 8./7/07 Facility revised to address above concerns. Question is SAT. FJE 8/17/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
51	H	3	X											~~E~~ S	057AA1.01 Editorial: Option A states that unit must be in Mode 5. Stem does not state current Mode. Add current Mode or power to stem. Reference OP in stem, i.e. requirements per OP..... Non-editorial: Answer analysis does not discuss plausibility for A. Option A does not seem plausible since all the action statements in 3.8.3 allow a minimum of 2 hours to restore. Consider replacing with another control system distractor, e.g. Place all Main Feed Reg Valves in Manual. Option B does not state which bus – state specifically, e.g. "Instrument Bus SI must be deenergized." Delete "prior to the swap" from option D because it is redundant and because option D is already significantly longer than the other options. FJE 6/25/07 Facility revised to address above concerns. Question is SAT. FJE 6/29/07.
52	F	2												~~E~~ S	058AA2.02 Editorial: None Non-editorial: Provide technical reference (tech spec/bases, OP, AOP, ARP, etc.) for correct answer vs. training material. Enhancement until resolved. FJE 6/25/07 Facility agreed to provide technical reference. Question is SAT pending receipt of reference. FJE 6/29/07. Facility rewrote a portion of the question because the reference did not support part of the answer. Revision is SAT pending receipt of technical reference. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
53	F	~~1~~ 2				~~X~~						~~X~~		~~U~~ S	065G2.1.28 Editorial: None Non-editorial: Answer options consist of three elements – 1) position, 2) setpoint, 3) reason. If applicant knows position and setpoint, no knowledge of reason for repositioning at that setpoint is required and the question does not meet the 2nd half of the K/A (K/A is Loss of Instrument Air: Knowledge of the purpose and function of major system components and controls) Unsat due to not meeting K/A. If the air system(s) do not have valves that automatically open on low pressure, then B and D are not plausible. Are there components described in the system procedure (OP-151.01) that are potentially related to a loss of IA that could be tested in place of the concepts in B and D? Does training and background document support knowledge of reason for setpoint of 90 psig vs. some other value? FJE 6/25/07 Facility was not prepared to address the comments. FJE 6/28/07 Facility agreed to rewrite. FJE 7/13/07. Facility rewrote question. Revised question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
54	H	2				~~X~~								~~E~~ S	E04EK2.1 Editorial: Value and trend is provided for RCS pressure. Should value also be provided for RAB rad levels (either value or status of alarm) and SI flow? Non-editorial: How can D be plausible if plant conditions would not allow a determination of the condition in the distractor? If pzr level is off-scale low, the operator would not be able to determine if level is going up, down, or stable. C and D distractors each contain two negatively worded conditions, which are potentially confusing. See ES201, App. B, C.2.e for a discussion of negatively worded stems. Consider rewording question as "Which of the following parameters is used to indicate that a LOCA outside of containment is isolated in accordance with EPP-013?" Answer/distractors would be the parameters given, without the trends. Another option would be to ask ""Which of the following parameters and trends indicates that a LOCA outside of containment is isolated in accordance with EPP-013?" a. RCS pressure is stable. b. RCS pressure is increasing. c. RAB radiation levels are stable. d. RAB radiation levels are decreasing. FJE 7/19/07 Facility rewrote question to address above concerns. Revised question is SAT. FJE 8/20/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
55	H	2				~~X~~								~~U~~ S	E05EK2.2 Editorial: None Non-editorial: Why are any of the plant conditions required to answer the question? Lowering RCS loop temperatures (Options B and D) are not plausible distractors for indications that would require feed and bleed during a loss of heat sink. Question appears to meet this K/A because the question asks for the indications (interrelationship) that require heat removal using the primary coolant system following a loss of heat sink. Question would more closely match the K/A if it also addressed the proper operation of feed and bleed (e.g. why feed then bleed or why important to establish rapidly) rather than two concepts (core Delta T and loop Temp) that are closely related. Consider modifying to address second half of K/A, e.g. Notes before steps 5, 9, or example concepts above. Unsat for two implausible distractors. FJE 7/19/07 Facility revised question to eliminate implausible distractors. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
56	F	~~3~~ 2	~~X~~											~~E~~ S	E11EA1.3 Editorial: Place the two objectives within each distractor on separate lines to allow easier comparison of answer options. Non-editorial: Answer options consist of methods and objectives. For example, the statement "Maximize SI flow to ensure core cooling…" appears to consist of an objective (ensure core cooling) as well as a method to achieve the objective (Maximize SI flow). Consider modifying the question to correspond to the answer options provided. Each option consists of four parts, e.g. distractor A contains: 1. Maximize SI flow (method) 2. Ensure core cooling (objective) 3. Initiate makeup to RWST (method) 4. Ensure RCS inventory (objective) Since each method is unique to its associated objective, the methods could be eliminated and the question simplified. Consider rewriting the answer options as: A. Ensure core cooling (might need to change this distractor) Maintain RCS inventory B. Delay depletion of RWST Minimize RCS inventory requirements C. Restore emergency recirculation capability Minimize RCS inventory requirements D. Delay depletion of RWST Restore emergency recirculation capability FJE 7/19/07 Facility revised question to address above comments. Revised question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
57	F	2												S	024AK1.04 Editorial: Could not find the word "preferred" in AOP-002, only reference to an "alternate" path. Clarify stem. Does the boron concentration given also represent a minimum? If so, state in question. Justify basis for Higher LOK. Appears to be memory (F) based on "preferred path" = BAT and "alternate path" = RWST and memory of tech spec paramaters. FJE 6/21/07 Facility changed LOK to F and made editorial changes. FJE 6/29/07 Facility revised formatting based on validation comment. No change to intent of question or distractors. Question remains SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
58	H	2	~~X~~	~~X~~		~~X~~								~~U~~ S	036AK3.03 Editorial: Make all verbs consistent with past tense, i.e. change "are received" to "were received" and change "is entered" to "was entered." Question asks for FIRST action, but if crew is in AOP-013 they would have had to first perform Section 3.0 and Step 1 of Section 3.2 in order to get to the distractors. Consider changing last bullet to "The crew has just checked for containment radiation monitor alarms per step 1 of AOP-013, Section 3.2, Fuel Handling Accident in Containment." Consider changing question to place action and reference to procedure together, i.e. "Which ONE (1) of the following correctly describes the NEXT action required per AOP-013 for the above conditions AND the reason the action is performed next?" Put actions and reasons on separate lines to allow easier comparison of answers. Non-editorial: Background document supports evacuation taking priority over fuel movement, but not all other actions. Additionally, use of "all" in A and "always" in C suggest incorrect options. See App. B 2.m.(8) pg 15 of 26. The answer is the only option with a qualifier (ONLY when...). This is a specific determiner (clue). See App. B. 2.m.(7) pg. 15 of 26. Distractor D contains information regarding accident analysis assumptions that is beyond required RO knowledge (not plausible). Replace. Unsat due to psychometric problems (specific determiners) stated above. Consider rewriting to test only required action and not AOP basis (would still meet intent of K/A), e.g. State containment monitors are not in alarm. A. Perform an evacuation of containment. B. Place the affected fuel assembly in the Refueling Canal upender. C. Place the affected fuel assembly in ___ D. Establish containment closure within 120 minutes of event onset. FJE 6/22/07 Facility reviewed comments and stated they wished to table discussion until after they have formulated a solution. Question remains Unsat. FJE 6/28/07. Facility rewrote question to address above problems. Revised question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
59	F	2				~~X~~								~~E~~ S	061AK1.01 Editorial: Add "in" after "used" in the question (grammar). Consider column headers above the answer options, e.g. Type of Detector Maximum Range A. Geiger-Mueller 10 7 Rem/Hour Non-editorial: It is unlikely that a high range monitor would read units of millirem (distractor credibility). Additionally, the examinee must convert millirem to Rem to compare answers. Replace 10 7 millirem with 10 4 Rem/Hour. Why is detector type being tested? Is there a more direct detector limitation with operational implications (per K/A) that could be tested using ARP or AOP material? Do you have a technical (OP, ARP, etc.) reference to support the question? FJE 6/25/07 Facility revised to address above concerns and agreed to provide technical referernce. Question is SAT pending receipt of tech ref. FJE 6/29/07 Facility replaced question because answer to original was not supported by technical reference. New question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
60	H	2				X	X							U S	069G2.4.6 Editorial: Stem states that "crew transitions to the appropriate procedure" from EPP-012. This is confusing and implies, but does not state, that crew is performing FRP-J.1. Was this to avoid procedure selection for ROs? Non-editorial: Second half of distractor C is not plausible because 1) distractor is written as an absolute, i.e. In the EOP network, FRPs (always) take priority. This is a specific determiner and there are many instances, e.g. yellow path FRPs, when this is not true. The second half of A and B appear to both be correct, i.e. restatements of the same concept. Unsat due to two correct answers pending resolution. Additionally, please provide technical reference (e.g. plant specific background document) supporting 2nd half of answer. All four reasons were presumably intended to be unique, which means that if the applicant knows the reason, they potentially do not need to know which procedure to operate in. Additionally, it's since J.1 references EPP-012, is the crew operating CS pumps per J.1 or EPP-012? Might be better asking if crew should start a CS pump per J.1 or leave pump secured per EPP-012. Will evaluate pending rewrite to address multiple correct answers. FJE 6/25/07 Facility was not prepared to address the comments. Question remains Unsat. FJE 6/29/07. Facility agreed on need to rewrite to address above comments. FJE 7/13/07 Facility revised question to address above problems. Revised question is SAT. FJE 8/20/07

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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
61	H	2										X		~~U~~ S	E01EA2.2 Editorial: No comments. Non-editorial: K/A is E01 Rediagnosis: EA 2.2: Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments. Question asks for actions while performing the reactor trip procedure, NOT rediagnosis (EOP-REDIAGNOSIS). Question does not meet first half (E01) of K/A and is unsat. Distractors C and D do not appear plausible given the low pressurizer level and rapid rate of pressurizer level decrease. Consider asking when rediagnosis can be entered/exited or place crew in rediagnosis, give some conditions, and ask for appropriate response. FJE 7/17/07 Facility agreed to revise/rewrite to address above concern. FJE 7/19/07. Facility rewrote to address above comments. Revised question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
62	H	2					~~X~~					~~X~~		~~U~~ S	E03EK2.1 Editorial: Consider combining bullets 2 and 3, e.g. "A controlled cooldown and depressurization of the RCS is in progress per EOP-EPP-009...." Non-editorial: K/A is E03: LOCA Cooldown and Depressurization EK2.1: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features. Question asks for procedure actions (ability) if SI accumulator valve will not shut during cooldown, which does not require knowledge regarding the component function or failure mode. Question does not meet K/A and is unsat. Answer D is ambiguous, i.e. once the accumulator is vented, why is it necessary to maintain RCS pressure? Step 28.f RNO implies you need to do one or the other, not both. C would appear to be correct, otherwise how would you continue in the procedure? Since the reason the valve will not shut is not specified, why is B incorrect? This would appear to be a reasonable action and would appear to be allowed by Step 28.f RNO. Question also appears to have multiple correct answers (unsat). FJE 7/17/07 Facility agreed to revise/rewrite to address above concerns. FJE 7/19/07. Facility rewrote to address above problems. Revised question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
63	H	~~3~~ 2	~~X~~	~~X~~							~~X~~			~~U~~ S	E10G2.1.23 Editorial: No comments. Non-editorial: Question is ambiguous in that applicant has to determine a plant condition that might result in a transition to two different procedures. Question is reverse logic in that applicant is supplied with information that he/she would normally have to supply (procedure transition) and asked to select information that is normally received (plant conditions). See NUREG-1021, Appendix B, Section G Consider re-writing question to provide specific plant conditions (e.g. parameters in the distractors) and require applicant to select correct procedure (answer should be EPP-006 or -007 in order to meet the K/A). The answer is much longer than any distractors (specific determiner). Unsat for psychometric problems identified above. FJE 7/17/07 Facility agreed to revise/rewrite to address above concerns. FJE 7/19/07. Facility rewrote question. Revised question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
64	H	2		X								X		~~U~~ ~~E~~ S	E13EA1.2 Editorial: No comments. Non-editorial: K/A is E13: Steam Generator Overpressure, EA1.2: Ability to operate and/or monitor the following as they apply to the Steam Generator Overpressure: Operating behavior characteristics of the facility. Question requires applicant to select correct procedure actions (EA2.1) for S/G overpressure, NOT operating behavior, e.g. understanding how related parameters change. Question does not match K/A and is unsat. Answer C is much longer than the other options (specific determiner). Answer C is the only option that contains a procedure reference. Additionally, if the applicant recognizes that an evaluation is required, then no additional knowledge is necessary (and answer C is the only option with this information). Options A and D contain reasons ((e.g. to reduce pressure) for performing the action, answer C and option B do not. Unsat for not matching K/A as well as psychometric problems described above. FJE 7/17/07 Facility explained tie to K/A. Question is "E." Facility agreed to revise to address other concerns identified above. FJE 7/19/07. Facility revised question to address all comments. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
65	H	2	~~X~~											~~E~~ S	E16EK2.2 Editorial: Recommend re-formatting last sub-bullet (status trees) to make it easier to read. Consider placing diagnosis and actions on separate lines. Spell out LOCA (avoids ambiguity and makes first half of answer/distractor the same length). Non-editorial: The question asks for a diagnosis of the event and action(s?) that will mitigate the event. The actions may not directly mitigate the event diagnosed (this will be addressed by the EOPs), but mitigate the challenge to one of the CSFs. Reword the question to be more specific. Answer A and option C contain an action that is conditional based on a parameter not provided in the stem, i.e. "... and start one ARR fan if permitted based upon Wide Range Containment level. What is the reason for not including the value of Wide Range Containment level in the stem? The options could be stated as ".... and start one ARR fan." This would shorten the answer/distractors and eliminate potential confusion. Specify steam or feed line break "inside containment." Examiner Note: Question meets K/A because diagnosis requires knowledge of the relationship between the condition of high containment radiation and the malfunction of the primary and secondary heat removal systems. FJE 7/17/07 Facility agreed to revise to address above concerns. FJE 7/19/07. Facility revised question to address above concerns. Question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
66	~~F~~ H	2				~~X~~	/							~~U~~ S	G2.1.31 Editorial: C states that temp is too high for LTOP to be in service. Stem does not state status of LTOP. Is this supposed to be inferred? First and second half of item are redundant in that first half says temperature is too high for LTOP and second half describe how to take it out of service. Similarly, the first part of D states that temperature is too low for the position the switch is in and the second part says to change the switch position. Rewrite to clarify cause and required action, e.g. Temp is too low for LTOP to be in service. Place 455A switch to BLOCK Could iterate off of hi/low temp and BLOCK/NORMAL None. Non-editorial: A and B do not appear plausible because 1) the alarm is related to a switch position, not a PORV position, 2) there is no information in the stem that would indicate that the PORV is open (A) (e.g. pressure trend) and the block valve should be closed. Additionally, opening an upstream block valve (B) would not address the problem of a closed PORV that should be open. Unsat for 2 implausible distractors. Consider rewriting to 455A switch position, 455A alarm setpoint value, RC-117 alarm, and / or control logic in each answer option. Justify Higher LOK. Appears to be memory (F) based on recognition of alarm setpoint / switch position. Note that knowledge of response is not implied by K/A. FJE 6/22/07 Facility revised to address above issues. Question is SAT. FJE 6/29/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
67	~~F~~ H	2				~~X~~								~~E~~ S	G2.1.28 Editorial: Provide a specific frame of reference instead of "30 seconds later." Distractor C does not state which time delay (presumably the actuation time delay is what was assumed?). Non-editorial: C would be more plausible if time in stem was less than 25 seconds, e.g. 20 seconds. May need to change C to state AMSAC is armed, but will NOT actuate.... Distractors B and D are mutually non-credible. If an applicant knows the three items actuated by AMSAC, then neither B nor D will be picked because both are incomplete. Rewrite. May be able to create new distractors by changing S/G levels. Justify Higher LOK. Appears to be memory (F) based on recognition that AMSAC is not armed below 36.5%. Consider rewriting similar to the following: Given the following plant conditions: • With the reactor at 40% power, the following sequence of events occurred: • At time = 0 seconds: Main Generator load suddenly dropped to 320 MWe. • At time = 25 seconds: The running main FW pump tripped. • At time = 63 seconds: All SG NR levels decreased below 36.3%, but the reactor did NOT trip. • At time = 66 seconds: All SG NR levels decreased below 33.3%. Under these conditions with NO operator action, AMS will ... A. NOT actuate since AMS is NOT armed. B. actuate at time = 66 seconds. C. actuate at time = 88 seconds. D. actuate at time = 91 seconds. FJE 6/22/07 Facility agreed to revise to address above concerns. FJE 6/29/07. Revised Question: Delete reason for not actuating in A (not in B-D). Two periods after "91 seconds." Provide technical reference other than lesson plan (e.g. logic drawing). Enhancement pending resolution. FJE 7/23/07 Facility revised question to address above concerns. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
68	F	2												~~U~~ S	G2.1.27 Editorial: Consider simplifying question, e.g. "Which ONE (1) of the following correctly describes the two inputs to the Rod Insertion Limit Computer/Comparator? A. Auctioneered high RCS Delta T P/A Converter output Etc. This would still meet intent of K/A (description of function). Non-editorial: Group Step Demand Counters are display devices with no output, i.e. not plausible. Additionally, they represent demanded position vs. actual position. Consider replacing with: "P/A output signal representing bank average rod position" "P/A output signal representing bank lowest rod position" or an output signal from another rod control component (e.g. Master Cycler output?) Reference supplied states that RIL uses median-select loop Delta T, not auctioneered high RCS Delta T as stated in the answer. Provide a technical reference, i.e. operating procedure, surveillance, or drawing, that shows inputs to RIL. Potential for no correct answer. Question is unsat until resolved due to conflict between answer and supplied ref material. FJE 6/21/07 Facility revised to address above concerns and agreed to provide technical reference. Question is SAT pending receipt of tech ref. FJE 6/29/07 Facility provided technical reference. FJE 8/21/07

Shearon Harris 2007-301

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
69	F	2	X			X								U S	G2.2.26 Editorial: Consider rewriting as "What is the MINIMUM shutdown margin in %(units) when the refueling boron concentration is GREATER than that required by the Core Operating Limits Report (COLR)? Non-editorial: What are the units for the value in question? %keff, % delta rho? State in question. Document the calculation of the correct answer based on the units intended. Note that %keff does not equate to 5% delta rho. Provide documentation for plausibility of distractors. Sources could include COLR and Tech Specs. Random numbers are not plausible. Unsat pending resolution of psychometric flaws identified. LOK = H if calculation required. FJE 6/21/07 Facility reviewed comments and stated they wished to table discussion until after they have formulated a solution. Question remains Unsat. FJE 6/29/07. Facility replace question with one that is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
70	F	2		X			X							U S	G2.2.30 Editorial: Consider revising the 3rd and 4th bullets for consistent tense, i.e. "...N-32 failed and the channel was declared..." and "Audio Count Rate was selected...." Non-editorial: Reference the governing procedure (FHP-014, or TS 3.9.2) in the stem. Arrange distractors from either most to least restrictive or least to most, i.e. A would be Either monitor and D would be both monitors. The terminology each option is inconsistent. A and B contain a description of NFMS N-60 and N-61 that is not in C and D (specific determiners/cues). The examinee should either remember or derive this information. C and D include the equipment number (N-60 or N-61) but not the description (NFMS Monitor). Reword for consistency. A and B are subsets of C. If the applicant assumes N-61 for C, then this would be the correct answer. Consider the following: Delete the 4th bullet. Which ONE (1) of the following correctly describes the MINIMUM NFMS Monitor(s) that must be operable in order to continue fuel movement in containment? Source Range Channel N-31 ONLY. Source Range Channel N-31 and NFMS Monitor N-61. Source Range Channel N-31 and NFMS Monitor N-62. Sourch Range Channel N-31 and BOTH NFMS Monitors N-61 and N-62. Appears to be a memory level (F) question. Provide justification for Higher COG level. Unsat for psychometric flaws described above. FJE 7/19/07 Facility revised to eliminate above problems. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
71	F	~~1~~ 2				~~X~~								~~U~~ S	G2.3.11 Editorial: The question implies that there is one purpose. Consider rewording as "Which one of the following correctly describes the two reasons that the controller for the PORV on a ruptured SG is adjusted to 1145 psig when performing EOP-PATH-2?" Non-editorial: Distractors are not plausible (see App. B, C.2.g and h and n.) for an applicant with minimal knowledge of plant design and SGTR procedures and have low discriminatory validity (see App. B, Att. 2, C.1 and D.1) Unsat due to implausible distractors / low LOD. FJE 7/19/07 Facility replaced with a SAT question after discussing potential overlap with audit written and NRC operating test. New question is SAT. FJE 8/21/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
72	H	2				~~X~~								~~U~~ S	G2.3.2 Editorial: Margins on first bullet do not align. Non-editorial: Very similar (overlap – see ES-301-3 item d) to admin JPM A3 (Knowledge of allowable dose based on an admin limit divided by dose rate). Basis for plausibility of distractors not provided. What is the significance of max doses of 1500mr, 2500mr, and 3000mr? Are these also administrative limits for other circumstances? Change to avoid overlap and address plausibility of distractors. Would the answer be different if the operator was loaned to another CP&L site for an outage and received dose at that site? Does either general employee training or operations training support knowledge of tenth or half thicknesses and/or point/line/plane source problems? Any formalized process for equitably distributing dose on a crew? What about requirements and ability to waive requirements for entry into a HRA (e.g. ALARA brief required/not; independent verification can be waived/not)? Unsat for overlap with admin JPM and distractor plausibility. FJE 7/19/07 Facility replaced with SAT question. FJE 8/20/07
73	F	2				~~X~~								~~E~~ S	G2.3.4 Editorial: Margins on first bullet do not align. Can omit the word "only" from the stem. Non-editorial: A does not appear plausible since this position is at a level much different than Answer D and distractors B and C and is not a title associated with E-Plan activities. Consider another plausible position at a similar level such as Operations Support Center Director or Emergency Repair Director (or equivalent). Which of these positions would authorize this activity at lower dose rates? In other words, why are these plausible? Could not determine plausibility from Verify B and D position titles used at Harris to ensure plausibility. FJE 7/19/07 Facility revised distractors. Question is SAT. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
74	F	2	X											~~E~~ S	G2.4.12 Editorial: Change "will take" to "must take" since there is no telling what the crew will do, only what they must do. Consider breaking the third bullet into two separate bullets – one for Core Cooling and one for Heat Sink. Consider changing the word "when" in B and C to "after." Add the word "both" to C. Non-editorial: What is the purpose of stating that "other equipment problems have complicated recovery of the plant" without providing a specific description of the problem? An applicant could be led to make assumptions, based on this statement, that might warrant deviating from the rules of use for EOPs. Delete the statement or provide specific plant conditions. Answer A may imply that the crew will finish C.1 before going to EPP-10, wihich would be incorrect per the C.1 foldout page. Consider changing the answer to "immediately" or "before completing any other actions in C.1" or something similar. Distractor analysis for C refers to EOP-102. Typo? Since there is no information in the stem regarding Red conditions other than Core Cooling and Heat Sink, the last portion of D is not needed. FJE 7/20/07 Facility rewrote question to eliminate above concerns. FJE 8/20/07

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
75	~~H~~ L	2										~~X~~		~~U~~ S	G2.4.21 Editorial: Please change the question from "... will the crew take?' to "is the crew required to take?" Place like items adjacent to each other in order to facilitate comparison, i.e. substitute distractor D for distractor B. Non-editorial: K/A is G2.4.21: Knowledge of the parameters and logic used to assess the status of safety functions. Question concerns rules of use for FRP procedures (e.g. G2.4.16) and the stem provides the status (assessment) of status trees without requiring any knowledge of the parameters and logic required for this assessment. Question does not match K/A, because no assessment of parameters and logic is required, and is unsat. FJE 7/20/07 Facility rewrote question. Revised question is SAT. FJE 8/20/07

SRO															
76	H	2										X		U	008G2.12 Editorial: Please indent all bullets representing plant parameters and indent them under the bullet "The following parameters exist:" 5th bullet (S/G level) – is "being controlled at" the same as "stable"? Non-editorial: K/A is Pressurizer Vapor Space Accident: Knowledge of operator responsibilities during all modes of plant operation. Question is geared to Emergency Procedures/Plan (G 2.4) not Conduct of Operations (G 2.1) and does not appear to test operator responsibilities. Unsat due to not meeting K/A. Why is C plausible, given RWST level? FJE 6/19/07 Facility requested new K/A. CE provided K/A WE11G2.1.7 FJE 6/29/07
	H	3												S	WE11G2.1.7 New K/A. Facility wrote new question. Question is SAT. FJE 8/21/07
77	H	2												S	055G2.4.6 Editorial: Please place procedure transition (first part of options) and information on status trees (second part of option) on separate lines. Options B and D contain "Once equipment is placed in Pull to Lock in EPP-001." This clause does not appear to be necessary. Can it be eliminated? If so, change second part of options to read similarly, e.g. "Monitor CSF Status trees for information only until…" FJE 6/18/07 Facility made editorial changes above. FJE 6/28/07

78	H	2	~~X~~											~~E~~ S	065AA2.03 Editorial: Not sure what author is trying to say in first part of question (1IA-819). Consider taking the assumption regarding valve position out of the question and move it to the Current Conditions, e.g. "The operator reports that the leak can be isolated by shutting 1IA-819." Place each action on a separate line within each answer option. Non-editorial: Answer options consist of multiple parts. However, procedure selection is unique for each choice. Therefore, if applicant knows correct section of AOP-17, no other knowledge of answer option is required. Rewrite to eliminate this concern. FJE 6/19/07 Facility made changes that address editorial and non-editorial items above. Question is SAT. FJE 6/28/07 Facility made changes to answer/distractors based on shift operating practices. Question remains SAT. FJE 8/20/07
79	H	3										~~X~~		~~U~~ S	058G2.1.14 Editorial: Consider rewording the question as "Which ONE (1) of the following describes the impact of the above conditions on TDAFW Pump operability and the action required to restore the DC Bus?" For each answer option, please operability and restoration actions on separate lines. Consider stating in the stem that DC Bus "B" is operable. Then A and B become "TDAFW Pump remains operable." Non-editorial: K/A is Loss of DC Power: Knowledge of system status criteria which require the notification of plant personnel. It appears that notifying maintenance of an equipment problem could be either added or deleted from all answer options with no effect on whether or not each is correct. Any equipment malfunction would presumably involve notifying maintenance. What is required to answer the question is not whether maintenance needs to be notified, but whether the standby charger can be placed in service or whether the bus must be repaired and restored. Does someone have to be notified of low bus voltage below a certain value? Unsat due to question not meeting K/A with respect to notifications. FJE 6/18/07 Facility made editorial changes and changes to address K/A match. Question tests if applicant recognizes that maintenance support is required to restore the bus. Question is SAT. FJE 6/28/07

80	H	~~3~~ 2											~~E~~ S	E04EA2.1 Editorial: Use consistent tense in each bullet, e.g. 2nd bullet should be "has been" or "was" initiated. Please place each action within each option on a separate line, e.g. for C. Remain in PATH-1 When transition criteria is met, GO TO EPP-009..... Non-editorial: What transition, if any, is implied in A and B. Does crew remain in Path 1, or transition to EPP-013? Option D does not provide a reason for the action taken (stopping ECCS pumps) as the other options do. Provide a plausible reason in order to make all options homogeneous. FJE 6/19/07 **Additional comment 6/22/07:** 1SI-341 is only closed after the operator closes 1SI-340 and checks RCS pressure response. Both valves will only be closed if the leak is NOT from either train cold leg injection. Mitigation strategy would be more general, i.e. sequentially isolate low head SI to cold leg injection isolation valves. Concern is for either insufficient information in stem or no correct answer if question is perceived as "actions required" vs. "mitigation strategy." Provide background document reference that shows reason for correct strategy/actions. FJE 6/22/07 Facility made editorial changes, changed distractors, and explained background reference material. Question is SAT. FJE 6/28/07

81	H	2	~~X~~											~~E~~ S	E05EA2.2 Editorial: None. Non-editorial: Question asks for what is required. Options provide a mix of procedure, the reason, and the status of the CSF. As written, D is 'CSF is Red, return to procedure & step in effect' which is not plausible. Consider rewording as follows: Which of the following correctly describe the action(s) required per FRP-H-1? A. Remain in FRP-H.1 until....then return to P&S in effect. B. Remain in FRP-H-1 until...then return to P&S in effect. C. Remain in FRP-H-1 and initiate RCS Bleed and Feed. D. Immediately return to procedure and step in effect. Modify S/G levels and provide containment pressure to add credibility to A, B, D. Another option would be to place them after a F&B and test difference in transition criteria if F&B has been initiated. FJE 6/19/07 Facility changed question to address concerns above. Question is SAT. FJE 6/28/07

82	H	2				X						X		U S	036AA2.02 Editorial: Change "A Fuel Assembly is dropped..." to "A fuel assembly was dropped..." Non-editorial: K/A is Ability to determine and interpret the following as they apply to the Fuel Handling Incidents: Occurrence of a fuel handling incident. How does the question test whether an SRO understands if a fuel handling incident has occurred or not (i.e. whether entry into AOP-13, or some other AOP) is required? B and D don't seem plausible because evacuation, which appears in all four choices, would presumably not be contingent on any other actions if all area rad monitors are alarming. Does general plant training cover this (i.e. area monitor alarm = exit area)? Additionally, an "if so" statement in the option forces the applicant to make an assumption not presented in the stem. Why would securing FHB ventilation be plausible? Also, nomenclature is different than correct answer. Unsat due to K/A mismatch. Suggestion: re-write to address K/A and focus on elements of AOP(s) other than evacuation. Might be able to re-write by eliminating AOP-013 entry from stem, adding additional information in stem, and asking "Which of the following actions are required? Answer options could be a combination of two different procedures and two different actions. FJE 6/19/07 Based on comments, facility requested to table discussion of question in order to evaluate whether to fix or replace and consider problems with a similar (SRO 84) question. Question remains Unsat. FJE 6/28/07 Facility rewrote question. Revised question is SAT. FJE 8/21/07

83	H	2					~~X~~							~~E~~ S	059G2.1.23 Non-editorial: The first half of the question is really "Is the RWST Low Level alarm setpoint above or below the Tech Spec operability limit?" Do you have any examples of low (high) alarms where the alarm setpoint is below (above) the operability limit? If not, A and B do not appear plausible. If RWST level decreases below the operability limit, would C be incorrect? Concern is potential for multiple correct answers, since stem does not state action in accordance with a particular procedure or provide RWST level. FJE 6/18/07 Facility made changes that addressed the above concerns. Question is SAT. FJE 6/28/07

84	H	3					X					X		U S	061G2.4.50 Editorial: Which alarms have been verified in 5th bullet? Each choice contains two actions. Please change question to actions (plural) and place actions on separate lines for each option. Consider reversing the order of the actions in C and D to be consistent with A and B, e.g. C. "Initiate action to determine the cause of the alarms. Determine if makeup to the SFP is required IAW AOP-005. Non-editorial: 2nd half of K/A is Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. Question does not address setpoints or ability to operate controls? Specify in the question the procedure that requires the action, e.g. "Which one of the following describes the actions required by ALB-10-4-5?" With no fuel xfr activities stated in the stem, AOP-13 does not seem plausible. AOP-13 would be more plausible if there were fuel handling activities in progress, but entry conditions for AOP-13 were not met. Could also consider changing AOP-13 to a system OP concerning the SFP. Unsat due to not meeting K/A with respect to annunciator setpoints and/or controls. FJE 6/19/07 Based on comments, facility requested to table discussion of question in order to evaluate whether to fix or replace and consider problems with a similar (SRO 82) question. Question remains Unsat. FJE 6/28/07 Facility replaced question with a SAT question. FJE 8/21/07

85	H	2												S	E06EA2.1 Editorial: Trend is provided for containment pressure, but not CETC and subcooling. Would operators normally report a trend for these parameters? If so, include trend. Non-editorial: None. FJE 6/19/07 Facility made editorial changes. FJE 6/28/07

86	H	3	~~X~~			~~X~~								~~U~~ S	003A2.02 Editorial: Question asks for an action. Options consist of an action (procedure entry) and when a tech spec action can be exited (without specifying the tech spec entered.) Reword question to include all of what is being asked. Stem provides temperature values but does not specifically identify which RCP they are associated with. Label or format them to make it obvious. Non-editorial: Answer options A/C and B/D are not homogeneous. A and C specify a plant parameter yielding Mode and B and D specify Mode directly. Knowing parameters yielding Mode is not part of the K/A. Consider rewording A/C as ...will be exited as soon as the unit is in Mode 2. All choices assume that the C RCP will be lost (tripped?). How does this distinguish between conditions requiring a normal RCP shutdown vs. an abnormal shutdown (and meet the K/A)? Disagree with plausibility of A and C, unless the plant can start up with 2 RCPs. Unsat for 2 implausible distractors. Re-write to better match K/A if plant procedures will support this. Does AOP-14 direct tripping of RCPs? Consider improving plausibility of procedure choices by specifying a plant condition (e.g. valve shut) vs. directly saying CCW flow to "C" RCP was lost. FJE 6/18/07 Facility made changes to address editorial comments and comment regarding K/A. Facility agreed on need to change 2nd half of answer (Tech Specs) options to address remaining concerns (distractors). Question remains Unsat. FJE 6/28/07 Facility revised question to address above comments. Revised question is SAT. FJE 8/21/07

87	H	2	~~X~~											~~E~~ S	010A2.02 Non-editorial: Options A and C are three part choices – 1) action, 2) reason, 3) correct or incorrect statement regarding Tech Specs. Options B and D are two part choices – 1) action(s), i.e. trip and plant S/D, and 2) reason. Question asks for a single action and the reason. Rewrite so question and all answer options are consistent. B and D are described as incorrect because a reactor trip is required first. The question does not ask for the first action. Is an RCP required to be tripped? Which one(s)? Answer options A/C and B/D are not homogeneous. A/C provide specific reasons with respect to Tech Specs. B/D provide a general reason "outside of design basis." Provide plausible specific reasons related to Tech Specs for options B and D. What is intended by "plant shutdown initiated" in B and D? If I trip the reactor, do I initiate a shutdown? Consider formatting answer options as follows: A. Right action, right reason B. Right action, wrong reason C. Wrong action, same right reason as A D. Same wrong action as C, same wrong action as B FJE 6/18/07 Facility made changes to address comments regarding question structure. Facility agreed on need to change 2nd half of answer for plausible distractors at the SRO level. Question still requires Enhancement. FJE 6/28/07 <u>Revised Question</u>: Editorial: Any reason to not specify the specific AOP in the current conditions? Non-editorial: Restate the first half of A and B as "Trip the reactor" because they appear more favorable by mirroring the word "required" as used in the question. Do not understand the plausibility of second half of C and D. Distractor analysis for C discusses temperature, but no temperatures are specified in stem. Enhancement until resolved. FJE 7/23/07 Facility revised question. Revised question is SAT. FJE 8/21/07

88	F	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	026G2.1.27 Editorial: Question asks for the design basis. Options include design basis and function. Re-word question to be consistent with answer options. Additionally, multiple accidents are beyond design basis (implausible distractors) Unsat due to level of difficulty. FJE 6/18/07 Facility made editorial change and discussed LOD w/ CE. Facility agreed to provide distractor analysis to support plausibility of 2 concurrent accidents. CE to re-review. FJE 6/28/07 Facility discussed plausibility w/ CE. Question is SAT. FJE 8/21/07
89	~~F~~ H	2											~~X~~	~~E~~ S	063G2.4.50 Editorial: Initial conditions are not needed if question 1) is reworded as "the voltage condition that will result if a ground is present on a 125 VDC Emergency Bus, and" Since "HIGHEST" is specified in question 2), the less than signs are not needed in the answer options. You could also consider changing 2) to "the HIGHEST voltage at which the Emergency Battery remains operable" if you think this is easier to read (and change choices to 130/105). Non-editorial: Provide basis for why SRO-level. Knowledge of limiting values for Tech Spec entry is typically RO knowledge. Provide basis for why Higher LOK. FJE 6/19/07 Facility made changes to address concerns listed above and satisfactorily explained basis for SRO-level. Question is SAT. FJE 6/28/07. Facility made editorial changes (validation comment). Question remains SAT. FJE 8/21/07

90	F	2												S	103A2.01 Editorial: Consider placing each action within each option on a separate line in order to make it easier for the applicant to compare answer options. Non-editorial: Consider simplifying the answer choices, each of which consists of three parts, by eliminating the last portion, as outlined below: A. Immediately verify closed. Lock w/in 1 hr. B. Immediately verify closed. Lock w/in 24 hrs. C. Verify closed w/in 1 hr. Lock w/in 1 hr. D. Verify closed w/in 1 hr. Lock w/in 24 hrs. Please provide justification for higher LOK. Note RO IR is 2.0. FJE 6/19/07 Facility made editorial changes and agreed on lower (F) LOK. FJE 6/28/07.

91	H	2	~~X~~				~~X~~						~~X~~	~~E~~ S	015G2.4.31 Editorial: Either delete last bullet or change "appear normal" to "are normal." Question asks for a single action. Answer options B, C, and D contain two actions. Non-editorial: What information in the stem makes option B wrong? The question does not ask for the first action and does not provide a value for QPTR. Similar logic for option A. Consider adding something about maximum deviation between channels to make A plausible. Is the intent to ask for an action required by the technical specifications or by the annunciator response? AOP entry conditions, Tech Spec entry conditions, and when Nis require calibration is RO knowledge. Consider iterating off of QPTR alarm operatiliby (SRO), e.g. A. QPTR alarm operable. Correct action B. QPTR alarm operable. Incorrect action C. QPTR alarm inoperable. Correct action D. QPTR alarm inoperable. Incorrect action FJE 6/18/07 Facility made changes to address all concerns above. Question is SAT. FJE 6/28/07

92	F	2	X			X						X		U	001G2.2.25 Editorial: Inconsistent use of capitalization of control rod drop in 2nd and 3rd bullets. Reword question because question asks for limitations and answer C is 'no limits.' Non-editorial: Since stem of question does not discuss shutdown margin or power distribution, what makes B plausible? Options A and B state Mode 2 cannot be entered. If the unit is performing a startup, aren't they already in Mode 2, at least administratively? If so, A and B are not plausible or question/options need to be reworded for correct tense. What is basis for categorizing as higher order question? 2nd half of K/A is Knowledge of bases in technical specifications for limiting conditions for operation and safety limits. Knowledge of bases does not factor in to answering question since required plant parameters are part of action statement. Unsat due to psychometric flaws and not meeting K/A. FJE 6/18/07 Facility elected to replace vs. fix question. FJE 6/28/07
	H	3	~~X~~	~~X~~										E S	New question Editorial: Any reason to not include the specific AOP in the 1st bullet? Fourth bullet: Wouldn't the crew also be in another AOP in order to determine this? Ask the question more directly vs. what is appropriate, i.e. Which ONE (1) of the following correctly describes the minimum time allowed to realign the affected rod(s), and the basis for this action, in accordance with Technical Specifications? Why is Shutdown Margin capitalized (A and B) but power distribution limits (C and D) is not? Non-editorial: Delete "Realign the mispositioned rod…" as this could be a cue – let the applicant determine the impact. Add the word "adequate" in front of "Shutdown Margin" in A and B. Note that C and D use the qualifier "acceptable" with "power distribution limits." Enhancements to eliminate potential cues and specific determiners. FJE 7/23/07 Facility revised to eliminate two correct answers (validation comment) and above concerns. Question is SAT. FJE 8/21/07

93	F	2												~~E~~ S	034A1.01 Editorial: Consider rewording question as "Which ONE (1) of the following correctly describes the operation of the .....?" Consider rewording C and D as "Multiple selectable interlocks will...." This would eliminate words and eliminate a potential cue (App. B C.1.g) FJE 6/18/07 Facility made editorial changes to improve clarity and remove potential cue. Question is SAT. FJE 6/28/07 Facility revised question after discussing validation comment of low/no operational validity. Revised question is SAT. FJE 8/21/07
94	F	2												S	G2.1.10 No comments. FJE 6/19/07.
95	H	~~3~~ 2												S	G2.1.22 Editorial: "required operability" sounds odd. Consider rewriting as "... whether or not CVI is required to be operable," or "the required status of CVI in accordance with Tech Specs" Non-editorial: What is the purpose of stating that the containment equipment hatch is open? Is this needed for plausibility or can it be eliminated? FJE 6/19/07 Facility made changes to address above items. LOD = 2. FJE 6/28/07 Facility made minor changes to improve operational validity (validation comment). Question remains SAT. FJE 8/20/07

96	F	2												S	G2.2.11 Editorial: Wording of question appears somewhat awkward. Consider rewording as "Which ONE (1) of the following correctly describes a responsibility of the WCC-SRO when processing a Temporary Change (Plant Modification) in accordance with....." Could D be shortened? Consider rewriting as "Perform a periodic audit of Temporary Change Tags." Add a period at the end of distractors C and D. Non-editorial: None. FJE 6/19/07 **Additonal Comment 6/22/07:** Why is A incorrect based on EGR-NGGC-005 9.7.2.3 "AT CR#, Operations is responsible for identification of tagging." Two potentially correct answers. Resolve. FJE 6/22/07 Facility made editorial changes and explained why additional comment is not a concern (CR = Crystal River). FJE 6/28/07

97	F	2				~~X~~								~~E~~ S	G2.2.31 Editorial: Question appears to be two questions 1) approval for step deviations, and 2) approval for temp storage. Consider rewriting to ask for one or the other, not both, e.g. "... describes the approval(s) required to deviate from an approved fuel shuffle sequence iaw FPH-014?" Add a period at the end of distractor A. Non-editorial: Single approval for changes in reactivity, i.e. distractors A and C, do not appear plausible. Consider changing A. to Approval by SRO-FH. Concurrence by someone in nuclear engineering, and C. to Approval by someone in nuclear engineering, concurrence by Supt – Shift Ops. Another option would be to ask who must concur with the SRO-FH and provide a list of single choices. FJE 6/19/07 **Additional Comment 6/22/07** It appears that concurrence from both S-SO and RE/SD is required per FHP-104 step 19. If so, no answer is completely correct since three people are involved. Resolve. FJE 6/22/07 Facility made changes to address all concerns. Question is SAT. FJE 6/28/07

98	F	2				X								E S	G2.3.6 Editorial: Consider rewriting as: "Which ONE of the following correctly identifies the tank(s) that can be released in both the batch and continuous release modes and the supervisor responsible for authorizing the release?" What is S-SO? Supervisor – Shift Operations? Non-editorial: Is the limit on continuous release of WMTs a procedural or physical limitation? If by procedure, i.e. not a physical limitation, then reference the applicable procedure in the question. Consider eliminating reference to batch release in stem and asking only for tank(s) that can be continuously released. What is the role of the Chemistry Supervisor (why is this plausible)? Who else, by title, is involved with releases? One option would be to ask for the HIGHEST level of approval required and iterate on various operations supervision titles. Comment section states that question is modified. Please provide original question or describe modifications. FJE 6/19/07 Facility made changes to address above concerns. Facility agreed to check procedure and release form signature requirements to ensure only one correct answer. Question will be SAT if review determines only one answer. FJE 6/28/07 Facility stated that references support single correct answer. Question is SAT. FJE 8/21/07

99	H	2	~~X~~			~~X~~								~~U~~ S	G2.4.9 Editorial: Add the procedure (GOP) and section currently in effect to the stem. Non-editorial: GP-008, Rev. 29, section 5.3 indicates that Reduced Inventory is 36-60 inches below the RV flange. Reference provided to justify reducing RHR flow is Mid-loop Operation. Verify conditions in stem and distractors are consistent. Distractor B states close FCV-605A RHR HX Bypass Flow Control valve to reduce RHR flow. Closing the bypass would appear to increase RHR flow. GP-008 reference page provided has Section 5.2, step 24.a(2), throttle 1RH-30 (HCV-603A) highlighted. ???? Distractor C states throttle the flow rate of the drain down or isolate the drain down flow path. The stem of the question provides no information regarding the status of a drain down and no trend for RCS vessel level. Going to, or remaining in a GOP during RHR pump cavitation does not appear plausible. GOP-8 does not address erratic RHR parameters. Unsat due to distractor B and C plausibility / stem focus. Comment section indicates that question is modified. Please provide original question and/or description of modifications. FJE 6/19/07 Facility agreed that changes are necessary and stated they will revise the question per the above comments. Question remains Unsat. FJE 6/28/07 Facility rewrote question. Revised question is SAT. FJE 8/21/07

100	H	3	~~X~~											~~E~~ S	G2.4.41 Editorial: Make tense of verbs in bullets consistent with sequence of events, e.g. "A controlled shutdown was being performed...." Rewrite question as ".... the HIGHEST emergency classification..." in order to preclude multiple correct answers. Other: Plan on walking through / explaining use of flowchart. Concern is potential that not all information required to arrive at answer is present in stem. Question labeled "E" pending resolution. FJE 6/19/07 Facility made editorial changes and satisfactorily explained concern about incomplete information to CE. Question is SAT. FJE 6/28/07

ES-403, Rev. 9 | **Written Examination Grading Quality Checklist** | Form ES-403-1

Facility: Harris	Date of Exam: 8/23/07	Exam Level: RO and SRO

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

	Printed Name/Signature	Date
a. Grader	MARK A. BATES / Mark A. Bates	09/07/2007
b. Facility Reviewer(*)	N/A*	N/A
c. NRC Chief Examiner (*)	FRANK J. EHRHARDT / F. Ehrhardt	9/10/07
d. NRC Supervisor (*)	N/A*	N/A

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

Post-Examination Check Sheet		
Task Description		**Date Complete**
1.	Facility written exam comments or graded exams received and verified complete	8/30/07
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	9/4/07
3.	Operating tests graded by NRC examiners	9/17/07
4.	NRC chief examiner review of operating test and written exam grading completed	9/17/07
5.	Responsible supervisor review completed	9/20/07
6.	Management (licensing official) review completed	9/20/07
7.	License and denial letters mailed	9/20/07
8.	Facility notified of results	9/20/07
9.	Examination report issued (refer to NRC MC 0612)	10/4/07
10. Reference material returned after final resolution of any appeals		9/20/07

Progress Energy

May 18, 2007

SERIAL: HNP-07-072

Mr. Robert C. Haag, Region II
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303-8931

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REACTOR AND SENIOR REACTOR OPERATOR
INITIAL EXAMINATIONS 05000400/2007301 OUTLINES

Dear Mr. Haag:

Enclosed are the proposed examination outlines for the Reactor and Senior Reactor Operator Initial Examinations to be given at the Harris Nuclear Plant the weeks of August 6 and August 13, 2007. This submittal complies with the requirement identified in the NRC's March 9, 2007, correspondence to furnish the outlines by May 23, 2007. The enclosed materials shall be withheld from public disclosure until after the examinations are complete.

If you have any questions regarding these materials, please contact Mr. John Dalton at (919) 362-3500.

Sincerely,

Greg Kilpatrick
Superintendent – Operations Training
Harris Nuclear Plant

DGK/mgw

Enclosures

c: Mr. P. B. O'Bryan (NRC Senior Resident Inspector, HNP) w/o Enclosures
Dr. W. D. Travers (NRC Regional Administrator, Region II) w/o Enclosures
Ms. L. M. Regner (NRR Project Manager, HNP) w/o Enclosures

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P. O. Box 165
New Hill, NC 27562

Progress Energy

SERIAL: HNP-07-084

June 15, 2007

Mr. Robert C. Haag, Region II
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303-8931

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REACTOR AND SENIOR REACTOR OPERATOR
INITIAL EXAMINATIONS 05000400/2007301

Dear Mr. Haag:

Enclosed are the proposed written examinations, operating tests, and supporting reference materials for the Reactor and Senior Reactor Operator Initial Examinations to be given at the Harris Nuclear Plant the weeks of August 6 and August 13, 2007. These materials are being provided as requested by the NRC's letter dated March 9, 2007. The enclosed materials shall be withheld from public disclosure until after the examinations are complete.

If you have any questions regarding these materials, please contact Mr. John Dalton at (919) 362-3500.

Sincerely,

Greg Kilpatrick
Superintendent – Operations Training
Harris Nuclear Plant

DGK/mgw

Enclosures

c: Mr. P. B. O'Bryan (NRC Senior Resident Inspector, HNP) w/o Enclosures
Dr. W. D. Travers (NRC Regional Administrator, Region II) w/o Enclosures
Ms. L. M. Regner (NRR Project Manager, HNP) w/o Enclosures

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P. O. Box 165
New Hill, NC 27562

Progress Energy

SERIAL: HNP-07-109

August 2, 2007

Mr. Robert C. Haag, Region II
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303-8931

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REACTOR AND SENIOR REACTOR OPERATOR
INITIAL EXAMINATIONS 05000400/2007301

Dear Mr. Haag:

Enclosed are revised proposed operating examinations for the Reactor and Senior Reactor Operator Initial Examinations to be given at the Harris Nuclear Plant the week of August 13, 2007. This submittal contains proposed operating examinations which have been revised following resolution of comments from the NRC Chief Examiner.

The enclosed materials shall be withheld from public disclosure until after the examinations are complete.

If you have any questions regarding these materials, please contact Mr. John Dalton at (919) 362-3500.

Sincerely,

Greg Kilpatrick
Superintendent – Operations Training
Harris Nuclear Plant

DGK/mgw

Enclosures

c: Mr. P. B. O'Bryan (NRC Senior Resident Inspector, HNP) w/o Enclosures
Dr. W. D. Travers (NRC Regional Administrator, Region II) w/o Enclosures
Ms. L. M. Regner (NRR Project Manager, HNP) w/o Enclosures

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bc: (w/o Enclosures)
Mr. J. R. Dalton
Mr. J. W. Gurganious
Mr. E. A. McCartney
Ms. T. M. Midgette
Mr. T. T. Toler
Mr. M. G. Wallace
Mr. J. C. Warner
Nuclear Records
Licensing File

6/23

Progress Energy

SERIAL: HNP-07-108

August 21, 2007

Mr. Robert C. Haag, Region II
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303-8931

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REACTOR AND SENIOR REACTOR OPERATOR
INITIAL EXAMINATIONS 05000400/2007301

Dear Mr. Haag:

Enclosed are revised proposed written examinations for the Reactor and Senior Reactor Operator Initial Examinations to be given at the Harris Nuclear Plant the week of August 20, 2007. This submittal contains proposed written examinations which have been revised following resolution of comments from the NRC Chief Examiner.

The enclosed materials shall be withheld from public disclosure until after the examinations are complete.

If you have any questions regarding these materials, please contact Mr. John Dalton at (919) 362-3500.

Sincerely,

Greg Kilpatrick
Superintendent – Operations Training
Harris Nuclear Plant

DGK/mgw

Enclosures

c: Mr. P. B. O'Bryan (NRC Senior Resident Inspector, HNP) w/o Enclosures
Dr. W. D. Travers (NRC Regional Administrator, Region II) w/o Enclosures
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