ADMINISTRATIVE DOCUMENTS

(Yellow Paper)

1. Exam Preparation Checklist ES-201-1
2. Exam Outline Quality Checklist ES-201-2
3. Exam Security Agreement(s) ES-201-3
4. Administrative Topics Outline (Final) ES-301-1
5. Control Room Systems & Facility Walk-through Test Outline (Final) ES-301-2
6. Operating Test Quality Check Sheet ES-301-3
7. Simulator Scenario Quality Check Sheet ES-301-4
8. Transient and Event Checklist ES-301-5
9. Competencies Checklist ES-301-6
10. Written Exam Quality Check Sheet ES-401-6
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 Letters DTD 9/25/07 – 8/17/07 [ ]

FARLEY NOV/DEC 2007-301 EXAM

05000348/2007301 AND 05000364/2007301

NOVEMBER 5 - 15, 2007
DECEMBER 21, 2007

Facility: Farley Date of Examination: 10/29/07

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)]	/FJE
{-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)	/FJE
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	/FJE
{-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)	/FJE
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	/FJE
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	/FJE
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	/FJE
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	/FJE
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	/FJE
-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)	/FJE
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	/FJE
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	/FJE

* 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

Facility: Farley Date of Examination: 10/29/07

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

	Printed Name/Signature	Date
a. Author	Charles V. (Vince) Richter /	07/25/07
b. Facility Reviewer (*)	Donna M. Christiansen /	07/25/07
c. NRC Chief Examiner (#)	F. EHRHARDT /	7/27/07
d. NRC Supervisor	Robert HAAG /	7/27/07

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

"FINAL"

Facility: Farley Date of Examination: 11/05/07

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

	Printed Name/Signature	Date
a. Author	Charles V. (Vince) Richter /	10/30/07
b. Facility Reviewer (*)	Donna M. Christiansen /	10/30/07
c. NRC Chief Examiner (#)	Frank J. Ehrhardt /	11/1/07
d. NRC Supervisor	RICHARD S. BALDWIN /	11/1/07

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

DRAFT - OUTLINE 8/20

Facility: Farley Date of Examination: 10/29/07

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

	Printed Name/Signature	Date
a. Author	Charles V. (Vince) Richter /	08/17/07
b. Facility Reviewer (*)	Donna M. Christiansen /	08/17/07
c. NRC Chief Examiner (#)		
d. NRC Supervisor		

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

na indicates signed for on previously submitted form

Outline

Facility: Farley Date of Examination: 10/29/07

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

	Printed Name/Signature	Date
a. Author	Charles V. (Vince) Richter /	08/22/07
b. Facility Reviewer (*)	Donna M. Christiansen /	08/22/07
c. NRC Chief Examiner (#)	Frank J. Ehward /	8/28/07
d. NRC Supervisor	Robert HAAG /	9/4/07

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

FINAL - WRITTEN

Facility: Farley Date of Examination: 12/21/07

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

	Printed Name/Signature	Date
a. Author	Charles V. (Vince) Richter / GR Richter	12/19/07
b. Facility Reviewer (*)	Donna M. Christiansen / DMC	12/19/07
c. NRC Chief Examiner (#)	Frank J. Ehrhardt / Frank J. Ehrhardt	12/20/07
d. NRC Supervisor	MARK A. BATES / Mark A. Bates	12/20/07

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

Southern Nuclear
Operating Company, Inc.
Post Office Drawer 470
Ashford, Alabama 36312

Tel 334.899.5156
Fax 334.814.4661

FNP-2008-004-TRN

SOUTHERN COMPANY
Energy to Serve Your World℠

1/8/2008
Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt,

Enclosed is our Post Examination ES-201 Form, Examination Security Agreement, with all required signatures.

If you have any questions, please contact Charles V. (Vince) Richter at (334) 794-0800 extention 6179.

Sincerely,

cvr

Donna M. Christiansen
OPS Training Supervisor

Enclosure

CVR/DMC
cc: File

1-9-08

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of Oct 22/29 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 (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 11/5 & 12 (*) 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. (*) 12-21

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Richard Wells	OPS Manager	RWells	8/31/07	RWells	1/2/08	
2.	Doyle Sellers	Plant operator	DSeller	9-3-7	DSeller	1-8 08	
3.	Key Warren	SSS	[illegible] III	9-3-07	[illegible] III	1-8-08	
4.	Dan Williams	Shift Supervisor	Dan Williams	9-3-07	[illegible]	1-8-08	
5.	DeWayne Conyers	PLANT OPERATOR	[illegible]	9-3-07	[illegible]	1/7/08	
(1) 6.	~~Richard Langford~~	~~OPS Plant Instructor~~	~~[illegible]~~	~~9-3-07~~			WR 9-5-07
7.	CLIFTON CHRISTIANSEN	WORK WEEK COORDINATOR	[illegible]	9-4-07	[illegible]	1/2/08	
8.	Richard Langford	OPS Plant Instructor	[illegible]	10-1-07	[illegible]	12-21-07	
9.	Richard E. Ellis	OPS PLANT INSTRUCTOR	[illegible]	10-11-07	[illegible]	01/02/08	
10.	John G. Hoen	TRAINING MANAGER	[illegible]	10/19/07	[illegible]	1/2/08	
11.	GARY T. OHNSTAD	OPS Plant INSTRUCTOR	[illegible]	10-25/07	[illegible]	12-21-07	
*12.	Curtis Ross Armstrong	OPS Plant Instructor	[illegible]	11-5-07	[illegible]	11-13-07	
*13.	RICHARD C. CULLING	PEER EVALUATOR - OPS	[illegible]	11/5/07	[illegible]	1/2/2008	
14.	Alton DeWeese	SSS	[illegible]	11-4-7	[illegible]	1-8-8	
15.	Steve Gates		[illegible]	11-29-07	[illegible]	1/2/08	

NOTES:

(1) Rich Langford placed on agreement due to inadvertently overhearing exam related comment. CR 2007108559 written to document. Compensatory action taken to remove that material from exam. Frank Ehrhardt, NRC chief examiner, approved removing Rich Langford from security agreement after compensatory action complete. WR 9-5-07 (C. Vince Richter)

* Simulator operating exam only - Added for surrogate or monitoring purposes. No knowledge of the written exam has been divulged.

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of Oct 22/29 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 (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of ~~Oct 22/29~~ 1-8-08 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. (*) 11-5, 13, 12-21

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Charles V. Richter	Nuclear Plant Instructor		5-7-07		1-2-08	
2.	Donna M Christiansen	Nuc Ops Supervisor		5-7-07		1-2-08	
3.	TERESA PRICHARD	IT Specialist	Teresa Prichard	5-15-07	Teresa Prichard	1/8/08	
4.	Michael Galle	Simulator Coordinator		5-23-07		1-2-08	
5.	Kevin Riley	Nuclear Spec./Simulator		5-24-07		1-7-08	
6.	Sue Bristow	Admin Asst	Sue Bristow	6-13-07	Sue Bristow	1-7-08	
7.	Darryl Stevenson	Simulator Tech.		6-27-07		1-7-08	
8.	John H. Lewis	Plant operator		8-11-7		1-2-08	
9.	Matthew D. Holt	Plant operator		8-11-07		1-2-08	
10.	David G. Bernstron	SSS		8.11.07		1.2-08	
11.	Chris K. MARTIN	Plant Operator		8-20-07		1-7-08	
12.	Blake C. Mitchell	SSS		8-20-07		1-2-08	
RHm 13.	~~Randall H. Marlow~~	Nuclear Plant Instructor		8-20-07		1-7-08	
14.	Randall H. Marlow						
15.	Raymond Patterson	Nuclear Plant Instructor		8-30-07		1-2-08	

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of Oct 22/29 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 (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 11-5,13 (*) 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 (*) 12-21

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
*	1. Richard Federico	shift Supervisor	[signature]	11/15/07	[signature]	12/4/07
**	2. Ross Armstrong	instructor	[signature]	12/19/07	[signature]	1/4/08
	3.					
	4.					
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	10.					
	11.					
	12.					
	13.					
	14.					
	15.					

NOTES:

* Theoretical exam only.

** written exam only

1. Pre-Examination

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2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 11-5, 13, 12-21 From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	JOSEPH G. ARSENAULT	Developer	[signature]	5/7/07	[signature]	12/22/07	
2.							
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NOTES:

FARLEY

1. Pre-Examination

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2. Post-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	James K. Lloyd	Reviewer	James K Lloyd	10/1/07	James K Lloyd	12/22/07	
2.							
3.							
4.							
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14.							
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NOTES:

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Charles V. Richter	Nuclear Plant Instructor	[illegible]	5-7-07			
2.	Donna M Christiansen	Nuc Ops Supervisor	[illegible]	5-7-07			
3.	TERESA PRICHARD	IT Specialist	Teresa Prichard	5-15-07			
4.	Michael Galle	Simulator Coordinator	[illegible]	5-23-07			
5.	Kevin Riley	Nuclear Spec./Simulator	[illegible]	5-24-07			
6.	Sue Bristow	Admin Asst	Sue Bristow	6-13-07			
7.	Darryl Stevenson	Simulator Tech.	[illegible]	6-22-07			
8.	John H. Lewis	Plant operator	[illegible]	8-11-7			
9.	Matthew D. Holt	Plant operator	[illegible]	8-11-07			
10.	David G Bernstein	SSS	[illegible]	8-11-07			
11.	Chris K. MARTIN	Plant Operator	[illegible]	8-20-07			
12.	Blake C. Mitchell	SSS	[illegible]	8-20-07			
RHm 13.	~~Randall H. Marlow~~	Nuclear Plant Instructor	Randall H. Marlow	8-20-07			
14.	Randall H. Marlow						
15.	Raymond Patterson	Nuclear Plant Instructor	Raymond Patterson	8-30-07			

NOTES:

1. Pre-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Richard Wells	OPS Manager	RWells	8/31/07			
2.	Doyle Sellers	Plant operator	DSeller	9-3-7			
3.	Key Warren	SSS	M. Ky Warren III	9-3-07			
4.	Dan Williams	Shift Supervisor	Dan Williams	9-3-07			
5.	Dewayne Conyers	Plant operator	[illegible]	9-3-07			
① 6.	~~Richard Langford~~	~~OPS Plant Instructor~~	~~Richard Langford~~	~~9-3-07~~			
7.	Clayton Christianson	Work week [illegible]	[illegible]	9-4-07			
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WR 9-5-07

NOTES:
① Rich Langford placed on agreement due to inadvertently overhearing exam related comment. CR 20071085 59 written to document. Compensatory action taken to remove that material from exam. Frank Ehrhardt, NRC chief examiner, approved removing Rich Langford from security agreement after compensatory action complete. WR 9-5-07 (C. Vince Richter)

Facility: Farley Nuclear Plant	Date of Examination: Nov. 5, 2007
Examination Level: **SRO + RO**	Operating Test Number: 2007301

Administrative Topic (see Note)	Type Code *	Describe activity to be performed
Conduct of Operations **RO**	R/ M	A.1.1 Perform a QPTR calculation per STP-7.0 and identify that the current value does not meet acceptance criteria G2.1.20 (4.3)
Conduct of Operations **SRO**	R/ N	A.1.1 Determine while completing a mode change checklist that mode 4 entry is prohibited by two unsat STPs, STP-10.4 & STP-15, and an inoperable 1B DG G2.1.10 (3.9)
Conduct of Operations **SRO + RO**	R/ N	A.1.2 Determine the minimum emergency boration and duration required by AOP-27 for an inadvertent cooldown. G2.1.7 (3.7/4.4)
Equipment Control **RO**	R/ N	A.2 Complete selected sections of STP-1.0, OPERATIONS DAILY AND SHIFT SURVEILLANCE REQUIREMENTS, Appendix 1, and identify conditions that do not meet acceptance criteria. G2.2.12 (3.0)
Equipment Control **SRO**	R/ N	A.2 Review selected sections of STP-1.0, OPERATIONS DAILY AND SHIFT SURVEILLANCE REQUIREMENTS & identify any Tech Spec actions required due to inoperable components which do not meet acceptance criteria. G2.2.12 (3.4)
Radiation Control **RO**	S/ M	A.3 Perform Control Room portion of liquid waste release and set R-18 alarm setpoint greater than background but less than max allowed for a liquid waste release. [similar to task on HLT-30A exam, but this is modified to result in discovery of High background which requires the setpoint to be raised higher than normal, but less than max allowed for release.] G2.3.11 (2.7)

Radiation Control **SRO**	S/ M	A.3 Perform Control Room portion of liquid waste release and identify that R-18 automatic function is inoperable. Identify the ODCM actions that will allow a release with R-18 automatic isolation function inoperable. [similar to task on HLT-30A exam, but this is modified to result in discovery of an inoperable auto closure of the liquid release valve. The release then must not be allowed to occur] G2.3.11 (3.2)
Emergency Plan – **SRO ONLY**	R/ D	A.4 Classify an emergency event for which the fission product barrier evaluation must take place, and fill out forms for emergency notification within the time allowed. G2.4.41 (4.1)

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) **[0/1]**
(N)ew or (M)odified from bank (≥ 1) **[4/5]**
(P)revious 2 exams (≤ 1; randomly selected) **[0/0]**

Facility: Farley Nuclear Plant Date of Examination: November 5, 2007 Exam Level (both): RO & SRO-i Operating Test No.: 2007301		
Control Room Systems (8 for RO; 7 for SRO-i; 2 or 3 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
a. CRO-033B PERFORM THE RECOVERY ACTIONS IN RESPONSE OF THE ROD CONTROL SYSTEM FOR A MISALIGNED ROD 001A2.03 RO-3.5 SRO-4.2	S/ D	1
b. CRO-333D, ALIGN ECCS FOR COLD LEG RECIRC ON A TRAIN ONLY (B TRAIN POWER IS NOT AVAILABLE) STARTING AT STEP 7 OF ESP-1.3. 011EA1.11 RO-4.2 SRO-4.2	S/ D/ A/ L	3
c. CRO-NEW, RESTORE OFF -SITE POWER TO 1F BUS AND REMOVE THE 1/2A DG FROM THE BUS 064A4.01 RO-4.0 SRO-4.3	S/ N/ L	6
d. CRO-MOD 43A STARTUP THE 1A RCP PER SOP-1.1, STARTING AT STEP 4.1.10, RECOGNIZE INDICATIONS OF A RCP HIGH BEARING TEMP WITH TRIP CRITERIA BEING EXCEEDED AND TRIP THE RCP. 003A4.06 RO 2.9 SRO 2.9	S/ M/ A/ L	4P
e. CRO-133A START UP THE CONTAINMENT COOLING SYSTEM 022A4.05 RO-3.8 SRO-3.8	S/ D/ L	5
f. CRO- 406B VERIFY PHASE B CONTAINMENT ISOLATION AND CONTAINMENT SPRAY INITIATION 013A4.01 RO-4.5 SRO-4.8	S/ A/ M/ L/	2
g. CRO-NEW: REDUCE REACTOR POWER FROM 13% TO STABILIZE AT 8% PER UOP-2.1 STEP 5.4, WITH N-35 IN LEVEL TRIP BYPASS PRIOR TO REDUCING POWER LESS THAN 10%. 015A4.03 RO-3.8 SRO-3.9	S/ A/ N	7
h. RO ONLY CRO-328B RESTORE INSTRUMENT AIR TO CONTAINMENT This JPM requires EPB Bkr operation which is not required to restore Instrument Air in any scenario. In this JPM, 1C A/C Bkr won't close by sequencer or handswitch. 1A A/C is powered from vital power to regain IA to ctmt. [sirnilar to Scen. 1, 2, & Spare in which Phase B occurs with IA solating. The difference is that in the scenarios 1C A/C will operate normally with no EPB operations. Scen 4 loses IA because of LOSP, but does not have A train power to restore any A/C] 065AA-1.03 RO-2.9 SRO-3.1	S/ A/ D/ L	8

Facility: Farley Nuclear Plant Date of Examination: November 5, 2007 Exam Level (both): RO & SRO-i Operating Test No.: 2007301		
In-Plant Systems (3 for RO; 3 for SRO-i; 3 or 2 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
i. SO – 052 Fill 'C' accumulator in accordance with SOP-8.0, section 4.1. 006A1.13 RO 3.5 SRO 3.7	D/ R/ P	2
j. SO-607A PERFORM THE REQUIRED ACTIONS TO MINIMIZE DC LOADS (NRAB) 055EA1.04 RO-3.5 SRO-3.9	D/ E/ L	6
k. SO-368A PUMP THE UNIT 1 RCDT TO THE UNIT 1 WHT PER FNP-1-SOP-50.0, STEP 4.1.4, TO DECREASE RCDT LEVEL TO APPROXIMATELY 10% AND COMPLETE 4.1.4. 068K1.07 RO-2.7 SRO-2.9	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 [ACTUAL]
(A)lternate path	4-6 / 4-6 / 2-3 [5]
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4 [7/6]
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1 [1]
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1 [7]
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1 [4]
(P)previous 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected) [1]
(R)CA	≥ 1 / ≥ 1 / ≥ 1 [2]
(S)imulator	

ES-301 **Operating Test Quality Checklist** **Form ES-301-3**

Facility: Farley Date of Examination: 11/05/07 Operating Exam number: 2007301

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

		Printed Name / Signature	Date
a.	Author	Charles V. Richter / [signature]	02/11/08 **
b.	Facility Reviewer(*)	John H. Horn / [signature]	02/11/08 **
c.	NRC Chief Examiner (#)	[signature]	2/11/08
d.	NRC Supervisor	MARGARET T. WIDMANN [signature]	02/11/08

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

Original Destroyed [illegible] 2/11/08

DRAFT

Facility Farley Date of Exam: 10/29/07 Scenario Numbers: 1/2/3/4 Operating Test No.: 2007301

	QUALITATIVE ATTRIBUTES	Initials a	Initials b*	Initials c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	GR	DM	JK
2.	The scenarios consist mostly of related events.	GR	DM	JK
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)	GR	DM	JK
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.	GR	DM	JK
5.	The events are valid with regard to physics and thermodynamics.	GR	DM	JK
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	GR	DM	JK
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.	GR	DM	JK
8.	The simulator modeling is not altered.	GR	DM	JK
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.	GR	DM	JK
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.	GR	DM	JK
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	GR	DM	JK
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).	GR	DM	JK
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	GR	DM	JK

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

* Scenarios will be validated prior to prep week.

DRAFT

Facility: Farley | Date of Exam: Week of Oct. 29, 2007 | Operating Test No.: 2007301

APPLICANT	EVENT TYPE	Scenarios 1 SRO	1 ATC	1 BOP	2 SRO	2 ATC	2 BOP	3 SRO	3 ATC	3 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
RO - 1 ☑	RX		1							1				2	1	1	0
	NOR						1							1	1	1	1
	I/C		2				3			2				7	4	4	2
	MAJ		2				1			1				4	2	2	1
	TS														0	2	2
RO - 2 ☑	RX			1						1				2	1	1	0
	NOR					1								1	1	1	1
	I/C			2		3				2				7	4	4	2
	MAJ			2		1				1				4	2	2	1
	TS														0	2	2
RO - 3 ☑	RX		1							1				2	1	1	0
	NOR						1							1	1	1	1
	I/C		2				3			2				7	4	4	2
	MAJ		2				1			1				4	2	2	1
	TS														0	2	2
RO - 4 ☑	RX			1										1	1	1	0
	NOR					1							1	2	1	1	1
	I/C			2		3							2	7	4	4	2
	MAJ			2		1							2	5	2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must 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 requirements specified for the applicant's license level in the right-hand columns.

DRAFT

Facility: Farley Date of Exam: Week of Oct. 29, 2007 Operating Test No.: 2007301

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

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position.

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DRAFT

Facility: Farley | Date of Exam: Week of Oct. 29, 2007 | Operating Test No.: 2007301

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
SRO-I 3 ☐ ✓ ☐	RX	1						1						2	1	1	0
	NOR					1								1	1	1	1
	I/C					3								3	4	4	2
	MAJ	2				1		1						4	2	2	1
	TS	3						2						5	0	2	2
SRO-I 4 ☐ ✓ ☐	RX		1					1						2	1	1	0
	NOR										1			1	1	1	1
	I/C		2											2	4	4	2
	MAJ		2					1			2			5	2	2	1
	TS							2			3			5	0	2	2
SRO-I 5 ☐ ✓ ☐	RX							1						1	1	1	0
	NOR				1							1		2	1	1	1
	I/C											2		2	4	4	2
	MAJ				1			1				2		4	2	2	1
	TS				3			2						5	0	2	2
☐ ☐ ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must 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 requirements specified for the applicant's license level in the right-hand columns.

DRAFT

Facility: Farley Date of Examination: 10/29/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	RO - 1 ☑ ☐ abbn ☐				RO - 2 ☑ ☐ babn ☐				RO -3 ☑ ☐ abbn ☐				RO -4 ☑ ☐ banb ☐			
	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	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	1,3,5	N/A	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	N/A	1,2,4
Comply With and Use Procedures (1)	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	1,3,5	N/A	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	N/A	1,2,4
Operate Control Boards (2)	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	1,3,5	N/A	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	N/A	1,2,4
Communicate and Interact	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	1,3,5	N/A	1,2,4	1,3,5,6	1,3,5	N/A	1,3,5	2,4,6	N/A	1,2,4
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

Instructions:

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

a=ATC, b=BOP, n=N/A in order of scenario 1, 2, 3, 4

DRAFT

Facility: Farley Date of Examination: 10/29/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	RO - 5 ☑ ☐ nbab ☐				RO - 6 ☑ ☐ bnna ☐				☐ ☐ ☐				☐ SRO-I 1 ☑ ssan ☐			
	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	N/A	1,3,5,6	1,2,4,5	1,2,4	1,3,5	N/A	N/A	1,3,6					1-8	1-8	1,2,4,5	N/A
Comply With and Use Procedures (1)	N/A	1,3,5,6	1,2,4,5	1,2,4	1,3,5	N/A	N/A	1,3,6					1-8	1-8	1,2,4,5	N/A
Operate Control Boards (2)	N/A	1,3,5,6	1,2,4,5	1,2,4	1,3,5	N/A	N/A	1,3,6					N/A	N/A	1,2,4,5	N/A
Communicate and Interact	N/A	1,3,5,6	1,2,4,5	1,2,4	1,3,5	N/A	N/A	1,3,6					1-8	1-8	1,2,4,5	N/A
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					1-8	1-8	N/A	N/A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					2,3	1,5,7	N/A	N/A

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

Instructions:

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

a=ATC, b=BOP, s=SR0, n=N/A in order of scenario 1, 2, 3, 4

DRAFT

Facility: Farley Date of Examination: 10/29/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	SRO-I 2 ☐ ☑ ssan ☐				SRO-I 3 ☐ ☑ sasn ☐				SRO-I 4 ☐ ☑ anss ☐				SRO-I 5 ☐ ☑ nssa ☐			
	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	1-8	1-8	1,2,4,5	N/A	1-8	2,4,6	1-7	N/A	1,2,4	N/A	1-7	1-9	N/A	1-8	1-7	1,3,6
Comply With and Use Procedures (1)	1-8	1-8	1,2,4,5	N/A	1-8	2,4,6	1-7	N/A	1,2,4	N/A	1-7	1-9	N/A	1-8	1-7	1,3,6
Operate Control Boards (2)	N/A	N/A	1,2,4,5	N/A	N/A	2,4,6	N/A	N/A	1,2,4	N/A	N/A	N/A	N/A	N/A	N/A	1,3,6
Communicate and Interact	1-8	1-8	1,2,4,5	N/A	1-8	2,4,6	1-7	N/A	1,2,4	N/A	1-7	1-9	N/A	1-8	1-7	1,3,6
Demonstrate Supervisory Ability (3)	1-8	1-8	N/A	N/A	1-8	N/A	1-7	N/A	N/A	N/A	1-7	1-9	N/A	1-8	1-7	N/A
Comply With and Use Tech. Specs. (3)	2,3	1,5,7	N/A	N/A	2,3	N/A	3,5	N/A	N/A	N/A	3,5	2,3,5	N/A	1,5,7	3,5	N/A

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

Instructions:

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

a=ATC, b=BOP, s=SR0, n=N/A in order of scenario 1, 2, 3, 4

Facility Farley Date of Exam: 11/05/07 Scenario Numbers: 1/2/3/4/5 Operating Test No.: 2007301

	QUALITATIVE ATTRIBUTES	Initials a	Initials b*	Initials c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	WR	DMC	[illegible]
2.	The scenarios consist mostly of related events.	WR	DMC	[illegible]
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)	WR	DMC	[illegible]
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.	WR	DMC	[illegible]
5.	The events are valid with regard to physics and thermodynamics.	WR	DMC	[illegible]
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	WR	DMC	[illegible]
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.	WR	DMC	[illegible]
8.	The simulator modeling is not altered.	WR	DMC	[illegible]
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.	WR	DMC	[illegible]
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.	WR	DMC	[illegible]
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	WR	DMC	[illegible]
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).	WR	DMC	[illegible]
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	WR	DMC	[illegible]

	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes	a	b*	c#
1.	Total malfunctions (5–8)	6/ 7/ 6/ 6/ 5	WR	DMC	[illegible]
2.	Malfunctions after EOP entry (1–2)	1/ 2/ 1/ 1/ 1	WR	DMC	[illegible]
3.	Abnormal events (2–4)	4/ 6/ 3/ 5/ 2	WR	DMC	[illegible]
4.	Major transients (1–2)	2/ 2/ 1/ 2/ 2	WR	DMC	[illegible]
5.	EOPs entered/requiring substantive actions (1–2)	2/ 2/ 1/ 1/ 1	WR	DMC	[illegible]
6.	EOP contingencies requiring substantive actions (0–2)	1/ 1/ 0/ 1/ 1	WR	DMC	[illegible]
7.	Critical tasks (2–3)	2/ 3/ 4/ 2/ 2	WR	DMC	[illegible]

ES-301 **Transient and Event Checklist** **Form ES-301-5**

Facility: Farley Date of Exam: Week of Nov. 5, 2007 Operating Test No.: 2007301

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
RO - 5 ✓	RX								1					1	1	1	0
	NOR						5						1,3	3	1	1	1
	I/C						1,4,6		4,5,6				2,4	8	4	4	2
	MAJ						7,8		7				7,9	5	2	2	1
	TS													0	0	2	2
RO - 6 ✓	RX			1										1	1	1	0
	NOR											1		1	1	1	1
	I/C			3,5								3,5,6		5	4	4	2
	MAJ			6,8								7,9		4	2	2	1
	TS													0	0	2	2
SRO-I 1 ✓	RX	1							1					2	1	1	0
	NOR				5									1	1	1	1
	I/C	2,3,4,5			1-6				4,5,6					14	4	4	2
	MAJ	6,8			7,8				7					5	2	2	1
	TS	2,3			1,3,4									5	0	2	2
SRO-I 2 ✓	RX	1							1					2	1	1	0
	NOR				5									1	1	1	1
	I/C	2,3,4,5			1-6				4,5,6					14	4	4	2
	MAJ	6,8			7,8				7					5	2	2	1
	TS	2,3			1,3,4									5	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must 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 requirements specified for the applicant's license level in the right-hand columns.

ES-301 **Transient and Event Checklist** **Form ES-301-5**

Facility: Farley Date of Exam: Week of Nov. 5, 2007 Operating Test No.: 2007301

APPLICANT	EVENT TYPE	Scenarios 1 SRO	1 ATC	1 BOP	2 SRO	2 ATC	2 BOP	3 SRO	3 ATC	3 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
SRO-I 3	RX	1						1						2	1	1	0
	NOR					5								1	1	1	1
	I/C	2,3,4,5				2,3		1-5						13	4	4	2
	MAJ	6,8				7,8		7						5	2	2	1
	TS	2,3						5,6						4	0	2	2
SRO-I 4	RX		1					1						1	1	1	0
	NOR		2											1	1	1	1
	I/C		2,4					1-6			2,3,4,5,6			13	4	4	2
	MAJ		6,8					7			7,9			5	2	2	1
	TS							5,6			2,3,5			5	0	2	2
SRO-I 5	RX							1						1	1	1	0
	NOR				5							1		2	1	1	1
	I/C				1 6			1 - 6				3,5,6		15	4	4	2
	MAJ				7,8			7				7,9		5	2	2	1
	TS				1,3,4			5,6						5	0	2	2
	RX													NA	1	1	0
	NOR													NA	1	1	1
	I/C													NA	4	4	2
	MAJ													NA	2	2	1
	TS													NA	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must 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 requirements specified for the applicant's license level in the right-hand columns.

ES-301 **Transient and Event Checklist** **Form ES-301-5**

Facility: Farley Date of Exam: Week of Nov. 5, 2007 Operating Test No.: 2007301

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

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must 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 requirements specified for the applicant's license level in the right-hand columns.

Facility: Farley Date of Examination: 11/05/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	RO - 1 ☑ ☐ abbn ☐				RO - 2 ☑ ☐ babn ☐				RO -3 ☑ ☐ abbn ☐				RO -4 ☑ ☐ banb ☐			
	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	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	1,2,3,6,7,8	N/A	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	N/A	1-4 7-9
Comply With and Use Procedures (1)	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	1,2,3,6,7,8	N/A	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	N/A	1-4 7-9
Operate Control Boards (2)	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	1,2,3,6,7,8	N/A	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	N/A	1-4 7-9
Communicate and Interact	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	1,2,3,6,7,8	N/A	1,2,4,6,7,8	1,4,5,6,7,8	1,2,3,6,7,8	N/A	1,3,5,6,7,8	2,3,5,7,8	N/A	1-4 7-9
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

Instructions:

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

a=ATC, b=BOP, n=N/A in order of scenario 1, 2, 3, 4

Facility: Farley Date of Examination: 11/05/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	RO - 5 ☑ ☐ nbab ☐				RO - 6 ☑ ☐ bnna ☐				☐ ☐ ☐				☐ SRO-I 1 ☑ ssan ☐			
	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	N/A	1,4,5, 6,7,8	1,4,5, 6,7	1-4 7-9	1,3,5 ,6,7, 8	N/A	N/A	1,3,5 ,6,7, 9					1-8	1-8	1,4,5, 6,7	N/ A
Comply With and Use Procedures (1)	N/A	1,4,5, 6,7,8	1,4,5, 6,7	1-4 7-9	1,3,5 ,6,7, 8	N/A	N/A	1,3,5 ,6,7, 9					1-8	1-8	1,4,5 ,6,7	N/ A
Operate Control Boards (2)	N/A	1,4,5, 6,7,8	1,4,5, 6,7	1-4 7-9	1,3,5 ,6,7, 8	N/A	N/A	1,3,5 ,6,7, 9					N/A	N/A	1,4,5 ,6,7	N/ A
Communicate and Interact	N/A	1,4,5, 6,7,8	1,4,5, 6,7	1-4 7-9	1,3,5 ,6,7, 8	N/A	N/A	1,3,5 ,6,7, 9					1-8	1-8	1,4,5, 6,7	N/ A
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					1-8	1-8	N/A	N/ A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					2,3	1,3,4	N/A	N/A

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

Instructions:

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

a=ATC, b=BOP, s=SR0, n=N/A in order of scenario 1, 2, 3, 4

Facility: Farley Date of Examination: 11/05/07 Operating Test No.: 2007301

Competencies	APPLICANTS															
	SRO-I 2 ☐ ☑ ssan ☐				SRO-I 3 ☐ ☑ sasn ☐				SRO-I 4 ☐ ☑ anss ☐				SRO-I 5 ☐ ☑ nssa ☐			
	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	1-8	1-8	1,4,5,6,7	N/A	1-8	2,3,5,7,8	1-8	N/A	1,2,4,6,7,8	N/A	1-8	1-9	N/A	1-8	1-8	13 56 79
Comply With and Use Procedures (1)	1-8	1-8	1,4,5,6,7	N/A	1-8	2,3,5,7,8	1-8	N/A	1,2,4,6,7,8	N/A	1-8	1-9	N/A	1-8	1-8	13 56 79
Operate Control Boards (2)	N/A	N/A	1,4,5,6,7	N/A	N/A	2,3,5,7,8	N/A	N/A	1,2,4,6,7,8	N/A	N/A	N/A	N/A	N/A	N/A	13 56 79
Communicate and Interact	1-8	1-8	1,4,5,6,7	N/A	1-8	2,3,5,7,8	1-8	N/A	1,2,4,6,7,8	N/A	1-8	1-9	N/A	1-8	1-8	13 56 79
Demonstrate Supervisory Ability (3)	1-8	1-8	N/A	N/A	1-8	N/A	1-8	N/A	N/A	N/A	1-8	1-9	N/A	1-8	1-8	N/A
Comply With and Use Tech. Specs. (3)	2,3	1,3,4	N/A	N/A	2,3	N/A	5,6	N/A	N/A	N/A	5,6	2,3,5	N/A	1,3,4	5,6	N/A

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

Instructions:

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

a=ATC, b=BOP, s=SR0, n=N/A in order of scenario 1, 2, 3, 4

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FNP-2007-0093-TRN

SOUTHERN COMPANY
Energy to Serve Your World℠

July 25, 2007

Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt,

As per your previous letter requesting the Operating exam outlines by July 31, 2007 for the upcoming Farley HLT-31 NRC Exam, you will find enclosed the simulator, admin and walkthrough exam outlines with associated forms as required by NUREG-1021 form ES-201-1, Examination Preparation Checklist. All materials sent have been reviewed and approved by our management as required by forms ES-201-2 and ES-301-4.

Enclosed you will find the following materials for the upcoming examination scheduled for the weeks of October 29 & November 5, 2007 at Farley Nuclear Plant.

Hard copies of:

ES-201-2 – Examination Outline Quality Checklist
ES-201-3 – Examination Security agreement – Copy of current signed form
ES-301-1 – Administrative Topics Outline
ES-301-2 – Control Room/In-Plant Systems Outline
List of previous 2 NRC exam ADMIN & JPM task summaries
List of Audit exam Simulator, JPMs & ADMIN task summaries
ES-301-4 – Simulator Scenario Quality Checklist
Potential NRC Simulator Exam daily schedule for planning purposes
ES-301-5 – Transient and Event Checklist
ES-301- 6 – Competencies Checklist
ES-D-1 forms for Scenarios 1-4 & Spare
HLT-30 Complete Audit exam scenarios

This material should be withheld from public disclosure until after the examinations are complete. If you have any questions, please contact Charles V. (Vince) Richter at (334) 814-4758.

Sincerely,

Donna M. Christiansen
OPS Training Supervisor

Enclosure

CVR/JGH:las
cc: File

7-25-07

Southern Nuclear
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Tel 334.899.5156
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FNP-2007-0100-TRN

SOUTHERN COMPANY
Energy to Serve Your World℠

8/17/2007

Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt,

As per your previous letter requesting the Written exam outlines by August 20, 2007 for the upcoming Farley HLT-31 NRC Exam, you will find enclosed the written outline, and associated form as required by NUREG-1021 form ES-201-1, Examination Preparation Checklist. All materials sent have been reviewed and approved by our management as required by form ES-201-2.

Enclosed you will find the following materials for the upcoming examination scheduled for the weeks of October 29 & November 5, 2007 at Farley Nuclear Plant.

Hard copies of:

ES-201-2 – Examination Outline Quality Checklist
ES-401-2 – PWR Examination outline
ES-401-3 – Generic Knowledge and Abilities Outline (Tier 3)
ES-401-4 – Record of Rejected K/As
ES-201-3 – Examination Security agreement – Copy of current signed form
Description of Random Generation process document

This material should be withheld from public disclosure until after the examinations are complete. If you have any questions, please contact Charles V. (Vince) Richter at (334) 814-4758.

Sincerely,

Donna M. Christiansen
OPS Training Supervisor

Enclosure

CVR/DMC:las
cc: File

8-20-2007

Facility: Farley Date of Exam: 12/21/07 Exam Level: RO ☑ SRO ☑

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	CVR	DMC	F/E
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	CVR	DMC	F/E
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	CVR	DMC	F/E
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).	*	*	F/E
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or _x_ the licensee certifies that there is no duplication; or __ other (explain)	CVR	DMC	F/E
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank: 30/40% / 3/10% Modified: 20/27% / 7/28% New: 25/33% / 15/60%	CVR	DMC	F/E
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory: 36/48% / 5/20% C/A: 39/52% / 20/80%	CVR	DMC	F/E
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	CVR	DMC	F/E
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	CVR	DMC	F/E
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	CVR	DMC	F/E
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	CVR	DMC	F/E

	Printed Name / Signature	Date
a. Author	Charles V. Richter / CVR	12/19/07
b. Facility Reviewer (*)	Donna M. Christiansen / DMC	12/19/07
c. NRC Chief Examiner (#)	Frank Ehrhardt /	12/20/07
d. NRC Regional Supervisor	MARK A. BATES /	12/20/07

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.

* see ES-201-2, 1.b.

Facility: Farley Date of Exam: 12/21/07 Exam Level: RO ☑ SRO ☑

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	WR	DM	
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	WR	DM	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	WR	DM	
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).	WR	DM	
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or _x_ the licensee certifies that there is no duplication; or __ other (explain)	WR	DM	
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: 30 3 / 40% 12% Modified: 20 7 / 27% 28% New: 25 15 / 33% 60%	WR	DM	
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory: 36 5 / 48% 20% C/A: 39 20 / 52% 80%	WR	DM	
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	WR	DM	
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.	WR	DM	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	WR	DM	
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	WR	DM	

	Printed Name / Signature	Date
a. Author	Charles V. Richter / WR	12/19/07
b. Facility Reviewer (*)	Donna M. Christiansen / DM	12/19/07
c. NRC Chief Examiner (#)		
d. NRC Regional Supervisor		

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Facility: Farley Date of Exam: 11/05/07 Exam Level: RO ☑ SRO ☑

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	CR	DC	
2.	a. NRC K/As are referenced for all questions. ✱ b. Facility learning objectives are referenced as available.	CR	DC	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	CR	DC	
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).			
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or _x_ the licensee certifies that there is no duplication; or __ other (explain)	CR	DC	
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: 37 / 9; Modified: 6 / 6; New: 32 / 10	CR	DC	
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory: 30 / 8; C/A: 45 / 17	CR	DC	
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	CR	DC.	
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.	CR	DC	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	CR	DC	
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	CR	DC	

	Printed Name / Signature	Date
a. Author	Charles V. Richter / CR	09/13/07
b. Facility Reviewer (*)	Donna M. Christiansen / DC	09/13/07
c. NRC Chief Examiner (#)		
d. NRC Regional Supervisor		

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.

✱ objectives will be supplied as soon as possible.

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FNP-2007-0129-TRN

SOUTHERN COMPANY
Energy to Serve Your World℠

10/1/2007
Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt,

Enclosed is our final revisions of procedures and other supporting documentation for the upcoming Farley HLT-31 NRC Exam.

Enclosed you will find the following Data CD for the upcoming examination scheduled for the weeks of November 5, 2007 and November 13, 2007 at Farley Nuclear Plant.

Compact Disk:

OPS Training Material Disk

This material should be withheld from public disclosure until after the examinations are complete. If you have any questions, please contact Charles V. (Vince) Richter at (334) 814-4758.

Sincerely,

Donna M. Christiansen
OPS Training Supervisor

Enclosure

CVR/DMC:las
cc: File

9/14/07

Southern Nuclear
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Ashford, Alabama 36312

Tel 334.899.5156
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FNP-2007-0122-TRN

SOUTHERN COMPANY
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9/13/2007

Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt:

As per your previous letter requesting the Operating exam outlines by July 31, 2007 for the upcoming Farley HLT-31 NRC Exam, you will find enclosed the simulator, admin and walkthrough exam outlines with associated forms as required by NUREG-1021 form ES-201-1, Examination Preparation Checklist. All materials sent have been reviewed and approved by our management as required by forms ES-201-2 and ES-301-4.

Enclosed you will find the following materials for the upcoming examination scheduled for the weeks of October 29 & November 5, 2007 at Farley Nuclear Plant.

Hard copies of:

ES-201-3 – Examination Security agreement – Copy of current signed form
ES-301-1 – Administrative Topics Outline
5 Administrative Examination tasks with associated references
ES-301-2 – Control Room/In-Plant Systems Outline
11 JPM Examination tasks with associated references
ES-301-3 – Operating Test Quality Checklist
ES-301-4 – Simulator Scenario Quality Checklist
ES-301-5 – Transient and Event Checklist
ES-301-6 – Competencies Checklist
ES-401-2 – PWR Examination outline
ES-401-3 – Generic Knowledge and Abilities Outline (Tier 3)
ES-401-4 – Record of Rejected K/As
ES-401-6 – Written Examination Quality Checklist
ES-D-1 & 2 forms for Scenarios 1-5
100 Question written exam with associated references
Reference material CD

This material should be withheld from public disclosure until after the examinations are complete. If you have any questions, please contact Charles V. (Vince) Richter at (334) 814-4758.

Sincerely,

Donna M. Christiansen
OPS Training Supervisor

Enclosure
CVR/DMC:las
cc: File

FINAL 10/31

Southern Nuclear
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FNP-2007-0140-TRN

SOUTHERN COMPANY
Energy to Serve Your World℠

10/30/2007
Mr. Frank Ehrhardt
United States Nuclear Regulatory Commission
Sam Nunn Atlanta Federal Center
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303-8931

Dear Mr. Ehrhardt,

Enclosed is our final submittal of the operating exam and other supporting documentation for the upcoming Farley HLT-31 NRC Exam.

Enclosed you will find the following forms and Data CD for the upcoming examination scheduled for the weeks of November 5, 2007 and November 13, 2007 at Farley Nuclear Plant.

Compact Disk containing:

1) All exam material and handouts for the JPM, ADMIN, and SIMULATOR protions of the exam.
2) HLT-31 ES-201-2.pdf
3) HLT-31 ES-301-4 scen.pdf
4) HLT-31 ES-301-5 Pg 1 of 3.pdf
5) HLT-31 ES-301-5 Pg 2 of 3.pdf
6) HLT-31 ES-301-5 Pg 3 of 3.pdf
7) HLT-31 ES-301-6 Pg 1 of 3.pdf
8) HLT-31 ES-301-6 Pg 2 of 3.pdf
9) HLT-31 ES-301-6 Pg 3 of 3.pdf
10) HLT-31 SRO & RO ES-301-1 Admin .doc
11) HLT-31 SRO & RO ES-301-2 JPM .doc

This material should be withheld from public disclosure until after the examinations are complete. If you have any questions, please contact Charles V. (Vince) Richter at (334) 814-4758.

Sincerely,

Donna M. Christiansen
OPS Training Supervisor

Enclosure

CVR/DMC:las
cc: File

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		
1 B	H	2										X		U E S	001AK2.01 T1/G2 Q57 Non-editorial: **The question is unsat because it does not meet the second half of the K/A**. The K/A is "knowledge of the interrelations between Continuous Rod Withdrawal and the following: Rod bank step counters." No information regarding the rod bank step counters is either provided in the stem or is necessary to answer the question. The question does not test the relationship between the step counters and continuous rod withdrawal. Source – Bank (Watts Bar bank) Editorial: Does the first bullet provide information necessary to correctly answer the question? The speed at which the rods are stepping out is not necessary to answer the question. Consider placing the event and the action on separate lines to facilitate comparison of options. Is Uncontrolled Continuous Rod Withdrawal consistent with Farley terminology? Procedure uses "Malfunction of Rod Control System" and "unexplained rod motion." Suggestion: Consider writing the question such that the applicant has to determine, from rod bank step counter readings, that rods are withdrawing, e.g.:

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		
1 cont															Initial Conditions (time = 10:00): Tave/Tref deviation = 0 oF and stable Lprzr = 45% and stable Rx @ 75% and stable Rods in AUTO CBD step counters at 144/145 and stable Current conditions (time = 10:02): Tave/Tref deviation = +2oF and rising Lprzr = 46% and slowly rising Rods in AUTO CBD step counters at 160/160 steps and increasing @ 8steps/min Which one of the following…… FJE 10/4/07 <u>Comments on Question Revised 11/07</u> Enhancements: Distractors differ in wording: Answer D contains the word "switch" and B does not, for the same component. Distractor A lists the title for EEP-0, distractor C does not. Question is SAT otherwise. FJE 12/11/07. Facility addressed above comments. FJE 12/17/07

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 N	F	2	X											~~E~~ S	001K5.36 T2/G2 Q29 <u>Non-editorial:</u> Second half of answer options related to Xe changes is not related to the K/A. Consider replacing with another concept more directly related to the K/A, e.g.: During a power DECREASE, the change in power defect will add _____ reactivity and, assuming NO boration or dilution, will require control rod _____ to maintain Tave on program. Enhancement for K/A match. <u>Editorial:</u> Question and answer options are lengthy. Consider editing for clarity. The first part of A and C is worded differently than B and D. Reactivity change is mentioned first in A/C but second in B/D. This makes comparison of answer options more difficult. Additionally, it unnecessarily complicates the question. Consider "Insert rods to offset the positive reactivity due to the change in power defect." FJE 10/5/07 <u>Comments on Question Revised 11/07</u> Second half of question could have two correct answers since time/Xe is not specified. Consider changing question to "...(2) will initially be required...." (or add instruction to ignore effects of Xe.) Question is otherwise SAT. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
3 N	F	2				X								U E S	002K3.02 T2/G2 Q30 Non-editorial: **The question is unsat for two implausible distractors.** Options A and B can be eliminated with basic knowledge of heat transfer because the first and second half of each distractor is inconsistent, since heat transfer and flow are related. For this reason, options A and B are not plausible. Source – New. Option C contains no change, which is less plausible than the other distractrors, all of which contain one or two effects. Reference provided is a lesson plan, which is not a technical reference. Please verify against technical reference, e.g. plant specific Suggestion: Which one of the following correctly describes the reason that, in the event of a design basis Large Break LOCA, the plant is realigned from Cold Leg Recirculation to Hot Leg Recirculation? To prevent fuel temperatures from increasing due to boron precipitation at the TOP of the core. To prevent fuel temperatures from increasing due to boron precipitation at the BOTTOM of the core. To prevent a reduction in Shutdown Margin due to boron precipitation at the TOP of the core. To prevent a reduction in Shutdown Margin due to boron precipitation at the BOTTOM of the core. FJE 10/5/07

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		
3 cont.															Comments on Question Revised 11/07 See comment above on technical reference. Please verify against technical reference, e.g. plant specific or WOG EOP background document, to ensure one and only one correct answer. Question is SAT pending verification of answer. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
4 N	H	2				X								~~E~~ S	003A1.04 T2/G1 Q1 Non-editorial: The large spread (107 °F) between the answer and the parameter value chosen for the distractor diminishes the plausibility of distractors A and C. Pick a different actual RCP parameter value that is closer to 195 °F or another alarm setpoint temp (non-RCP) from FNP-1-ARP-1.1.0. Options could include 150 °F (max RCS temp if no CCW to RCP thermal barrier) or 225 °F (max lower seal water bearing temp). **Enhancement for distractor A/C plausibility.** Editorial: Move the event (CCW leak) from the question to the stem. Since all temperature values in the answer options refer to motor bearing temperatures, move this description to the stem. Consider highlighting the word MINIMUM. Given the following: Suggestion: Unit 1 is in Mode 4 RCP 1A was just started A CCW leak is occurring in the 1A RCP bearing oil cooling system Which one of the following correctly describes the effect on the 1A RCP Oil Reservoir level and the (MAX/MIN) motor bearing temperature that requires tripping the 1A RCP? Oil Reservoir Level — (MAX/MIN) Temperature Increases — 195 °F Decreases — 225 °F FJE 10/5/07

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		
															Comments on Question Revised 11/07 Distractor analysis provides values for 1B RCP. Question is written against 1A RCP. Please verify parameter values for the 1A RCP (ensure correct answer) and revise the distractor analysis (or change the question to 1B RCP.) Consider revising the question to "..MINIMUM ***motor*** bearing..." since the bearing in question is the motor bearing and not a pump bearing. Question is otherwise SAT. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
5 B	F	2										X		U E S	003K5.03 T2/G1 Q2 <u>Non-editorial:</u> **The question does not meet the K/A and is unsat.** The answer options each consist of a loop Tave trend and a reason for the trend. However, because the reason for the trend is unique for each answer option, an applicant could correctly answer the question without knowing whether loop Tavg will go up or go down, i.e. just by knowing that reverse flow occurs. The second half of the K/A is "Effects of RCP shutdown on T-ave,, including the reason for the unreliability of T-ave. in the shutdown loop." No knowledge of the effect of the RCP shutdown on Tave is required to answer the question. Source – Bank (Farley). The reference provided is a lesson plan vs. a technical reference. Please provide a technical reference or a statement that the answer is correct based on simulator response. Answer A refers to "reverse flow in the loop." Remove any assumption about which loop is "the loop" by stating "1B Loop Tavg will decrease due to reverse flow in the 1B loop." The first half of distractor B (and all other answer options) includes a unit designator with the B loop (1B) but the second half of distractor B does not. Add the unit designator (… core to 1B Loop" in order to make all options the same with respect to style and terminology. Distractor C is confusing and also vague because "that loop" is not defined. It is presumably refers to the 1B loop. The distractor would be better worded as "1B Loop Tavg will decrease due to loss of heat input from the 1B RCP." Distractor D – similar comment to Answer A – remove any assumption by stating "…caused by reduced heat removal in the 1B Loop."

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 cont															Editorial: Move the event (1B RCP trip) from the question to the conditions Suggestion: Unit 1 is at 6% reactor power. The 1B RCP just tripped. Which one of the following correctly describes the response of Tavg in the 1B Loop and the reason for the response? 1B Loop Tavg will DECREASE due to reverse flow of primary coolant in the 1B Loop. 1B Loop Tavg will INCREASE due to reverse flow of primary coolant in the 1B Loop. 1B Loop Tavg will DECREASE because Tcold in the unaffected loops DECREASES. 1B Loop Tavg will INCREASE because Thot in the unaffected loops INCREASES. FJE 10/5/07 Comments on Question Revised 11/07 Will Tcold in unaffected loops decrease? If so, C could also contribute to the affected loop Tcold decrease. Consider revising the question as "...describes the initial resoponse of Tavg..." in order to preclude two correct answers. Enhancement until resolved. Question is otherwise SAT. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
6 N	H	3												S	004A4.05 T2/G1 Q4 Editorial: Consider highlighting "lower" in the question. Consider formatting answer options on one line to make it easier to compare with the blanks, e.g: A. (1) OPEN (2) INCREASES Question is SAT as is. FJE 12/12/07
7 N	F	2												S	004K2.01 T2/G1 Q3 No comments. Question is SAT. FJE 12/12/07

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 B	F	~~1~~ 2				~~?~~		~~?~~						~~U~~ S	005K6.03 T2/G1 Q5 LOD = 1 because the answer is trivial, i.e. isolating cooling water flow to a heat exchanger makes it no longer exchange heat. **The question is unsat because it does not discriminate.** Is V8720A(B) normally closed? If so, why would this be a plausible distractor? The distractor analysis contains statements from the Tech Spec Bases. If knowledge of the Tech Spec Bases is necessary to answer the question, then the question is not appropriate for an RO (job link). Do RHR or CCW SOPs contain relevant P&Ls such as HX coodown rates or HX CCW flow or temperature limits that could damage the HX or lead to inability to perform its function? FJE 12/12/07 Discussed w/ facility and supervisor. Facility and supervisor addressed above concerns. Question is SAT. FJE 12/17/07

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		
9 B	H	2												~~E~~ S	006A4.01 T2/G1 Q7 Enhancement: Distractor analysis for B states that the sequencer will start the 1B charging pump if the 1C charging pump has tripped on overload. Per the stem, the 1C charging pump has tripped on overload. It appears that the distractor analysis is incomplete (it appears that the sequencer started the 1C pump, which then tripped on O/L, causing 1B pump to start, i.e. the time for sequencing any charging pump is past.) Please clarify distractor analysis for B (ensure single correct answer). Question is otherwise SAT pending clarification of distractor analysis. FJE 12/12/07 Facility addressed above comment. Question is SAT. FJE 12/17/07

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		
10 N	H	2	X											~~E~~ S	006K3.01 T2/G1 Q6 Enhancement: The question asks for an action and the answer is a non-action (stem focus.) A, C and D, are written as to "prevent" or "ensure." B is different in style (less plausible) in that it is not preventing or ensuring. Consider the following: Which one of the following correctly describes how the RCPs must be operated per EEP-0 and the reason? RCPs must remain operating to provide core cooling. RCPs must remain operating to simplify RCS temperature and pressure control during plant recovery. RCPs must be tripped to prevent damage to the RCP seals due to loss of seal injection flow. RCPs must be tripped to prevent excessive loss of RCS inventory and potential core uncovery. FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
11 N	H	2	X											~~E~~ S	007K5.02 T2/G1 Q8 Enhancement: (stem focus) First part of question asks for conditions (plural). Options only contain a single condition. It is sufficient to test one PRT parameter to meet the K/A. The choices are 'PRT parameters remain constant' or 'rise.' Consider the following: Which ONE of the following correctly describes the condition that indicates when the pressurizer is at saturation conditions per UOU-1.1 and how PRT level will change during this evolution? Letdown flow decreases PRT level remains constant RCS pressure increases PRT level rises Etc. FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
12 M	H	2				X						X		~~E~~ S	008A2.08 T2/G1 Q9 Enhancement for K/A match: Since each of the actions in each option is unique, no knowledge of the effect of the malfunction is required (first portion of K/A.) The third bullet in the stem appears redundant to the second. Answer C is missing the noun name for TK-144 (see B.) The question does not reference a procedure to provide a context for the required action, presumably to avoid cueing the correct answer. Given that no procedure is referenced in the stem and that reactivity is changing, the second half of D doesn't seem plausible. Consider the following: Unit 1 is at 100% with all systems aligned normally. The temperature input to TCV-3083 (TCV-144), LTDN HX CCW DISCH TCV, has failed low. Which one of the following correctly describes the consequences of the failure and the action required to mitigate the failure? A small RCS _____ will occur. Place TK-144, LTDN HX OUTLET TEMP, in Manual control and _____ CCW flow. Dilution/Boration Raise/Lower FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 ~~M~~ B	H	~~1~~ 2				~~X~~	~~X~~							~~U~~ S	008AK2.01 T1/G1 Q39 Answer D is a subset of distractor A because a leaking PORV is a pressurizer steam space leak. **The question is unsat for two correct answers.** Given that three annunciators in the stem are associated with the PRT, distractors B and C do not seem plausible. Would you normally provide noun names for R-2, 7, 11, and 12? If containment RMs, this information appears redundant to containment pressure for the leak size in question. Consider the following (not based on Farley-specific systems): The plant is at 100% power with all control systems in automatic. The controlling (non-controlling) pressurizer pressure instrument fails low (high). Which one of the following correctly describes the effect of the failure with no operator action? A pressurizer vapor space LOCA will occur. RCS pressure will stabilize at (I/L setpoint) A pressurizer vapor space LOCA will occur. RCS pressure will stabilize at (PORV setpoint) A pressurizer vapor space LOCA will occur. RCS pressure will stabilize at (PZR safety setpoint) A pressurizer vapor space LOCA will NOT occur. RCS pressure will remain at NOP. If used, watch overlap with 010K3.01 (Q 10) FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
14 B	F	2												S	009EA1.17 T1/G1 Q40 No comments. Question is SAT. FJE 12/12/07
15 N	H	2												~~E~~ S	010K3.01 T2/G1 Q10 Enhancement: A uses full nomenclature for variable heaters. No other options use specific nomenclature. Are there more than one group of variable heaters? If not, consider changing A to "Rises due to ONLY Variable heaters energizing." Question is otherwise SAT. FJE 12/12/07 Facility addressed above comment. Question is SAT. FJE 12/18/07
16	H	2												S	011A3.03 T2/G2 Q31 Editorial: seal injection is not capitalized, letdown is capitalized. Which is correct? The K/A is concerned with charging and letdown. The answer options include these parameters as well as seal injection flow. Since options for seal injection are uniquely paired with charging flow, including it does not detract from the question, but the question could be simplified by omitting it. The question is SAT as written. FJE 12/12/07 Facility addressed above comments. Question remains SAT. FJE 12/17/07

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 M	H	2	X									~~2~~		~~E~~ S	012A2.02 T2/G1 Q25 Enhancement for question focus and clarity as well as lack of references. The sequence of events and the question are confusing. Each answer option consists of three items of information: Status of RTBs Equipment required to be realigned Which relays fail to actuate Since the second and third items are uniquely tied, both are not necessary to answer the question. Delete the third item (the second is necessary to meet the portion of the K/A concerning procuedure use.) B(2) and D(2) are confusing. What does align "BOTH trains of ESF components only" mean? Missing a part of the parentheses for D(2). Consider the following: Plant conditions at 10:00 were as follows: • Unit 1 is at 41% power, ramping down due to RCS leakage greater than the Tech Spec limit. • 120V AC vital panel 1A was deenergized two hours ago due to damage to the breaker panel. • DF01, S/U transformer to 1F 4160V bus, just tripped open. At 10:10, a Large Break LOCA (LBLOCA) occurred. Which one of the following describes 1) the status of the Reactor Trip Breakers at 10:05 and 2) the action(s) required to align ESF components, per EEP-0.0, Reactor Trip or Safety Injection, following the LBLOCA?

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		
															At 10:05 the Reactor Trip Breakers will be _____ and after the LBLOCA the operator will be required to manually align _____. A. OPEN "A" Train ESF components ONLY B. OPEN BOTH "A" and "B" Train ESF components C. CLOSED "A" Train ESF components ONLY D. CLOSED BOTH "A" and "B" Train ESF components Examiner Note: RPS (K/A 012) and ESFAS (K/A 013) are treated as a single system (Reactor Control and Protection) in SOPs and lesson plans. **Please include in comments of question why second half of K/A (ESFAS) meets K/A 012A2.02** No technical references are listed for this question. Unable to verify correct answer, or plausibility of distractors. FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
18 B	F	2		X				X						~~E~~ S	021A4.01 T2/G1 Q11 Enhancements: Add a procedure to B (Commence plant shutdown per .....and) to make it more like C and D. Are Ros expected to know the 6 hour shutdown time? If not, omit this portion of distractor B Revise the first part of D as "Maintain the PORV block valve closed with power available" since both of these items are associated with the tech spec. Would Ros be expected to know or perform the administrative requirements when a relief valve cycles? If not, omit this portion of distractor D. Examiner Note: Question meets the K/A because knowledge of trip criteria is necessary in order to know when to depress the reactor trip manual pushbutton. FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 B	H	2												~~E~~ S	103A4.02 T2/G1 Q13 Enhancements: What is the basis for the Higher LOK? Answer A appears to be memory level. A and B state "reset manually, C merely says "reset." If the signals can only be reset manually, then delete the word "manually" from A and B, otherwise add it to C. Consider revising/reformatting answer options for consistency, to permit easier comparison, and to remove negative statements in C and D, e.g: Phase A may be reset without additional conditions. Phase B may be reset without additional conditions. Phase A may be reset without additional conditions. Containment Spray must be reset before resetting Phase B. Phase A may be reset without additional conditions. Phase A must be reset before resetting Phase B. SI must be reset before resetting Phase A. Containment pressure must be less than the actuation setpoint before resetting Phase B. FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
20 B	H	2				X								~~E~~ S	013G2.4.31 T2/G1 Q12 Why is A incorrect.? Although a trip is required, 3.0.3 would also appear to apply until the plant is in a Mode where the TS is no longer applicable, i.e. from the time the train A switch was repositioned until the time the reactor is tripped. **Enhancement until resolved.** What, procedurally, requires the trip? Backing up the automatic action of EC4? Consider adding this to C, "Initiate a manual reactor trip per EC4,..." Consider placing the information in paragraph format into a bullet format to be consistent with the first part of the question and make it easier to read, e.g.: EC4, SSPS A TRN TRBL, just came into alarm. The plant operator just reported that he inadvertently placed the SSPS train "A" Output Relay Mode Selector switch in the TEST position. All other annunciators are unchanged. The last half of D does not appear plausible. Would there be any administrative actions as a result of the inadvertent mispositioning? Wouldn't you want to verify that EC4 clears (even though the action is wrong)? FJE 12/12/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 M	H	2	X											~~E~~ S	015AK3.01 T1/G1 Q41 Enhancement (stem focus): The question is ambiguous in that both failures could occur to the RCP to be started and, IF the RCP were to start, both failures could cause damage. Recommend revising to remove the need for the applicant to make an assumption regarding whether or not the pump starts or whether or not an additional malfunction (failure of oil pressure I/L) occurs. Consider the following: Which one of the following correctly describes an RCP failure mechanism that will still allow the remaining RCP to be started and the damage that would occur? The anti-reverse.... RCP motor winding damage due to high starting current. The anti-reverse... RCP radial bearing damage due to reverse flow through the RCP. The oil lift pump... Damage to the radial bearing due to high starting torque. The oil lift pump... RCP motor winding damage due to high starting torque. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
22 B	H	3	X											~~E~~ S	015K6.02 T2/G2 Q32 Enhancement (stem focus): Question asks for one item (response of N-35). Answers consist of two items (response of N-35 and the effect.) Revise question to elicit response desired. Second half of C and D are saying the same thing, but use different words. Consider rewording second half of answer options for consistency. Recommend grouping answer options together by response, then effect. Consider the following: Which ONE of the following describes the response of N-35 following the trip AND the effect of this response on the Source Range (SR) High Flux Trip? N-35 will indicate LOWER than actual power. The SR High Flux Trip will reinstate as soon as **N-35** reaches the P-6 setpoint. N-35 will indicate LOWER than actual power. The SR High Flux Trip will reinstate only when **N-36** reaches the P-6 setpoint. N-35 will indicate HIGHER than actual power. The SR High Flux Trip will reinstate only when **N-35** reaches the P-6 setpoint. N-35 will indicate HIGHER than actual power The SR High Flux Trip will reinstate as soon as **N-36** reaches the P-6 setpoint. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
23 M	F	2			X									~~E~~ S	017K1.02 T2/G2 Q33 The question is a True / False question (see App. B, C.2.c and App. B, Att. 2, section F) Rewrite to incorporate the mode of operation into the stem, e.g. Which ONE of the following correctly describes how subcooling calcs are performed by the SM M when in the IVD mode? Another option would be to include relevant plant parameter values and mode in the stem and require calculation of a numerical value of subcooling. FJE 12/13/07 Facility addressed the above comments. The question is SAT. FJE 12/18/07

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		
24 B	H	2	X	X										~~U~~ S	022AA2.04 T1/G1 Q42 **Unsat due to no correct answer/stem focus.** The stem states that letdown "has been secured." The question asks when letdown will "automatically isolate." Applicants should know 100% Lprog and 100% Tref. Unclear if plant conditons are stable following the ramp and when letdown was secured in relation to the loss of charging flow. Consider the following: Plant conditions are as follows: Unit 1 is at 60% power. • Pressurizer level is at program level • Tave is at Tref • All charging flow was <u>just</u> lost (no charging pump running) • Letdown was <u>just</u> secured • The OATC reports that pressurizer level is lowering at a rate of 1% every five (5) minutes Assuming no operator action, approximately how much time will pass before pressurizer heaters automatically deenergize? FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 M	H	2												E S	022K1.01 T2/G1 Q14 Plant Mode or power level is not specified, which could affect containment temperature response. Consider breaking up the bullet with the valve positions into three bullets for clarity. Since each flowrate in the first half of the question is unique, no knowledge of the containment temperature trend is necessary to answer the question and this information is redundant. The question asks for "SW flow." Is this total SW system flow, SW flow through the containment coolers, or are they the same? Concern is potential for no correct answer. Why did the OATC need to manually start the 1A containment cooler? Was the 1B containment cooler supposed to start automatically? What is the basis for the lower COG level? Enhancement until items above resolved. <u>If necessary,</u> consider the following: Plant conditions are as follows: The plant is at 100% power. The 1A containment cooler is isolated per SOP-12.1, Containment Cooling System, due to a small active leak in the cooler. The following valves are closed: MOV-3019A, SW TO... MOV-3024A, EMERG SW... MOV-3441A, SW FROM.. A Large Break LOCA has occurred. A pipe rupture occurred in B Train of Service Water. The 1B containment cooler fans failed to start automatically.

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		
															Which one of the following correctly describes the SW flow rate through the (1A?) containment cooler and the containment temperature trend with NO operator action? 800 gpm Decreasing 800 gpm Increasing 2000 gpm Decreasing 2000 gpm Increasing FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 B	H	2		X										~~E~~ S	026A3.01 T2/G1 Q15 Enhancement for insufficient counterbalance/cues (App. B, C.2.f) Answer C is the only option containing 2A CS pump stopped, so no knowledge of the 2A discharge valve or of B train components is required to answer the question. Testing only the A train components is sufficient to meet the K/A. Consider the following: Which one of the following correctly describes the status of the Unit 2 containment spray (CS) system if an inadvertent 'A' Train CS actuation signal is received on Unit 2 while the crew is performing ESP-0.1? 2A CS Pump — 2A CS Pump Discharge Valve A. Stopped — Closed B. Stopped — Open C. Running — Closed D. Running — Open FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
27 B	F	~~1~~ 3	~~X~~	~~X~~										~~E~~ S	026AA1.02 T1/G1 Q44 Enhancement for cues, focus, and distractor plausibility. Answer C is the only option containing "stop all RCPs" so no further information is required to answer the question. Distractor B is not plausible. Since ALL RCPs are running, and all RCPs are supplied by CCW, why does leaving an RCP running with no CCW make sense? It is also the only option that does not address cooling to the charging pumps. Consider rewriting the question to focus on fewer items in the answer options, e.g.: Plant conditions are as follows: Unit 2 is in Mode 3 preparing for a reactor startup. The 1B CCW pump is tagged out. The on-service CCW pump just tripped due to overcurrent. The other CCW pump will not start from the MCB. The crew just tripped the RCPs and is performing AOP-9.0, Loss of Component Cooling Water. Which ONE of the following correctly describes operation of the charging pumps while performing AOP-9.0, Attachment 1, Establishing Firrewater Cooling to a Charging Pump? Stop all charging pumps until fire water is established to one charging pump. Maximum allowable Charging Pump lube oil temperature is **160°F.** Swap operating charging pumps until fire water is established to one charging pump. Maximum allowable Charging Pump lube oil temperature is **140 °F.** (also acceptable to pick a higher value, e.g. 180) C and D are combinations of the above. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
28 M	F	2				~~2~~								~~E~~ S	026G2.1.2 T2/G1 Q16 Enhancement: Could not find the parameters listed in the correct answer in either the listed reference (ECP-1.1) or the procedure in the distractor analysis (ESP-1.3). Neither procedure is the procedure that is listed in the stem (ESP-1.1). The second half of the answer options is testing two different parameters, time and RWST level. Distractor D contains three parameters. Consider rewording the question as "Which one of the following correctly describes the MAXIMUM containment pressure and MINIMUM recirculation time that will allow the OATC to secure the CS pumps per ESP-1.1?" Containment Pressure — Time Aligned for Recirculation 15 psig — 7.5 hours 15 psig — 10 hours 18 psig — 7.5 hours 18 psig — 10 hours Examiner Note: Question is based on continuous action step in EOP ESP-1.1. Monitoring continuous action steps is an operator responsibility whenever the EOP is in effect. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 N	H	~~1~~ 2				~~X~~								~~U~~ S	027AA2.16 T2/G1 Q45 **The question is unsatisfactory because it does not discriminate.** The timeframe over which pressure would increase for this failure makes any initial option requiring only closing a PORV not plausible. Once the cause of the pressure rise is addressed, there is also no immediate reason to close the PORV. Merely placing a component in manual (C and D) does not appear to describe how the component is positioned (energized or off, open or closed. D states specifically which spray controllers to operate, but neither A or B states which PORV to close. A appears to be a subset of D in that both A and D state to close one PRZR PORV ONLY. Was it intended to mean that one vs. both PORVs must be closed? The question does not reference a procedure that requires the actions. This is desirable to provide context and ensure a single correct answer. A, B, and D all contain action(s) to address a pressure increase. Consider the following (not specific to Farley): Same plant conditions. Which one of the following lists an action contained in AOP-100, (title,) that would terminate the pressure transient and stabilize RCS pressure? ??? (Fully?) Open both pressurizer spray valves. Deenergize all pressurizer heaters. Take manual control of PK-444a and reduce demand to zero. Take manual control of PK-444a and increase demand to 100%. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
30 B	F	2												S	028K2.01 T2/G2 Q34 Outline contains 027K2.01. Document change to K/A on Record of Rejected K/As and in comments section. No comments. Question is SAT. FJE 12/13/07
31	H	2												~~E~~ S	029EK1.01 T1/G1 Q46 Enhancement for distractor plausibility and similarity. Transition back to EEP-0 with trip criteria not met is not plausible. Additionally, the procedure transition from S.1 may not be RO knowledge. Make all options similar. Consider ordering all answer options (e.g. A) in terms of desired temp trend/method and then include something affecting reactivity in the second half of all options. Consider the following answer options: Stop the RCS heatup by increasing AFW flow to greater than 700 gpm. Verify dilution paths isolated. Allow the RCS to heat up and continue to attempts to make the reactor subcritical. Stop the RCS heatup by dumping steam to the condenser and continue attempts to make the reactor subcritical. Stabilize RCS temperature and reduce RCS pressure to increase ECCS flow from the RWST. FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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		
32 M	H	~~2~~ 3				~~X~~		~~2~~						~~E~~ S	033AK3.01 T1/G2 Q58 Do I need to know what point I'm at in the startup to know that N-35 is not also inoperable? Move the time for repairs from the question to a bullet in the stem. Question requires RO to know when a greater than 1 hour completion time has been exceeded. Is this expected RO knowledge? What is the basis for plausibility of values used in the distractors, i.e. 1E-8, POAH, 5%, and 8%? Tech Spec 3.3.1 only references The question should reference the source of the requirement, e.g Technical Specifications, in order to provide a frame of reference and prevent multiple or conflicting answers. Consider rewriting the question using variations of the language in the Condition and Required Action for one or two IRNI or SRNIs inoperable. Does the startup procedure contain any administrative requirements that could be used as a question or for distractors? FJE 12/13/07 Facility addressed above comments. Question is SAT. FJE 12/18/07
33 N	F	2				~~X~~								~~E~~ S	035K4.06 T2/G2 Q35 Enhancement for plausibility of D. D doesn't seem plausible because delaying a turbine trip, or no turbine trip, would decrease SG pressures. Consider some other system or condition, e.g. positive MTC. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 B	F	2												S	038EK1.02 T1/G1 Q47 Question is SAT. FJE 12/14/07
35 N	H	3	X			~~2~~								~~E~~ S	039A1.10 T2/G1 Q17 Enhancement for stem focus/distractor plausibility: The second part of A and C either seem to assume that no trip occurs (contrary to the question) or assume an action that is not addressed in the second half of B and D. Consider iterating off of trends down/remains stable for all answer options and don't' address the trend if the leak is isolated. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 B	H	3				X	?							~~E~~ S	041A1.02 T2/G2 Q36 Do A and B appear to contain an unstated assumption that the dumps initially go full open (the first half of C and D.) or would the dumps normally be full open for the plant conditions listed. Distractor analysis for D seems to imply that they would go more open. Distractor C includes an operator action, which is contrary to the assumption stated in the stem, i.e. "Assume no operator action is taken." The stem states that steam dumps are "open." What is intended in the first part of C and D ("All steam dumps will open.") If they are already open, why are C and D plausible? Pair down the answer options to include only what is necessary to make each answer option unique and sufficient to meet the K/A, e.g. (All?) Dumps open and then close at P-12 PK-464 remains in AUTO Dumps open and then close at P-12 PK-464 shifts to MANUAL Dumps open and remain open PK-464 remains in AUTO Dumps open and then cycle at (P-12?) PK-464 shifts to MANUAL FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 B	H	2												S	054AA2.05 T1/G1 Q48 Knowledge of MOV-3232 valves is not necessary to answer the question since all combinations of MFRV and SGFP valves are unique. The K/A would still be met if any one of the three sets of valves were deleted. While the question does not follow recommended construction guidelines for counterbalance (App. B. C.2.f), no cues are provided and the question is SAT. FJE 12/14/07

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		
38 N	H	2				X								~~E~~ S	055EA1.02 T1/G1 Q49 Enhancement for missing words. Distractor C is missing some words in the first bullet. Editorial: Move the plant condition regarding the occurrence of the safety injection into the bullets in the stem, otherwise it could be easily overlooked as the applicant reviews plant conditions to determine an answer. Pair down the question and answer options to include only what is necessary to make each answer option unique and sufficient to meet the K/A, e.g. Which one of the following correctly describes how the 2C DG must be started per ECP-0.0 and how ESF equipment will be started? Same part 1 (but you may wish to highlight Mode 2 and Mode 1) The LOSP sequencer will run to start all ESF loads - or- All ESF loads must be manually aligned FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 M	H	~~2~~ 2		~~X~~			~~X~~							~~E~~ S	056A2.04 T2/G2 Q37 Enhancement for correct answer/distractor plausibility. The answer does not appear to be supported by the reference material. AOP-13, referenced in the question statement does not require a "rapid" load reduction, merely to "reduce turbine load" Per RNO 6.6. KB4 step 7 does specify to "begin reducing load rapidly" but only if the standby condensate pump is not available. Also, answer B is the only option that includes an additional condition not presented in the stem, i.e. "if suction pressure is still falling." Distractor A: Why is tripping the reactor plausible given that the condensate pump has (or should have) auto started and no other conditions indicating a trip are presented in the stem? If it should have, but did not start, wouldn't the operator start it before tripping? Is the assumption that it did not start? Distractor D: This is the only distractor that includes an action without an associated procedure. Also, power is not near 100% - what power limit are you referring to – power vs. # of condensate pumps in an AOP? Note: ES-401 D.2.a only <u>requires</u> that the question meet the second half of an "A2" K/A statement. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
40 N	H	2					~~?~~							~~E~~ S	059A1.03 T2/G1 Q18 How likely is FE2 with an emergency boration in progress? If very unlikely, but it happens, would the applicant be wrong for concluding that the parameter is NOT being restored and a trip is warranted per step 1.14 RNO? Where is the procedural guidance for the explanation in the distractor analysis? Concern is for two potentially correct answers. Note that second half of the answer options is not required to match the K/A. Enhancement until resolved. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 N	F	2						~~2~~						~~E~~ S	061K1.07 T2/G1 Q19 Enhancement for resolution of items below: What is the technical reference (SOP?) that shows that SW is normally aligned to the A Train? Include this in the question, e.g. "aligned per SOP-x". Concern is single correct answer. What is the technical reference that shows a minimum of two hours available? If Tech Spec bases, is this appropriate RO knowledge? Editorial: The question seems backwards in that you'd worry about time to swap before you'd worry about which train to swap to. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
42 B	H	3		?		X								~~E~~ S	062G2.1.23 T1/G1 Q51 Enhancement for distractor plausibility and operational relevance. Applicant should have to evaluate if CCW temps are elevated. Provide a value and trend. This might enhance the plausibility of options containing an action to trip. C and D – can applicants determine which specific pumps to start and secure from the info in the stem, or with the addition of one other item, i.e. which are affected or not? Answer options are not similar. Answer C is the only answer that does not result in either a turbine or reactor trip and the only option that swaps on service CCW trains. Options B and D do not appear plausible for the reason stated in the distractor analysis – there is no guidance in AOP-10 to ramp, only to trip either the turbine or the Rx, depending on power level. A and B do not address the CCW problem. What information in the stem makes tripping plausible? Which train of SW is powered by the 1K bus? Consider options of; Trip Turbine Trip Rx Start (specific correct train pumps/secure others) – don't need to list all actions, e.g. swapping CCW Start (specific, wrong train pumps/secure other Editorial: The three items of information in paragraph format in the stem would be easier to read and refer back to if they were in bullet format, as is the other information. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
43 N	F	2				~~?~~								~~E~~ S	063A3.01 T2/G1 Q21 Why is the second half of B and C plausible? If the inverters are powered, why would amps be zero? Is this a function of the manual bypass switch mentioned in distractor analysis for A? If so, the position of this switch is not specified. Enhancement until resolved. Each answer option contains 3 items, but only two are necessary to answer the question. While the question does not follow recommended construction guidelines for counterbalance (App. B. C.2.f), no cues appear to be provided. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
44 B	F	2												~~E~~ S	063K4.04 T2/G1 Q22 Enhancement for stem focus/distractor similarity: Distractor B is the only option that includes a reason that involves details of breaker design. The question doesn't ask for a reason. Delete the reason and merely state that RTA will immediately trip open. Delete "from the control room" from the stem because distractor A does not address this. Editorial: Distractor A contains current status of breaker and reason. Other options contain current status, effect on manual trip ability, and effect on auto trip ability. Answer B is essentially 'no effect.' While the question does not follow recommended construction guidelines for counterbalance (App. B. C.2.f), no cues appear to be provided. Could rewrite for only the effect on manual and auto trip capability, but not necessary. Recommend highlighting "not" and "either" in C and "not" and "will" in D. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07
45 B	F	2												~~E~~ S	069AA2.01 T1/G2 Q59 Enhancement: Add "per technical specifications" to the stem to preclude multiple correct answers. Is "Containment Integrity" defined in tech specs? A word search of the specs (but not bases) revealed no hits. Concern is no correct answer. No editorial or psychometric issues. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
46 B	H	2				X		X						U S	E05G2.1.27 T1/G1 Q54 **Unsat for job content and implausible distractors.** The second half of the question is procedure transition/selection, which meets 10CFR55(b)(5) criteria as an SRO only question. Is this an appropriate item for ROs at your facility? If so, please provide supporting learning objective. Enhancement until resolved. What is meant by "required" in the options? SGs are required for heat sink except in lower Modes. Would "available" be a better word? How are C and D plausible? If the SGs are required, why return to E-1? If the SGs are not required, why remain in H.1? FJE 12/14/07 Licensee addressed above comments. Per licensee OTM (D. Christiansen) this is expected RO knowledge. Question is SAT. FJE 12/18/97

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 M	H	3	X			X	X							E S	E08 EA2.1 T1/G2 Q62 Enhancement for stem focus. Question does not ask for color, which is highest priority, or which procedure must be entered, but for which is "called for." Not sure what this means. With containment pressure at 28 psig and CS flow at 950 gpm, Z.1 is applicable and is also a correct answer, unless the intent is that the applicant must choose which is highest priority. Disagree that reference is required. With Tc less than 250 °F, P-1 is applicable (although for an Orange, vs. Red condition, which is not asked, but is still higher than Orange Z.1). Distractor B is not plausible for the indications given. Consider providing abnormal SR indications (which would be no higher than Yellow/S.2.) FJE 12/14/07 Facility addressed above comments. Question is SAT. FJe 12/18/07

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	H	3		X		X								E S	E10EK1.1 T1/G2 Q63 Enhancement to remove cue and for distractor B plausibility. The stem provides a cue in that it states the value for minimum upper plenum level. Rewrite the bullet as "Reactor vessel level indication is 42% UPPER PLENUM" or words to that effect. The question asks for a "best" response, which implies a multiple or partially correct answers. Delete the word "best." B is the only option containing an option ("or".) Additonally, isolating charging flow isn't plausible if you are going to increase letdown flow. Consider rewriting as "Stop the cooldown. Reduce charging flow and increase letdown flow." FJE 12/14/07 Facility addressed above comments. Question is SAT. 12/18/07

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 B	H	~~2~~ 3				~~X~~								~~U~~ S	E11EK2.2 T1/G1 Q55 **Unsat for two implausible distractors:** Distractor C is not plausible because it does not address the loss of RHR in the stem that was the cause of the transition to ECP-1.1. Depressurizing to allow RHR to be placed in service doesn't address this. Why is D plausible? As stated in the distractor analysis, the number of running CS pumps is a function of containment pressure, RWST level, and fan coolers in slow speed. This information is not provided in the stem, so the applicant would not have sufficient information to evaluate these options. Pair down the answer options to include fewer concepts. It is not necessary to test all high level steps in order to meet the K/A. Current options include 1) makeup to RWST, 2) cooldown rate, 3) Containment cooler fan speed, 4) CS requirements, 5) RCS subcooling requirements. Editorial: Remove additional conditions from question and place in bullets, i.e: • The crew has transitioned to ECP-1.1, Loss of Emergency Coolant Recirculation. Present the information in the same order in each distractor, unless sequence is implied or asked for. In A, makeup to RWST is listed first, in B, second. In A, cooldown Is listed first, in B, second. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/19/07

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		
50 N	F	2				~~?~~	~~?~~							~~E~~ S	E15EK3.4 T1/G2 Q64 Editorial: Why are the plant conditions necessary? It would appear that the question, by itself, is sufficient to elicit the correct answer. Enhancement: The CST is a component that is not directly connected to the containment and does not pass through the containment. Distractors A and B do not seem plausible for this reason. Distractors A and B might make more sense if the first part was "Auxiliary Feedwater" unless this would be correct. If AFW is correct, then is the CST correct in that it is checked for indirectly (i.e. by checking AFW)? Ehnancement until resolved. Another way to get at this might be to ask for the sources of water that form the basis for the maximum expected water level. FJE 12/14/07 Facility rewrote question SAT. FJE 12/18/07
51 M	F	2												S	G2.1.10 T3 Q67 No comments. Question is SAT. FJE 12/14/07

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		
52 M	F	3						X						~~E~~ S	G2.1.12 T3 Q66 Enhancement: for job link: Options A and B require the RO to know greater than 1 hour completion times in order to rule them out as answers. Is this supported by learning objectives? Editorial: Answer C contains redundant wording. Recommend deleting "as soon as possible" since this is the same as "Immediately." Could get rid of some unnecessary words in A, B, and D, e.g: "Be in Mode 3 in 6 hours..." "Restore ate least one AFW pump..." "...and initiate a shutdown..." FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/17/07
53 B	F	2				X								~~U~~ S	G2.1.8 T3 Q68 Unsat for two implausible distractors. "C" and "D" are not plausible because they do not address mitigation. Implausible that the pumps would be allowed to run while pumping oil. Consider incorporating information from AP-60, Appendix 2 (PCB spill response) or testing where the oil would end up if released. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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	F	2										X		~~U~~ S	G2.2.34 T3 Q70 **The question is unsat because it does not meet the K/A**. the K/A requires knowledge of the PROCESS for determining effects on core reactivity. Additionally, this question is testing theory (GFE knowledge) that is not plant-specific. Options include asking a question that requires application of a procedure (process), e.g. use of curves to determine rod height or to identify (very basically – not at SRO level) the process for determining various core parameters (e.g. rod worth during physics testing). FJE 12/14/07 Discussed supervisor. Facility and supervisor addressed above concerns. Question is SAT. FJE 12/17/07
55 B	H	2												S	G2.4.22 T3 Q75 No comments. Question is SAT. FJE 12/14/07 Examiner Note: RO applicant must understand prioritization of safety functions to answer the question (distinct from G2.4.21, which requires knowledge of status and logic for individual safety functions). The "bases" for prioritizing the safety functions are contained in procedure background documents beyond RO LOK.
56	F	3												S	G2.2.22 T3 Q69 Examiner Note: Testing Technical Requirements Manual meets intent of K/A (Knowledge of LCOs and Safety Limits). No comments. Question is SAT. FJe 12/14/07

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 ~~B~~ M	F	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	G2.3.10 T3 Q71 Unsat because question does not discriminate at the licensed operator level. Question appears to be basic radworker knowledge vs. discriminating for a competent licensed operator. Consider rewording the stem such that the individual must understand how to interpret local indications to determine that a specific rad monitor is in alarm and/or Main Control Room actions per ARP or AOP. Why is distractor A plausible? Stem states that individual has already determined that the alarm is valid. Why is distractor C plausible? Why would any "individual" vs. an operator or HP tech attempt to reset an alarming rad monitor? Note: As stated in the comments section, this question appeared, as written, on the 2004 Farley retake exam. FJE 12/14/07 Facility replaced the question. New question is SAT. FJE 12/19/07

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 B	F	2	X			2								~~U~~ S	G2.3.9 T3 Q72 Unsat for stem focus. Stem asks for 1) when the release starts (?), sequence of procedure actions. Options include 1) sequence of procedure actions, 2) location of release, and 3) action contingent on d/P (B and C). Reword the stem to ask what is being answered, e.g: "Which ONE of the following describes how the containment purge system is operated to reduce containment pressure IAW SOP-12.2, ...?" Pair down the answer options to include only what is necessary to make each answer option unique and sufficient to meet the K/A Do the mini-purge fans exhaust directly to the stack? What is the difference between exhausting to the plenum vs directly to the stack? If not, then "A" and "C" are not plausible. Referenced procedure calls V-294 the Purge Filter ***Cooling*** Outlet Valve. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 N	F	3	X			X	~~2~~							~~E~~ S	G2.4.34 T3 Q74 Enhancement for stem focus/multiple answers/distractor plausibility: Distractor A would appear to be correct based on step 8.3.4. Stem does not provide a context for which procedure section is applicable. No knowledge of the first half of the options is required since the second half of each answer option is unique, i.e. FCV-122 / Pen Room FCV-122 / BIT area MOV-8803 / Pen Room MOV-8803 / BIT area Stem does not state whether pressurizer level is rising or lowering, so applicant is forced to evaluate location of valve controllers (cue). The first part of distractors A and C lack plausibility because pressurizer level trend is not stated. Is LCV-459 and 460 used in any procedure to control, vs isolate, letdown? Pair down the answer options to include only what is necessary to make each answer option unique and sufficient to meet the K/A FJE 12/14/07 Facility addressed above issues. Question is SAT. FJE 12/18/07

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 B	F	2												~~E~~ S	G2.4.49 T3 Q73 Enhancement: What is basis for higher LOK? Question appears to be recall of adverse containment criteria and feed and bleed criteria. Editorial: Use of the word "first" with a trend of lowering steam generator levels seems to imply that all SG levels follow a downward trend whereas the distractors don't exhibit a trend. Consider simplifying the question as follows: Which one of the following sets of steam generator wide range level parameters meet the FRP-H.1 foldout page criteria for feed and bleed? Another option would be to present times and levels and ask for the earliest time that F&B is required. FJE 12/14/07

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		
61 M	F	~~1~~ 2				~~X~~						~~X~~		~~U~~ S	025AK2.03 T1/G1 Q43 **The question is unsat because it does not meet the K/A.** 025AK2.03 states "Knowledge of the operational interrelations between the loss of Residual Heat Removal System and the following: Service water or closed cooling water pumps." This question asks for the interrelationship of the RHR heat exchanger and the CCW system (026AA2.01 or 025AK2.01.) Consider presenting a RHR/CCW/SW system alignment and test the effect on RHR for a loss (electrical, mechanical etc) of SW and/or CCW pumps. Aside from this, if C or D were correct, then B has to be correct since all contain RHR HX. C and D are not plausible as written. Could be fixed, but would not fix K/A mismatch. FJE 12/14/07 Facility rewrote question SAT. FJE 12/19/07

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				X		U S	057AK3.01 T1/G1 Q56 **The question is unsat because it does not meet the K/A.** The K/A is for loss of a vital ac electrical *instrument* bus. The question presents a loss of the AC vital bus (K/A 062). This question appears to involve procedure selection beyond recognition of entry conditions (C and D.) Is this expected knowledge for RO's at Farley? If so, please provide learning objective. A is not plausible because "immediate" and EEP-0 are not consistent with long term concerns. D would not appear to be a plausible distractor for an RO applicant because evaluation of a technical specification with a 6 hour completion time is required. Answer C is the only option that does not involve a trip or shutdown. FJE 12/14/07 K/A match addressed in comments section of question. Facility addressed above comments. Question is SAT. FJE 12/18/07

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 N	H	2					X							~~E~~ S	058G2.1.32 T1/G1 Q50 Answer A would appear to be incomplete based on reference material cited in the distractor analysis. The reason for isolating CCW flow to the thermal barriers appears to be to protect the CCW system from steam formation vs. seal damage. Answer A would appear to be accurate if written as: Isolate seal injection and return flow to all RCPs to prevent potential RCP seal damage, AND Isolate CCW to the thermal barrier heat exchangers to protect the CCW system from steam formation. However, if written as above, the answer would be the only option that addresses both damage mechanisms. Enhancement until resolved. Editorial: The question asks for the reason for the above plant conditions, which is not addressed by the answer options. The question would be better worded as "Which one of the following correctly describes the actions required by AOP-29.1 for the conditions given above and the reason(s) for performing these actions?" FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 M	F	2					~~?~~							~~E~~ S	068G2.1.20 T1/G2 Q65 Enhancement: Distractor A is a subset of all other options. Consider adding "ONLY" at the end of the sentence. Note: Replacement K/A for FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07
65 N	F	2		~~X~~										~~E~~ S	076K3.01 T2/G1 Q26 Enhancement: The first half of all answer options is unique and is sufficient to meet the K/A. The K/A does not require testing actions required and the second half of the answer options provides additional cues to eliminate answer options if the applicant does not know system interrelationships. This modification would appear to make the question a lower LOK question. FJE 12/14/07 Facility addressed above comment. Question is Sat. FJE 12/18/07

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 N	F					~~?~~	~~?~~							~~E~~ S	078G2.1.32 T2/G1 Q27 Is the sequencer panel pressure transducer considered a part of the sequencer panel? If so, D would appear to be correct also, i.e. a failure of the sequencer panel could include failure of the pressure transducer. Enhancement until resolved. B does not appear plausible, i.e. why would the air compressor operate from the sequencer if it was started from the MCB? Would "or" make more sense instead of "and" or would the distractor remain incorrect and be plausible if "from the selected sequencer" were deleted? FJE 12/14/07 Facility addressed above concerns. Question is SAT. FJE 12/18/07
67 B	F	2												S	103K4.06 T2/G1 Q28 Editorial: The stem contains information that is not necessary to correctly answer the question (RCS pressure, EEP-0.) However, the question is SAT as written. FJE 12/14/07

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 M	F	2				X								~~E~~ S	E02EA1.3 T1/G2 Q60 Although specified as natural circ criteria, increasing CETCs (distractors A and C) s not plausible for adequate natural circulation. Enhancement until resolved. What is the basis for the Higher LOK? Question, as written, tests recall of procedure parameters, using procedure steps as written. The question would be Higher LOK if applicant was provided with SG pressure and required to select from appropriate hot (or cold) let temperatures. One option for creating a higher order question with plausible distractors would be to state that the OATC has reported that CETCs are decreasing and SG pressures are all approximately (value) and decreasing. Iterate off of RCS hot leg or cold leg temperature values and trend. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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		
69 N	H	2	X			X								~~E~~ S	E04EK1.3 T1/G1 Q53 Enhancement for stem focus/distractor plausibility. How are the first portions of C and D plausible (LHSI cold leg injection to RCS) given that the stem states that the 1B RHR pump room sump is alarming? What is being tested, the most probable leak location at Farley, or the actual leak location given the conditions in the stem? Distractor B does not appear plausible. How would loss of RHR pump seals result in loss of injection only (and not recirculation)? Each answer option contains three elements. If the applicant knows leak location and operator actions, then knowledge of operational implications is not necessary to answer the question. Editorial: Part two of all distractors states to isolate the discharge "to." Should this be "from"? ECP-1.2 also provides direction to isolate RCP seal injection. This could make a plausible (but incorrect) most likely location and action. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 M	F	2				X								~~E~~ S	E06EA1.2 T1/G2 Q61 Enhancement for distractor plausibility. What is "the condition" in distractor A? If the integrity condition is assumed, the distractor is not plausible. Change to "...to mitigate the degraded core cooling condition." The first half of C is a true statement, but is incorrect for the given conditions. Change C to "No other procedural actions are allowed to be implemented until a transition is directed IAW FRP-C.2." Answer D contains irrelevant information that can be used to exclude option B. Revise by deleting everything after "injecting." Also, define which accumulators, i.e. SI accumulators. Editorial: Could shorten answer options since title of C.2 is provided in the stem. FJE 12/14/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 N	F	2				X								~~E~~ S	073A4.02 T2/G1 Q24 Enhancement for distractor plausibility. Distractor A: What type of valves are the sample valves? Could the valves be jacked open without removing motive force from the operator? Distractor B: Which instrument power fuses, R-19? Distractor C is not plausible in that a sample could never be obtained, when needed, when the R-19 remains in alarm. What type of valves are the sample valves? Consider a distractor that addresses motive force to the valve operator (fail air, pull control power, open MCC breaker) Answer D: If the switch is for R-19, then please be specific, i.e. "Place the R-19 Operations ...." Facility addressed above comments. Question is SAT. FJE 12/18/07
72 N	F	2												S	072G2.1.2 T2/G2 Q38 No comments. Question is SAT. FJE 12/14/07

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		
73 B	F	~~1~~2 2				~~2~~						~~2~~		~~E~~ S	065AK3.03 T1/G1 Q52 Enhancement for distractor plausibility and K/A match. Would letdown orifice isolation valves be available, given the loss of IA, if V3825 was open? If not, the question appears to be 'which of the following have a backup pressure supply' and LOD = 1 (unsat.) Enhancement until resolved. K/A asks for effect on plant operation. Question states effect on plant and asks for component, and in this case, there is no effect. At 100% power it would appear to be more conventional to discuss a high pressurizer level vs a high RCS level. Distractor D: Isolation should be capitalized. FJE 12/14/07 Facility replaced question. New question is SAT. FJE 12/18/07
74 N	F	2												S	064K6.08 T2/G1 Q23 No comments. Question is SAT. FJE 12/14/07

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 B	F	~~1~~ 2										~~X~~		~~U~~ S	062K2.01 T2/G1 Q20 The K/A asks for *bus* power supplies to major *loads*. The answer options consist of switchyard or plant power supplies to a major bus. The answer options contain three pieces of information, however, in each case, the normal and alternate supplies are mirror images. While the question does not follow recommended construction guidelines for counterbalance (App. B. C.2.f), no cues are provided. FJE 12/14/07 Facility replaced question. Question is SAT. FJE 12/18/07
SRO															

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		
1 M	F	2	X			X	X							U S	006A2.10 T2/G1 Q86 Non-editorial: **Unsat for two implausible distractors.** The second part (action) of A and C are not plausible. 1) Cross connecting the accumulators is prohibited by procedure. 2) N2 is not used for mixing the accumulators. 3) Two accumulators inoperable = Tech Spec 3.0.3. Source: N/A (Modified) The question asks for impact and action required. The answer options consist of three elements: 1) The number of inoperable accumulators, 2) a design basis, and 3) an action. If the applicant knows the number of inoperable accumulators and the steps to correct, then no knowledge of the design basis is required. A and C specify to adjust the accumulator(s) with the low boron concentration. B and D merely specify to feed and bleed accumulator(s). Is it assumed that the F&B will take place on the accumulator(s) with low boron concentration? The design basis portion of A and C (may not adequately counteract reactivity effect of a cooldown) appears to be a subset of the correct portion of B and D (maintain subcriticality). Suggestion: K/A requires predicting impact and using procedures to mitigate. Consider the following :

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		
1 cont.															At 10:00 on 1/1/08, a chemistry sample of A and B SI accumulator boron concentrations was as follows: "A" 2350 ppm "B" 2198 ppm Which one of the following describes the action required, and the maximum time to complete the action, in accordance with Farley Technical Specifications? Lower "A" SI accumulator boron concentration. No later than 10:00 on 1/2/08 Lower "A" SI accumulator boron concentration. No later than 10:00 on 1/4/08 Raise "B" SI accumulator boron concentration. No later than 10:00 on 1/2/08 Raise "B" SI accumulator boron concentration. No later than 10:00 on 1/4/08 - OR - Which one of the following describes the impact of this condition and the action required per Farley Technical Specifications? Ability to maintain subcriticality is reduced Drain and fill the "A" SI accumulator to lower boron concentration. Ability to maintain minimum boron precipitation time is reduced Drain and fill the "A" SI accumulator to lower boron concentration. Ability to maintain subcriticality is reduced Feed and bleed the "B" SI accumulator to raise boron concentration Ability to maintain minimum boron precipitation time is reduced Feed and bleed the "B" SI accumulator to raise boron concentration FJE 10/1/07

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		
															Comments on Question Revised 11/07 No comments. Question is SAT. FJE 12/10/07

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 ~~B~~ N	H	2										~~X~~		~~U~~ S	009EA2.01 T1/G1 Q76 <u>Non-editorial:</u> **The question does not match the K/A (see App. B, C.1.b) and is unsat.** 009EA2.01 states "Ability to determine and interpret the following as they apply to a small break LOCA: Actions to be taken, based on RCS temperature and pressure, saturated and superheated." The question tests knowledge (entry conditions) of inadequate/degraded core cooling (K/A 074) and the knowledge or context of SBLOCA is irrelevant to the question. Source – WTSI bank. Is E-0 complete to the point of monitoring status trees? The first action taken, in either C.1 or C.2 is to "Monitor RWST level." Consider rewording the question as follows: "Which one of the following correctly describes the next procedure the crew will enter and the action they will take first?" The action in A and B (start an RCP) would be more plausible if it were an action earlier in C.1/C.2. Start an RCP is step 21 of C.1. Verify proper SI valve alignment is step 3 of both C.1 and C.2. <u>Suggestion:</u> A small break LOCA has occurred. The crew is performing FNP-1-EEP-1.0, Loss of Reactor or Secondary Coolant at step 7, Check SI termination criteria. Containment pressure is (value). Subcooled margin monitor indication is (value) in CETC mode. RCS pressure is (value and trend). Pressurizer level is (value and trend). The Heat Sink CSF status tree is Green.

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 Cont.															Which one of the following correctly describes the procedure the crew will follow after EEP-1 step 7 and the reason? The crew will remain in EEP-1 because subcooling is too low. The crew will remain in EEP-1 because RCS pressure is NOT increasing. The crew will remain in EEP-1 because pressurizer level is too low. The crew will GO TO ESP-1.1, SI Termination, because all SI termination criteria are met. FJE 10/1/07 <u>Comments on Question Revised 11/07</u> Editorial: Extra space after "EEP-1.0," in question stem. Question is SAT. FJE 12/10/07.

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		
3 N	H	2	X									X	X	~~U~~ ~~E~~ S	011A2.12 T2/G2 Q91 <u>Non-editorial:</u> Each answer option consists of multiple topics: 1) valve operations for raising level & insurge/outsurge 2) valve operations for lowering pressure 3) limit (note that both 320°F limits appear correct) 4) Basis for the limit **The question is not SRO-only and does not meet the K/A.** If an applicant knows 1) and 2) then no SRO knowledge is necessary to answer the question. If the applicant knows 3) and 4) then no knowledge of the K/A is necessary to answer the question. The answer options are difficult to understand due to the format and number of topics in each (focus).

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		
3 cont.															011A2.12: Ability to predict the impact of the following operation on the PZR LCS and, based on those predictions, use procedures to correct, control, or mitigate the consequences of those operations: Operation of auxiliary spray. Suggestion: A plant cooldown is in progress per UOP-2.2. The crew is planning to cool down (or fill) the pressurizer using auxiliary spray. Which one of the following correctly describes a limit associated with cooling down the pressurizer and how pressurizer level must be maintained during the cooldown per UOP-2.2? The pressurizer cooldown rate is limited to a maximum of 100 °F in any one hour period. An outsurge must occur during pressurizer cooldown. The temperature difference between the pressurizer steam space and charging water must be less than 320 °F. An insurge must occur during pressurizer cooldown. Could also pick a limit and test the basis for the 2nd half of the Q. FJE 10/1/07 Comments on Question Revised 11/07 Enhancements: Clarify the action being performed, e.g. "The crew is at step 5.2 of UOP-2.2 to begin raising…." In answer options, replace "must be less than" and "is limited to" with "must not exceed" to be consistent with the UOP-2.2 P&Ls and, for A and B, to bound the case where the difference is exactly equal to 320 °F (prevent no correct answer.) FJE 12/10/07 FACILITY ADDRESSED COMMENTS. Question is SAT. FJE 12/17/07

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		
4 M	~~L~~ H	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	016G2.4.31 T2/G2 Q92 <u>Non-editorial:</u> **Unsat for two implausible distractors.** Tripping the reactor when the parameter is 18% below the trip setpoint and approaching the setpoint slowly (C and D) is not plausible. Source – N/A (modified.) Why is the second portion of the basis in B and D (ensure that on pzr level failure….) plausible? The structure of C/D (assertion/procedure/basis) is different from A/B (procedure/reason/basis) and does not follow from the question (action/applicability/basis). Note that procedure selection is not required by the K/A and Tech Spec bases is sufficient for SRO-only. Why is question as written lower cog level? Asking for the basis of the high level trip, when the trip is not required, could lead the applicant to select the wrong answer. Asking for the basis for the trip seems unrelated to the balance of the question.

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 cont															Editorial: The individual level channels are not important for answering the question. Could simplify by stating that 'pressurizer level is 73% and rising slowly.' The stem asks for three items: 1)Procedure to implement, 2)Reason, 3)Basis for pzr hi level trip Consider placing each item, within each choice, on separate lines in order to facilitate comparison. The question might be more correctly worded as "Which… describes the procedure that must be entered, the reason for entering it, and the basis for the …. Trip?" Each basis consists of multiple elements. Testing one correct and one incorrect concept would reduce answer length and be sufficient to meet SRO-only. FJE 10/1/07

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 cont															Comments on Question Revised 11/07 Comments state question changed to new, but question is still categorized in LXR as M(odified). Which? Since the stem states that LT-474 is tripped and LT-475 has failed low, distractors C and D are not plausible. Since the stem provides no annunciators indicating that an SI has occurred, B lacks plausibility. **Unsat for multiple implausible distractors.** C and D provide specific actions (component and value), while A and B do not. Modify to second half of A and B to be similar (in level of detail) to C and D. Consider ES-01 RNO 1.1.4. Consider merely stating that "Subsequently, the card power supply for LT-475, 1A SG NR LVL, failed." And delete the effect of the failure (causing LT-475 to fail low) as well as the list of annunciators in alarm. Consider rewording question as "…the following describes the correct procedure(s) to enter and action(s) to take for…" Consider deleting "Check steam flow and feed flow matched on 1A SG," from C and D since it is lengthy and does not differentiate. FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
5 ~~M~~ N	H	2										~~X~~		~~U~~ ~~E~~ S	022G2.1.14 T1/G1 Q77 <u>Non-editorial:</u> **The question is unsat because it does not meet the 2nd half of the K/A.** Second half of K/A is 2.1.14: "Knowledge of system status criteria which require the notification of plant personnel." The question and answer options do not incorporate the concept of notification of plant personnel. Source – N/A (Modified) Why is the second half of distractor A plausible? When is letdown required to be isolated by 2-AOP-16 (or other procedure)? Why is distractor "D" incorrect? No information is provided regarding VCT level or the status of VCT makeup. Answer C is the only option that provides options for required actions (do …or…). This is different in style than the distractors and is less likely to be perceived as wrong. <u>Editorial:</u> Consider placing the event and the action on separate lines to facilitate comparison of answer options. Consider reversing the order of the procedure and action, to be consistent with actual performance, e.g. "Enter 2-AOP-16 and …" Can eliminate words by just stating the observation vs. who observed, i.e.: Pressurizer level is trending DOWN VCT level is trending UP Also, is it ops expectation that a value and trend are both reported? FJE 10/1/07

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		
5 cont.															Comments on Question Revised 11/07 Enhancement: Distractor analysis states that Corporate Duty Manager notification is required per EIP-8.0, section 20.9. What is the time requirement for this notification? Concern is both for multiple correct answers as well as plausibility of a 1 hour notification (distractors A and C.) Consider shortening the question, e.g. "...describes the procedure entry and notification required for the..." FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
6 B	H	~~1~~ 2										~~?~~	~~X~~	~~U~~ **S**	025AA2.04 T1/G1 Q78 <u>Non-editorial:</u> **Unsat for not meeting 10CFR55.43 (SRO) criteria.** No procedure selection is required per answer options. Source – Farley Bank The question asks for the correct sequence of actions of AOP-12 given indications of an RHR leak. How does this relate to the second half of the K/A, i.e. ability to determine the location of the leak and how to isolate or whether the leak is isolated? Answer B is the only choice that isolates the leak. If the applicant recognizes the leak, then other actions, and their sequence, are irrelevant. LOD = 1 unless this action appears in other distractor(s). Portions of distractor C differ in style from the other options, making it a less plausible distractor. Specifically, how to fill the RCS, and to what value, is not specified. Same comment regarding the SGs. Distractor D – why is 123'6" a plausible value? Could not find this value in AOP-12. <u>Editorial:</u> Tripping the 1A RHR pump appears in all answer options. Consider moving it to the stem, e.g. "Which one of the following is the correct sequence of actions that will be performed after the 1A RHR pump is tripped?" What is the context for the actions listed? Consider adding ..."per AOP-##" to question. FJE 10/2/07

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 cont.															Comments on Question Revised 11/07 AOP entry conditions are RO knowledge (ref. K/A G2.4.4.) **The question is unsat because it is not SRO-only.** Additionally, B and C appear minimally plausible. What parameters in the stem would imply that the leak is inside containment? What RCS level is above the SG manways? Consider testing isolability based on reported location or requesting new K/A. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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		
7 N	~~L~~ H	~~2~~ ~~1~~ 3										~~X~~		~~U~~ S	029G2.1.33 T1/G1 Q79 <u>Non-editorial:</u> **The question is unsat because it does not meet the K/A**. The K/A is Anticipated Transient Without Scram (ATWS): Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. No ATWS is in progress, so no knowledge of the ATWS evolution is required (first half of K/A), and the question implies entry into a Tech Spec, so no knowledge of the entry condition is required, only the tech spec action (specifically, how to apply the 1 hr preparation.) <u>Editorial:</u> All bullets are written in present tense, which is incorrect. Consider changing as follows: The plant is in Mode 1 At 1100..... *were* declared inoperable... The crew *has* initiated.... Examiner Note: SRO only due to reportability and due to knowleddge of 3.0.3 action. FJE 10/2/07

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		
7 cont.															Comments on Question Revised 11/07 Disagree that reference is required because, if Table 3.3.1-1 is provided, determining Applicable Mode for tech spec application becomes a "direct lookup," i.e. LOD = 1 and unsat. **Question is unsat due to direct lookup for Mode of Applicability.** Consider submitting the same question with no references allowed. Applicant can logically deduce that, if RTBs are open, their operability is no longer required. Consider rewording the question as "Which one of the following correctly describes whether or not the plant must be in Mode 4 and the associated time requirement, in accordance with technical specifications?" and list options in increasing Mode, increasing time (D becomes A). Consider adding a space between the line beginning with "UOP-2.3, Shutdown…" and the question. FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 ~~M~~ N	H	~~2~~ 3	~~X~~			~~X~~								~~U~~ S	035A2.06 T2/G2 Q93 Non-editorial: **Unsat for two implausible distractors.** There is no cooldown specified in EEP-1.0. While EEP-1.0 step 18 does specify to dump steam to lower RCS pressure if it is greater than S/G pressure, no information regarding S/G pressure is provided in the stem and no information is provided regarding what step of EEP-1.0 the crew is currently performing (e.g. are they past step 18?) A and C are not plausible. Distractor analysis says some EOP(s) specify a max cooldown rate –which ones? How is this plausible for this question? Editorial: Question asks for two items - procedure and method. Answer options consists of three items - procedure, method or system (the same in all cases – condenser steam dumps) and cooldown rate. Suggestion: Add S/G pressures to stem. Which one of the following describes the correct sequence of actions the crew must use to cool down the RCS in order to place RHR in service? C/D per EEP-1 until RCS press < SG press GO TO ESP-1.2 and C/D to RHR conditions NO C/D will be performed in EEP-1 GO TO ESP-1.2 and C/D to RHR conditions. C/D per EEP-1 until RCS press < SG press GO TO ESP-1.2 and C/D to HSB GO TO UOP-2.2 and C/D to RHR conditions NO C/D will be performed in EEP-1 GO TO ESP-1.2 and C/D to HSB GO TO UOP-2.2 and C/D to RHR conditions EJE 10/2/07

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 cont.															Comments on Question Revised 11/07 No comments. Question is SAT. FJE 12/10/07

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		
9 N	H	~~2~~ 3	~~X~~			~~X~~						~~?~~	~~X~~	~~U~~ S	039A2.01 T2/G1 Q87 <u>Non-editorial:</u> **Unsat due to not at SRO level (no procedure selection required).** If the applicant recognizes the method of heat removal (RCPs/SGs), which is unique to answer C, then no knowledge of procedure requirements is necessary to answer the question and the question is not written at the SRO level. Source - New How does this question meet the 2nd half of the K/A – flow paths of steam during a LOCA? The actions listed in distractor B are not consistent with the plant conditions in the stem (and thus not plausible). Specifically, B states to restore Heat Sink by establishing any AFW or other feedwater source. Per the stem, AFW is established at 400 gpm. Additionally, B states to steam the SGs, but the stem does not indicate whether or not they are already steaming. Distractors A and D to not provide a procedural basis for the actions listed, making these items less favorable in style and therefore less plausible. Distractor A – Given that a Red heat sink condition is plausible, the associated actions are not plausible unless the implication is that the SGs and RCS are no longer coupled due to loss of inventory (LBLOCA). Why would an operator not perform H-1 if he/she believed a red path existed? Need to enhance the plausibility of distractor A. Answer C assumes RCPs are operating. No information regarding RCPs is given in stem (although it could be inferred by calculating subcooling – was this the intent?). If the SGs are not currently steaming (implied by "steaming the SGs" in the answer) then heat removal (and the reason SG pressures are decreasing) would appear to be via addition of cold SI water. This conflicts with the distractor analysis.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
9 cont															Editorial: Question asks for impact and action for RCS heat removal. Answer options consist of status of Heat Sink (all options), mechanism that is providing RCS core cooling (A, C, and D, but not B), actions for AFW and steaming (all options), and procedural basis for AFW/SG actions (B and C only). Reword the question to explicitly ask what is implied by the list of items in the answer options. FJE 10/2/07 Comments on Question Revised 11/07 Editorial: Consider rewording the question as "...and the action that will subsequently be taken to reduce SG pressure?" Each answer option contains three pieces of information: 1) Procedure(s) 2) Steam flowpath 3) Cooldown rate limit If the applicant knows procedure (SRO-only) and steam flowpath (required for second half of K/A), then knowledge of rate is not required. Consider rewriting second half of answer options to eliminate reference to cooldown rate unless desired for completeness. Question is SAT. FJE 12/10/07

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		
10 N	H	2	X											~~E~~ S	040AA2.01 T1/G1 Q80 Non-editorial: **Enhancement for stem focus.** Parameters in stem do not appear consistent. With Tcold at 510 °F, S/G B and C pressures should be approximately 750 psig. Conversely, Tsat for 910 psig is approximately 535 °F, which is 25 °F above Tcold. Given the information in the stem, how do these conditions result? Editorial: Since the diagnosis of a steam line break is provided in the question, could the 2nd, 3rd, and 4th bullets be eliminated if the 1st bullet were changed to "A Reactor Trip and Safety Injection have occurred due to a steam break." The answer options consist of a single procedure vs. a flowpath of multiple procedures. Consider rewording the question as "…. And the next procedure the crew will implement after transitioning from EEP-0.0…." FJE 10/2/07 Comments on Question Revised 11/07 Question is SAT. FJE 12/10/07

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		
11 N	F	~~1~~ 2				~~2~~						~~X~~	~~X~~	~~U~~ S	059G2.4.30 T1/G2 Q82 <u>Non-editorial:</u> **Unsat due to not meeting the K/A**. No knowledge of an accidental liquid release, the first half of the K/A statement, is required to answer the question. The answer and distractors would be the same if a degraded fission product barrier or RCS leakage were substituted. Additionally, the second half of the K/A is knowledge of which events must be reported to outside agencies. The question is testing a time requirement for reporting a NOUE vs. which events must be reported. Source – New. What is the basis for a higher COG level? If an applicant knows to notifiy within 15 minutes of classification, what else, besides adding 15 minutes to the time of classification, is required? What is basis for higher LOK? <u>Editorial:</u> The events associated with all times are written in the present tense. This is incorrect for those events in the past. FJE 10/2/07

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		
11 cont.															<u>Comments on Question Revised 11/07</u> 037G2.4.11 T1/G2 Q82 Question asks for three items: 1) RCS operational leakage limit exceeded, 2) Basis for the limit, and 3) Procedure entry required. If an applicant knows which leakage limit is exceeded and what procedure is required, then no knowledge of basis is required and the question is not SRO only per comments. The combination of leakage limit and procedure for options A (unidentified leakage / AOP for SGTL) and D (SGTL / AOP for RCS leakage) do not appear plausible. **Unsat for implausible distractors and for not SRO-only.** While the language for the correct answer and distractor for the tech spec basis is taken from the basis document, they both appear to be the same, i.e. preventing more tube leakage = prevent degradation of RCS pressure boundary. Consider rewording the question as follows (no reference provided): Which one of the following correctly describes the procedure that must be entered and the required action and completion time in accordance with Technical Specification 3.4.13, RCS Operational LEAKAGE. Enter AOP-1.0, RCS Leakage Reduce Leakage to within limits within 4 hours Enter AOP-1.0, RCS Leakage Be in MODE 3 within 6 hours Enter AOP-2.0, Steam Generator Tube Leakage Reduce Leakage to within limits within 4 hours Enter AOP-2.0, Steam Generator Tube Leakage Be in MODE 3 within 6 hours

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		
11 cont.															First half of answer meets procedure selection required by K/A and knowledge of greater than 1 hour action statements would be SRO-only knowledge. Comments list K/A is T2/G2, ES-401-2 shows 037 (SGTL) as T1/G2. FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
12 N	H	2	X			X	?						X	U E S	061AA2.03 T1/G2 Q83 Non-editorial: **Unsat due to not SRO-only.** The first half of the question requires systems knowledge and the second half of the question requires knowledge of AOP entry conditions, both of which are RO knowledge. The second half of answer B does not appear to be correct. FNP-1-ARP-1.6 # 4.5.2 states to "refer" to FNP-1-AOP-30. This appears to imply that "entry" is not required unless a fuel handling accident is confirmed (vs. suspected). Unsat if two correct answers or no correct answer. Enhancement otherwise. Would FH5, SFP Area RE25 A or B Hi Rad also be received? Specify what requires the action, i.e. "… that is required per FH1, RMS HI-RAD?" in order to provide the applicant a context for answering the question and also to preclude no answer/multiple answers. Is the R-5 red light labeled "alarm?" If not, consider deleting the word "alarm" as this may provide an otherwise unavailable diagnostic cue. What is "ARDA" in A and D? Does this need to be spelled out? Why is A wrong? If the crew did not have a status for Dry Storage operations (no status is provided in the stem), would it be wrong to check? Would this information normally be part of turnover (i.e. given in the stem)? Potential for multiple correct answers? Editorial: Can shorten the 5th bullet by deleting "The RO determines that." Question asks for status of SFP ventilation. Answer options all concern SFP supply and exhaust fans. Consider changing question to match answer options, e.g. "Which…. Status of the Spent Fuel Pool Supply and Exhaust fans…."

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		
12 cont															Examiner Note: Meets K/A because an interpretation is made regarding an ARM Alert setpoint being reached. FJE 10/2/07 <u>Comments on Question Revised 11/07</u> Editorial: Abbreviation for ARDA is spelled out in A but not in B. Consider changing "action" in question to "action(s)" since the second portion of all options contains multiple elements. Enhancement:: Abbreviations for ARDA and CREF are defined, abbreviation for PRF in A and B is not. The question is worded such that the second half of A and B are not plausible because only the second half of C and D directly contribute to protecting people in the MCR. Consider rewording the question, e.g.: "... and the action that will be required per FH1, RMS HI-RAD." FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
13 ~~B~~ N	H	2	~~X~~			~~X~~								~~U~~ ~~E~~ S	062G2.1.33 T2/G1 Q88 <u>Non-editorial:</u> **Unsat for two implausible distractors.** If the concept of "voluntary" tech spec entry is solely dependent on whether the action was entered as a result of elective maintenance, then neither B or C appear plausible because the stem makes no reference to maintenance, only an equipment fault, as stated in the stem and question. Source - Bank "Best" is a subjective term with no context provided, e.g. per a specific procedure. Rewrite to ask for requirements. Tech Spec Conditions are either met or not met. Why would entry be "voluntary?" The activity resulting in the entry can be voluntary, but not entry of Tech Spec action statements. If a "voluntary" Tech Spec entry is not prohibited, and I am not sure if I meet the spec, am I wrong to enter the spec until I obtain more information? Examiner Note: SRO only because knowledge of Tech Spec basis is required to determine operability (eliminate 3.8.9.) Recommend rewriting to incorporate required entry into 3.8.1/3.8.9 and correct/incorrect required actions and/or completion times. <u>Editorial:</u> None. FJE 10/2/07

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 cont.															Comments on Question Revised 11/07 Enhancementl: The reasons for entering or not entering each tech spec are reduntant to each action. The applicant must know the reason in order to determine which tech spec(s) must be entered. The exising answer choices (without reasons) are: Enter 3.8.7 Don't enter 3.8.9 Enter 3.8.7 Enter 3.8.9 Don't enter 3.8.7 Enter 3.8.9 Don't enter 3.8.7 Don't enter 3.8.9 Simplify the question as "…describes the Technical Specification action statement(s) that must be entered?" and omitting the reasons from the answer options. The question is still SRO-only since knowledge of the basis is required to determine the correct answer. FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
14 N	~~F~~ H	2	~~X~~			~~?~~							~~X~~	~~U~~ ~~E~~ S	073A2.01 T2/G1 Q89 Non-editorial: **Unsat due to not SRO only.** Knowledge of system interlocks (first half of question) and knowledge of which component is Tech Spec related (second half of question) is RO knowledge. The question asks for impact on the unit and tech spec applicability. The answer options consist of system response, tech spec applicability, and ODCM requirements. Consider rewording the question as "Which… the effect of the failure and the associated ODCM requirement, if any?" Are applicants expected to know these valves based on number only, or is the noun name typically referenced also? There is no Limiting Condition of Operation associated with Tech Spec 5.5.4.a (which is in the administrative requirements section) as there is with systems in section 3 of Tech Specs. Are Tech Spec LCOs applicable for any liquid release rad monitor ? If not, distractors A and D are not plausible. Consider rewording the second half of the distractors as follows: Restore R-23A to OPERABLE within 30 days. ODCM requirements are not applicable. What is the basis for a Higher COG level? Editorial: Consider shortening the stem by deleting "The RO determines that." Consider placing the system response and the admin requirement on separate lines to facilitate comparison of answer options. FJE 10/3/07

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 cont.															Comments on Question Revised 11/07 Editorial: Consider changing "takes" in B and C to "analyzes" unless this will cause confusion. The point is that the samples must be analyzed, not just collected. "per the ODCM' appears in all answer options and appears redundant with "and the associated ODCM requirement" in the stem. Consider deleting this phrase from each answer option. What is the basis for the Higher COG level? Question appears to be two memory items. Enhancement for resolution of LOK. Question is SAT otherwise. FJE 12/10/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
15 N	H	2				X	X							U S	076G2.1.2 T2/G1 Q90 Non-editorial: **Unsat for two implausible distractors.** Waiting 72 hours to declare a supported system inoperable (C and D) does not appear plausible. Declaring one supported system inoperable immediately and another 3 days later (option D) does not appear plausible.) If the associated DG is required to be declared inoperable per Required Action A.1, Note 1, then isn't the action of "Restore SWS train to Operable status" within the associated completion time also required? Answer A appears to be incomplete (i.e. no correct answer.) Additionally, A is a subset of B. So, if I know there is only one correct answer, I can eliminate B. The question asks for actions (plural). The answer is a single action. Change question to "action(s)." What is the basis for a Higher COG level? The answer options consist of three options: 1) SWS, 2) DG, 3) RH. Limit choices to two systems or concepts for better counterbalance (see App. B, C.2.f, pages 11-12). Borderline SRO knowledge. Although the answer is in terms of operability, this is an immediate Required Action and does not require any knowledge of the bases, only basic system knowledge. The question does not ask for subsequent 3.8.1 actions. Editorial: Is third bullet required if system has been declared inoperable in 2nd bullet? Distractors B and D – The word inoperable appears in all caps and also in all lower case.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
15 cont															Suggestion: Add time/date of inoperability to stem (will result in Higher COG level.) Immediately declare the DG supported by "A" SW Inop AND Restore Train "A" SWS no later than (+48 hr) Immediately declare the DG supported by "A" SW Inop AND Restore Train "A" SWS no later than (correct time/date). Declare the DG supported by "A" SW Inop no later than (+ 4 hrs) AND Restore Train "A" SWS no later than (+48 hrs) Declare the DG supported by "A" SW Inop no later than (+ 4 hrs) AND Restore Train "A" SWS no later than correct time/date) Could also revise along the lines of (lower COG): Restore SWS in 72 hrs only SWS in 72 hrs+ RH Immediately only SWS in 72 hrs + DG Immediately only SWS in 72 hrs + DG immediately + RH Immediately Examiner Note: Meets K/A because knowledge of tech spec actions is an "operator responsibility during all modes of plant operation." FJE 10/3/07 Comments on Question Revised 11/07 Editorial: Each answer option contains three elements: 1) Time to declare DG inop 2) How to realign SWS for operable and 3) time to realign SWS for operable. If applicant knows any two of these three items, then the other is irrelevant. Consider testing only two of these items, e.g. 1) and 2) to simplify the question. Any two of three will meet the K/A and SRO-only. Question is SAT. FJE 12/11/07

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 ~~B~~ N	H	2				~~X~~								~~E~~ S	E03G2.4.4 T1/G2 Q84 <u>Non-editorial:</u> **Enhancements for distractor plausibility** Distractor A is not plausible because the stem does not contain all parameters used to evaluate SI termination (missing subcooling). Distractor C would be more plausible if RWST level were closer to 12.5' and RCS pressure were closer to 435 psig (unless this is inconsistent with expected plant response.) <u>Editorial:</u> SG pressures – is "slowly trending down" the same as "decreasing slowly" (RWST and RCS pressure)? Although probably understood, consider adding "per EEP-1.0" to the end of the question. Trends are provided for all continuous parameters except containment pressure. Is this consistent with plant expectations? Typo in distractror analysis for "B." Should be ESP-1.2 FJE 10/3/07

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 cont.															Comments on Question Revised 11/07 Enhancement: Replace "should" with "must" in the stem. Should implies some uncertainty regarding the answer. If necessary, include the reference requiring the actions, e.g. "…per SOP-0.8, Emergency Response Procedure User's Guide?" Consider editing the options in order to remove any potential ambiguity regarding actions, e.g.: B. Return to the diagnostic steps (13 – 15) ***of EEP-0*** and then transition to… C. …., and apply the foldout page ***of ESP-1.1*** to re-establish HHSI flow. D. Re-establish HHSI flow ***per EEP-0*** and transition to ESP-1.2…. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 N	H	~~2~~ 3				~~X~~	~~?~~							~~U~~ S	E04G2.2.22 T1/G1 Q81 <u>Non-editorial:</u> **Unsat for two implausible distractors (B and C)**. Source – New. B does not appear plausible for the reason stated in the distractor analysis – spray flow and pressure control with sprays is not a TS requirement. Distractor for "C" discusses "RCS volume requirement and distractor analysis states that this is a basis for requiring RCPs (3.4.5?). Basis for 3.4.5 does not mention volume requirement. The second half of distractor C does not appear plausible. In order to be plausible, the basis should appear within the Tech Spec basis document and be able to be associated with the first half of the distractor. If RCPs are shut down to maintain Tave during plant shutdown, and a reduction in Mode can be accomplished w/ only 1 RCP in operation, the second half of D does not appear plausible without some other context (e.g. accident analysis assumptions). Is LCO 3.4.9 the only LCO in effect as a result of the event? LCO 3.4.5 requires two operable loops (with one in operation w/ RTBs open). Are A and/or C loops operable? The stem states that they were shut down, but does not state why, so the examinee must make an assumption. If not, 3.4.5 would also be applicable. Given that the reason for the trip is not specified, an applicant could make unwarranted assumptions regarding A and C loop operability. The language in C and D ("may not") is less different than A and B ("is not") and less favorable. Change C and D to "is not."

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 cont															Editorial: Question asks for LCOs (plural) in effect. Answer options all consist of one LCO. Change question to be consistent with answer options. Recommend using titles as listed in Tech Specs, e.g. "3.4.5 RCS Loops – MODE 3" and "3.4.9 Pressurizer." Suggestion: Which one of the following describes the Tech Spec LCO in effect ,and the basis for that LCO, for the given plant conditions? 3.4.9 Pressurizer (correct) To avoid rapid pressure rises during normal operational perturbations (correct for level in Mode 3) 3.4.9 Pressurizer (correct) To ensure RCS subcooling can be maintained under conditions of natural circulation (correct for heaters, incorrect for level) 3.4.5 RCS Loops – MODE 3 (incorrect) To ensure removal of decay heat from the core and homogeneous boron concentration throughout the RCS (correct basis for single RCS loop w/ RTBs open) 3.4.5 RCS Loops – MODE 3 (incorrect) To ensure adequate decay heat removal from the core in the event of an inadvertent control rod withdrawal (correct for 2 loops w/ RTBs closed, incorrect for RTBs open.) Examiner Note: Question meets first half of K/A (LOCA outside of containment) because the event is necessary to provide a credible context for the given plant conditions. FJE 10/3/07

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 cont.															Comments on Question Revised 11/07 Editorial: Question asks for LCO action statements (plural) in effect. Answer options all consist of one LCO. Change question to be consistent with answer options. Consider editing the question as follows: Which ONE of the following describes the Technical Specification LCO action statement in effect for the given conditions and the basis for the LCO? Question is SAT. FJE 12/11/07

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		
18 M	H	~~1~~ 2	~~X~~			~~X~~						~~X~~		~~U~~ ~~E~~ S	E15EA2.1 T1/G2 Q85 Non-editorial: **Unsat due to not meeting first half of K/A (containment flooding).** No knowledge of containment flooding is required if applicant recognizes that FRP-Z.1, High Containment Pressure, which appears in distractors A, B, and C, cannot be applicable below 27 psig. The only remaining answer choice is answer D. The question, as structured, lacks sufficient counterbalance and does not test knowledge of containment flooding, only whether or not FRP-Z.1 is applicable. Source – Modified (from Robinson 2007). It's not clear how two procedures within the same CSF would be applicable for the same set of conditions. A pass through the CSF status tree results in one end state for each CSF, not multiple end states for a single CSF. For example, Z.3 would not be performed unless containment sump level were less than 7.6 feet (or Z.2 was already performed). Editorial: None. FJE 10/3/07 Comments on Question Revised 11/07 Enhancements: D is not plausible with the required parameter value (cue) provided in the stem (RWST less than 12.5 feet.) Consider changing the stem as follows: "While holding at step 16 of EEP-1.0…to check RWST level, the following….." The question asks for procedures and action. All choices are a single procedure. Consider revising the question as "Which ONE of the following describes the next action to take for these conditions?" and change D. to "Transition to ESP-1.3, Transfer to Cold Leg Recirculation. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/18/07

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 B	H	~~1~~ 2				~~X~~								~~U~~ S	G2.1.25 T3 Q94 Non-editorial: **Unsat due to 'direct lookup'/distractor plausibility for first half of question**. The first half of the question is a 'direct lookup' with little discriminatory value unless the applicant is provided with additional information that provides an opportunity to evaluate the ability to obtain and interpret and make the other action more credible. With pressurizer level at 63% and rising, raising charging flow is less plausible than other options. Why would an applicant choose to raise charging flow (even without the use of the reference)? Consider eliminating the reference and reword as 'which of the following will minimize RCS to secondary leakage' and provide options of turn on heaters/reduce charging flow. Editorial: Consider simplifying the stem by deleting the initial conditions and stating: The crew is performing Step 30 of FNP-1-EEP-3.0, Steam Generator Tube Rupture, due to a rupture on the "B" S/G." Consider revising the question or the use of highlighting to emphasize minimizing contamination of plant systems. Both ESP-3.1 and ESP-3.2 minimize radiological releases, but ESP-3.1 also minimizes secondary contamination, e.g.: FJE 10/3/07

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 cont.															Comments on Question Revised 11/07 The plant conditions in the stem appear inconsistent in that a time to saturation would not appear to be relevant for a defueled reactor. UOP-4.0 Tables A and B provide time to saturation for a full core and for a core with 1/3 of the fuel replaced respectively. Per UOP-4.0, step 4.4.1 " IF the reactor is defueled, THEN N/A the blanks for all Safety Functions except power availability and spent fuel cooling." The answer options provided are not applicable for the given plant conditions. With the reactor defueled, the answer options do not require any evaluation – they are a "direct lookup" based on the note in parentheses "(GREEN if Defueled)." **The question is unsat for the psychometric flaws identified above (no correct answer, inconsistent plant conditions, direct lookup.)** The concept matches the K/A and is SRO-only per 10CFR55.43(b)(5) and the question would be acceptable if the applicant is required to evaluate plant conditions to fill out a portion of the table. Consider rewriting to evaluate two functions, e.g. Core Cooling and Inventory, and answer options that are variations of two conditions, e.g. Green and Yellow. FJE 12/11/07 Facility addressed the above comments. The question is SAT. FJE 12/18/07

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		
20 B	F	~~1~~ 2				~~X~~							~~X~~	~~U~~ S	G2.1.6 T3 Q95 <u>Non-editorial:</u> **Unsat for three implausible distractors**. The only distractor that would allow immediate action, a condition in the stem, is option A, the correct answer. Options B, C, and D require concurrence or notification, which precludes an immediate action and makes these distractors non-plausible. Source – WTSI Bank (VC Summer 2007.) The question asks for "the requirement" (singular.) Options C and D include a requirement as well as additional, but optional actions (should concur). <u>Editorial:</u> 10 CFR 50.54(x) only applies if action is immediately needed to protect public health and safety (vs. for example, economic loss.) The question does not state why the IA is needed . Was it the intent to imply this by "significant damage" to SSD equipment? FJE 10/3/07

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		
20 cont.															Comments on Question Revised 11/07 All distractors contain actions that are unique. If the applicant knows the required action of AOP-49.2, then no SRO-specific knowledge is required and the question is not SRO-only. A and B do not appear plausible because AP-6 is an administrative procedure with no entry conditions. Additionally, an emergency tech spec deviation would require invocation of 10CFR50.54(x) **The question is unsat because it is not SRO-only.** Consider rewriting as follows: Which ONE of the following correctly describes the actions required for this condition per AOP-49.2, Complete Loss of Service Water? Invoke 10 CFR 50.54(x) Place all Diesel Generator Mode Selector Switches in Mode 3 Invoke 10 CFR 50.54(x) Secure all equipment cooled by Service Water 10 CFR 50.54(x) is not applicable Place all Diesel Generator Mode Selector Switches in Mode 3 10 CFR 50.54(x) is not applicable Secure all equipment cooled by Service Water FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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 ~~B~~ M	~~F~~ H	2				~~X~~								~~E~~ S	G2.2.17 T3 Q97 Non-editorial: **Enhancement for distractor plausibility and consistency of answer options.** Is Toolpouch ever allowed in the containment at power? Include a reference within the question to provide context and ensure a single correct answer, e.g. "per (procedure). Answer option A contains two reasons – torque and RWP. All other options contain one reason. Answer option B references ASME Code, which is not consistent with work that does not require a work order and is not plausible. A and B are based on information contained in the answer option and not in the stem, as compared to C and D. Consider moving all decision factors to the stem for consistency between answer options. Is the reason for C correct because the RWP to enter the high dose area would be "non-routine" and/or because the potential for high ad exposure is more than "minimal" in a high dose area? Is "high dose" a defined term? If not, consider using High Radiation Area or Very High Radiation Area, as appropriate. There is no statement in the reference that toolpouch can or cannot be performed on flanges or in the RCA. D would be more plausible if the second half was a statement from the reference that was incorrect, i.e. had plausibility or context from the reference. Editorial: Consider quantifying the size of the leak in the stem (e.g. 5 drops/min) – it wouldn't change the answer but it might preclude other questions such as is the unit in an LCO for RCS leakage.

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 cont															Suggestion (also Higher COG): During a power reduction…5 drop/min flange leak….located between (valve) and (valve). The flange is in a high dose area. The FIN team leader states that FIN can tighten the flange as TOOLPOUCH MAINTENANCE. Which one of the following correctly states whether the work can be performed as TOOLPOUC H maintenance per FNP-0-ACP-52.1 (title) and the reason? Can be performed as Toolpouch because the work will not interrupt the process flow of fluid. Can be performed as Toolpouch because the flange is isolable. Cannot be performed as Toolpouch because there is a potential for high radiation exposure. Cannot be performed as Toolpouch because entry into a Tech Spec LCO is required to perform the work. FJE 10/4/07 Comments on Question Revised 11/07 Editorial: Change the question to "…following ***correctly*** states…" Change "is" to "are" in answer C. Question is SAT. FJE 12/11/07

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		
22 B	F	~~1~~ 2				?						~~X~~		~~U~~ ~~E~~ S	G2.2.25 T3 Q96 <u>Non-editorial:</u> **The question is unsat because it does not meet the K/A.** The question states that temperature is less than required per Tech Specs. The answer for the basis for taking the action is that "moderator temperature is no longer operating in its analyzed range." This would be generally true for any tech spec parameter outside of the values specified by the LCO. The second half of A would always be correct in a generic sense and does not test whether the applicant understands the basis for this particular Tech Spec. The question does not meet the K/A because no knowledge of the particular Tech spec is required, only knowledge that safety analysis is based on tech spec parameters remaining within values specified by the LCO. Source – Bank (VCS – year?) Does the second half of B and D appear as a basis in Tech Specs? If so, they are plausible. If not, justify plausiblility. Doesn't the calculation explicitly or implicitly (through curves dependent on temperature) account for the effects of RCS temperature differences? <u>Editorial:</u> First bullet – is the power level necessary? Is the third bullet necessary? Fourth bullet – replace "has gone less" with "is less" and delete comma at end of sentence. Second half of B and D – A calculation is an analysis. Consider rewording to eliminate redundancy, e.g. "Assumptions for calculating Mode 1 Shutdown Margin are no longer valid."

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
22 cont															Suggestion: Unit 1 is in Mode 1. RCS Tavg is less than the RCS Minimum Temperature for Criticality. Which one of the following correctly describes the MAXIMUM time allowed to place the plant in Mode 3 per TS 3.4.2, Minimum Temperature for Criticality, and the basis for TS 3.4.2? Test specific element(s) of the basis, e.g. Excore neutron detector response to transients requiring protective action cannot be ensured. The response of the pressurizer to transients may be worse than the response assumed by transient and accident analyses. FJE 10/4/07

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		
															Comments on Question Revised 11/07 Enhancement: The answers are different in style and the information contained. Answer B defines SGTR, distractors A and D do not define LOCA. A and B contain an event only. D contains time, a CFR, and an event. C contains a time and a CFR only. The answer is correct in that a reason for limiting activity, as well as temperature, is to minimize the release in the event of a SGTR. The basis for B.1 more specifically states that the reason for 500 °F is to prevent venting the SG to the environment in an SGTR. Reword to make answer options similar in style and format and specifically answer the question. Consider the following: What is the basis for reducing Tavg to less than 500 °F if the specific activity of the reactor coolant is not within the limits of LCO 3.4.16, RCS Specific Activity? Minimize the release of radioactivity in the event of a LOCA outside containment. Prevent venting a ruptured steam generator to the environment. Ensure that the 1 hour dose at the site boundary will not exceed a small fraction of the 10 CFR 100 dose guideline limits. Ensure that the 2 hour dose at the site boundary will not exceed a small fraction of the 10 CFR 20 dose guideline limits. FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
23 M	F	2					~~?~~							~~E~~ S	G2.3.8 T3 Q98 Non-editorial: **Enhancement for resolution of items below.** ODCM Action 35 states that, with less than the minimum number of operable channels, the tank may be released provided that two independent samples are analyzed prior to initiating the release. Are two independent samples taken and analyzed for all releases? SOP-51.1 does not provide details regarding sampling (CCP-213?) **Concern is for no correct answer. If so, the question is unsat.** Highlighted references provided did not directly and unambiguously support SS as "final approval" for a release. Please verify against release permit (CCP-213 signature?) to ensure one and only one correct answer. Editorial: B and C – Consider replacing "is reduced" with "decreases." "is reduced" could imply that the decrease was intentional. Examiner Note: SRO only because RO IR is 2.3 (see also G2.3.6.) FJE 10/4/07 Comments on Question Revised 11/07 No comments. Question is SAT. FJE 12/11/07

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		
24 N	~~H~~ F	2				~~?~~ ~~X~~	~~?~~		~~?~~					~~E~~ ~~U~~ S	G2.4.27 T3 Q99 <u>Non-editorial:</u> **Enhancement for items listed below. Concern is no correct answer/multiple correct answers.** What is the difference between momentarily suspending use and continuing in? "Momentarily suspend use" and "Continue in" (distractor A and answer C) may be inconsistent with the use of "go to." In the context of EOP usage, GO TO usually implies that the former procedure is exited and a new controlling procedure is implemented. In order to continue performing actions of the previous procedure, one would either be directed to return to procedure and step in effect or be specifically directed to perform certain actions (e.g. verify ESF equipment has actuated per EEP-0.0). Additionally, the Purpose section of 0-AOP-29.0 states that this procedure (AOP-29) is meant to be used in parallel with other procedures in effect. Does this also apply to 0-SOP-34.0 by association, event though B.I states to "go to" FNP-0-SOP-34.0? Why is D incorrect? It seems that one would have to enter FNP-0-AOP-29.0 to get to the note concerning 0-SOP-34.0 and that assembling the fire brigade is a conservative action. If there is an AOP users guide or the equivalent, please ensure that the language used (suspend, continue in) is consistent with this guidance. What requires the actions listed? A procedure use procedure? Add context to question, e.g. will be required per....? The question asks for requirements. Answer options A and C contain requirements and a discretionary item. Delete the discretionary item to be consistent with the question asked. Which unit has responsibility for common unit procedures? Does this impact the answer or distractors?

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 cont															Editorial: Consider pairing the event in progress with the associated procedure, e.g. Unit 2 is at 55% power The crew is performing FNP-2-AOP-6.0, Loss of Instrument Air. A fire was just reported in the Liquid H2 storage tank vent stack. Consider placing each action on a separate line to facilitate comparison of answer options. Suggestion: Consider rewording the answer options to include only procedure usage terms that are defined by user's guides or appear within the documents referenced in the question/answer options, e.g. Go to 0-SOP-34 Perform additional actions of 2-AOP-6.0 only when 0-SOP-34 has been completed Go to 0-AOP-29 Perform additional actions of 2-AOP-6.0 only when 0-AOP-29 has been completed Enter 0-SOP-34 Perform actions of 2-AOP-6.0 in parallel with 0-SOP-34 Enter 0-AOP-29 Perform actions of 2-AOP-6.0 in parallel with 0-AOP-29 FJE 10/4/07

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		
24 cont.															Comments on Question Revised 11/07 The second half of A and D are not plausible because 1) The question references EIP-8.0, Non-Emergency Notifications. If no emergency has been declared, then the EOF and TSC are not required to be manned and there are no associated managers for these functions 2) Unlike B and C, no mention is made of notifying a manager responsible for fire fighting. Implausible, given the fire. **The question is unsat for two implausible distractors.** AOP-29.0 does not appear to contain any immediate actions, so use of the word "immediate" in the question could be misleading. Consider replacing "immediate" with "first." Consider revising the question and the second half of the answer options as follows (ensure only one correct answer): "....; and individuals, in addition to the Plant Fire Marshall, that the Shift Manager is REQUIRED to notify IAW EIP-8.0..." FNP Duty Manager AND Air Products (representative?) Corporate Duty Manager AND Plant Security (Supervisor?) FNP Duty Manager AND Air Products (representative?) Corporate Duty Manager AND Plant Security (Supervisor?) FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

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		
25 B	F	~~1~~ 2	~~X~~			~~X~~								~~U~~ S	G2.4.44 T3 Q100 <u>Non-editorial:</u> **The question is unsat for two implausible distractors.** The knowledge required to answer the question appears to be 1) how to use a flowchart, and 2) the definition of a PUFF release. The decision blocks that would lead to PAR 2 and PAR 4 are 'direct lookups' and are not plausible. Source – Bank (Farley.) Revise question to include three plausible distractors. <u>Editorial:</u> Distractor B – appears to contain a typo. There is no downwind distance of 4 miles on the flowchart, only 5 and 10 miles. The question asks for the correct PAR (singular). Distractor D contains two PARs. Add the word "only" after the PAR, e.g. PAR 1 ONLY, in A, B, and C. Distractor D – the applicant would have to reference answer C to determine PAR 3. Write all options as self contained and in the same style. Change D to PAR 3, EVACUATE..... AND PAR 4, Evalualte..... FJE 10/4/07

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 cont.															Comments on Question Revised 11/07 Two of the options (A and D) are actions performed (alarm and announcement) and two of the options are blocks to fill out on initial notification forms. Since the question asks what must be included when making the initial notification, A and D do not make sense. The stem is not constructed such that A and D could be plausible. **Unsat for stem focus/implausible distractors.** Consider the following: Which ONE of the following correctly lists the additional information that MUST be provided on the General Emergency Red Initial Notification Form when a Site Area Emergency is upgraded to a General Emergency? Evacuation and Sheltering Zone Recommendations ONLY Evacuation and Sheltering Zone Recommendations AND Release Significance Evacuation and Sheltering Zone Recommendations AND Event Prognosis Evacuation and Sheltering Zone Recommendations AND Unaffected Unit Status Or replace last two with Status of Emergency Release ONLY Status of Emergency Release AND Release Significance FJE 12/11/07 Facility addressed above comments. Question is SAT. FJE 12/17/07

Written Examination Grading Quality Checklist

Facility: Farley | Date of Exam: 12/21/07 | Exam Level: RO and SRO

Item Description	Initials a	Initials b	Initials c
1. Clean answer sheets copied before grading	CK	N/A	F/E
2. Answer key changes and question deletions justified and documented	CRK	N/A	F/E
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	CRK	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	CRK	N/A	F/E
5. All other failing examinations checked to ensure that grades are justified	CRK	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	CRK	N/A	F/E

	Printed Name/Signature	Date
a. Grader	Craig Kontz	1/11/08
b. Facility Reviewer(*)	N/A*	N/A
c. NRC Chief Examiner (*)	T. J. [illegible]	1/15/08
d. NRC Supervisor (*)	Malcolm T. Widmann	01/22/08

(*) 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	F/E 1/7/08
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	F/E 1/15/08
3. Operating tests graded by NRC examiners	F/E 1/17/08
4. NRC chief examiner review of operating test and written exam grading completed	F/E 1/17/08
5. Responsible supervisor review completed	01/22/08
6. Management (licensing official) review completed	F/E 1/24/08
7. License and denial letters mailed	
8. Facility notified of results	F/E 1/24/08
9. Examination report issued (refer to NRC MC 0612)	
10. Reference material returned after final resolution of any appeals	N/A per Farley F/E 1/17/08