

















Facility: Farley

Date of Examination: October 6, 2014

Developed by: Written - Facility ☒ NRC ☐ // Operating - Facility ☒ NRC ☐

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

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

[Applies only] {Does not apply} to examinations prepared by the NRC.

- WRITTEN EXAM SAMPLE PLAN ONLY -

ES-201

Examination Outline Quality Checklist

Form ES-201-2

Facility: FARLEY		Date of Examination: OCTOBER 2014		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	M	N/A	CB
	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.	M	N/A	CB
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	M	N/A	CB
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	M	N/A	CB
2. S I M U L A T O R	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.			
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W / T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	N		A
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations			
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.			
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	M	N/A	CB
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	M	N/A	CB
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	M	N/A	CB
	d. Check for duplication and overlap among exam sections.	N/A	N/A	N/A
	e. Check the entire exam for balance of coverage.	M	N/A	CB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	M	N/A	CB
a. Author <u>MICHAEL MEERS</u> / <u>Michael Meers</u> b. Facility Reviewer (*) <u>N/A</u> c. NRC Chief Examiner (#) <u>Dan Bacon</u> / <u>Daniel M. Bacon</u> d. NRC Supervisor <u>BRUNO CABALLERO</u> / <u>B. Caballero</u>		Date <u>12/6/13</u> <u>N/A</u> <u>1/2/14</u> <u>1/2/14</u>		
Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines				

Facility: <u>Farley Nuclear Plant</u>		Date of Examination: <u>Oct. 6, 2014</u>		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	RE	BS	ik
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 and whether all K/A categories are appropriately sampled.	**	**	***
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RE	BS	ik
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RE	BS	ik
2. S I M U L A T O R	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.	RE	BS	ik
	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.	RE	BS	ik
	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.	RE	BS	ik
3. W /	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.	RE	BS	ik
	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	RE	BS	ik
	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.	RE	BS	ik
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	RE	BS	ik
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RE	BS	ik
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RE	BS	ik
	d. Check for duplication and overlap among exam sections.	RE	BS	ik
	e. Check the entire exam for balance of coverage.	RE	BS	ik
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RE	BS	ik
a. Author <u>Richard Ellis</u> b. Facility Reviewer (*) <u>Billy Thornton</u> c. NRC Chief Examiner (#) <u>Daniel M. Bacon</u> d. NRC Supervisor <u>Eugene Couture</u>		Printed Name/Signature <u>Richard Ellis</u> <u>Billy Thornton</u> <u>Daniel M. Bacon</u> <u>Eugene Couture</u>		Date <u>7-22-14</u> <u>7-22-14</u> <u>7-25-14</u> <u>7-25-14</u>
Note: * Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines				

** Written Outline was prepared by the NRC Chief Examiner.
 *** - See separate ES-201-2 for written exam outline only.

1. Pre-Examination

October 6, 2014

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 10-13-14 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 October 6-13, 2014. 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.	Stephen Bryson	OPS INSTR	[Signature]	10/2/14	[Signature]	10/22/14	
2.	Donnie Surber	OPS INSTR	[Signature]	10/2/14	[Signature]	10/22/14	
3.	Thomas Dickson	OPS INST.	[Signature]	10/2/14	[Signature]	10/22/2014	
4.	Alad Koch	OPS INST.	[Signature]	10-3-14	[Signature]	10-26-14	
5.	Dan Williams	OPS Lead Instructor	[Signature]	10-6-14	[Signature]	10/22/14	
6.	JOHN MICHALAK	OPS INST	[Signature]	10-6-14	[Signature]	10/22/14	
7.	BRIAN BEED	OPS TRN MGR	[Signature]	10-7-14	[Signature]	10/30/14	
8.	JJ Hutto	Plant MGR	[Signature]	10-7-14	[Signature]	10/30/14	
9.	C. Vince Richter	OPS Instructor	[Signature]	10-7-14	[Signature]	10-22-14	
10.	J SOLLAKS	OPS INSTRUCTOR	[Signature]	10-20-14	[Signature]	10/21/14	
11.	Peppi Cooper	TRN Support Manager	[Signature]	10-20-14	[Signature]	10/22/14	
12.							
13.							
14.							
15.							

NOTES:

1. Pre-Examination

1LT-37 NRC Exam starting

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of Oct. 6, 2014 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. 6, 2014. 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. <u>Billy Thornton</u>	<u>Ops Instructor - Lead</u>	<u>Billy Thornton</u>	<u>1-6-14</u>	<u>Billy Thornton</u>	<u>10-22-14</u>
2. <u>STANLEY JACKSON</u>	<u>OPS INSTRUCTOR</u>	<u>Stanley Jackson</u>	<u>1-6-14</u>	<u>Stanley Jackson</u>	<u>10-22-14</u>
3. <u>Aaron Forshey</u>	<u>OPS INSTRUCTOR</u>	<u>Aaron Forshey</u>	<u>1-6-14</u>	<u>by phone call - Billy Thornton</u>	<u>10-24-14</u>
4. <u>Tracey Forshey</u>	<u>Admin</u>	<u>Tracey Forshey</u>	<u>1-7-14</u>	<u>by phone call - Billy Thornton</u>	<u>10-24-14</u>
5. <u>Michael Galle</u>	<u>Simulator Coordinator</u>	<u>Michael Galle</u>	<u>1-8-14</u>	<u>Michael Galle</u>	<u>10-27-14</u>
6. <u>Darryl Stevenson</u>	<u>Simulator Tech.</u>	<u>Darryl Stevenson</u>	<u>1-8-14</u>	<u>Darryl Stevenson</u>	<u>10-27-14</u>
7. <u>Annabel S. Ferguson</u>	<u>Simulator Analyst</u>	<u>Annabel S. Ferguson</u>	<u>1/8/2014</u>	<u>Annabel S. Ferguson</u>	<u>10/27/2014</u>
8. <u>Candice Clemmons</u>	<u>Simulator Engineer</u>	<u>Candice Clemmons</u>	<u>1/8/14</u>	<u>Candice Clemmons</u>	<u>10/27/14</u>
9. <u>Gary Ohmstede</u>	<u>Fleet Examination Manager</u>	<u>by phone call Billy Thornton</u>	<u>1/13/14</u>	<u>by phone call - Billy Thornton</u>	<u>10-23-14</u>
10. <u>David L. Reed</u>	<u>OPS Support Manager</u>	<u>David L. Reed</u>	<u>2/10/14</u>	<u>David L. Reed</u>	<u>10-30-14</u>
11. <u>Rusty Ellis</u>	<u>OPS INSTRUCTOR</u>	<u>Rusty Ellis</u>	<u>4/8/14</u>	<u>Rusty Ellis</u>	<u>10-24-14</u>
12. <u>JEFFREY JEFFREY</u>	<u>OPS INSTRUCTOR</u>	<u>Jeffrey Jeffrey</u>	<u>4/8/14</u>	<u>Jeffrey Jeffrey</u>	<u>10/27/14</u>
13. <u>Debra Marsh</u>	<u>IT</u>	<u>Debra Marsh</u>	<u>6-5-14</u>	<u>Debra Marsh</u>	<u>10/27/14</u>
14. <u>RUSS GORDON</u>	<u>TRAINING DIRECTOR</u>	<u>Russ Gordon</u>	<u>6/26/14</u>	<u>Russ Gordon</u>	<u>10/22/14</u>
15.					

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 10-6-14 ^{ILT-37 NRC Exam starting} 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 10-6-14 ^{starting}. 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. Lance Spencer	PO	[Signature]	5/24/14	[Signature]	10/30/14
2. Keith Grice	PO	[Signature]	5/21/14	[Signature]	10/22/14
3. ANDERSON BENARD	SSS	[Signature]	5-27-14	[Signature]	10-30-14
4. Chris Odom	SSS	[Signature]	5-27-14	by phone call Billy Hunt	10-24-14
5. David Hildebrandt	SS	[Signature]	6-3-14	[Signature]	10-22-14
6. BREWARD HOWARD	PO	[Signature]	10-3-14	[Signature]	10/30/14
7. Will Sorrell	SSS	[Signature]	6/3/14	[Signature]	10/30/14
8. Todd Smith	PO	[Signature]	6-5-14	[Signature]	10-30-14
9. ADAM HUTCHINS	PO	[Signature]	6/10/14	[Signature]	10/30/14
10. BARRY WILLIAMS	SSS	[Signature]	6/10/14	[Signature]	10-30-14
11. Richard Trickett	PO	[Signature]	6-10-14	[Signature]	10-30-14
12. Scot Davison	SS	[Signature]	6-10-14	[Signature]	10-31-14
13. D.T. Newell	PO	[Signature]	7-7-14	[Signature]	10-24-14
14. SILEN CONISTANOW	SSS	[Signature]	9-15-14	[Signature]	10/30/14
15. TIM PHILLIPS	SSS	[Signature]	9-15-14	[Signature]	10-30-14

NOTES: 10-3-14

ES-301-1**Administrative Topics Outline**Facility: Farley Nuclear PlantDate of Examination: October 6, 2014Examination Level: RO XOperating Test Number: FA2014-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
a. A.1.a Conduct of Operations RO ONLY	R, N	Title: Determine load limitations with a 500 kV transmission line out of service. G2.1.20 – 4.6 / 4.6 G2.1.25 – 3.9 / 4.2
b. A.1.b Conduct of Operation SRO & RO	R, M	Title: Perform a Shutdown Margin Calculation in modes 1 & 2 (STP-29.5). G2.1.20 – 4.6 / 4.6 G2.1.23 – 4.3 / 4.4
c. A.2 Equipment Control RO ONLY	R, M	Title: Complete selected sections of completed STP-1.0, Operations Daily and Shift Surveillance Requirements. G2.2.12 - 3.7 / 4.1 G2.2.42 - 3.9 / 4.6
d. A.3 Radiation Control SRO & RO	R, M	Title: Calculate the Maximum Permissible Stay Time within Dose Limits. G2.3.4 - 3.2 / 3.7
e. A.4 Emergency Procedures/Plan	N/A	NONE SELECTED

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

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

ES-301-1**Administrative Topics Outline**Facility: Farley Nuclear PlantDate of Examination: October 6, 2014Examination Level: SRO XOperating Test Number: FA2014-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
a. A.1.a Conduct of Operations SRO ONLY	R, N	Title: Determine DG fuel level. G2.1.25 – 3.9 / 4.2
b. A.1.b Conduct of Operation SRO & RO	R, M	Title: Perform a Shutdown Margin Calculation in modes 1 & 2 (STP-29.5). G2.1.20 – 4.6 / 4.6 G2.1.23 – 4.3 / 4.4
c. A.2 Equipment Control SRO ONLY	R, D	Title: Review selected sections of STP-1.0, Operations Daily and Shift Surveillance Requirements and identify any required actions. G2.2.40 – 3.4 / 4.7 G2.2.42 – 3.9 / 4.6
d. A.3 Radiation Control SRO & RO	R, M	Title: Calculate the Maximum Permissible Stay Time within Dose Limits. G2.3.4 - 3.2 / 3.7
e. A.4 Emergency Procedures/Plan SRO ONLY	R, M	Title: Determine Protective Action Recommendations. G2.4.44 – 2.4 / 4.4
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.		
* Type Codes & Criteria:		
(C)ontrol room, (S)imulator, or Class(R)oom		5
(D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)		1
(N)ew or (M)odified from bank (≥ 1)		4
(P)revious 2 exams (≤ 1; randomly selected)		0

Facility: <u>Farley Nuclear Plant</u>		Date of Examination: <u>October 6, 2014</u>
Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U- <input checked="" type="checkbox"/>		Operating Test No.: <u>FA2014 301</u>
Control Room Systems® (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. CRO-065B: Inadvertent cooldown requires boration per AOP-27, Emergency Boration. 024AA2.05 3.3/3.9	A, L, M, S	1
b. CRO-NEW: Establish HHSI flow for Bleed and Feed during FRP-H.1. 013A4.01 - 4.5 / 4.8 013A4.02 - 4.3 / 4.4 013A4.03 - 4.5 / 4.7	A, EN, L, N, S	(SRO-U) 2
c. CRO-076: Raise the 'A' Accumulator Pressure. 006A1.13 - 3.5 / 3.7 006A4.02 - 4.0 / 3.8	D, S	3
d. CRO-336B: Check Feedwater status in response to a Reactor trip and Safety Injection. 059A3.04 - 2.5 / 2.6 059A3.06 - 3.2 / 3.3 059A4.08 - 3.0 / 2.9 061A3.01 - 4.2 / 4.2	A, D, L, S	(SRO-U) 4S
e. CRO-066D: Borate the RHR System to prepare for RCS Cooldown. 005K1.04 2.9/3.1	D, L, S	4P
f. CRO-MOD: Perform actions of ESP-0.1. (Step 1.6 of Attachment 2). 062A2.04 - 3.1 / 3.4 062A4.01 - 3.3 / 3.1 056AA1.31 - 3.3/3.3 056AA1.37 - 3.4/3.5	A, M, S	6

g. CRO-127A - Perform actions of AOP-100 for a NI-42 failure. 015A2.01 - 3.5 / 3.9 015A3.02 - 3.7 / 3.9 015A4.03 - 3.8 / 3.9	D, P, S	(RO ONLY) 7
h. CRO-346: Align the Containment Spray (CS) system for the post-accident recirculation phase of operation. 026A4.01 4.5/4.3	A, M, L, S	(SRO-U) 5
In-Plant Systems [@] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. SO-351A (modified): Start 2C DG from DGLCP in Mode 4. 064A4.01 4.0/4.3 064A4.02 3.3/3.4 064A4.06 3.9/3.9	E, L, M	(SRO-U) 6
j. SO-Fire Pump: Start a Motor Driven Fire Pump (MDFP) and Diesel Driven Fire Pump (DDFP) locally. 086A4.01 – 3.3 / 3.3	D, E, P	8
k. SO-95B, Align the Recycle Holdup Tank (RHT) to Drain to Waste Holdup Tank U2. 068K1.07 - 2.7 / 2.9	D, R	(SRO-U) 9
@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.		
* Type Codes	Criteria for RO / SRO-I / SRO-U	
(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (EN)gineered safety feature (L)ow-Power / Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator	4-6 / 4-6 / 2-3 (5/5/3) (0) ≤ 9 / ≤ 8 / ≤ 4 (6/5/2) ≥ 1 / ≥ 1 / ≥ 1 (2/2/1) - / - / ≥ 1 (control room system) (-/-/1) ≥ 1 / ≥ 1 / ≥ 1 (6/6/4) ≥ 2 / ≥ 2 / ≥ 1 (5/5/3) ≤ 3 / ≤ 3 / ≤ 2 (randomly selected) (2/1/0) ≥ 1 / ≥ 1 / ≥ 1 (1/1/1) (8/7/3)	

Operating Test Quality Checklist

Facility: Farley Nuclear Plant Date of Examination: October 6, 2014 Operating Test Number: FA2014-301				
1. General Criteria		Initials		
		a	b*	c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	RC	BT	BT
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	RC	BT	BT
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	RC	BT	BT
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	RC	BT	BT
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	RC	BT	BT
2. Walk-Through Criteria		--	--	--
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> detailed expected actions with exact criteria and nomenclature system response and other examiner cues statements describing important observations to be made by the applicant criteria for successful completion of the task identification of critical steps and their associated performance standards restrictions on the sequence of steps, if applicable 	RC	BT	BT
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.	RC	BT	BT
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.		RC	BT	BT
Printed Name / Signature		Date		
a. Author:	Richard Ellis <i>Richard Ellis</i>	9/25/14		
b. Facility Reviewer(*)	Billy Thornton <i>Billy Thornton</i>	9/25/14		
c. NRC Chief Examiner (#)	Daniel M. Bacon <i>Daniel M. Bacon</i>	9/29/14		
d. NRC Supervisor	Michael T. Williams <i>Michael T. Williams</i>	09/29/14		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.				

ES-301-4
Simulator Scenario Quality Checklist

Facility: Farley Date of Exam: October 6, 2014 Scenario Numbers: 1/2/3/4/5 Operating Test No.: FA2014-301					
QUALITATIVE ATTRIBUTES		Initials			
		a	b*	c#	
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	RC	PS	CB	
2.	The scenarios consist mostly of related events.	RC	PS	CB	
3.	Each event description consists of <ul style="list-style-type: none"> the point in the scenario when it is to be initiated the malfunction(s) that are entered to initiate the event the symptoms/cues that will be visible to the crew the expected operator actions (by shift position) the event termination point (if applicable) 	RC	PS	CB	
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.	RC	PS	CB	
5.	The events are valid with regard to physics and thermodynamics.	RC	PS	CB	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	RC	PS	CB	
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.	RC	PS	CB	
8.	The simulator modeling is not altered.	RC	PS	CB	
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.	RC	PS	CB	
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.	RC	PS	CB	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	RC	PS	CB	
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).	RC	PS	CB	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	RC	PS	CB	
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes Scenario Numbers: 1/2/3/4/5	--	--	--
1.	Total malfunctions (5-8)	6/7/7/9/7	RC	PS	CB
2.	Malfunctions after EOP entry (1-2)	2/2/2/2/2	RC	PS	CB
3.	Abnormal events (2-4)	3/2/3/3/3	RC	PS	CB
4.	Major transients (1-2)	1/1/1/2/1	RC	PS	CB
5.	EOPs entered/requiring substantive actions (1-2)	1/0/1/1/0	RC	PS	CB
6.	EOP contingencies requiring substantive actions (0-2)	1/1/0/1/1	RC	PS	CB
7.	Critical tasks (2-3)	5/5/5/4/4	RC	PS	CB

Facility: **Farley Nuclear Plant**Date of Exam: **October 6, 2014**Operating Test No.: **FA2014-301**

A P P L I C A N T	E V E N T T Y P E	Scenarios												T O T A L	M I N I M U M (-)			
		1			2			3			4							
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
M A S T E R	RX		1			1			2			2				1	1	0
	NOR			12			15			1			2			1	1	1
	I/C	345 678	367	458	234 689	349	268	345 68	368	45	134 578	457	138			4	4	2
	MAJ	7	7	7	7	7	7	7	7	7	8	8	8			2	2	1
	TS	46			24			134			25					0	2	2
SRO-i <input checked="" type="checkbox"/>	RX														0	1	1	0
	NOR														0	1	1	1
	I/C	345 678			234 689			345 68			134 578				23	4	4	2
	MAJ	7			7			7			8				4	2	2	1
	TS	46			24			35			34				8	0	2	2
RO <input checked="" type="checkbox"/>	RX		1			1			2			2			4	1	1	0
	NOR														0	1	1	1
	I/C		367			349			368			457			12	4	4	2
	MAJ		7			7			7			8			4	2	2	1
	TS														0	0	2	2
BOP <input checked="" type="checkbox"/>	RX														0	1	1	0
	NOR			12			15			1			2		6	1	1	1
	I/C			458			268			45			138		11	4	4	2
	MAJ			7			7			7			8		4	2	2	1
	TS														0	0	2	2

Instructions:

- Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
- 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.
- 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 Nuclear Plant**Date of Exam: **October 6, 2014**Operating Test No.: **FA2014-301**

A P P L I C A N T	E V E N T T Y P E	Scenarios												T O T A L	M I N I M U M (-)			
		5																
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
M A S T E R	RX		3													1	1	0
	NOR			1												1	1	1
	I/C	2 4 5 6 7	4 6	2 5 7												4	4	2
	MAJ	7	7	7												2	2	1
	TS	2 3														0	2	2
SRO-i <input checked="" type="checkbox"/>	RX														0	1	1	0
	NOR														0	1	1	1
	I/C	2 4 5 6 7													5	4	4	2
	MAJ	7													1	2	2	1
	TS	2 3													2	0	2	2
RO <input checked="" type="checkbox"/>	RX		3												1	1	1	0
	NOR														0	1	1	1
	I/C		4 6												2	4	4	2
	MAJ		7												1	2	2	1
	TS														0	0	2	2
BOP <input checked="" type="checkbox"/>	RX														0	1	1	0
	NOR			1											1	1	1	1
	I/C			2 5 7											3	4	4	2
	MAJ			7											1	2	2	1
	TS														0	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.
2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per section C.2.a of Appendix D. (-) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right hand columns.

Facility: Farley Nuclear Plant		Date of Examination: October 6, 2014		Operating Test No.: FA2014-301								
Competencies	APPLICANTS											
	SRO-I X				RO X				BOP X			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	3 4 5 6 7 8	2 3 4 5 6 7 8 9	1 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8	3 6 7 8	1 3 4 7	3 6 7 8 9	2 4 5 6 7 8	4 5 7 8	2 5 6 7 8 9	1 3 4 5 7 8 9	1 3 6 7 8
Comply With and Use Procedures (1)	1 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9	1 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8	1 3 6 7 8	1 3 7 9	2 3 6 7 8 9	2 4 5 6 7 8	2 4 5 7 8	2 5 6 7 9	1 4 5 7 8 9	1 3 6 7 8
Operate Control Boards (2)					1 3 6 7 8	1 3 4 9	2 3 6 8 9	2 4 5 6 7 8	1 2 4 5 7 8	2 5 6 7 8 9	1 2 4 5 7 8 9	1 2 3 6 7 8
Communicate and Interact	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9	1 3 4 5 6 8 9	1 2 3 4 5 6 7 8	1 3 6 7 8	1 3 4 7 8 9	2 3 6 7 8 9	2 3 4 5 6 7 8	1 2 4 5 7 8	2 4 5 6 7 9	1 2 3 4 5 7 8 9	1 2 3 6 7 8
Demonstrate Supervisory Ability (3)	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8								
Comply With and Use Tech. Specs. (3)	4 6	2 4	3 5	3 4								

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

Instructions:

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

Facility: Farley Nuclear Plant		Date of Examination: October 6, 2014		Operating Test No.: FA2014-301								
Competencies	APPLICANTS											
	SRO-I X				RO X				BOP X			
	SCENARIO				SCENARIO				SCENARIO			
	5				5				5			
Interpret/Diagnose Events and Conditions	2 3 4 5 6 7 8				3 4 6 7 8				1 2 5 7 8			
Comply With and Use Procedures (1)	1 2 3 4 5 6 7 8				3 4 6 7 8				1 2 5 7 8			
Operate Control Boards (2)					1 3 6 7 8				1 2 3 5 7 8			
Communicate and Interact	1 2 3 4 5 6 7 8				2 3 4 6 7 8				1 2 3 5 7 8			
Demonstrate Supervisory Ability (3)	1 2 3 4 5 6 7 8											
Comply With and Use Tech. Specs. (3)	2 3											

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

Instructions:

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

Facility:		Date of Exam:																
Tier	Group	RO K/A Category Points												SRO-Only Points				
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total		
1. Emergency & Abnormal Plant Evolutions	1	3	3	3				3	3				3	18	3	3	6	
	2	1	1	2				1	2				2	9	2	2	4	
	Tier Totals	4	4	5				4	5				5	27	5	5	10	
2. Plant Systems	1	3	2	2	3	1	2	4	3	2	3	3	28	3	2	5		
	2	1	1	1	1	1	1	1	1	1	1	0	10	2	1	3		
	Tier Totals	4	3	3	4	2	3	5	4	3	4	3	38	5	3	8		
3. Generic Knowledge and Abilities Categories		1	2	3	4	10	1	2	3	4	7							
		2	2	3	3	1	2	2	2									

1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the Tier Totals@ in each K/A category shall not be less than two).
2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 4 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to section D.1.b of ES-401 for guidance regarding the elimination of inappropriate K/A statements.
4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
7. *The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to section D.1.b of ES-401 for the applicable KAs.
8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics=importance ratings (IRs) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above; if fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note # 1 does not apply). Use duplicate pages for RO and SRO-only exams.
9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10 CFR 55.43..

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
007EK2.02	Reactor Trip - Stabilization - Recovery / 1	2.6	2.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Breakers, relays and disconnects
008AK2.01	Pressurizer Vapor Space Accident / 3	2.7	2.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Valves
015AK1.01	RCP Malfunctions / 4	4.4	4.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Natural circulation in a nuclear reactor power plant
025AK3.01	Loss of RHR System / 4	3.1	3.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shift to alternate flowpath
026AA1.07	Loss of Component Cooling Water / 8	2.9	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flow rates to the components and systems that are serviced by the CCWS; interactions among the components
027AK1.02	Pressurizer Pressure Control System Malfunction / 3	2.8	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Expansion of liquids as temperature increases
038EG2.4.6	Steam Gen. Tube Rupture / 3	3.7	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge symptom based EOP mitigation strategies.
054AA2.03	Loss of Main Feedwater / 4	4.1	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conditions and reasons for AFW pump startup
055EA2.01	Station Blackout / 6	3.4	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing valve positioning on a loss of instrument air system
056AG2.2.39	Loss of Off-site Power / 6	3.9	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of less than one hour technical specification action statements for systems.
057AA1.05	Loss of Vital AC Inst. Bus / 6	3.2	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backup instrument indications

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
058AK3.02	Loss of DC Power / 6	4	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actions contained in EOP for loss of dc power
062AA2.03	Loss of Nuclear Svc Water / 4	2.6	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The valve lineups necessary to restart the SWS while bypassing the portion of the system causing the abnormal condition
065AK3.04	Loss of Instrument Air / 8	3	3.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cross-over to backup air supplies
077AG2.4.31	Generator Voltage and Electric Grid Disturbances / 6	4.2	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of annunciators alarms, indications or response procedures
WE04EK2.1	LOCA Outside Containment / 3	3.5	3.9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE05EK1.1	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.8	4.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components, capacity, and function of emergency systems.
WE11EA1.1	Loss of Emergency Coolant Recirc. / 4	3.9	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
001AG2.4.11	Continuous Rod Withdrawal / 1	4.0	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of abnormal condition procedures.
036AA2.02	Fuel Handling Accident / 8	3.4	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occurrence of a fuel handling incident
037AA2.07	Steam Generator Tube Leak / 3	3.1	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flowpath for dilution of ejector exhaust air
051AK3.01	Loss of Condenser Vacuum / 4	2.8	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loss of steam dump capability upon loss of condenser vacuum
068AK3.18	Control Room Evac. / 8	4.2	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actions contained in EOP for control room evacuation emergency task
WE03EK2.2	LOCA Cooledown - Depress. / 4	3.7	4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems and relations between the proper operation of these systems to the operation of the facility.
we06EG2.1.20	Degraded Core Cooling / 4	4.6	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to execute procedure steps.
WE08EA1.1	RCS Overcooling - PTS / 4	3.8	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE15EK1.2	Containment Flooding / 5	2.7	2.9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal, abnormal and emergency operating procedures associated with (Containment Flooding).

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003K6.02	Reactor Coolant Pump	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCP seals and seal water supply
004A1.07	Chemical and Volume Control	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maximum specified letdown flow
004K1.06	Chemical and Volume Control	3.1	3.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Makeup system to VCT
005K5.02	Residual Heat Removal	3.4	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Need for adequate subcooling
006A4.01	Emergency Core Cooling	4.1	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pumps
007A1.02	Pressurizer Relief/Quench Tank	2.7	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maintaining quench tank pressure
007K4.01	Pressurizer Relief/Quench Tank	2.6	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Quench tank cooling
008K3.03	Component Cooling Water	4.1	4.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCP
010A4.03	Pressurizer Pressure Control	4.0	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PORV and block valves
010K6.01	Pressurizer Pressure Control	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pressure detection systems
012A2.03	Reactor Protection	3.4	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Incorrect channel bypassing

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
013K2.01	Engineered Safety Features Actuation	3.6	3.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESFAS/safeguards equipment control
022A2.01	Containment Cooling	2.5	2.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fan motor over-current
026A2.03	Containment Spray	4.1	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Failure of ESF
026K1.01	Containment Spray	4.2	4.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ECCS
039K4.02	Main and Reheat Steam	3.1	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Utilization of T-ave. program control when steam dumping through atmospheric relief/dump valves, including T-ave. limits
059A4.08	Main Feedwater	3.0	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Feed regulating valve controller
059K3.03	Main Feedwater	3.5	3.7.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S/GS
061A1.04	Auxiliary/Emergency Feedwater	3.9	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AFW source tank level
061G2.1.23	Auxiliary/Emergency Feedwater	4.3	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform specific system and integrated plant procedures during all modes of plant operation.
062A1.03	AC Electrical Distribution	2.5	2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Effect on instrumentation and controls of switching power supplies
063A3.01	DC Electrical Distribution	2.7	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Meters, annunciators, dials, recorders and indicating lights

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
063G2.4.35	DC Electrical Distribution	3.8	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of local auxiliary operator tasks during emergency and the resultant operational effects
064G2.4.45	Emergency Diesel Generator	4.1	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to prioritize and interpret the significance of each annunciator or alarm.
073K4.01	Process Radiation Monitoring	4.0	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Release termination when radiation exceeds setpoint
076K2.08	Service Water	3.1	3.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ESF-actuated MOVs
078K1.04	Instrument Air	2.6	2.9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cooling water to compressor
103A3.01	Containment	3.9	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Containment isolation

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
001A3.06	Control Rod Drive	3.9	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RCS temperature and pressure
015K2.01	Nuclear Instrumentation	3.3	3.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NIS channels, components and interconnections
017K6.01	In-core Temperature Monitor	2.7	3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sensors and detectors
027K1.01	Containment Iodine Removal	3.4	3.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CSS
029A1.02	Containment Purge	3.4	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation levels
035A4.06	Steam Generator	4.5	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	S/G isolation on steam leak or tube rupture/leak
041K5.02	Steam Dump/Turbine Bypass Control	2.5	2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use of steam tables for saturation temperature and pressure
045A2.12	Main Turbine Generator	2.5	2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Control rod insertion limits exceeded (stabilize secondary)
055K3.01	Condenser Air Removal	2.5	2.7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Main condenser
068K4.01	Liquid Radwaste	3.4	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety and environmental precautions for handling hot, acidic and radioactive liquids

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
G2.1.18	Conduct of operations	3.6	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to make accurate, clear and concise logs, records, status boards and reports.
G2.1.5	Conduct of operations	2.9	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to locate and use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.
G2.2.42	Equipment Control	3.9	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to recognize system parameters that are entry-level conditions for Technical Specifications
G2.2.44	Equipment Control	4.2	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions
G2.3.11	Radiation Control	3.8	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to control radiation releases.
G2.3.12	Radiation Control	3.2	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiological safety principles pertaining to licensed operator duties
G2.3.5	Radiation Control	2.9	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to use radiation monitoring systems
G2.4.37	Emergency Procedures/Plans	3.0	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the lines of authority during implementation of an emergency plan.
G2.4.49	Emergency Procedures/Plans	4.6	4.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.
G2.4.9	Emergency Procedures/Plans	3.8	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
007EG2.4.41	Reactor Trip - Stabilization - Recovery / 1	2.9	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the emergency action level thresholds and classifications.
009EG2.1.7	Small Break LOCA / 3	4.4	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior and instrument interpretation.
027AG2.2.25	Pressurizer Pressure Control System Malfunction / 3	3.2	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.
029EA2.05	ATWS / 1	3.4	3.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	System component valve position indications
057AA2.16	Loss of Vital AC Inst. Bus / 6	3	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Normal and abnormal PZR level for various modes of plant operation
062AA2.01	Loss of Nuclear Svc Water / 4	2.9	3.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location of a leak in the SWS

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003AG2.2.22	Dropped Control Rod / 1	4.0	4.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of limiting conditions for operations and safety limits.
028AG2.1.32	Pressurizer Level Malfuction / 2	3.8	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to explain and apply all system limits and precautions.
068AA2.08	Control Room Evac. / 8	3.9	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S/G pressure
WE10EA2.2	Natural Circ. With Seam Void/ 4	3.4	3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
003G2.4.2	Reactor Coolant Pump	4.5	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.
006A2.13	Emergency Core Cooling	3.9	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inadvertent SIS actuation
008G2.4.8	Component Cooling Water	3.8	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of how abnormal operating procedures are used in conjunction with EOPs.
012A2.05	Reactor Protection	3.1	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Faulty or erratic operation of detectors and function generators
073A2.02	Process Radiation Monitoring	2.7	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detector failure

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
034G2.4.30	Fuel Handling Equipment	2.7	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of events related to system operations/status that must be reported to internal organizations or outside agencies.
072A2.03	Area Radiation Monitoring	2.7	2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Blown power-supply fuses
079A2.01	Station Air	2.9	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cross-connection with IAS

KA	NAME / SAFETY FUNCTION:	IR	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
		RO	SRO											
G2.1.41	Conduct of operations	2.8	3.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of the refueling processes
G2.2.37	Equipment Control	3.6	4.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to determine operability and/or availability of safety related equipment
G2.2.38	Equipment Control	3.6	4.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of conditions and limitations in the facility license.
G2.3.14	Radiation Control	3.4	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities
G2.3.6	Radiation Control	2.0	3.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ability to approve release permits
G2.4.26	Emergency Procedures/Plans	3.1	3.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of facility protection requirements including fire brigade and portable fire fighting equipment usage.
G2.4.32	Emergency Procedures/Plans	3.6	4.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Knowledge of operator response to loss of all annunciators.

ES-401 Record of Rejected K/As Form ES-401-4

Tier / Group	Randomly Selected K/A	Reason for Rejection
RO - TIG2	036AA1.02	<p>This K/A conflicts with the SRO T2G2 K/A 072A2.03 and could cause an overlap issue.</p> <p>The Chief Examiner (NRC) randomly selected 036AA2.02 as a replacement.</p> <p>AA2. Ability to determine and interpret the following as they apply to the Fuel Handling Incidents:</p> <p>(CFR: 43.5 / 45.13)</p> <p>A2.02 Occurrence of a fuel handling incident 3.4 4.1</p>
RO - T2G1	007K5.02	<p>The PRT/Quench Tank is not used to draw a bubble in the PZR for this plant, so any questions written could challenge operational validity.</p> <p>The Chief Examiner (NRC) randomly selected 007A1.03 as a replacement.</p> <p>A1 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRTS controls including:</p> <p>(CFR: 41.5 / 45.5)</p> <p>A1.03 Monitoring quench tank temperature 2.6 2.7</p>
SRO- TIG1	009EG2.2.4	<p>The unit differences under these conditions are inconsequential and do not allow a discriminatory SRO question to be developed.</p> <p>The Chief Examiner (NRC) randomly selected 009EG2.1.7 as a replacement.</p> <p>2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.</p> <p>(CFR: 41.5 / 43.5 / 45.12 / 45.13)</p> <p>IMPORTANCE RO 4.4 SRO 4.7</p>
SRO- T3	G2.2.41	<p>This is not an SRO only function. A discriminatory SRO question cannot be developed.</p> <p>The Chief Examiner (NRC) randomly selected G2.2.37 as a replacement.</p> <p>2.2.37 Ability to determine operability and/or availability of safety related equipment.</p> <p>(CFR: 41.7 / 43.5 / 45.12)</p> <p>IMPORTANCE RO 3.6 SRO 4.6</p>

Tier / Group	Randomly Selected K/A	Reason for Rejection
SRO-T1G1	007EG2.4.18	<p>Facility was unable to generate an acceptable discriminatory level question because the only information deemed SRO level was used with another K/A (006A2.13)</p> <p>The Chief Examiner (NRC) randomly selected 007E G2.4.41 as a replacement.</p> <p>2.4.41 Knowledge of the emergency action level thresholds and classifications.</p> <p>(CFR: 41.10 / 43.5 / 45.11)</p> <p>IMPORTANCE RO 2.9 SRO 4.6</p>
SRO-T2G1	008G2.4.50	<p>Facility was unable to generate an acceptable discriminatory level question because the K/A was used on last exam (RO) and the only information at the SRO level was used on the second exam back. There is an overlap issue.</p> <p>The Chief Examiner (NRC) randomly selected 008G2.4.8 as a replacement.</p> <p>2.4.8 Knowledge of how abnormal operating procedures are used in conjunction with EOPs.</p> <p>(CFR: 41.10 / 43.5 / 45.13)</p> <p>IMPORTANCE RO 3.8 SRO 4.5</p>
RO - T2G1	007A1.03	<p>K/A rejected by facility due to oversampling.</p> <p>The Chief Examiner (NRC) randomly selected 007A1.02 as a replacement.</p> <p>A1 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRTS controls including:</p> <p>(CFR: 41.5 / 45.5)</p> <p>A1.02 Maintaining quench tank pressure. 2.7 2.9</p>

RO – T1G1	WE04EK2.2	<p>Facility was unable to generate an acceptable discriminatory level question because of potential for overlap with other questions.</p> <p>The Chief Examiner (NRC) randomly selected WE04EK2.1 as a replacement.</p> <p>EK2. Knowledge of the interrelations between the (LOCA Outside Containment) and the following:</p> <p>(CFR: 41.7 / 45.7)</p> <p>EK2.1 Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.</p> <p>IMPORTANCE RO 3.5 SRO 3.9</p>
RO – T2G1	061A1.02	<p>Facility was unable to generate an acceptable discriminatory level question.</p> <p>The Chief Examiner (NRC) randomly selected 061A1.04 as a replacement.</p> <p>A1 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the AFW controls including:</p> <p>(CFR: 41.5 / 45.5)</p> <p>A1.04 AFW source tank level 3.9 3.9</p>
RO - T2G1	026K3.02	<p>Facility was unable to generate an acceptable discriminatory level question</p> <p>The Chief Examiner (NRC) randomly selected 026A2.03 as a replacement.</p> <p>A2 Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:</p> <p>(CFR: 41.5 / 43.5 / 45.3 / 45.13)</p> <p>A2.03 Failure of ESF 4.1 4.4</p>
RO – T1G1	038EG2.4.11	<p>038EG2.4.6 - Generic component swapped with 001A G2.4.6</p> <p>Chief examiner made this change due to the generic component being a better match with the type of procedure required for the applicable event.</p>

RO - T1G2	001AG2.4.6	001AG2.4.11 - Generic component swapped with 038EG2.4.11 Chief examiner made this change due to the generic component being a better match with the type of procedure required for the applicable event.
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Facility: FA2014-301				Date of Exam: October 6, 2014 Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>			
Item Description				Initial			
				a	b*	c*	
1.	Questions and answers are technically accurate and applicable to the facility.			8	8	8	
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.			8	8	8	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401			8	8	8	
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).			**	**	8	
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)			8	8	8	
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 / 5	Modified 26 / 14	New 19 / 6	8	8	8
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory 35 / 6	C/A 40 / 19		8	8	8
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.			8	8	8	
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.			8	8	8	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.			8	8	8	
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.			8	8	8	
a. Author b. Facility Reviewer (*) c. NRC Chief Examiner (#) d. NRC Regional Supervisor				Printed Name / Signature Stanley J Jackson Billy Thornton Daniel M. Bacon MICHAEL W. DUNN		Date 9/25/14 9/25/14 9/29/14 9/29/14	
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.							

** - Written exam sample plan was prepared by the NRC. A separate ES-201-2 was completed for the written exam outlines only.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
1	H	3										Y		N	S	K/A 001A3.06 Question is Satisfactory.
2	H	2										Y		B	S	K/A 001AG2.4.6 Question is Satisfactory.
3	H	2	X	X								Y		B	E	K/A 003K6.02 The third bullet about DC5 not being in alarm could be a cue. Also, since we do not normally list things in the initial conditions that are normal, an applicant could easily misread the bullet. You may list that there are no other alarms associated with the RCPs. To prevent subsets, choice A should include immediately and choice C should include indefinitely. References to monitoring and informing in the choices could be removed to simplify the choices. Question has been corrected. Verified Satisfactory 9/29/14.
4	F	2										Y		N	S	K/A 004A1.07 Question is Satisfactory.
5	F	2										Y		N	S	K/A 004K1.06 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
6	F	2	X					X				Y		N	E	<p>K/A 005K5.02</p> <p>The stem questions states “Per SOP-7.0”, however, the choice selected as the correct answer contains a statement that is not located anywhere in the procedure or associated lesson plans. This is a stem focus issue.</p> <p>If this answer requires TS Bases knowledge, this may be a job link problem that would make the question Unsatisfactory.</p> <p>This is actually knowledge of limits and precautions.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
7	H	3				X						Y		B	E	<p>K/A 006A4.01</p> <p>Do not believe choice B is plausible. If a charging pump were to be started with an SI signal present, wouldn't it be started by the ESS sequencer vice the LOSP sequencer?</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
8	H	2				X						?		M	E	<p>K/A 007A1.03</p> <p>The temperatures listed in choices C and D are not plausible. Why was the saturation temperature for 900 psig used when 1400 psig was listed in the stem?</p> <p>Also need to check the version of the steam tables that you are providing for the temperatures listed in choices A and B. I believe the saturation temperature for 30 psig (45 psia) is closer to 275 degrees F.</p> <p>The tailpiece temperature does not really equate to monitoring quench tank temperature. It would be a better match for the K/A and would more closely relate to the second part question if you asked something about actual tank temperature.</p> <p>The second part of the question more closely meets the K/A for question 10 below.</p> <p>Due to question 10 asking about quench tank cooling, I would recommend rejecting this K/A and if you agree, I have randomly selected 007 A1.02, Maintaining quench tank pressure as a replacement.</p> <p>Ask me about ideas for questions 8 and 10.</p> <p>Rejected original K/A and randomly selected 007A1.02 due to potential oversampling.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
9	F	1				X						Y		B	U	K/A 007EK2.02 Choices A and D are not plausible. Why would you design redundant trips to both either energize or de-energize? LOD = 1. Would it make sense for the undervoltage trip to energize? Question is UNSAT due to LOD = 1 and two non-plausible distractors. Question has been corrected. Verified Satisfactory 9/29/14.
10	F	2										N		N	U	K/A 007K4.01 Question is UNSAT due to not matching the K/A. See comments for question 8. Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
11	H	2				X						Y		M	E	<p>K/A 008AK2.01</p> <p>The first part distractors for choices C and D are not plausible. Why would anyone pick the letdown isolation failing closed given that the other choice was a pressurizer safety when all PRT parameters are increasing?</p> <p>The second part question is an “add on” and is not closely related to the K/A. There have already been two other questions about some sort of PRT design.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
12	F	2	X									Y		M	E	<p>K/A 008K3.03</p> <p>The answer is not technically correct. The criteria for reactor trip is, when temperature exceeds 195°F.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
13	F	4	X	X				?				Y		N	E	<p>K/A 010A4.03</p> <p>Need to set up the initial conditions so that power is available to PCV-444B, so that an applicant does not believe the PORV cannot be used solely because power is removed. This could be a cue.</p> <p>Need to remove "If required" from the second part question.</p> <p>I understand that the use of a leaking or failed open PORV is covered by a note in the procedure, but are you sure that this is RO knowledge? These are specific steps pretty far down in the procedure and appear to be a little more than major mitigative strategy.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
14	F	3		X		X						Y		B	E	<p>K/A 010K6.01</p> <p>The first part distractors for choices A and C are not credible as distractors given that the numbers for the pressure transmitter matches up with the valve it operates. Are there any cases in the plant where two transmitters with the same type of functions, in the same system, and the components they operate are numbered sequentially but the numbers are reversed as would be required for these choices? This part is not discriminating.</p> <p>There are many other things you could ask: Would a Spray Valve open? Also, would this lead to a Reactor trip.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
15	H	3				X		X				Y		N	E	<p>K/A 012A2.03</p> <p>Choice C is not a credible distractor because it requires an SRO decision to reinstall the fuses. This is also a job link issue. Could probably say the same thing about choice D. ROs are required to know the entry conditions for AOPs and EOPs.</p> <p>Recommend setting up the question so that only a choice between entering EEP-0 and continuing in AOP-100 is required. Could then also ask if the SRNIs would automatically energize if power lowered to the SR or something like that.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
16	H	3				X						Y		B	S	K/A 013K2.01 I do not believe choice C is plausible. Is it possible for the 1-2A diesel to not start during a dual unit LOSP with an SI Unit 1 and then have the associated sequencer start loads? Verified plausible. Question is Satisfactory.
17	H	2	X									Y		B	E	K/A APE015AK1.01 Need to add a statement somewhere in the stem question something to the effect of, "Based on the current conditions". Question has been corrected. Verified Satisfactory 9/29/14.
18	F	2				X						Y		B	E	K/A 015K2.01 The second part of choices A and C are not credible as distractors. While related to the K/A, this question does not really test knowledge of the K/A. This is really testing knowledge of trip coincidence and whether or not an applicant recognizes that a 4160V safety related electrical bus will be re-energized by a diesel within 5 minutes. Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
19	H	2	X									Y		M	E	K/A 017K6.01 If the highest upper head CETC is used to determine SCM and the initial conditions do not address whether either of the two CETCs that failed was the highest reading, then how can it be determined whether the SCM calculation will or will not be accurate? Question has been corrected. Verified Satisfactory 9/29/14.
20	H	2				X						Y		B	E	K/A 022A2.01 The second part of choices A and C are not plausible. Could it possibly be correct to try to start a fan that had a fan fault alarm in and an amber light lit above the switch? You could ask (per EEP-0.0) if one fan per train is required to be running in fast or slow speed as one part of the question. For the second part of the question, you could ask if fan 1B will or will not start automatically when fan 1A tripped. Question has been corrected. Verified Satisfactory 9/29/14.
21	H	3	X									Y		M	E	K/A 025AK3.01 Need to add a statement somewhere in the stem question something to the effect of, "Based on the given conditions." Used times vice statement. Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
22	F	2										Y		M	E	K/A APE026AA1.07 Need a comma after "Per AOP-9.0." Question has been corrected. Verified Satisfactory 9/29/14.
23	F	2										Y		M	S	K/A 026K1.01 Question is Satisfactory.
24	H	2										N		B	E	K/A 026K3.02 The first part of choices A and C are not credible distractors due to train separation and the names of the spray rings. This question does not test the K/A as written. There is no information given for a failure of the CSS that is affecting the function of the RSS. Question is Unsatisfactory due to K/A mismatch. K/A does not directly apply to Farley. K/A rejected and 026A2.03 randomly selected. Verified new question Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
25	H	2	X									Y		B	E	K/A APE027AK1.02 There are really two correct answers the way this question is written. What does the temperature and density of the water in the pressurizer do when the other PORV is cycling? Need to ask what the density does initially. The distractor analysis states that the PORV setpoint is 2235 psig. Is that correct? Question has been corrected. Verified Satisfactory 9/29/14.
26	F	2										Y		B	S	K/A 027K1.01 Question is Satisfactory.
27	F	2										Y		M	S	K/A 029A1.02 Do not believe choice C is really plausible. If the fans stopped, how would radiation levels continue to rise? OK due to combination of fans and dampers. Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
28	F	2			X							Y		N	S	<p>K/A 035A4.06</p> <p>The second part of choices B and D may not be credible as a distractor. Is there any other place in the EOPs where air is failed to a valve for isolation when there is no other problem?</p> <p>Also, may need to ask which valves are first attempted to be used for isolation because HV-3227 A&B are used in the RNO column if the others will not close.</p> <p>OK, due to HV-3226 for TDAFW pump being failed open in procedure.</p> <p>Question is Satisfactory.</p>
29	F	1										Y		N	U	<p>K/A 036AA2.02</p> <p>Why would anyone think that AOP-30 entry would not be required when you have damaged a fuel assembly with spent SFP area radiation high and spent fuel building exhaust in high alarm?</p> <p>LOD = 1.</p> <p>Question is Unsatisfactory due to LOD = 1.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
30	F	2	X									Y		M	E	<p>K/A 037AA2.07 Check distractor analysis for choice D.</p> <p>Would R-15B and R-15C also be in alarm? If so, then that should be put in the initial conditions also.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
31	F	2	X									N		B	E	<p>K/A 038EG2.4.11</p> <p>For choices C and D, there are no parameters given in the initial conditions that would allow an applicant to evaluate whether FRP-P.1 or FRP-P.2 should be entered.</p> <p>The question does not match the K/A. The K/A is for abnormal condition procedures, the question is on the EOP. There are numerous other K/As that test the EOP specifically.</p> <p>Question would be Unsatisfactory due to K/A mismatch. Swapped generic component of K/A with another question to get a better match on both generic K/As.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
32	H	2	X									Y		B	S	<p>K/A 039K4.02</p> <p>Question is Satisfactory.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
33	H	2				X						Y		B	E	K/A 041K5.02 Choice D is not a credible distractor. I could understand an applicant not converting to psia after using the steam tables, however, the table given as a reference is in psig and the RCS pressure given in the initial conditions is given in psig. It is also not very likely that an applicant would consider using RCS pressure. Question has been corrected. Verified Satisfactory 9/29/14.
34	F	2										Y		M	S	K/A 045A2.12 Question is Satisfactory.
35	H	2				X						Y		B	E	K/A 051AK3.01 Need time and/or temperature information given in the initial conditions to make the second part of choices B and D truly credible distractors. Question has been corrected. Verified Satisfactory 9/29/14.
36	F	2										Y		N	S	K/A APE054AA2.03 Question is Satisfactory.
37	F	2										Y		N	S	K/A EPE055EA2.01 Question Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
38	H	1				X						Y		B	U	K/A 055K3.01 Choice D is not plausible. LOD = 1. Question is Unsatisfactory due to LOD = 1. Question has been corrected. Verified Satisfactory 9/29/14.
39	F	3	X									Y		N	E	K/A 056G2.2.39 For the second part question, need to state that SFP cooling is required to be restored using the ____..... Is cooling restored by AOP-5.0 or SOP-54.0? Question has been corrected. Verified Satisfactory 9/29/14.
40	F	3										Y		N	S	K/A 057AA1.05 Question is Satisfactory.
41	H	3	X									Y		N	E	K/A 058AK3.02 Recommend just asking if the steam dumps can or cannot be used and (if required) if the ARVs can or cannot be operated from the HSP. Question has been corrected. Verified Satisfactory 9/29/14.
42	H	2										Y		B	S	K/A 059A4.08 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
43	F	2										Y		N	E	K/A 059K3.03 I believe it might be necessary to better define the part of the transient this question relates to in the initial conditions. We need to discuss this further. Question has been corrected. Verified Satisfactory 9/29/14.
44	H	2										N		N	U	K/A 061A1.02 Question does not appear to match the KA. The KA requires the applicant to demonstrate the ability to monitor or predict changes in SG pressure associated with operating AFW controls. While this question does require the applicant to predict the change in SG pressure after AFW is adjusted, that information is not what is used to answer the question. Rather, the applicant can use the fact that primary temperature lowered to predict the change in SG pressure. Additionally, the change in MDAFW amps can be determined without regard to SG pressure, given the information in the stem. There is an unnecessary comma after "FI-3229" in the first bullet under "At 1015." Question is Unsatisfactory due to K/A mismatch. Original K/A has been rejected. 061A1.04 randomly selected as replacement K/A. New question has been verified Satisfactory on 9/29/14.
45	H	2										Y		B	S	K/A 062A1.03 Question appears to be SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
46	H	2										Y		M	S	K/A 062A1.03 Question appears to be SAT.
47	F	2										N		M	U	K/A 062AA2.03 Question does not appear to match the KA. While understanding that there were discussions with the Chief Examiner regarding the fact that the restoration of the SWS to the TB per AOP-7.0 is the closest tie to this KA, the question does not ask about restoration of SWS, it asks about which train closed and what happens when the switch is held in the open position. To match the KA with the allowances given by the chief examiner, the question needs to incorporate the piece of AOP-7.0 that talks about coordination between the control room operator and the systems operator regarding opening the breaker when the valve reaches its fully open position. That way, the question will address the realignment of the system to "bypass" the abnormal condition. As written, this is not addressed. Question is Unsatisfactory due to K/A mismatch. Question has been corrected. Verified Satisfactory 9/29/14.
48	H	2										Y		B	S	K/A 063A3.01 Question appears to match the KA. Question appears to be SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
49	H	2										N		N	U	K/A 063G2.4.35 Question does not appear to match the KA. Knowledge that minimizing DC loads is a local operator action is not required to answer the question. Question is Unsatisfactory due to K/A mismatch. Recommend asking the timeframe in which the loads need to be minimized and/or specific loads that are reduced. Question has been corrected. Verified Satisfactory 9/29/14.
50	H	2										Y		B	S	K/A 064G2.4.45 Question is Satisfactory.
51	H	2				?						Y		B	E	K/A 065AK3.04 Question appears to match the KA. I'm not sure you need to say that the loss of IA is expected to last for the next 4 hours. Is it plausible that a 2 hour timeframe to align emergency air to the TDAFW is adequate to prevent excessive cooldown if the applicant has the misconception that the steam admission valves fail open on a loss of IA? Question has been corrected. Verified Satisfactory 9/29/14.
52	F	2				X						Y		N	S	K/A 068AK3.18 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
53	F	2										Y		B	S	K/A 068K4.01 Question is Satisfactory.
54	F	2										Y		B FNP 13	S	K/A 073K4.01 Inconsistent valve designation: The distractor analysis refers to 1-GWD-HV-014 closing on a high alarm from R-14, but the lesson plan says, "The gas release valve (RCV-014) controls the rate at which gas is released. This 2-inch, air-operated globe valve fails closed on loss of instrument air and will close on a high radiation signal from the plant vent gas radiation monitor R-014" and 1-SOP-51.0 refers to "1-GWD-RCV-14." Question is Satisfactory.
55	F	2										Y		M	S	K/A 076K2.08 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
56	H	1										N		B	U	K/A 077AG2.4.31 Question does not appear to match the KA. The applicant is not required to know anything about alarms, indications, or response procedures as they relate to generator voltage and grid disturbances to answer the question. While the question is set within the Degraded Grid procedure, no procedure knowledge is required. An applicant simply needs to know basic electrical theory to answer each half of the question (GFE knowledge/LOD=1). The same questions could be asked without being in the degraded grid procedure, and the answer would be the same. To more closely match the KA, and to increase the LOD of the question, one option would be to give conditions in the stem and then ask if entry into AOP-5.2 is/is not required for one of the two questions asked. Question is Unsatisfactory due to K/A mismatch. Question has been corrected. Verified Satisfactory 9/29/14.
57	H	2										Y		N	S	K/A 078K.1.04 Question is Satisfactory.
58	H	2				X						Y		N	S	K/A 103A3.01 Need to make sure Distractor D is plausible – is it plausible that CCW to the RCP thermal barrier would isolate when R-11/R-12 do not? The question is still probably okay, but need to think about this 2x2 answer. Verified plausible. Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
59	F	2										Y		N	S	K/A G2.1.18 Question is Satisfactory.
60	F	2										Y		B FNP 13	E	K/A G2.1.5 Grammatically, question (1) should say, “ are required to staff the shift” (vice “is”). I would also change the second sentence to say, “the current shift” or “this shift” to ensure the applicant knows the question is asking about the specific shift to which the non-licensed FPA/shift communicator is assigned. Question has been corrected. Verified Satisfactory 9/29/14.
61	F	2		X		X						Y		M	E	K/A G2.4.42 The way the question is set up, the applicant is cued to the fact that no more than one leakage parameter is out of spec, lowering distractor plausibility. A better question to ask would be to query on whether (1) the primary to secondary leakage LCO has/has not been exceeded, and (2) the unidentified leakage has/has not been exceeded. Plausibility of (2) would also be enhanced if leakage were closer to the value of 1gpm. Question has been corrected. Verified Satisfactory 9/29/14.
62	H	2										Y		N	S	K/A G2.2.44 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
63	F	2				X						Y		B	E	<p>K/A G2.3.11</p> <p>Distractor C is not plausible. This distractor is the only choice that would increase the frequency of releases from the SG. A better distractor would be to choose a setpoint in excess of 1035 psig (something closer to the setpoint of the SG Safety) with the ARV in AUTO. The distractor would be wrong, especially if the setpoint was close to that of a SG safety, and it would be more plausible because it would result in fewer releases.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
64	F	2	X			X	X					Y		M	E	<p>K/A G2.3.12</p> <p>The plausibility of distractors B(2) and D(2) hinges on the fact that the ROs received a briefing for entering the RCA on a yellow or red RWP and thinking that is adequate for an RCA entry. This does lend plausibility to the distractors, BUT how do they know that is the RWP they are on? All they are told is they are in the RCA, and that subsequently they have to tag something in a HRA. Did they enter the RCA to tag something in the first place? This information should go in the stem to make the distractors more plausible.</p> <p>There are potentially two correct answers to question (1). 10CFR20 defines a high radiation area as an accessible area where an individual could receive a dose equivalent of >0.1rem in one hour at 30 inches. TS section 5.7.1 specifies that a high radiation area whose intensity of radiation is >100mr/h and <1000mr/h must be barricaded and conspicuously posted. However, section 5.7.2 goes on to say that if a dose rate is >1000mr/h, the area must have all of the provisions of section 5.7.1 and additionally have an entry point that is locked or continuously guarded.</p> <p>Further, section 5.7.3 says, “for individual high radiation areas with radiation levels ... greater than 1000 mrem,” implying that it is still a high radiation area if it is greater than 1000 mrem/h, it just requires additional controls. So answering EITHER >100mr/h OR >1000mr/h would be correct radiation levels at which a high radiation area posting would be required.</p> <p>The two correct answers can be fixed by asking for the minimum radiation level at which the posting is required. However, 1000mr/h is still not entirely credible as a distractor (even if there is only one correct answer at that point). A better option might be to give a dose rate and ask if the requirements for a locked high rad area [are/are not] required.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
65	F	2										Y		B	S	K/A G2.3.5 Question is Satisfactory.
66	F	1.5										Y		B	S	K/A G2.4.37 Question is Satisfactory.
67	F	2				X						Y		B	E	K/A G2.4.49 Unsure if question matches the KA. The KA is ability to perform, without reference to procedures, those actions requiring immediate operation of a system or components. Is there anything that requires that an operator perform these actions without reference to a procedure? Distractor A does not seem plausible. Is there indication there could be the potential for injured personnel? Distractor D does not seem plausible. If there is no indication that an emergency alarm has sounded, why would they proceed to the assembly area? Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
68	F	2				X						Y		B	E	K/A G2.4.9 Question appears to match the KA. Why would the applicant have the misconception that both RHR pumps share a room if the alarm name (which is given in the question) is the "1B RHR Pump Room"? This goes to the plausibility of C(1) and D(1) distractors, and really, the only difference between C(1)/D(1) and A(1)/B(1) is whether the 1A pump is secured and flowpath isolated. Since AOP-12.0 has four valves that it describes isolating on the affected train, the question can be improved by asking whether a second valve is accessible. Question has been corrected. Verified Satisfactory 9/29/14.
69	F	2										Y		M	S	K/A W/E03EK2.2 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
70	F	2	X									Y		B	E	<p>K/A W/E04EK2.2</p> <p>The wording of the first question is awkward. Additionally, there is minimal plausibility that an applicant would think that both RHR injection paths would be procedurally required to be simultaneously isolated during a LOCA. The question can be asked more directly and more plausibly by saying,</p> <p>“Per ECP-1.2, the discharges of ‘A’ and ‘B’ RHR trains [may/may not] be simultaneously isolated.”</p> <p>Unable to write acceptable question to original K/A. The original K/A was rejected and W/E04EK2.1 was randomly selected.</p> <p>New question verified Satisfactory 9/29/14.</p>
71	H	2										Y		M	S	<p>K/A W/E05EK1.1</p> <p>Question is Satisfactory.</p> <p>NOTE: Look at consistency of emphasized words. “NOT” is capitalized, underlined, and bolded in the stem of the question, but only capitalized in the answer choices. Additionally, “will” is capitalized in the answer choices. Is this consistent with the remainder of the exam?</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
72	H	2										Y	?	B	E	<p>K/A W/E06EG2.1.20</p> <p>Need to make sure this question is not SRO-only – it appears to require specific knowledge of a procedure step outside the major action categories of the FRP.</p> <p>There is a small subset issue – if the applicant thinks that the correct answer is B (stop all RCPs), then choices A (stop 2B RCP) and C (stop 2A and 2C RCP) are not wrong (if you stop all, you also stop 2B, etc). Since logically there cannot be two answers, they can eliminate B as a distractor. To clean this up, I would recommend rephrasing the stem and answers choices to say,</p> <p>“Per FRP-C.2, the operating crew [is/is not] required to stop 2B RCP and the operating crew [is/is not] required to stop 2A and 2C RCPs.”</p> <p>This way, they can consider each grouping independently, and yet the choices of stopping none and stopping all are still represented.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
73	F	1		X		X						Y		B	U	<p>K/A W/E08EA1.1</p> <p>Question appears to match the KA.</p> <p>Distractors A and B are both evolutions that cause a direct increase in pressure, and are not plausible. Distractor C affects temperature, which then has a pressure effect. The answer (D) is the only evolution that does not impact temperature/pressure. All plausibility analyses hinge on the applicant having a misconception that a temperature/pressure band for the soak is established – but if the applicant believes that to be true, how would they know which of the distractors to choose? They can arrive at the correct answer using logic only.</p> <p>To fix the question, I would choose two evolutions and do a 2x2:</p> <p>“In accordance with FRP-P.1, isolating the SI Accumulators [is/is not] permitted, and increasing AFW flow to SGs [is/is not] permitted.”</p> <p>This way, they are not choosing the obvious answer – they have to evaluate each option as a possibility.</p> <p>Question is Unsatisfactory due to LOD = 1.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
74	H	2	X									N		B	U	<p>K/A W/E11EA1.1</p> <p>Question does not meet the KA. The KA requires the ability to operate or monitor components as they apply to a loss of emergency coolant recirculation. The question essentially asks what gives you a loss of emergency coolant recirculation, rather than operating/monitoring components within ECA 1.1.</p> <p>To meet the KA, I would reframe the question to ask about actions taken in ECP-1.1. One option is to set the question at step 10, give a series of conditions and the table in 10.2 for a reference, and have the applicant determine containment spray requirements.</p> <p>Question is Unsatisfactory due to K/A mismatch.</p> <p>The first bullet needs a period (".") at the end.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
75	H	1.5				X						Y		M	E	<p>K/A W/E15EK1.2.075</p> <p>Distractors B(2) and D(2) are not plausible. The title of the procedure is Containment Flooding, so why would anyone choose something other than “damage to vital systems or components due to submersion,” when asked about the concern for increasing sump level? (Two non-plausible distractors)</p> <p>FRZ.2 is an orange path procedure, thus entry conditions are RO knowledge. Transition to the procedure itself is an operational implication. My recommendation is to 1) give a series of 4 sump levels and associated times, and then ask for the EARLIEST time FRZ.2 requires entry, OR, 2) give a series of sump levels and times and do a 2x2, the first part querying the EARLIEST time FRZ.2 requires entry and the second part asking for the FIRST major action category (there are only two: 1- identify possible sources of sump water, and 2- notify plant engineering staff of sump level and activity level)</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
SRO 1	H	2										Y	Y	M	E	K/A 003AG2.2.22 Is this operationally valid? Have they removed the negative/positive rate trips at Farley? If not the reactor could trip with the rod drop (and with the rod near an NI), and this question would be moot. The bank question started with a misaligned control rod, not a dropped rod. The first part of distractors A and B does not make sense as written, a power reduction to $\leq 75\%$ power is required to ensure there is insufficient stored energy in the fuel to exceed core design criteria during accident conditions? Need to change the first part of A and B. Question has been corrected. Verified Satisfactory 9/29/14.
2	H	2										Y	Y	M	E	K/A 003G2.4.2 Which UV reactor trip are we talking about? The RCP under voltage trip? Question has been corrected. Verified Satisfactory 9/29/14.
3	H	2										Y	Y	M	E	K/A 006A2.13 Question is Satisfactory.
4	H	1.5										Y	Y	M	S	K/A 007EG2.4.41 Question is Satisfactory.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
5	H	1.5										Y	Y	N	S	K/A 008G2.4.8 Question is Satisfactory.
6	H	2										Y	Y	M	S	K/A 009EG2.1.7 Question is Satisfactory.
7	H	3										Y	Y	B	S	K/A 012A2.05 Question is Satisfactory.
8	H	1										Y	Y	M	U	K/A 027AG2.2.25 Question is not very discriminating. Question is Unsatisfactory due to LOD = 1. Question has been corrected. Verified Satisfactory 9/29/14.
9	H	2										Y	Y	M	S	K/A 028AG2.1.32 Question is Satisfactory.
10	H	2										Y	N	M	U	K/A 029EA2.05 Question is Unsatisfactory due to not meeting the K/A at the SRO level. Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
11	H	2										Y	Y	N	S	K/A 034G2.4.30 <p>The applicant is supposed to get an EAL reference on this question, need to ensure the reference does not answer any other questions. The supplied reference must also be sufficient in scope as to not point directly at what needs to be checked.</p> <p>Question is Satisfactory.</p>
12	H	2										Y	N	M	U	K/A 057AA2.16 <p>Question appears to match the K/A. Appears to have an SRO aspect to it, but as written it can be answered with RO only knowledge.</p> <p>However, as written, with a loss of a Vital Instrument bus the electrical TS (in this case 3.8.9) must always be entered. If this somehow caused an issue with level transmitters, then 3.3.1 might be entered. With a choice between the two, and a loss of electrical bus, why would anyone choose 3.3.1? Selections should be 3.8.9 and 3.3.1 or 3.8.9 only or something similar.</p> <p>As written, the question does not require the applicant to have knowledge of and apply Required Actions of Section 3 (LCO 3.8.9) and the exception of LCO 3.0.6. because 3.8.9 is always correct.</p> <p>Question is Unsatisfactory due to not being SRO only.</p> <p>Question has been corrected. Verified Satisfactory 9/29/14.</p>
13	H	2										Y	Y	N	S	K/A 062AA2.01 <p>Question is Satisfactory.</p>

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
14	H	2										Y	Y	M	S	K/A 068AA2.08 This question goes beyond the systems aspect, and does require specific knowledge of the TS basis. Question is Satisfactory.
15	H	2										Y	Y	N	E	K/A 072A2.03 Question appears to match the K/A. Appears to have an SRO aspect to it. The first part of the question seems awkward. Try: The loss of R5 _____ automatically trip...Or the blown fuse..... Question has been corrected. Verified Satisfactory 9/29/14.
16	H	2										Y	Y	M	S	K/A 073A2.02 Question is Satisfactory.
17	H	1.5										Y	Y	M	E	K/A 079A2.01 Question appears to match the K/A. Do not believe the question is at the SRO level. Procedure entry conditions are RO knowledge and the RO need only know the entry conditions for AOP-16.0. I realize the question is asking IAW AOP-6.0 but I did not see any reference to SOP 2.1 in AOP-6.0. Question is Unsatisfactory due to not being SRO only. Fourth bullet should state Instrument Air is... Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
18	F	2										Y	Y	B	E	K/A G2.1.41 Do not believe distractor D to be plausible. Typically no one outside of the site staff will give permission to override an interlock. (They may be asked to guidance, however, it is always a staff position that is responsible, and will grant or deny permission. Question has been corrected. Verified Satisfactory 9/29/14.
19	F	2										Y	Y	B	E	K/A G2.2.37 Distractor D does not appear to be plausible. Containment temperature rise could cause this. Question has been corrected. Verified Satisfactory 9/29/14.
20	F	2				X						Y	Y	N	S	K/A G2.2.38 Question is Satisfactory.
21	F	2										Y	Y	B	E	K/A G2.3.14 Question appears to match the K/A. Appears to have an SRO aspect to it. Do not think B and D distractors are plausible; there is not a path to the environment. Try something like ISLOCA (LOCA Outside Containment) into the auxiliary building. Question has been corrected. Verified Satisfactory 9/29/14.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
22	F	2										Y	Y	N	S	K/A G2.3.6 Question is Satisfactory.
23	F	2										Y	Y	M	S	K/A G2.4.26 Question is Satisfactory.
24	H	2										Y	Y	B	S	K/A G2.4.32 Question is Satisfactory. BANK Farley 2012
25	H	2										Y	Y	M	S	K/A W/E10EA2.2 Question is Satisfactory.

Instructions

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

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - 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).
- 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.
- 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).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
- 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?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Facility: Farley		Date of Exam: 10/21/2014		Exam Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/>	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	ub	N/A	EL		
2. Answer key changes and question deletions justified and documented	ub	N/A	EL		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	ub	N/A	EL		
4. Grading for all borderline cases (80 \pm 2% overall and 70 or 80, as applicable, \pm 4% on the SRO-only) reviewed in detail	ub	N/A	EL		
5. All other failing examinations checked to ensure that grades are justified	ub	N/A	EL		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	ub	N/A	EL		
Printed Name/Signature		Date			
a. Grader	Daniel M. Bacon / Daniel M. Bacon		11/7/2014		
b. Facility Reviewer(*)	N/A		N/A		
c. NRC Chief Examiner (*)	Edwin Lee, Jr. / Edwin Lee, Jr.		11/7/2014		
d. NRC Supervisor (*)	Eugene Guthrie / Eugene Guthrie		11/10/2014		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

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Printed Name/Signature		Date			
a. Grader	Daniel M. Bacon / Daniel M. Bacon		11/7/2014		
b. Facility Reviewer(*)	N/A		N/A		
c. NRC Chief Examiner (*)	Edwin Lez, Jr. / Edwin Lez, Jr.		11/7/2014		
d. NRC Supervisor (*)	Eugene Guthrie / Eugene Guthrie		11/10/14		
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