ES-201 **Examination Preparation Checklist** **Form ES-201-1**

Facility: **Farley** Date of Examination: **05/09/11**

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)	rfa
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	rfa
-120	3. Facility contact briefed on security and other requirements (C.2.c)	rfa
-120	4. Corporate notification letter sent (C.2.d)	rfa
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 3)]	rfa
{-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)	rfa
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	rfa
{-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)	rfa
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	rfa
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	rfa
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	rfa
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	rfa
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	rfa
-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)	rfa
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	rfa
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	rfa

ES-201-2 Examination Outline Quality Checklist

FINAL SUBMITTAL

Facility: Farley Nuclear Plant Date of Examination: May 9, 2011 Operating Test Number: FA2011-301

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	2	RO	
	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.	2	RO	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	2	RO	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	2	RO	
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	2	RO	
	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.	2	RO	
	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.	2	RO	
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.	✓	RO	
	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	2	RO	
	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.	2	RO	
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	2	RO	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	2	RO	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	2	RO	
	d. Check for duplication and overlap among exam sections.	2	RO	
	e. Check the entire exam for balance of coverage.	2	RO	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	2	RO	

	Printed Name/Signature	Date
a. Author	Howard Fitzwater /	4/28/2011
b. Facility Reviewer (*)	Gary Ohmstede /	4/28/2011
c. NRC Chief Examiner (#)	RON ALLEN /	4/29/11
d. NRC Supervisor	MALCOLM T. WILLIAMS /	04/29/11

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

FINAL

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5-9-2011 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 5-9-11 thru 5-24-2011. 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
					per tele con	5-31-11	
1.	Scott Depriest	Reviewer		1/25/11			*
2.	Josh Carroll	SS		2/1/11		5/25/11	
3.	DONELL BANKS	SSS		2-1-11		5-31-11	
4.	Rob Szpiosy	SS		2/3/11		5/27/11	
5.	David Reed	Supt		2/4/11		5/26/11	
6.	John M. Lewis	F.D.		4/7/11	SEE ATTACHED FAX	5-31-11	#
7.	Michael McAuliffe	SSS		4/7/11		5/24/11	
8.	Robert Trujillo	SSS		4-7-11		5-27-11	
9.	Aaron Forshay	OPS INST.		4/7/11		5/26/11	
10.	Blake Mitchell	OPS SS		4/7/11		5-31-11	
11.	Joan Prichett	OPS		4/18/11		5/26/11	
12.	JJ Hutto	OPS Mgr		5/11/11		5/25/11	
13.	Brian Reed	OPS LEAD INST		5/11/11		5/25/11	
14.	Vince Richter	OPS NUC Instructor		5-17-11		5-19-11	*
15.	JOHN MICHAEL	OPS INST		5-18-11		5-25-2011	

NOTES:

#14 Vince Richter was the SURROGATE for the EXAM on 2 scenarios. His EXAM knowledge is RESTRICTED to those 2 scenarios. Due to Instructor resources being limited, VINCE was allowed to SIGN the NRC EXAM Agreement after the operating exam was complete and prior to the written EXAM after getting confirmation that his knowledge was limited in scope. 5-19-11

#1 Scott Depriest has acknowledge he did not divulge any information to any unauthorized personnel. Due to having 2 Broken ARMS, Scott could not physically sign off the ESA. 5-31-2011 per Tele con

#6 John Lewis Completed Signature (2) Via FAX. See attached; He is on FMLA Leave.

Pg 3

ES-201-3 **Examination Security Agreement**

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the weeks of 5-9-2011 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 5-9-11 through 5-24-11. 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.	Billy Thornton	Nuclear OPS TRNG INST		10/7/10		5-25-11	
2.	Howard Fitzwater	Nuclear OPS TRNG INST		10/4/10		5-25-11	
3.	Gary Ohmstede	Lead Instructor-Exam Development		10/4/10		5-25-11	
4.	Darryl Stevenson	Control Technician		11/17/10		5-25-11	
5.	Michael Galle	Simulator Coordinator		11/17/10		5-25-11	
6.	Kevin Riley	Nuclear Specialist I		11/17/10		5-26-11	
7.	Candice Wright	Engineer II		~~12/28/10~~ 12/27/10 CMW		12/27/10 CMW	* 5-31-2011
8.	Justin Wheat	Shift Support Supervisor		1/3/11		5/25/11	
9.	Denny Williams	Plant Operator		1/3/11		5/25/11	
10.	JAMIE COLEMAN	Shift Support Supervisor		1/3/11		5/25/11	
11.	Richard Langford	Shift Support Supervisor		1/18/11		5/25/11	
12.	TIM PHILLIPS	SSSI		1-18-11		~~5/26/11~~ 5/26/11	
13.	John W. Andrews	S.S.		1-25-11		5/26/11	
14.	QUINTON UNDERWOOD	SSS		01/25/11		05/26/11	
15.	MATT A PICKENS	P.O.		01/25/11		5-27-11	

NOTES:

#2 * CANDICE WRIGHT IS ON MATERNITY LEAVE AND CAN NOT ~~be found to~~ SIGN off the ESA SINCE SHE IS LOCATED AWAY FROM THE PLANT SITE. PER TELEPHONE INTERVIEW SHE STATED SHE did not DIVULGE ANY INFORMATION CONCERNING THE EXAM TO ANY UNAUTHORIZED PERSONELL. JOL 5-31-2011

ES-201-3 **Examination Security Agreement**

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the weeks of 5-9 -2011 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 5-9-2011 through 5-24-2011 . 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.	John H. Lewis	Plant Operator	see signed sheet	4/7/11		5/31/11	
2.							
3.							
4.							
5.							
6.							
7							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

ES-301-1 **Administrative Topics Outline**

FINAL SUBMITTAL

Facility: Farley Nuclear Plant — Date of Examination: May 9, 2011

Examination Level: **RO X SRO X** — Operating Test Number: FA2011301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
a. A.1.a Conduct of Operations **SRO + RO**	M, R	Title: **Critical Safety Function Status Tree Evaluation** Description: Students will be provided a listing of plant parameters. This will require manually evaluating each status tree to determine the challenges to each tree and identify the highest priority challenge. K/A: G2.1.7 (RO 4.4 SRO 4.7)
b. A.1.b Conduct of Operations **SRO only**	D, R	Title: **Determine Active License Status** Description: The SRO will have to evaluate the status of 3 RO's to determine their license status for sitting the control board position. K/A: G2.1.4 (SRO 3.8)
b. A.1.b Conduct of Operations **RO only**	P, D, R	Title: **Determine Required Volume, Controller Settings And Integrator Settings For A Makeup To The RWST.** Description: The RO will be required to use nomographs and tank curves to calculate the makeup to the RWST from the Makeup water system. 006A1.02 (RO-3.0 SRO-3.6)
c. A.2.c Equipment Control **SRO +RO part A** **SRO part B only**	N, R	Title: **A) Determine Isolation Boundaries for a CCW Pump (RO & SRO)** **B) Identify the Required Tech Specs for the Condition. (SRO only)** Description: Part A: Determine Isolation Boundaries for a CCW Pump (mechanically) with a check valve that is spraying water and has to be isolated immediately; Determine the appropriate boundary points and required positions of components to safely isolate the CCW pump and; Part B: determine the required Tech Specs for the condition. G2.2.41 (RO-3.5 SRO-3.9) G2.2.40 (SRO-4.7)
d. A.3.d Radiation Control **SRO +RO**	M, R	Title: **Determine Dose Rates, Projected Dose, and Dress out requirements** Description: in preparation to adding oil to a RCP, the applicant will have to review the RWP and determine dose rates encountered, total projected dose, if the job can be done based on the dose and RWP provided and dressout requirements G2.3.4 (RO-3.2 SRO-3.7) G2.3.7 (RO-3.5 SRO-3.6)
e. A.4.e Emergency Procedures/Plan – **SRO only**	N, R	Title: **Provide an updated PAR** Description: PAR upgrade where a General Emergency already exists. The wind direction changes which requires a follow up notification and PAR upgrade. G2.4.44 (SRO-4.4) Time critical JPM.

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

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

ES-301-2 **Control Room/In-Plant Systems Outline**
FINAL SUBMITTAL

Facility: Farley Nuclear Plant — Date of Examination: May 9, 2011
Exam Level: **RO** ☒ **SRO-I** ☒ SRO-U-☐ — Operating Test No.: FA2011301

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-033A : Perform Corrective Actions For Recovery Of A Misaligned Rod 003AA1.02 RO-3.6 SRO-3.4 001A2.11 RO-4.4 SRO-4.7 001A4.06 RO-2.9 SRO-3.2		A,D,E,S	1 Est: 15 min
b.	CRO-343C: Establish Letdown as required following a Spurious Letdown Isolation Signal and Stabilize Pressurizer Level 004A2.07 RO-3.4 SRO-3.7 004A4.05 RO-3.6 SRO-3.1		A, M, S	2 Est: 15 min
c.	CRO-333D modified: Perform The Required Actions For Cold Leg Recirculation during a Large Break LOCA 011 EA1.11 RO-4.2 SRO-4.2		A, M, E, S	3 Est: 15 min
d.	CRO-NEW: Stop the RCP with a degraded seal per the guidance of step 8 of AOP-4.1 and complete the necessary IOAs of AOP-4.0 upon stopping the RCP. 003A2.02 RO-3.7 SRO-3.9 015/017AA1.05 RO-3.8 SRO-3.8 015/017AA1.08 RO-3.0 SRO-2.9		A, E, L, N, S	4P Est: 10 min
e.	Isolate SW to the **affected** CNMT Cooler using SOP-12.1 section 4.6 (ARP BB1 Step 6.1): 022A2.05 RO-3.1 SRO-3.5 W/E015EA1.1 RO-3.1 SRO-3.5		E, N, S	5 Est: 12 min
f.	CRO-415A, Start the station Blackout D/G 064A4.06 RO-3.9 SRO-3.9 055EA1.02 RO-4.3 SRO-4.4		D, E, S	6 Est: 10 min
g.	CRO-328B: Restore IA to containment following SBLOCA. 065AA1.03 RO-2.9 SRO-3.1		A, D, E, S	8 Est: 10 min
g.	**ALTERNATE** - Place Computer Room HVAC in operation following Smoke detector operation (plant fire—NF4 actions complete) • Description: SOP-56.0 alignment to restore Computer Room HVAC back into service starting at step 4.1.2. 067AA1.05 RO-3.0 SRO-3.1		E, N, S	8 Est: 10 min
h.	CRO-395D, Display Individual CETC values 017A4.01 RO-3.8 SRO-4.1		D, E, S	**RO ONLY** 7 EST 7 min
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)				
i.	SO-590, Place The SJAE Filtration Unit In Service during a Steam Generator Tube Leak 037AA1.02 RO-3.1 SRO-2.9		D, E	3 EST: 5 min
j.	SO-449, Supply EMERGENCY AIR to SG ARVs from Emergency Air Compressors during a Loss of instrument air APE065AA1.04 RO-3.5 SRO-3.4		D, E	8 Est: 10 min

j.	**ALTERNATE** - SO-448, Align Backup Air To PORVs From Nitrogen Bottles APE065AA2.07 RO-2.8 SRO-3.2	D, E, R	8 Est:10 min
k.	SO-95B, Align the Recycle Holdup Tank To Drain To Waste Holdup Tank 068K1.07 RO-2.7 SRO-2.9	D, R	9 Est: 10 min

@ 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	Alternate G impact
(A)lternate path	4-6	**[5/5]** **(-1/-1)**
(C)ontrol room		**[0]**
(D)irect from bank	≤ 8	**[7/6]** **(-1/-1)**
(E)mergency or abnormal in-plant	≥ 1	**[9(1)/8(1)]** **(0/0)**
(EN)gineered safety feature	- (control room system)	**[N/A]**
(L)ow-Power / Shutdown	≥ 1	**[1]**
(N)ew or (M)odified from bank including 1(A)	≥ 2	**[4(1)/4(1)]—W/ 3(A)** **(+1/+1)**
(P)revious 2 exams	≤ 3 (randomly selected)	**[0]**
(R)CA	≥ 1	**[1/1]**
(S)imulator		**[8(1)/7(1)]** **(0/0)**
	NOTE: the (± x/ ± y) demonstrates the impact of implementing alternate g.	

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

FINAL SUBMITTAL

Facility: Farley Nuclear Plant Date of Examination: May 9, 2011 Operating Test Number: FA2011-301

	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).	✓	MO	✓
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	✓	MO	✓
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	✓	MO	✓
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	✓	MO	✓
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	✓	MO	✓
	2. Walk-Through Criteria	--	--	--
a.	Each JPM includes the following, as applicable: • initial conditions • initiating cues • references and tools, including associated procedures • reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee • operationally important specific performance criteria that include: – detailed expected actions with exact criteria and nomenclature – system response and other examiner cues – statements describing important observations to be made by the applicant – criteria for successful completion of the task – identification of critical steps and their associated performance standards – restrictions on the sequence of steps, if applicable	✓	MO	✓
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.	✓	MO	✓
	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.		✓	MO	✓

		Printed Name / Signature	Date
a.	Author:	Howard Fitzwater /	4/28/2011
b.	Facility Reviewer(*)	Gary Ohmstede /	4/28/2011
c.	NRC Chief Examiner (#)	Ron Aiello /	4/29/11
d.	NRC Supervisor	MARQUIS WILLIAMS /	04/29/11

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**
FINAL SUBMITTAL

Facilty: Farley **Date of Exam:** May 9, 2011 **Scenario Numbers:** 1/2/3/4 **Operating Test No.:** FA2011-301

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.			
2. The scenarios consist mostly of related events.			
3. Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)			
4. No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			
5. The events are valid with regard to physics and thermodynamics.			
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
7. If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.			
8. The simulator modeling is not altered.			
9. The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.			
10. Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.			
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			
12. Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).			
13. The level of difficulty is appropriate to support licensing decisions for each crew position.			

Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes Scenario Numbers: 1/2/3/4	--	--	--
1. Total malfunctions (5–8)	9/11/11/8			
2. Malfunctions after EOP entry (1–2)	4/6/5/2			
3. Abnormal events (2–4)	3/4/5/4			
4. Major transients (1–2)	2/2/3/2			
5. EOPs entered/requiring substantive actions (1–2)	1/1/2/1			
6. EOP contingencies requiring substantive actions (0–2)	0/1*/1/1			
7. Critical tasks (2–3)	3/3/3/2			

*possible contingency procedure entry

ES-301-4 **Simulator Scenario Quality Checklist**
FINAL SUBMITTAL

Facility: Farley **Date of Exam:** May 9, 2011 **Scenario Numbers:** 6/7 **Operating Test No.:** FA2011-301

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.			
2. The scenarios consist mostly of related events.			
3. Each event description consists of • the point in the scenario when it is to be initiated • the malfunction(s) that are entered to initiate the event • the symptoms/cues that will be visible to the crew • the expected operator actions (by shift position) • the event termination point (if applicable)			
4. No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			
5. The events are valid with regard to physics and thermodynamics.			
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
7. If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.			
8. The simulator modeling is not altered.			
9. The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.			
10. Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.			
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			
12. Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).			
13. The level of difficulty is appropriate to support licensing decisions for each crew position.			

Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes Scenario Numbers: 6 / 7	--	--	--
1. Total malfunctions (5–8)	10 / 10			
2. Malfunctions after EOP entry (1–2)	4 / 5			
3. Abnormal events (2–4)	4 / 5			
4. Major transients (1–2)	1 / 2			
5. EOPs entered/requiring substantive actions (1–2)	1 / 0			
6. EOP contingencies requiring substantive actions (0–2)	0 / 1			
7. Critical tasks (2–3)	3 / 3			

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APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 SRO	2 ATC	2 BOP	3 SRO	3 ATC	3 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM(•) R	I	U
MASTER	RX		1	1*		1	1		2	2		3	3		1	1	0
	NOR		4*									2			1	1	1
	I/C	2,3,4 5,6,7	2,5,6	3,4,6	2,3,4 5,7	4,5,6	2,3,4, 7	1,3,4, 5,7,8, 9	1,3,7	4,5,7, 8,9	1,2,4 5,6,7	1,2,6	4,5,6		4	4	2
	MAJ	6, 7	6, 7	6,7	6,7	6,7	6,7	6,8,9	6,8,9	6,8,9	6,7	6,7	6,7		2	2	1
	TS	2, 3, 5			3,4			2,4			2,4				0	2	2
SRO-i ☒	RX													0	1	1	0
	NOR													0	1	1	1
	I/C	2,3,4 5,6,7			2,3,4 5,7			1,3,4, 5,7,8, 9			1,2,4 5,6,7			24	4	4	2
	MAJ	6, 7			6,7			6,8,9			6,7			9	2	2	1
	TS	2, 3, 5			3,4			2,4			2,4			9	0	2	2
RO ☒	RX		1			1			2			3		4	1	1	0
	NOR		4*									2		2*	1	1	1
	I/C		2,5,6			4,5,6			1,3,7			1,2,6		12	4	4	2
	MAJ		6, 7			6,7			6,8,9			6,7		9	2	2	1
	TS													0	0	2	2
BOP ☒	RX			1*			1			2			3*	4	1	1	0
	NOR													0	1	1	1
	I/C			3,4,6			2,3,4, 7			4,5,7, 8,9			4,5,6	15	4	4	2
	MAJ			6,7			6,7			6,8,9			6,7	9	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 Exam: **May 9, 2011** Operating Test No.: **FA2011-301**

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

Instructions:

4. 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.
5. 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.
6. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right hand columns.

ES-301-6 **Competencies Checklist**

FINAL SUBMITTAL

Facility: Farley Nuclear Plant **Date of Examination**: May 9, 2011 **Operating Test No.:** FA2011-301

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	2 3 4 5 6 7	2 3 4 5 6 7	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7	2 5 6 7	4 5 6 7	1 2 3 6 7 8 9	1 2 3 6 7	3 4 6 7	2 3 6 7	2 4 5 6 7 8 9	3 4 5 6 7
Comply With and Use Procedures (1)	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7	1 2 5 6 7	1 4 5 6 7	1 2 3 6 7 8 9	1 2 3 6 7	1 3 4 6 7	1 2 3 6 7	2 4 5 6 7 8 9	3 4 5 6 7
Operate Control Boards (2)					1 2 5 6 7	1 4 5 6 7	1 2 3 7 8 9	1 2 3 6 7	1 3 4 6 7	1 2 3 6 7	2 4 5 7 8 9	3 4 5 6 7
Communicate and Interact	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7	1 2 5 6 7	1 4 5 6 7	1 2 3 6 7 8 9	1 2 3 6 7	1 3 4 6 7	1 2 3 6 7	2 4 5 6 7 8 9	3 4 5 6 7
Demonstrate Supervisory Ability (3)	2 3 4 5 6 7	2 3 4 5 6 7	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7								
Comply With and Use Tech. Specs. (3)	2 3 5	3 4	2 4	2 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.

ES-301-6 **Competencies Checklist**

FINAL SUBMITTAL

Facility: Farley Nuclear Plant **Date of Examination**: May 9, 2011 **Operating Test No.:** FA2011-301

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

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

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

Facility: FARLEY Date of Exam: MAY 2011

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	N/A			3	3	N/A		3	18	3		3		6		
	2	1	2	2				1	2			1	9	2		2		4		
	Tier Totals	4	5	5				4	5			4	27	5		5		10		
2. Plant Systems	1	2	2	3	3	2	2	3	2	3	3	3	28	3		2		5		
	2	1	1	1	1	1	1	1	1	1	1	0	10	0	2	1		3		
	Tier Totals	3	3	4	4	3	3	4	3	4	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			

Note:

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 ±1 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/evolutions 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 K/As.
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 RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
009EA2.01	Small Break LOCA / 3	4.2	4.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Actions to be taken, based on RCS temperature and pressure, saturated and superheated
011EK2.02	Large Break LOCA / 3	2.6	2.7	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Pumps
015AK1.04	RCP Malfunctions / 4	2.9	3.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Basic steady state thermodynamic relationship between RCS loops and S/Gs resulting from unbalanced RCS flow
025AK1.01	Loss of RHR System / 4	3.9	4.3	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Loss of RHRS during all modes of operation
026AA1.06	Loss of Component Cooling Water / 8	2.9	2.9	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Control of flow rates to components cooled by the CCWS
027AK2.03	Pressurizer Pressure Control System Malfunction / 3	2.6	2.8	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Controllers and positioners
029EK3.12	ATWS / 1	4.4	4.7	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Actions contained in EOP for ATWS
038EG2.4.1	Steam Gen. Tube Rupture / 3	4.6	4.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of EOP entry conditions and immediate action steps.
055EA2.06	Station Blackout / 6	3.7	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Faults and lockouts that must be cleared prior to re-energizing buses
056AG2.2.~~22~~ 42	Loss of Off-site Power / 6	4.0	4.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of limiting conditions for operations and safety limits.
057AA1.04	Loss of Vital AC Inst. Bus / 6	3.5	3.6	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	RWST and VCT valves

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
058AK3.01	Loss of DC Power / 6	3.4	3.7	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Use of dc control power by D/Gs
062AA2.01	Loss of Nuclear Svc Water / 4	2.9	3.5	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Location of a leak in the SWS
065AK3.08	Loss of Instrument Air / 8	3.7	3.9	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Actions contained in EOP for loss of instrument air
077AG2.4.45	Generator Voltage and Electric Grid Disturbances / 6	4.1	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to prioritize and interpret the significance of each annunciator or alarm.
WE04EK2.1	LOCA Outside Containment / 3	3.5	3.9	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE05EK1.3	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.9	4.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Annunciators and conditions indicating signals, and remedial actions associated with the (Loss of Secondary Heat Sink).
WE11EA1.3	Loss of Emergency Coolant Recirc. / 4	3.7	4.2	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Desired operating results during abnormal and emergency situations.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001AA1.03	Continuous Rod Withdrawal / 1	3.4	3.2	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Boric acid pump control switch
036AK3.02	Fuel Handling Accident / 8	2.9	3.6	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Interlocks associated with fuel handling equipment
037AK1.01	Steam Generator Tube Leak / 3	2.9	3.3	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Use of steam tables
051AA2.02	Loss of Condenser Vacuum / 4	3.9	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Conditions requiring reactor and/or turbine trip
068AA2.04	Control Room Evac. / 8	3.7	4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	S/G pressure
076AK2.01	High Reactor Coolant Activity / 9	2.6	3	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Process radiation monitors
WE03EK2.1	LOCA Cooldown - Depress. / 4	3.6	4.0	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
WE08EK3.2	RCS Overcooling - PTS / 4	3.6	4.0	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Normal, abnormal and emergency operating procedures associated with (Pressurized Thermal Shock).
we15EG2.4.2	Containment Flooding / 5	4.5	4.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
003K6.14	Reactor Coolant Pump	2.6	2.9	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Starting requirements
004A3.11	Chemical and Volume Control	3.6	3.4	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Charging/letdown
004K3.04	Chemical and Volume Control	3.7	3.9	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	RCPS
005K5.05	Residual Heat Removal	2.7	3.1	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Plant response during "solid plant": pressure change due to the relative incompressibility of water
006K2.01	Emergency Core Cooling	3.6	3.9	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	ECCS pumps
007A4.10	Pressurizer Relief/Quench Tank	3.6	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	Recognition of leaking PORV/code safety
008A2.07	Component Cooling Water	2.5	2.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Consequences of high or low CCW flow rate and tempera- ture; the flow rate at which the CCW standby pump will start
010K1.06	Pressurizer Pressure Control	2.9	3.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	CVCS
012A3.05	Reactor Protection	3.6	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Single and multiple channel trip indicators
013K5.02	Engineered Safety Features Actuation	2.9	3.3	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Safety system logic and reliability
022A1.02	Containment Cooling	3.6	3.8	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Containment pressure

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
022A3.01	Containment Cooling	4.1	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Initia tion of safeguards mode of operation
026G2.4.50	Containment Spray	4.2	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.
026K4.01	Containment Spray	4.2	4.3	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Source of water for CSS, including recirculation phase after LOCA
039G2.1.20	Main and Reheat Steam	4.6	4.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to execute procedure steps.
059A2.12	Main Feedwater	3.1	3.4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Failure of feedwater regulating valves
059K1.02	Main Feedwater	3.4	3.4	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	AFW system
061K4.~~10~~ 06	Auxiliary/Emergency Feedwater	2.6	2.9	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Reset of MFW reactor trip logic
061K6.01	Auxiliary/Emergency Feedwater	2.5	2.8	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Controllers and positioners
062K3.03	AC Electrical Distribution	3.7	3.9	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	DC system
063A1.01	DC Electrical Distribution	2.5	3.3	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Battery capacity as it is affected by discharge rate
063K3.02	DC Electrical Distribution	3.5	3.7	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Components using DC control power

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
064A1.04	Emergency Diesel Generator	2.8	2.9	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Crankcase temperature and pressure
073A4.02	Process Radiation Monitoring	3.7	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	Radiation monitoring system control panel
076A4.02	Service Water	2.6	2.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	SWS valves
076K2.~~04~~ 08	Service Water	2.5	2.6	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Reactor building closed cooling water
078G2.1.32	Instrument Air	3.8	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to explain and apply all system limits and precautions.
103K4.04	Containment	2.5	3.2	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Personnel access hatch and emergency access hatch

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001K6.~~08~~ 02	Control Rod Drive	2.9	3.2	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Purpose and position switch of alarm for high flux at shutdown
011A4.01	Pressurizer Level Control	3.5	3.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	Charging pump and flow controls
015K5.10	Nuclear Instrumentation	2.8	3.0	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Ex-core detector operation
028K2.01	Hydrogen Recombiner and Purge Control	2.5	2.8	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Hydrogen recombiners
041A3.03	Steam Dump/Turbine Bypass Control	2.7	2.8	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Steam flow
045A1.06	Main Turbine Generator	3.3	3.7	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Expected response of secondary plant parameters following T/G trip
055K1.06	Condenser Air Removal	2.6	2.6	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	PRM system
056A2.04	Condensate	2.6	2.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Loss of condensate pumps
072K4.01	Area Radiation Monitoring	3.3	3.6	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Containment ventilation isolation
075K3.07	Circulating Water	3.4	3.5	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	ESFAS

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
G2.1.25	Conduct of operations	3.9	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to interpret reference materials such as graphs, monographs and tables which contain performance data.
G2.1.34	Conduct of operations	2.7	3.5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of primary and secondary chemistry limits
G2.2.13	Equipment Control	4.1	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of tagging and clearance procedures.
G2.2.39	Equipment Control	3.9	4.5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of less than one hour technical specification action statements for systems.
G2.3.13	Radiation Control	3.4	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of radiological safety procedures pertaining to licensed operator duties
G2.3.14	Radiation Control	3.4	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities
G2.3.4	Radiation Control	3.2	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of radiation exposure limits under normal and emergency conditions
G2.4.23	Emergency Procedures/Plans	3.4	4.4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the bases for prioritizing emergency procedure implementation during emergency operations.
G2.4.25	Emergency Procedures/Plans	3.3	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of fire protection procedures.
G2.4.46	Emergency Procedures/Plans	4.2	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to verify that the alarms are consistent with the plant conditions.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
008AG2.4.41	Pressurizer Vapor Space Accident / 3	2.9	4.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the emergency action level thresholds and classifications.
054AG2.1.23	Loss of Main Feedwater / 4	4.3	4.4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to perform specific system and integrated plant procedures during all modes of plant operation.
055EA2.~~03~~ 2	Station Blackout / 6	3.9	4.7	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Actions necessary to restore power
058AG2.2.25	Loss of DC Power / 6	3.2	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.
077AA2.10	Generator Voltage and Electric Grid Disturbances / 6	3.6	3.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Generator overheating and required actions
WE05EA2.1	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.4	4.4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001AA2.03	Continuous Rod Withdrawal / 1	4.4	4.6	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Uncontrolled rod withdrawal from available indications
061AA2.04	ARM System Alarms / 7	3.2	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Required actions if alarm channel is out of service
069AG2.2.37	Loss of CTMT Integrity / 5	3.8	3.9	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	(multi-unit license) Knowledge of the design, procedural and operational differences between units.
074EG2.4.20	Inad. Core Cooling / 4	3.8	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of operational implications of EOP warnings, cautions and notes.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
006G2.4.9	Emergency Core Cooling	3.8	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.
012A2.05	Reactor Protection	3.1	3.2	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Faulty or erratic operation of detectors and function generators
5 039A2.02	Main and Reheat Steam	2.4	2.7	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Decrease in turbine load as it relates to steam escaping from relief valves
079 078A2.01	Instrument Air	2.4	2.9	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Air dryer and filter malfunctions
36 103G2.1.30	Containment	4.4	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to locate and operate components, including local controls.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
028A2.~~01~~ 02	Hydrogen Recombiner and Purge Control	3.4	3.6	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Hydrogen recombiner power setting, determined by using plant data book
035A2.01	Steam Generator	4.5	4.6	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Faulted or ruptured S/Gs
071G2.2.38	Waste Gas Disposal	3.6	4.5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of conditions and limitations in the facility license.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
G2.1.35	Conduct of operations	2.2	3.9	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the fuel handling responsibilities of SRO's
G2.2.12	Equipment Control	3.7	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of surveillance procedures.
G2.2.18	Equipment Control	2.6	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the process for managing maintenance activities during shutdown operations.
G2.3.12	Radiation Control	3.2	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of radiological safety principles pertaining to licensed operator duties
G2.3.6	Radiation Control	2.0	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to aprove release permits
G2.4.28	Emergency Procedures/Plans	3.2	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of procedures relating to emergency response to sabotage.
G2.4.44	Emergency Procedures/Plans	2.4	4.4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of emergency plan protective action recommendations.

K/A listed in column 2 is the rejected K/A

Tier / Group	Randomly Selected K/A	Reason for Rejection
TxGx SRO/RO	ORIGINAL KA	Reason for replacement Examiner (NRC) randomly selected new KA# as the replacement K/A.
T1/G1 RO	056AG2.2.22	The original K/A required knowledge of LCOs and safety limits related to a Loss of Offsite Power, written at an RO level. In depth knowledge of Tech Specs, and in particular Tech Specs related to a Loss of Offsite Power, is an SRO function. Examiner randomly selected K/A 056G2.2.12 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2/G1 RO	008A2.07	The original K/A was related to "the flow rate at which the CCW standby pump will start". FNP is not equipped with an autostart of CCW pumps from a flow rate. Examiner provided K/A 008A2.05 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2/G1 RO	061K4.10	The original K/A was related to "Reset of MFW reactor trip logic". FNP is not equipped with a Reactor trip signal generated directly by a trip of MFW, thus there are no resets associated. Examiner provided K/A 061K4.06 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2/G1 RO	076K2.04	The original K/A was related to "Reactor Building closed cooling water". FNP is not equipped with a Reactor Building closed cooling water system. Examiner provided K/A 076K2.08 as the replacement K/A. Approved by Ron Aiello 10/18/2010.

Tier / Group	Randomly Selected K/A	Reason for Rejection
T2/G2 RO	001K6.08	The original K/A was related to positioning the high flux at shutdown alarm switch as a sub component of the Control Rod Drive system. FNP has no direct interrelationship between the high flux at shutdown alarm and the Control Rod Drive system. Examiner provided K/A 001K6.02 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T1G1 SRO	055EA2.03	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 055EA2.02 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T1G2 SRO	001AA2.05	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 001AA2.03 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T1G2 SRO	061AA2.06	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 061AA2.05 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T1G2 SRO	069AG2.2.3	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 069AG2.2.7 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2G1 SRO	039A2.02	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 039A2.05 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2G1 SRO	078A2.01	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 079A2.01 as the replacement K/A. Approved by Ron Aiello 10/18/2010.

Tier / Group	Randomly Selected K/A	Reason for Rejection
T2G1 SRO	103G2.130	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 103G2.1.30 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T2G2 SRO	028A2.01	Unable to write an SRO level question to this KA. Examiner randomly selected K/A 028A2.02 as the replacement K/A. Approved by Ron Aiello 10/18/2010.
T1G2 SRO	061AA2.05	Unable to write to an SRO level **without oversampling Emergency Classification** procedures. NOTE: Second REPLACEMENT of this KA (see 10/18/2010 above) Examiner randomly selected K/A 061AA2.04 as the replacement K/A. Approved by Ron Aiello 1/27/2011.

ES-401-6 Written Examination Quality Checklist

FINAL

Facility: FA2011-301 Date of Exam: May 9, 2011 Exam Level: RO x SRO x

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	✓	AS	
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	✓	AS	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	✓	AS	
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).	✓	AS	
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: X the audit exam was systematically and randomly developed; or X the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	✓	AS	
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: 22 / 1; Modified: 16 / 5; New: 37 / 19	✓	AS	
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: 31 / 7; C/A: 44 / 18	✓	AS	
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	✓	AS	
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.	✓	AS	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	✓	AS	
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.	✓	AS	

	Printed Name / Signature	Date
a. Author	Howard Fitzwater /	04/13/2011
b. Facility Reviewer (*)	Gary Ohmstede /	04/13/2011
c. NRC Chief Examiner (#)	RICHARD LEE	04/14/11
d. NRC Regional Supervisor	MARK FRANKE	4/14/11

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.

Farley 2011-301

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

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - One or more distractors is not credible.
   - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
6. Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

RO/SRO Combined Question

Generic:

NP = Not Plausible
DV = Discriminatory Value
DLU = Direct Lookup
WOOTF = Which one of the following
FITB = Fill in the blank

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1	M	2										Y	N	S	001AA1.03 No comment RFA 03/03/11 **Deleted the word correctly from the question stem.** **RFA – 4/5/2011**
2	M	2										Y	N	S	003K6.14 No comment RFA 03/03/11
3	M	2										Y	N	S	003K6.14 No comment RFA 03/03/11 **Re-arranged the WOOTF statement.** **RFA – 4/5/2011**
4	C	~~4~~ 3										Y	N	~~U~~ S	004A3.11 Because the stem states the actual values for seal leak off and seal injection, the Q has no DV State in the stem that Seal inj and leak off are normal. This Q is U because too much information is provided in the stem thus yielding no DV. RFA 03/03/11 **Removed extraneous information from stem and added SI and Seal leakoff are normal.** **GTO 3/8/11** **Accepted resolution** **RFA – 4/5/2011** **Validators identified that Seal injection could be within "NORMAL" range of 6-13 gpm. IF assumed >11 gpm per pump then C could be correct, and WOULD BE a "NORMAL" seal injection parameter. GREEN BAND is between 6-9 gpm which bounds the answer to ONLY choice A.** **Added the following bullets:** **- Seal injection is in the green band.** **- RCP #1 Seal leak off flow is normal.** **Accepted resolution** **RFA – 4/13/2011**
5	M	2					X					Y	N	~~E~~ S	004K3.04 I think a typo in the stem "0Unit 1" should be "Unit 1" Distractor B is NP. Normal leakage under normal circumstances ever go to the sumps other than some relief valves but only if something went wrong. Either change out B or put something in the stem to give it

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															credibility. RFA 03/03/11 **Fixed typo unit 1** **B is a plausible distracter b/c the #3 RCP seal drains to the ctmt sump normally 1000 cc/hr and there are at least 2 relief valves that discharge straight to the ctmt sump from the PRT and RCDT, as well as some CCW and SW reliefs. Also when the SI occurs, normal seal return is isolated which causes a relief valves to lift. One relief valve discharge flow path is to the ctmt sumps.** **Fixed feedback for the B distracter** **GTO 3/8/11** **Accepted resolution** **RFA – 4/5/2011**
6	M	2					X					Y	N	~~E~~ S	005K5.05 2nd bullet: RHR is "in" service not "on" service. No matter where PH-145 is, if there is a clog nothing with respect to the location of PK-145 will solve the problem. Distractor B is NP RFA 03/03/11 **Changed "on" to "in" service.** **Changed distracter B to rise until the RHR inlet isolation valves go closed (MOVs 8701A/B and 8702A/B) These MOVs have a closing signal of 700 psig. A common misconception would be that these MOVs close prior to the relief valve lifting.** **GTO 3/8/11** Changed distracter B to rise until the RHR loop suction isolation valves go closed **RFA – 4/5/2011**
7	M	2										Y	N	S	006K2.01 No comment RFA 03/03/11
8	C	2				X						Y	N	~~U~~ S	007A4.10 Change C2 and D2 to 120 psig. 150 psig is too extreme. In the stem, state that Pzr vapor space temperature is 650 degrees F. This will make B1 and C1 a little more plausible. This Q is U because of more than 1 NP distractor. RFA 03/03/11

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															I did not add pzr vapor space is 650 °F to the stem b/c that is teaching in the stem. At 100% power, 650F is the normal temp in the pzr and we are not supposed to add this type of info to the stem. I do not agree with the Unsat for this question since the value we used (150 psig) has been used on other NRC exams and is a reasonable value for a relief. Reliefs in ctmt lift at 25, 75, 150, 180, 220, 300, 600 psig. GTO 3/8/11 Changed distracter C and D setpoints to 75 psig. RFA – 4/5/2011
9	C	3										Y	N	S	008A2.05 No comment RFA 03/03/11
10	C	3	X									Y	N	~~S~~ E S	009EA2.01 No comment RFA 03/03/11 Added per the applicable FRP to the stem. RFA – 4/5/2011
11	C	3										Y	N	S	010K106 No comment RFA 03/03/11
12	C	3				X						Y	N	~~U~~ S	011A4.01 Given the initial conditions, a small RCS break will NOT cause VCT level to rise, and if FCV-122 failed open Pzr level would NOT fall. Therefore distractors A and B are NP. This Q is U because of 2 NP distractors. RFA 03/03/11 Replaced distracters A and B and changed feedback. GTO 3/9/11 Accepted resolution RFA – 4/5/2011
13	C	2					X					Y	N	~~E~~ S	011EK2.02 Securing RCPs will NOT lower peak clad Temps. This distractor is NP. RFA 03/03/11 Replaced distracter and REORDERED based on length. NEW correct answer is B and replaced

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															distracter is now D. GTO 3/9/11 Accepted resolution RFA – 4/5/2011
14	M	2				X						Y	N	U S	012A3.05 2 out of 2 is NP. Nothing in reactor trip logic is 2 out of 2. However, there is 2 out of 3. This Q is U because distractors B1 and D1 are NP RFA 03/03/11 I did not change anything for the following reasons: 1. The KA asks for single and multiple trip indicators which is what the question asks 2. There is one Rx trip with a 2/2 coincidence, general warning and two coincidences that require 2/2 C-9 and C-20 and C-5, C-7 and C-11 clear on a 1/1. Also P-6 clears on 2/2. 3. Using a 2/3 for the IR channels is not plausible since there are only 2 channels and moving to a 2/3 logic moves away from the KA for single trip indicators. GTO 3/8/11 Re-reviewed distracter analysis and determined that a 2 out of 2 coincidence is plausible. Accepted original question as submitted. Question is satisfactory as submitted. RFA – 4/5/2011
15	C	2				X						Y	N	U S	013K5.02 Psychometrics: If D was correct, A and C would be correct also. If C was correct, A would be correct also. Therefore B is the only plausible choice. This Q is U due to psychometric flaws. RFA 03/03/11 Added ONLY to the distracters A, B and D GTO 3/8/11 Accepted resolution RFA – 4/5/2011
16	C	3										Y	N	S	015/017AK1.04 No comment RFA 03/03/11
17	C	3										Y	N	S	015K5.10 No comment RFA 03/03/11

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
18	C	2	X									Y	N	~~E~~ S	022A1.02 The word "may" is an act of permission. Change "may" to "will." RFA 03/03/11 **Added WILL to A and B distracters per above** **GTO 3/8/11** **Accepted resolution** **RFA – 4/5/2011**
19	M	2				X						Y	N	~~U~~ ~~E~~ S	022A3.01 A1 and B1: There is no significance to containment pressure reaching 4 psig in this situation or at least it was not explained in the reference material. Therefore, distractors A1 and B1 are NP. This Q is U because A1 and B1 are NP. RFA 03/03/11 **Added more information to feedback to explain why a candidate would pick ctmt pressure vs. temperature.** **The significance to ctmt pressure is this is when the SI signal actuates and this causes fans to either start or shift to SS, the SW MOVs to roll open and the ctmt cooler dampers will open when the fans start. The drop out plate is a different issue and does not open on the SI signal at 4 psig but rather opens when temp increases to 135F when the fusible link melts.** **Changed stem to take away the SI signal and added ctmt pressure is 15 psig and rising.** **Changed this to Bank question in source category area.** **GTO 3/8/11** **Plausibility of 4 psig is accepted due to the actuation of SI at 4 psig. Modified stem bullet and all four choices to say exceeds instead of reaches. New version of the question has better testability. Downgraded question to E versus U.** **RFA – 4/5/2011**
20	C	3										Y	N	S	025AK1.01 No comment RFA 03/03/11
21	C	3										Y	N	S	026AA1.06 No comment RFA 03/03/11
															026G2.4.50

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
22	C	3										Y	N	S	No comment. **However; note, I would have declared distractors C1 and D1 NP had the validation matrix not been provided. It is not clear to me why half the validators would choose 12'6" for RWST lo-lo after two of the distractors had 4'6".** RFA 03/03/11
23	M	2				X						Y	N	~~U~~ S	026K4.01 Containment screens are pretty much common in ALL PWRs. Because of this, distractors A, C, and D are NP. This Q is U because of 3 NP distractors. RFA 03/03/11 **Replaced question with question from FNPs 2010 NRC exam. Within allowance of NUREG 1021, 401-6 form (<4 RO, <6 total—current count is 1 RO)** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
24	C	3										Y	N	S	027AK2.03 No comment RFA 03/03/11
25	M	2										Y	N	S	028K2.01 No comment RFA 03/03/11
26	M	~~1~~ 2										Y	N	~~U~~ S	029EK3.12 Inadequate information is provided in the stem to validate the plausibility of distractors A, C, and D. None of the distractors except C have anything to do with reactivity control and that is what the question is all about. This Q is U due to low DV. RFA 03/04/11 **Replaced question to a new one that is a 2+2 type and includes the action as well as the reason.** **GTO 3/8/11** **Accepted new question. Added 2nd bullet stating SG pressures are 1035 psig to increase plausibility to distracters B2 and D2 .** **RFA – 4/5/2011**
27	C	2	X									Y	N	~~E~~ S	036AK3.02 I suggest emphasizing raised/lowered, up/down, wtc. RFA 03/04/11 **Bolded raised/lowered, up/down per comments above**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															GTO 3/8/11 Accepted resolution RFA – 4/5/2011
28	C	2	X									Y	N	~~E~~ S	037AK1.91 Where ever references are provided, use a generic phrase "**Reference Provided**" then just say WOOTF ..... RFA 03/04/11 Added reference provided per above suggestion GTO 3/8/11 Accepted resolution RFA – 4/5/2011
29	C	2					X					Y	N	~~E~~ S	038EG2.4.1 I disagree with your distractor analysis. Under the circumstances, I don't believe that the applicant will choose distractor B. Consider replacing B. RFA 03/04/11 We have seen students pick EEP-0 on exams as the proper place to transition when another SI or situation requiring an SI is encountered. However, B distracter has been changed and a suggested fix is written. ECP-3.1 is the suggested fix since there is a SGTR with a SB LOCA and this is transition criteria from EEP-3.0. GTO 3/8/11 Accept original question RFA – 4/5/2011
30	C	2				X						Y	N	~~U~~ S	039G2.1.20 It is common sense that opening the steam dumps would only exacerbate the problem of high DP. Distractors A1 and B1 are NP. This Q is U because of two NP distractors. RFA 03/04/11 Changed the first distracter to a more plausible distracter. GTO3/16/11 Accepted new question. RFA – 4/5/2011
31	C	3										Y	N	S	041A3.03 No comment RFA 03/04/11
															045A1.06

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
32	C	3										Y	N	S	No comment RFA 03/04/11
33	C	3					X					Y	N	~~S~~ ~~E~~ S	051AA2.02 No comment RFA 03/04/11 **Deleted from distracter D as non applicable information - Continue to investigate the cause of the loss of vacuum.** **RFA – 4/5/2011**
34	M	2	X									Y	N	~~E~~ S	055EA2.06 Why don't you just say at 10:15, the 1-2A DG has been made available and delete al that 10:15 fru fru stuff? RFA 03/04/11 **Removed the fru fru stuff and added the procedure title to the #2 fitb** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
35	M	2										Y	N	S	055K1.06 No comment RFA 03/04/11 **Added the word "system" to the stem.** **RFA – 4/5/2011**
36	C	2				X						Y	N	~~U~~ S	056A2.04 Tripping the reactor for a single condensate pump trip is NP. A2 and C2 are NP. Replace A2 and C2. This Q is U because of 2 NP distractors. RFA 03/04/11 **There are 2 questions available to change this one out if necessary, but we believe that the current question is plausible as is and we changed the feedback to provide a better justification as to why it is plausible.** **GTO 3/16/11** **Editorial changes to modify stem and choices to increase plausibility for tripping the reactor.** **RFA 4/5/11**
37	C	3										Y	N	S	056AG2.2.12 No comment RFA 03/04/11
38															057AA1.04

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
	C	3					X					Y	N	~~S~~ ~~E~~ S	No comment RFA 03/04/11 **Changed from mod to bank** **GTO 3/16/11** **Removed extra information from distracters B and C which also increased plausibility.** **RFA 4/5/11**
39	C	3										Y	N	~~S~~ ~~E~~ S	058AK3.01 No comment RFA 03/04/11 **Modified distracters A.2 and C.2 to say ATS (Automatic Transfer Switch) instead of ABT (Automatic Bus Transfer) switch. This terminology has changed and the previous terminology is incorrect.** **GTO 3/16/11** **Accepted comment, question changed from S to E.** **RFA – 4/5/2011**
40	C	2					X					Y	N	~~E~~ S	059A2.12 I believe that A1 and B1 will be more plausible if changed from "open" to "as is". This Q is E because validators did pick D in some instances. RFA 03/04/11 **Changed A1 and B1 to as is as requested** **GTO 3/9/11** **Accept original question – air operated valves either fail open or closed, they don't fail as is.** **RFA – 4/5/2011**
41	C	2				X						Y	N	~~U~~ S	059K1.02 "Inadequate recirc flow" is not plausible because it is based on lack of basic system knowledge. Suggestion: Change A2 and C2 to "water hammer or steam binding" and change B2 and D2 to "water hammer only" This Q is U because of two NP distractors. RFA 03/04/11 **Changed all distracters as requested and changed the stem FITB to fit the new distracters.** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
42	C	3					X					Y	N	~~E~~ S	061K4.06 Change A1 to "stop and remain stopped." Since A2 is wrong, this will be more plausible. RFA 03/04/11 **Changed A1 distracter as requested** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
43	C	3					X					Y	N	~~E~~ S	061K6.01 Distractor D doesn't make any sense. If the valve fails closed there will be no steam available not even for an auto start. I suggest changing to "will NOT start until (some logic ckt) is made up." D is NP because it is confusing. RFA 03/04/11 **Changed D distracter and removed confusing part. Updated the feedback for the D Distracter to further clarify why this is a plausible distracter since the TDAFWP is INOPERABLE when one stm supply line is closed.** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
44	C	3					X					Y	N	~~E~~ S	062AA2.01 What is in the stem to indicate a degraded head? Facility re-verify the plausibility of distractor C. RFA 03/04/11 **A severely degraded SW pump could cause pressure in a train to drop below 60 psig which would give AD4 annunciator. Since AF4 has a low range and high range flow (DP) it is plausible that a candidate would mistakenly select this as a correct answer.** **I have an alternate proposal to this distracter if necessary.** **GTO 3/9/11** **Removed 20% from degraded head distracter C. Re-ordered distracter A and C.** **RFA – 4/5/2011**
45	M	2	X									Y	N	~~E~~	062K3.03 Add to the stem "… states the ***minimum*** time…" RFA 03/04/11 **Added as requested**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
														S	GTO 3/9/11 Accepted resolution RFA – 4/5/2011
46	M	2				X						Y	N	~~U~~ S	063A1.01 B2 and D2 are NP because it is common knowledge that loads are minimized to prolong battery life. Change A2 and C2 to "prolong battery life ONLY" Change B2 and D2 to "prevent damage to DC components AND prolong battery life" This Q is U due to two NP distractors RFA 03/04/11 Added as requested Do not believe this is unsat as is since the statements are plausible. GTO 3/10/11 Accepted resolution RFA – 4/5/2011
47	M	2										Y	N	S	063K3.02 No comment RFA 03/04/11
48	C	3										Y	N	S	064A1.04 No comment RFA 03/04/11
49	C	3					X					Y	N	~~E~~ S	Distractors A2 and C2: This is too vague. Replace with something more specific. Since there was a good split between B and D, this Q was rated as E. RFA 03/04/11 Made A2 and C2 more specific and put in CCW valves that would restore RCP support conditions and then changed Q#2 to ensure 2 answers were not correct. GTO 3/10/11 Accepted resolution RFA – 4/5/2011
50	M	2	X									Y	N	~~S~~ ~~E~~ S	068AA2.04 No comment RFA 03/04/11 Removed last two bulleted items in stem of question due to non applicability. RFA – 4/5/2011
															072K4.01

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only		
51	M	2										Y	N	~~S~~	No comment RFA 03/04/11
52	C	3					X					Y	N	~~E~~ S	073A4.02 Since the sample valve does not have a manual hand wheel, distractor A is NP. Replace A. RFA 03/05/11 **Replaced the A distracter and re-arranged the distracters due to length. Added one bullet to the stem to make the new distracter plausible.** **GTO 3/10/11** **Accepted resolution** **RFA – 4/5/2011**
53	C	3										Y	N	~~S~~	075K3.07 No comment RFA 03/05/11
54	M	2				X						~~N~~ Y	N	~~U~~ ~~E~~ S	076A4.02 This Q is supposed to be Service water NOT circ water. The question would appear to be SW but the distractor analysis talks about circ water. Furthermore, I am not convinced that all the distractors are plausible. The defense states what the applicant may "think." My question is, does the system have any other automatic valves? If not then the distractors are NP. This Q is U until the KA satisfaction and plausibility issue is resolved. RFA 03/06/11 **There are other SW valves that change position on various parameters, however the valves in this question were plausible.** **Replaced this question with a new one for SW to TB MOVs, and what position they will be in for a certain event, one train LOSP followed by a SI. This is now a C/A question** **GTO3/16/11** **Redefined K/A to be met after further discussion. Question deemed E instead of U after clarification.** **Changed to new question, and is now acceptable.** **RFA – 4/5/2011**
55	M	2	X									Y	N	~~S~~ ~~E~~	076AK2.01 No comment RFA 03/06/11 **Moved the Gross Failed Fuel Detector out of the**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
														S	WOOTF statement. RFA – 4/5/2011
56	M	2										Y	N	S	076K2.08 No comment RFA 03/06/11
57	C	3	X									Y	N	~~E~~ S	077AG2.4.45 Stem: Restate to read as follows: WOOTF actions will be performed first? The way it is written is confusing. RFA 03/06/11 Rewritten to incorporate the above comments. GTO 3/9/11 Accepted resolution RFA – 4/5/2011 Following final validation: Added the words "that are Lit" to the WOOTF statement. Accepted resolution RFA – 4/13/2011
58	M	2	X									Y	N	~~E~~ S	078G2.1.32 The question stem is confusing. State the initial conditions then come in with the WOOTF statement. RFA 03/06/11 Rewritten to incorporate the above comments. GTO 3/10/11 Accepted resolution, and also made 1A the A/C that is on the MCB position due to recent changes in the plant to maintain 1C selected to the sequencer. Added 1A A/C in distracter C because as written, C could potentially be a correct answer per OPS. RFA – 4/5/2011
59	~~M2~~ M	2										Y	N	~~E~~ S	103K4.04 This question involves more than just memory because one has to go through the logic sequence in their mind first. This Q should be C/A. RFA 03/06/11 Would like to keep this a memory level since it is essentially remembering how the door works. There are many ways to reach this same conclusion and then you are correct and it would be CA. Since this could be either or and we have 44 CA already we would like to leave as is. GTO 3/9/11 Accept original question

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															RFA – 4/5/2011
60	C	4										Y	N	S	G2.1.25 This is a good analytical question. RFA 03/06/11
61	~~M2~~ C	2										Y	N	~~E~~ S	G2.1.34 This is a good Q. Due the complexity of the analysis, it should be C/A NOT M RFA 03/06/11 **Changed to CA** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
62	M	2					X					Y	N	~~E~~ S	G2.2.13 By the nature of a danger tag, it's importance would never supersede a danger tag. Distractor B is NP. RFA 03/06/11 **Replaced one distracter** **GTO 3/16/11** **Accepted resolution** **RFA – 4/5/2011**
63	C	3					X					Y	N	~~E~~ S	~~G2.3.39~~ **G2.2.39** Placing N-32 in the tripped condition with N-31 OOS is NP as an only action while SD because you would be left with no means to monitor power. D is NP. RFA 03/06/11 **This should be KA G2.2.39 per sample plan** **We do not believe the distracter is NP since gammametrics is available and we could use this instrument during refueling, so why not here as well?** **Changed D distracter to be more plausible and corrected justification in feedback section.** **GTO 3/16/11** **Went back to original question and added 6th bullet to perform a channel check on Gamma Metrics source range instrumentation.** **RFA – 4/5/2011**
64	M	2				X						Y	N	~~U~~	G2.3.13 To have "a guard continuously posted in the area" a stem bullet needs to be added to make B2 and C2 plausible or state that the guard would be posted in a

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
														~~S~~	low or no dose area to guard the door. Right now, as is, B2 and C2 are NP and the Q is U RFA 03/06/11 **Changed this question to remove the guard since this could be a correct answer in appeals and then changed distracters to be more plausible.** **GTO 03/15/11** **Accepted resolution after changes to distracters.** **RFA – 4/5/2011**
65	C	3					X					Y	N	~~S~~ ~~E~~ S	G2.3.14 No comment RFA 03/06/11 **Changed distracter A due to plausibility.** **RFA – 4/5/2011** **MOVED CRITICAL DATA to bottom of bulleted list so less likely to be overlooked.** **Validators felt that CTMT pressure was hidden.** **Accepted resolution** **RFA – 4/13/11**
66	M	2	X									Y	N	~~E~~ S	G2.3.4 Stem: Delete the second "following" RFA 03/06/11 **Deleted the second following** **GTO 3/9/11** **Accepted resolution** **RFA – 4/5/2011**
67	M	2										Y	N	S	G2.4.23 No comment RFA 03/06/11
68	M	2	X									~~Y?~~ Y	N	~~E~~ S	~~G2.3.4~~ **G2.4.25** I think the wrong KA package was submitted. This Q should be a fire control KA but a rad control KA was provided. Resubmit with the correct KA package, This Q is an E until corrected. In A and B, move the and up and just make a full sentence out of it and CAP the "and" RFA 03/07/11 **This should be KA G2.4.25 per the sample plan and our submitted package.** **Fixed the fire control question addressed above as indicated.**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															GTO 3/10/11 Accepted resolution RFA – 4/5/2011 Validators questioned what LOCALLY meant and some challenged that I&C might be capable of lifting leads in the cable spreading room or some local panel to perform this action. Added "on the Hot Shutdown Panels" to the WOOTF statement Accepted resolution RFA – 4/13/11
69	C	3										Y	N	S	G2.4.46 No comment RFA 03/07/11 Changed expected to will in the stem. RFA – 4/5/2011
70	C	3				X						Y	N	U S	Wide range pressure and SI flow increasing are NOT plausible for voiding in the RCS. Replace these distractors. I suggest making this a two part Q: 2. AA 3. AB 4. BA 5. BB This Q is U because of two NP distractors RFA 03/07/11 Changed this question to a 2+2 and asked which components, when operated, will cause a void and which instruments are used to determine when a void exists. GTO 03/15/11 Accepted resolution after changes to distracters. RFA – 4/5/2011
71	C	3				X						Y	N	U S	WE04EK2.1 Distractors A and B "leak isolated" are NOT credible based in the initial conditions and are therefore NP. Replace A and B. RFA 03/07/11 Changed this question to a 2+2 and asked about which components are isolated and which instruments are used to determine when the intersystem LOCA has been secured. GTO 03/15/11

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															Accepted resolution after deleting terminology – to locate the leak - in the stem. **RFA – 4/5/2011**
72	C	3	X									Y	N	~~S~~ ~~E~~ S	WE05EK1.3 No comment RFA 03/07/11 **Deleted two non applicable bullets.** **RFA – 4/5/2011**
73	C	3				X						Y	N	~~U~~ S	WE08EK3.2 Distractors A and D are NP because the stem talks about pressurized thermal shock. Neither A nor D have anything to do with PTS. This Q is U because of two NP distractors. RFA 03/07/11 **Changed this question to a 2+2 and asked about which component is affected (SG vs. Rx vessel) and then if CDR restrictions are/are not required.** **GTO 03/15/11** **Accepted resolution after changes to part 2 of the distracters to 50° / 100°.** **RFA – 4/5/2011**
74	M	2										Y	N	S	We11EA1.3 No comment RFA 03/07/11 **SWAPPED order of bullets such that the components are train orientated.** **Accepted resolution** **RFA – 4/13/11**

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
75	C	~~4~~ 3					X					Y	N	~~E~~ S	WE15EG2.4.2 Make Containment sump level 7.5 feet and make B the correct choice. This will increase the level of difficulty. The Q is E due to a minor change to correct. RFA 03/07/11 **Changed sump level to 7.2 feet since from a memory level standpoint and appeal standpoint 7.6 and 7 and ½ can be argued to be the same.** **Changed answer to B and changed wording on fill in the blank – moved does/does not exist into each distracter.** **GTO 3/10/11** **Accepted resolution** **RFA – 4/5/2011**
SRO ONLY															
76	C	3	X									Y	Y	~~E~~ S	001AA2.03 3rd bullet: restate as follows: A unsuccessful manual reactor trip was attempted with reactor power at 14% Delete the 4th bullet because this is teaching. RFA 03/02/11 **Changed as suggested above.** **GTO 3/18/11** **Accepted resolution** **RFA – 4/5/2011** **Validators stated: "This is an awkward" way to discuss rod motion.** **TECHNICALLY RODS "STOP" every time between steps (even while stepping in the outward direction. (step--stop-- step--stop). ONE validator reported that since the stem told him that rods "STOPPED" he assumed he missed something and was searching for something that would cause motion beyond the temp mismatch.** **"IMMEDIATELY step in" or "STOP" when placed in AUTO was unanimously suggested by 5 validators.** **Deleted "immediately stopped" from the WOOTF statement.** **Added "immediately" to choices A and C.** **Added "stopped" to choices B and D.** **Accepted resolution** **RFA – 4/13/11**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
77	C	3	X									Y	Y	~~E~~ S	006G2.4.9 Can you delete the TS part in the stem? With the information in the bullets, the TS reference should not be needed. If it is needed, put it with the bullets and take it out of the WOOTF statement because it is confusing. RFA 03/02/11 **Removed TS reference from stem.** **GTO 3/18/11** **Accepted resolution** **RFA – 4/5/2011**
78	C	3				X						Y	Y	~~U~~ ~~E~~ S	008AG2.4.41 Since Pressure Boundary is 2 of the 4 options, why would "identified" be a plausible option especially since the drawing is provided? Can the drawing be eliminated thus making the applicant visualize the system? Pressure Boundary may not be so obvious. The Q is U because A1 and C1 are NP. RFA 03/02/11 **Do not agree with NP distracters. Suggest this is an editorial for the reasons below:** **Answer to Q1: STEM provides information that satisfies MOST of RCS TS LEAKAGE definition in that it is:** • **leaking into Containment Atmosphere** • **SPECIFICALLY located.** **Answer Q2: The drawing can be eliminated. The validators reported the stem was overly lengthy and preferred the dwg. This has been worked on and we will discuss this.** **Recent OE:** **Over the past year, FNP has had an issue regarding UNIDENTIFIED leakage on Both UNITS. The leak was on a check valve, not isolable, and on the flange between the bonnet and the cap. The leak was originally classified as Unidentified, then when it was discovered was classified as identified. The resultant discovery of its location has lead to many discussions and revealed a common misunderstanding of the definitions of RCS leakage: UNIDENTIFIED being qualified as IDENTIFIED when discovered, AND particularly the seal on a valve being IDENTIFIED vs. PRESSURE BOUNDARY leakage.** **Changed the question to remove the picture and shortened the stem.**

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															GTO 3/18/11 Picture was removed, downgraded to E. Added bullet with a description of the leak location in lieu of a picture RFA – 4/5/2011
79	C	3										Y	Y	S	012A2.05 No comment RFA 03/02/11
80	C	3				X						Y	Y	~~U~~ S	028A2.02 When you plug "Does NOT" into blank #1, it makes no sense. If H2 does not exceed the limit why would it be a concern? Furthermore, the way the second part is written, how could H2 NOT be a concern? This Q is U because A1 and B1 are NP RFA 03/02/11 Made the following correction. RETURNED TO previously submitted (DEC 13) idea. Part 1 replaced with does/does NOT exceed *lower flammability* limit. FSAR 6.2.5.3.1 and basis for Caution in procedure EEP-1.0. GTO 3/18/11 Accepted resolution RFA – 4/5/2011
81	C	3	X				X					Y	Y	~~E~~ S	035A2.01 Is EP-GL01,figure1 provided? **If not, is it expected that the applicant have it memorized.** If it is provided, state in the Q that a reference is provided. Now, if the ref is provided, does it become a DLU? The Q is an E until resolved. RFA 03/02/11 **Answer to Q1:** NO. The reference is NOT intended to be provided. **Answer to Q2:** The applicant is not expected to memorize EP-GL01, but is required to know the conditions that would be entry criteria to the emergency classifications. Based on the information provided, the applicant should be able to discern that ctmt is intact. *Changed NMP title to NMP-EP-110-GL01, FNP EALS - ICs, Threshold Values And Basis,* GTO 3/18/11 Accepted resolution RFA – 4/5/2011
82	C	3										Y	Y		039A2.05 No comment

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
														S	RFA 03/02/11
83	C	3										Y	Y	S	054G2.1.23 No comment RFA 03/02/11
84	C	3	X									Y	Y	~~E~~ S	055EA2.02 I recommend changing the up and down arrows to "raising" and "Lowering." These are hard to see. RFA 03/02/11 **Corrected as suggested above.** **GTO 3/18/11** **Accepted resolution** **RFA – 4/5/2011**
85	C	2										Y	Y	S	058AG2.2.25 No comment RFA 03/02/11
86	M	2				X						Y	Y	~~U~~ S	061AA2.04 When would an alarm function not be required for TS operability? If there are no cases, distractors A1 and B1 are NP. This Q is U unless an alarm function can be identified above. RFA 03/02/11 **Facility request reassessment of plausibility with the following additional information:** **Because** TRM TABLE 13.3.4-1 lists 4 other sets of radiation Monitors' **Alarm/Trip Setpoint as "N/A". R-29B, 60A,B,C, and D, and R-15B and C. Functional with no alarm function.** **TR 13.3.4 condition B** requires HP to conduct surveillances every 24 hrs, AFTER the first 24 hrs of NON-Functionality. This **action statement is UNIQUE and offers the idea that the capability of MONITORING is of greater importance** than WARNING. We believe it is **reasonable/plausible for a candidate** to assume that the alarm feature is NOT required, as long as MONITORING is capable. **GTO 3/18/11** **Explanation acceptable, question stands as is. Question is acceptable as is, SAT.** **RFA – 4/5/2011**
87	M	2	X									Y	Y	~~E~~	069AG2.2.7 Remove the "is" from the second fill in the blank. How did this get by all of the validators?

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
														~~S~~	RFA 03/02/11 Corrected GTO 3/18/11 Accepted resolution RFA – 4/5/2011
88	C	3										Y	Y	S	071G2.2.38 No comment RFA 03/02/11
89	C	3										Y	Y	S	074EG2.4.20 No comment RFA 03/02/11
90	C	3										Y	Y	S	077AA2.10 No comment RFA 03/02/11
91	C	3				~~X~~	X					Y	Y	~~U~~ ~~E~~ S	Inst Air isolation at 55 lbs is a common number. This renders Distractors A1 and B1 NP. This Q is U because of 2 NP distractors. I recommend another parameter. Service air isolates at 80 psi. maybe the question could be massaged around that number. RFA 03/02/11 Do not agree with NP distracter. Suggest editorial vs. UNSAT or accepting as is for the reasons below: 1) There are four pressures at which automatic actions occur in the IA system, 80, 70, 55 and 45 psig. Any is just as plausible as any other. 2) The suggested (80 psig) pressure will NOT result in any of the conditions of the stem to occur. 3) Requires specific knowledge V903 setpoint. 4) The setpoint is listed in the same referenced procedures (ARPs and AOPs and SOPs) together. Changed A1, B1, C1, and D1 Changed the stem focus from the air pressure to the valves that close. Due to the valve name I believe this makes for a more plausible distracter and takes the focus from a pressure value to a valve number. GTO3/18/11 Add the word setpoint to the first fill in the blank, to satisfy the non–plausibility issue. Question downgraded to E versus U.

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															RFA – 4/5/2011 ARROWs were replaced with words for consistency in the stem. Accepted resolution RFA – 4/13/11
92	M	2										Y	Y	S	103G2.1.36 No comment RFA 03/02/11
93	~~C2~~ M	~~1~~ 2										Y	Y	~~U~~ S	G2.1.35 This question has no DV. Make this a two part Question. Additionally it is a memory level Question. Suggest you format as follows: WOOTF are the Fuel Handling Supervisor required to do? a. AA b. AB c. BA d. BB This Q is U because the DV it to low. RFA 03/02/11 Generated a replacement question in the 2+2 format. GTO 3/18/11 Accepted resolution RFA – 4/5/2011
94	M	2					X					Y	Y	~~E~~ S	G2.2.12 Distractor A is NP. Immediate is too radical without having stated which surveillance was missed. Suggest changing it to 24 hrs. This Q is E since one NP distractor. RFA 03/02/11 Changed per request and added some verbiage to ensure the distracter is incorrect. W/O verbiage a strong case could be made as to 2 correct answers. GTO3/18/11 Accepted resolution RFA – 4/5/2011
95	C	2	~~X~~									Y	Y	~~E~~ S	G2.2.18 Stem: Delete (in the form of a GREEN SHEET") from both parts. The Q can be answered with or without it. RFA 03/02/11 We need GREEN SHEET to remain as is since this defines the approval required. Without the narrow scope, one could say that some type of re-approval

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
															would always need to be obtained and is always the conservative way to do business. If this were true then no distracter would be plausible. GTO 3/18/11 Accepted comments. This question becomes S versus E. RFA – 4/5/2011
96	C	3				X						Y	Y	~~U~~ S	G2.3.12 Suggest A1 and B1 say "may be left it its" Suggest C1 and D1 say "must be up righted from" Dist C and D: The term "May not" has no destination of final position. It just hangs and is NP. This Q is U until resolved. RFA 03/02/11 Corrected as suggested above. GTO3/18/11 Accepted resolution RFA – 4/5/2011
97	M	2					X					Y	Y	~~E~~ S	G2.3.6 D is NP Change C to read "But *as a minimum* two…" Change D to read "But *as a minimum two licensed operators* are required …" This Q is E because of 1 NP distractor. RFA 03/02/11 Changed C as requested and changed D as requested. GTO3/18/11 Accepted resolution after modification to C2 to add ONLY. RFA – 4/5/2011
98	C	2	X									Y	Y	~~E~~ S	G2.4.28 The 3rd bullet needs grooming. It is difficult to read. You don't head to mode 4. You are in it or you aren't. You need to decide where you are, RFA 03/02/11 Corrected: Removed Mode reference altogether, not necessary part of question. GTO3/18/11 Accepted resolution RFA – 4/5/2011
99															G2.4.44

Q#/	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
	M	2										Y	Y	S	No comment RFA 03/02/11
100	C	3	X									Y	Y	~~S~~ ~~E~~ S	W/E05EA2.1 No comment RFA 03/02/11 **Removed SI from stem for clarification issues.** **GTO3/18/11** **Accepted resolution** **RFA – 4/5/2011**

17 (14/3) U's
42 (31/11) E's
41 (30/11) S's

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

Facility: Farley	Date of Exam: May 24, 2011	Exam Level: RO/SRO		
		Initials		
	Item Description	a	b	c
1.	Clean answer sheets copied before grading	rfa	N/A	mjr
2.	Answer key changes and question deletions justified and documented	rfa	N/A	mjr
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	rfa	N/A	mjr
4.	Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	rfa	N/A	mjr
5.	All other failing examinations checked to ensure that grades are justified	rfa	N/A	mjr
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	rfa	N/A	mjr

	Printed Name/Signature	Date
a. Grader/Reviewer	Mark J. Riches/ Mark J. Riches	6/22/11
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	Ronald F. Aiello/	6/22/11
d. NRC Supervisor (*)	Mark E. Franke/	7/6/11

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

Key - SRO 26-100
RO 1-75

LAST NAME	FIRST NAME	MI

PLATEAU ID

TEST FORM

TEST VERSION

SOUTHERN COMPANY

- EXAMPLE: (A) (B) ● (D) (E)
- ERASE COMPLETELY TO CHANGE

	(T)	(F)		
1.	A	●	C	D
2.	●	B	C	D
3.	A	●	C	D
4.	●	B	C	D
5.	A	B	●	D
6.	●	B	C	D
7.	A	B	C	●
8.	●	B	C	D
9.	A	B	●	D
10.	A	●	C	D
11.	●	B	C	D
12.	A	B	C	●
13.	A	●	C	D
14.	A	B	●	D
15.	●	B	C	D
16.	A	B	C	●
17.	A	●	C	D
18.	A	B	C	●
19.	A	B	C	●
20.	A	●	C	D
21.	A	B	●	D
22.	A	●	C	D
23.	A	B	●	D
24.	●	B	C	D
25.	A	B	●	D

	(T)	(F)		
26.	A	B	●	D
27.	●	B	C	D
28.	●	B	C	D
29.	A	B	C	●
30.	A	B	C	●
31.	A	●	C	D
32.	A	B	●	D
33.	A	●	C	D
34.	●	B	C	D
35.	A	B	C	●
36.	A	●	C	D
37.	A	B	●	D
38.	A	B	C	●
39.	●	B	C	D
40.	A	B	●	D
41.	●	B	C	D
42.	A	B	C	●
43.	A	B	●	D
44.	A	●	C	D
45.	A	●	C	D
46.	●	B	C	D
47.	●	B	C	D
48.	A	B	●	D
49.	A	B	C	●
50.	A	B	●	D

	(T)	(F)		
51.	●	B	C	D
52.	A	B	C	●
53.	A	B	C	●
54.	A	B	C	●
55.	A	B	C	●
56.	●	B	C	D
57.	●	B	C	D
58.	●	B	C	D
59.	●	B	C	D
60.	A	B	C	●
61.	A	B	C	●
62.	A	B	●	D
63.	●	B	C	D
64.	A	●	C	D
65.	A	●	C	D
66.	A	●	C	D
67.	●	B	C	D
68.	A	●	C	D
69.	A	B	●	D
70.	A	●	C	D
71.	A	B	●	D
72.	A	B	C	●
73.	A	B	●	D
74.	A	B	●	D
75.	A	●	C	D

	(T)	(F)		
76.	●	B	C	D
~~77.~~	~~A~~	~~B~~	~~C~~	~~●~~
78.	A	●	C	D
79.	A	●	C	D
80.	A	B	●	D
81.	A	B	C	●
82.	A	●	C	D
83.	●	B	C	D
84.	A	B	C	●
85.	A	●	C	D
86.	A	B	●	D
87.	A	B	●	D
88.	A	B	C	●
89.	●	B	C	D
90.	A	B	●	D
91.	A	B	C	●
92.	A	B	●	D
93.	A	B	●	D
94.	A	B	C	●
95.	●	B	C	D
96.	A	●	C	D
97.	A	B	●	D
98.	●	B	C	D
99.	A	B	C	●
100.	A	B	C	●