Facility: FARLEY Date of Examination: April 2010

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

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

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

OUTLINE SUBMITTAL

Facility: Farley Nuclear Plant Date of Examination: April 5, 2010 Operating Test Number: FA2010-301

Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	CJR	PRO	MRB
	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.	CJR	PRO	MRB
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	CJR	PRO	MRB
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	CJR	PRO	MRB
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.	CJR	PRO	MRB
	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.	CJR	PRO	MRB
	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.	CJR	PRO	MRB
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.	CJR	PRO	MRB
	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	CJR	PRO	MRB
	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.	CJR	PRO	MRB
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	CJR	PRO	MRB
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	CJR	PRO	MRB
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	CJR	PRO	MRB
	d. Check for duplication and overlap among exam sections.	CJR	PRO	MRB
	e. Check the entire exam for balance of coverage.	CJR	PRO	MRB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	CJR	PRO	MRB

	Printed Name/Signature	Date
a. Author	C. Vince Richter /	03/24/10
b. Facility Reviewer (*)	Gary Ohmstede /	03/24/10
c. NRC Chief Examiner (#)	MARK A. BATES /	03/25/2010
d. NRC Supervisor	MALCOLM T. WIDMANN /	03/29/10

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of ~~3-8-2010~~ 4-5-2010 thru 4-13-2010 ~~5-7-10~~ 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 ~~3-8-2010~~ 4-5-2010 thru 4-13-2010 ~~5-7-2010~~. 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.	C. Vince Richter	Nuclear OPS TRNG INST		7-27-09		4-26-10
2.	Howard Fitzwater	Nuclear OPS TRNG INST		7-27-09		4-14-10
3.	Gary Ohmstede	Lead Instructor-Exam Development	(940AM)	8-17-09		4-14-10
4.	Darryl Stevenson	Control Technician		8-24-09		4/21/10
5.	Michael Galle	Simulator Coordinator		8-24-09		4-14-10
6.	Kevin Riley	Nuclear Specialist I		8-24-09		4-14-10
7.	LIZ WILLIFORD	SSS		10-30-09		42010
8.	MIKE WILHOIT	P.O.		11-10-09		4-21-10
9.	Taylor Joseph	SSS		11-10-09		4/20/10
10.	MATT STANLEY	SSS		11-10-09		4/21/10
11.	EARL KROMMES	P.O.		11-17-09		4/22/10
12.	BRIAN REED	Nuclear OPS TRNG INST		11-19-09		4-14-10
13.	Billy Thornton	Nuclear OPS Trng Instructor		11-19-09		4-15-10
14.	Josh Pritchett	P.O		11-22-09		4/29/10
15.	John Andrews	SSS.		11-22-09		4-20-10

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of ~~3-8-10~~ 4-5-2010 – 4-13-2010 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 ~~3-8-10~~ 4-5-2010 thru 4-13-2010. 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.	Josh Carroll	SSS - OPS Scheduler		12/9/09		4/20/10
2.	Rob Szollosy	SSS		12/9/09		4/28/10
3.	John Horn	Site Support Mgr / Renew		12/14/09		4/28/10
4.	Brennan Payne	SSS		2/8/10		4-21-10
5.	Candice Wright	Simulator Engineer		3/12/10		4/14/10
6.	DAVID O HALL	OPS TRN Supervisor		4/5/10		4/14/10
7.	Donna Christmas	TRNG Manager		4/5/10		4/14/10
8.	Preston Willis	TRN OPS		4/5/10		4/14/10
9.	OLIVER BENNINGFIELD	TRN OPS		4/5/10		4/14/10
10.	JJ Hutto	OPS MGR		4/5/10		4/14/10
11.	T.C Diggers	TRN		4-9-10		4/14/10
12.						
13.						
14.						
15.						

NOTES:

OPERATING OUTLINE SUBMITTAL

Facility: Farley Nuclear Plant
Examination Level: **SRO + RO**
Date of Examination: April 5, 2010
Operating Test Number: FA2010301

Administrative Topic (see Note)	Type Code *	Describe activity to be performed
A1.1.A Conduct of Operations **RO portion**	N / R	Verification of Initial Conditions Prior to Core Alterations. Given a set of plant conditions with fuel movement in progress, determine if all Core Alterations initial conditions are satisfied using UOP-4.1. G2.1.40 (2.8/3.9) G2.1.36 (3.0/4.1) G2.1.32 (3.8/4.0)
A1.1.A Conduct of Operations **SRO portion**	N / R	Verification of Initial Conditions Prior to Core Alterations. Given a set of plant conditions with fuel movement in progress, determine if all Core Alterations initial conditions are satisfied using UOP-4.1, and then list all Tech Spec conditions, REQUIRED ACTIONS and COMPLETION TIMES for LCOs not met. G2.1.40 (2.8/3.9) G2.1.36 (3.0/4.1) G2.2.1.35 (2.2/3.9) G2.1.32 (3.8/4.0)
A1.2.S Conduct of Operations **SRO ONLY**	D / R	Conduct A Safety Shutdown Assessment and Determine Time to Saturation. G2.1.25 (3.9/4.2)
A2.1.A Equipment Control **SRO + RO**	D / R	Perform a Shutdown Margin Calculation in modes 1 & 2 for a stuck rod (STP-29.5) 001A4.11 (3.5/4.1) APE005 AK1.05 (3.3/4.1)
A3.1.R A3.1.S Radiation Control **SRO + RO**	M / R	Calculate the Maximum Permissible Stay Time within Emergency Dose Limits. G2.3.4 (3.2/3.7)
A4.1.A Emergency Plan – **SRO + RO**	D / R	Make Initial Notifications As Required for an Emergency G2.4.43 RO-3.2 SRO-3.8

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

OPERATING OUTLINE SUBMITTAL

Facility: Farley Nuclear Plant	Date of Examination: April 5, 2010
Exam Level (both): RO SRO-I	Operating Test No.: FA2010301

Control Room Systems (8 for RO; 7 for SRO-i)		
System / JPM Title	Type Code*	Safety Function
a. Perform an emergency boration. CRO-065C mod. 024AA2.02 3.9/4.4 024AA2.01 3.8/4.1	S, D, A, L	1
b. CRO-327A Align PRF System For A Large Break LOCA 073G2.3.11 RO-3.8 SRO-4.3	S, D, L	7
c. CRO- 333E Perform Required Actions for transfer to simultaneous hot and cold leg recirculation 006 A4.07 RO 4.4 SRO 4.4	S, M, A, L	3
d. Perform required actions in response to RCP Seal Failures. CRO-047A K/A APE015AA1.22 4.0/4.2 003A2.02 3.7/3.9	S, D, A	4p
e. CRO-133A Start Up The Containment Cooling System 022A4.01 3.6/3.6 022A4.03 3.2/3.2	S, D, P, L On the 2007 NRC exam	5
f. CRO-359E Start 1C DG From The EPB And Align To Supply 1F 4160V Bus 055EA1.02 4.3/4.4 055EA1.06 4.1/4.6 055EA2.03 3.9/4.7	S, M, A	6
g. CRO-NEW Perform Corrective Actions In Response To a CCW pump trip 008A2.01 3.3/3.6 026AA1.02 3.2/3.3	S, D, L	8
h. CRO-406A Verify CTMT Isolation Phase "A" Is Actuated And Aligned 013A4.01 4.5/4.8	S, A, D, L	2 RO ONLY
In-Plant Systems (3 for RO; 3 for SRO-i; 3 or 2 for SRO-U)		
System / JPM Title	Type Code*	Safety Function
i. SO – 386 Conduct a Waste Gas release 071A4.26 (3.1/3.9)	D, R	9
j. SO-314A Operate the TDAFW pump locally without control power 061A2.03 3.1/3.4	D, L, E	4s
k. SO-347A Place The Swing Battery Charger In Service 058AA1.02 3.1/3.1 058AA1.03 3.1/3.3	D	6

All control room (and in-plant) systems must be different and serve different safety functions; in plant systems and functions may overlap those tested in the control room.

*Type Codes	Criteria for RO/ SRO-i [ACTUAL]
(A)lternate path	4-6 / 4-6 **[5/4]**
(C)ontrol room	**[0/0]**
(D)irect from bank	≤ 9 / ≤ 8 **[9/8]**
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 **[1/1]**
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 **[7/6]**
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 **[2/2]**
(P)previous 2 exams	≤ 3 / ≤ 3 (randomly selected) **[1/1]**
(R)CA	≥ 1 / ≥ 1 **[1/1]**
(S)imulator	**[8/7]**

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

Facility: Farley Nuclear Plant Date of Examination: April 5, 2010 Operating Test Number: FA2010-301

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

		Printed Name / Signature	Date
a.	Author	C. Vince Richter /	3/24/2010
b.	Facility Reviewer(*)	Gary Ohmstede /	3/24/2010
c.	NRC Chief Examiner (#)	MARK A. BATES /	03/25/2010
d.	NRC Supervisor	MALCOLM T. WIDMANN /	03/29/10

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

Facilty: Farley Date of Exam: April 5, 2010 Scenario Numbers: 1/3/4/5		Operating Test No.: FA2010-301		
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.	UR	no	MB
2.	The scenarios consist mostly of related events.	UR	no	MB
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)	UR	no	MB
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.	UR	no	MB
5.	The events are valid with regard to physics and thermodynamics.	UR	no	MB
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	UR	no	MB
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.	UR	no	MB
8.	The simulator modeling is not altered.	UR	no	MB
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.	UR	no	MB
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.	UR	no	MB
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	UR	no	MB
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).	UR	no	MB
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	UR	no	MB
	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes Scenario Numbers: 1 / 3 / 4 / 5	--	--	--
1.	Total malfunctions (5–8)	6 / 7 / 8 / 6	UR	no	MB
2.	Malfunctions after EOP entry (1–2)	2 / 2 / 4 / 1	UR	no	MB
3.	Abnormal events (2–4)	3 / 4 / 4 / 6	UR	no	MB
4.	Major transients (1–2)	3 / 1 / 3 / 3	UR	no	MB
5.	EOPs entered/requiring substantive actions (1–2)	1 / 1 / 1 / 1	UR	no	MB
6.	EOP contingencies requiring substantive actions (0–2)	1 / 0 / 1 / 1	UR	no	MB
7.	Critical tasks (2–3)	5 / 4 / 4 / 3	UR	no	MB

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

Facility: Farley Nuclear Plant **Date of Exam:** April 5, 2010 **Operating Test No.:** FA2010-301

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1			(2 not submitted)			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
SRO-I OR SRO-U	RX	1						1			1			3	1	1	0
	NOR													1	1	1	1
	I/C	2 3 4 5 7 8						2 3 4 5 6 7 8			2 3 4 5 7 9			19	4	4	2
	MAJ	6 7 8						7			6 7 8			7	2	2	1
	TS	2 4 5						4 5 6			3 5			8	0	2	2
RO	RX		1						1			1		3	1	1	0
	NOR													0	1	1	1
	I/C		2 4						2 4 6			3 5 9		8	4	4	2
	MAJ		6 7 8						7			6 7 8		7	2	2	1
	TS													0	0	2	2
RO/ BOP	RX									1				1	1	1	0
	NOR			2										1	1	1	1
	I/C			3 5 7 8						3 5 6 7 8			2 4 7 9	13	4	4	2
	MAJ			6 7 8						7			6 7 8	7	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.

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

Facility: Farley Nuclear Plant **Date of Exam:** April 5, 2010 **Operating Test No.:** FA2010-301

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

ES-301-6 **Competencies Checklist**

Facility: Farley Nuclear Plant **Date of Examination**: April 5, 2010 **Operating Test No.:** FA2010-301

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

Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U.
(3) Only applicable to SROs. (4) Scenario #2 was not submitted.

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**

Facility: Farley Nuclear Plant **Date of Examination**: April 5, 2010 **Operating Test No.:** FA2010-301

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

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

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

ES-401-1/2

See the 401-4 form in conjunction with Draft Sample plan.

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

Tier / Group	Randomly Selected K/A	Reason for Rejection
T1G2 RO	059AK2.02	The original k/a was one of 7 K/As related to radiological releases to the environment. This is #1 of 4 that was replaced and 3 were retained to avoid excessive overlap in the different questions. Examiner (NRC) randomly selected W/E16EK2.1 as the replacement K/A.
T1G2 RO	060AA2.02.	The original k/a was one of 7 K/As related to radiological releases to the environment. This is #2 of 4 that was replaced and 3 were retained to avoid excessive overlap in the different questions. Examiner (NRC) randomly selected 037AA2.08 as the replacement K/A.
T3 RO	G2.3.11	The original k/a was one of 7 K/As related to radiological releases to the environment. This is #3 of 4 that was replaced and 3 were retained to avoid excessive overlap in the different questions. Examiner (NRC) randomly selected G2.3.15 as the replacement K/A.
T1G2 SRO	060AA2.03	The original K/A was one of 7 K/As related to radiological releases to the environment. This is #4 of 4 that was replaced and 3 were retained to avoid excessive overlap in the different questions. Examiner (NRC) randomly selected W/E15EA2.2 as the replacement K/A.
T1G2 RO	W/E01EG2.2.42	The original K/A combined recognizing parameters that required Tech Spec application during Rediagnosis in the ERG network. No parameters require Tech Spec Application until after exiting the ERG network, so a question could not be written to this combination of K/A. Examiner (NRC) randomly selected W/E01EG2.2.2 as the replacement K/A.
T2G1 RO	007K5.02	The original K/A combined the normal method of drawing a pzr bubble and the effect on the Pressurizer Relief tank. At Farley there is no effect on the PRT during the procedure for drawing a bubble, thus no discriminatory question could be written to this combination of K/A. Examiner (NRC) randomly selected 007A3.01 as the replacement K/A.

Tier / Group	Randomly Selected K/A	Reason for Rejection
T1G1 RO	026AA1.04	The original K/A required testing of a system that FNP does not have. It combined CCW and a temperature moinitoring system for the CRDMs. The CRDMs at FNP are air cooled, and have no temperature monitoring system. They also have no alarms on high temperature. Examiner (NRC) randomly selected 026AA1.01 as the replacement K/A.
T1G1 SRO	027AA2.17	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 027AA2.04 as the replacement K/A.
T2G2 SRO	015G2.4.9	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 015G2.4.11
T1G2 SRO	WE03EG2.4.25	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected WE03G2.4.6 as the replacement K/A
T1G2 SRO	024G2.4.20	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 076G2.4.11
T1G1 SRO	008AA2.15	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 008G2.4.41 as the replacement K/A.
T1G2 SRO	005G2.4.18	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 005G2.2.38 as the replacement K/A.
T1G1 SRO	027AA2.04	Could not write a discriminating SRO level question to K/A. Examiner (NRC) randomly selected 027AA2.15 as the replacement K/A.

ES-401-6 Written Examination Quality Checklist

Facility: FA2010-301 Date of Exam: April 5, 2010 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.				UR	[illegible]	MB
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.				UR	[illegible]	MB
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401				UR	[illegible]	MB
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).				UR	[illegible]	MB
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)				UR	[illegible]	MB
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: 13 / 4	Modified: 12 / 7	New: 50 / 14	UR	[illegible]	MB
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory: 30 / 5	C/A: 45 / 20		UR	[illegible]	MB
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.				UR	[illegible]	MB
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.				UR	[illegible]	MB
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.				UR	[illegible]	MB
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.				UR	[illegible]	MB

	Printed Name / Signature	Date
a. Author	C. Vince Richter / [signature]	03/24/2010
b. Facility Reviewer (*)	Gary Ohmstede / [signature]	03/24/2010
c. NRC Chief Examiner (#)	MARK A. BATES / [signature]	03/25/2010
d. NRC Regional Supervisor	MALCOLM T. WIDMANN / [signature]	03/29/10

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 2010-301

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
GENERAL COMMENTS															
B= Bank / M=Modified / N=New / F=Fundamental Level (I.E. Memory) / H=Higher Cognitive Level (I.E. C/A)															
For All BANK questions: swap the order of the answer choices so that applicants cannot rely on recall of the correct answer location. Incorporated on all but three Qs, but those have stems with slightly different format and are thereby acceptable. MAB															
This worksheet was used by the CE to ensure the written exam met the requirements of NUREG-1021. The worksheet was not used in a manner that would allow the total number of unsat questions to be calculated by comparing the draft exam and the final exam in conjunction with this worksheet. The SRO portion of the examination contained 7 questions that did not fully meet the requirements of NUREG-1021. Three of these questions not meeting the standard was due to interim guidance that was slightly different than the guidance used to evaluate those questions. Therefore, it was determined that only 4 questions would be counted as unsat. Therefore, the exam was determined to be within the quality standards as defined in NUREG-1021. BC notified program office of documenting exam as a satisfactory submittal.															
RO EXAM															
1	001AK2.06	B	H	2										S	Q is sat.
2	001K2.02	M	F	2										S	Q is sat.
3	003A2.03	N	H	3										S	Q is sat. I do not agree that reactor trip criteria is SRO-only knowledge unless it appears as a < 1 hour TS also. Licensee noted. MAB
4	004G2.4.21	N	H	2										~~E~~ S	I believe this to be a good RO question. How does the second part of this question compare to some of the SRO questions that were justified as SRO-only based on detailed procedure knowledge, or strategically how to address the plant conditions? Licensee noted. MAB Word the question statement to ask for the actions that are "required to be performed," as opposed to the actions the "will be performed." Incorporated. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															What conditions could occur in the plant that would cause the severe difference in the magnitude of the five highest CETs? Is this an operationally valid condition? CET Failures. MAB Second bullet: "have" should be "has". Corrected. MAB
5	004K1.04	N	H	2										S	Q is sat.
6	005A1.07	N	H	2										~~E~~ S	Why does A and C simply state the status of the valve, I.E. OPERABLE, yet B and D state that they need to "declare the valve INOPERABLE?" Why not make all answer choices simply state OPERABLE or INOPERABLE? Incorporated. MAB Question statements should be written to test the requirements, as opposed to what a CR WILL contain. Suggest the following wording for the Q statement: Which one of the following describes the OPERABILITY of MOV-8889 IAW TS and STP-11.6 and the actions that are required to be placed in a CR IAW STP-11.6? Incorporated. MAB
7	005K4.03	N	H	2										~~E~~ S	Are there any check valves in the air supply line that would trap air in the valve for a time period, thus allowing the valve to hold its position for a short time period? In other words, is only stating that IA is lost enough to ensure the valve has failed closed due to losing air pressure within the valve operator? Incorporated. MAB
8	006K6.13	B	F	3										S	Q is sat.
9	007A3.01	B	F	2										S	Q is sat. Why do two answer choices contain actions to vent? Can the answer choices be more simply stated as "pump down with RCDT pump" vs. "gravity drain"? If the level rise is the cause of the pressure increase, then venting should not be needed. Four unique answers would still exist if the venting portion of A and D was deleted. Discuss with licensee. Incorporated. MAB Is the Q memory or higher cog? (When does rupture disk blow & how do you lower water level in PRT) Noted. MAB

Farley 2010-301

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
10	007Ek2.02	N	H	2										S	Q is sat.
11	008AA2.26	N	H	2										S	Last Bullet in First Set of Conditions: Are your applicants trained to memorize the component identifications for R-2, 7, 11, and 12? Incorporated. MAB
12	008K3.01	~~B~~ M	H	2					x	x				~~U~~ S	Is there any risk that there may be two correct answers (both A and B)? My concern is that there may be an argument that either set of actions would mitigate the problem and could be argued as a correct mitigating strategy? Discuss with licensee. I need to have a better understanding to ensure that there is not a possible way for someone to place Ex L/D in service and be considered correct? Q modified. MAB Placing L/D in service may not be plausible. Most of the time when you can take manual control of a function, you would certainly attempt this before you would take more involved action to mitigate. Q modified. MAB Possible solution to address both of above concerns: Consider changing the second part of each answer choice to test whether the failure will add positive reactivity or negative reactivity. Incorporated. MAB
13	008K4.09	M	H	2	x									~~E~~ S	What is the status of the 'C' CCW pump? The stem states that it is aligned. A running pump may be aligned, as well as a non-running pump. Is it important to be explicit with the status of the pump? Licensee stated that with given plant conditions, "C" CCW Pp would not be permitted to be running except during a pump swap. MAB
14	009EG2.1.23	N	H	2										S	Are applicant's required to know the component identification for FK-122? [Note: Q 15 provides the name] My basic requirement is that if your procedures also provide noun names for components, then it is permissible on exams. If your procedures are constructed to require the operators to know the components by id number alone, then that is the limit of what should be stated in an exam question. This is a generic comment that would apply to all questions. Incorporated. MAB
15	010K1.03	N	H	2					x					~~U~~ S	When a bubble is being compressed, I am not convinced that spray valves closing is credible. I understand the justification provided for their plausibility, but I do not completely agree with the plausibility. Second opinion was obtained from an independent chief examiner. Incorporated. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Possible solution to the above concern: Consider replacing the second part of each answer choice with the spray valve demand. Then the applicant must know how the controller is designed to work when pressure needs to be lowered. Incorporated. MAB
16	011K5.05	N	H	3										~~E~~ S	I need to have the licensee walk me through the diagnosis of the failed channel. I think the question will likely be sat after I have a better understanding of the indications and how they relate to channel 459 failing. Done. OK MAB
17	012K2.01	B	F	2										~~E~~ S	Q is sat. Does the question need to state that the RTB and RTBYP bkrs are in their normal configuration for at power operations? No. Discussed with licensee. MAB Can question be answered at the memory level? Potential to be classified either way? Noted. MAB
18	012K6.03	B	F	1					x					~~U~~ S	The question statement is written as Rx Trip "OR" ESF – but is testing both Rx Trip "AND" ESF logic. Does the Q statement need an "AND" instead of an "OR"? Incorporated. MAB What is meant by the "minimum additional channels required to meet the RPS and ESF actuation"? Is an applicant to predict what would happen if a minimum number of additional pzr press channels failed high? – if so, what impact would this have on the ESF? Maybe a more explicit question needs to be asked? Incorporated. MAB LOD=1. Q does not discriminate at appropriate level. Credibility of distractors also is related to LOD. Q modified. OK MAB
19	013K2.01	N	F	3										S	Q is sat.
20	013K5.01	N	H	2										S	Q is sat.
21	015AK2.10	N	H	2				x						~~E~~ S	Looking at the inter-relation between the first part and second part of answer choice C: If the unaffected loops are still going to indicate 100%, then how could an applicant have a misconception that the affected loop would indicate 10%? The mismatch in loop flows would need to make sense when compared to each other. Answer choice A could make sense if

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															reverse flow was indicated as zero – which I think is a credible misconception. But, if the affected loop is picking up flow from a good loop, then the good loop should show this on its flow indicator. Discuss with licensee. Q modified. OK MAB
22	022A1.01	N	F	2	x									~~E~~ S	Is there enough info in the stem for the applicant to determine that the fans are required to be operated in fast speed? The stem does not state that the Hi Temp Alarm has annunciated. The stem also does not state the value of containment temperature. Incorporated. MAB Would the question be better stated if a containment ave air temp of 115F was provided, then the two pieces of the answer choices could be: (1) Is a TS 3.6.5 action statement required to be performed, AND (2) What is the required fan speed IAW SOP-12.1? (The above wording is not exactly how I am suggesting it be worded, but the idea could be the same.) Incorporated. MAB
23	022AK3.06	N	F	3										S	Q is sat.
24	026AAA1.01	N	H	2								x		~~U~~ S	I would rather see the word ONLY defined in each answer choices. For example the first answer choice would be better worded as: A. AOP-10.0 entry required (AOP-9.0 entry not required) 1015 Q replaced. MAB Doing it this way ensures unique answer choices, but reduces the likelihood that an argument exists for "no correct answer". In other words, if any other procedure would require entry based on the above conditions, then technically there is no correct answer (applicants could find an ARP or SOP that the exam writers were not considering). Past experience in the post exam environment requires that we judiciously use the word ONLY in answer choices. It worked OK in a few other questions, but we should be careful here when ONLY excludes any other procedure. Q replaced. MAB Q does not appear to match K/A. K/A requires testing knowledge of CCW Temps. This question appears to test RCP bearing temps versus CCW temps. Q replaced. MAB
25	026K1.01	N	F	2										S	Q is sat.
26	027AK1.02	N	F	2										S	Q is sat.

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Q could also be answered at the higher cog level. Noted. MAB
27	027K1.01	N	F	2										S	Q is sat.
28	029EA1.06	M	H	2										~~E~~ S	ONLY needs to be defined. If the operator needs to do any action, even something trivial, then A and D could be eliminated. If ONLY is intended to mean that demand does not need to be raised, then the extra words are needed to precisely state that. The word minimum may be unnecessary if ONLY is defined. I.E.: A. (1) same (2) Place FK-122 in MAN (raising demand not required) Incorporated. MAB
29	032AK3.02	N	H	2										~~E~~ S	All the reasons in the second part of each answer choices can be deleted because they do not help make the answer choices unique. I presume that the authors were thinking that the reasons were helping to meet the K/A, but the only way a K/A is met is if knowledge required of the K/A is needed to arrive at the correct answer. Discuss with licensee. Incorporated. MAB Can the timing of the automatic energization of the SR after trip be verified on the simulator? Or would it be OK to have the second part of the answer choices state that SR indications are required to be manually energized when IR (the good instrument) reads a certain value ($5x10^{-11}$) ? Verified on Simulator. OK MAB I will allow the K/A match because the reason SR Nis are manually energized at 15 minutes is that they do not auto energize. Noted. MAB
30	035K3.02	N	H	2										~~E~~ S	Discuss deleting all the information behind the comma in each answer choice unless there is a good reason to retain it. Discuss with the licensee. Typically, unnecessary information should not be included. Discussed with licensee and decided to leave as-is to ensure one and only one correct answer. MAB
31	037AA2.08	N	H	2								x		~~U~~ S	K/A does not appear to be met. The K/A requires knowledge of determining or interpreting the failure of the air ejector rad monitor. The stem tells the applicant that the monitor is failed, so this knowledge does not appear to be tested. A possible solution may be to provide a condition in the stem that would render the R-15A inoperable, such as a loss of its power supply or some indicating lights that would suggest it was failed, or even different color writing on a computer screen that would suggest that the value is invalid. The R-15A could then replace one of the answer choices. Essentially the same question could then be asked, but the

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															applicant would need to know that the R-15A would not provide the earliest indication because it was failed. Discuss with licensee. Q modified. OK MAB
32	038EA2.07	N	H	1-2										~~E~~ S	LOD is borderline. A minor suggestion that would make this question acceptable is as follows: Consider displaying the parameters at two different points in time so that the applicant must determine which parameters are stable, decreasing, and increasing. Also vary the parameters in such a way to make them realistic – run on simulator if needed. For instance, all SG pressures will not be 980 psig. Maybe make C SG pressure a little lower than the rest, but still a value that would preclude a steam leak. Discuss with licensee. Incorporated. MAB
33	039K4.05	B	F	2										S	Q is sat.
34	041K4.14	N	H	2										S	Q is sat.
35	045A1.05	N	H	1-2					x					~~U~~ S	B may not be plausible for the same reason as a previous question. Anytime temp goes up and compresses a bubble in the pzr, pressure will initially rise. I have trouble finding credibility in pressure going down. I understand the explanation provided in the justification. I have similar concerns with C. With temp lowering, it may not be credible for the pressure response to rise. LOD=1 is a result of this. Q modified. OK MAB
36	051AA1.04	B	F	2										~~E~~ S	Would the question be more precise and better able to withstand scrutiny if the second part of the question only asked whether or not Em Boration is required? I see the supporting material (FE1) not requiring Em Boration, but I do not see where it prohibits it. Discuss the possibility of having the second part of each answer choices alternate between: "Emergency Boration Required" and "Emergency Boration NOT Required". Incorporated. MAB
37	054AG2.1.7	N	F	2										S	Q is sat.
38	055EK3.02	M	F	1-2					x					~~U~~ S	D does not appear to be credible because you have a procedure that is specifically designed to be used for cooldown with head voids. Q modified. OK MAB A does not appear to be plausible because the SG tubes are obviously designed to hold RCS pressure at power. Also, it is the only answer choice that only minimizes a "potential". Q modified. OK MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															One suggestion would be to use some info from the original question and also test why the cooldown is stopped at 200 psig. I.E. A. Minimize Inventory Loss / Prevent N2 injection B. Maximize AFW / Prevent N2 injection C. Minimize Inventory Loss / Prevent losing pzr level D. Maximize AFW / Prevent losing pzr level Incorporated. MAB
39	057AG2.4.49	N	H	2										S	Q is sat. Allowed leniency with K/A match. The original intent of the K/A is believed to be met. Noted. MAB
40	059A2.04	M	H	1-2					?					~~E~~ S	I am not convinced that MFRVs is a credible choice. Would it be possible to change the answer choices to: A. Feed ALL / No Limit B. Feed one at a time / No Limit C. Feed ALL / 20 – 100 gpm D. Feed one at a time / 20 – 100 gpm Incorporated. MAB
41	059G2.1.19	N	H	2										S	The first bullet prompts the question: "In what?" Would it be better to state that the computer alarm has annunciated? Incorporated. MAB Q is essentially sat. Noted. MAB
42	061G2.2.37	B	H	3	x									~~E~~ S	The question statement may not read correctly. It is asking for the "purpose", yet it appears to be asking for actions and locations of those actions. If this is correct, then the wording of the question should be modified to solicit the answers being provided. I.E.: Given the above conditions, which one of the following correctly describes the actions for establishing AFW IAW SOP-22.0? Discuss with licensee. Incorporated. MAB
43	062A1.01	N	H	3										S	Q is sat.
44	063A3.01	B	H	3										S	Q is sat.
45	064A4.03	N	F	2					x					~~U~~	C may not be plausible. If the EDG is the faster of the two and the governor is part of the EDG controls, then why would it be credible to raise

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
														S	frequency, which would make it go even faster as compared to the bus? Q modified. OK MAB Similar argument exists for B. If the bus speed is already higher, then why would an operator lower the EDG speed, widening the margin? Q modified. OK MAB One suggestion would be to test which switch is used to make the adjustment. One of the applicants (I think on the last Farley Exam) made an error on the In-Plant EDG JPM and tried to adjust speed using the voltage adjust knob. Consider: A. 1G Bus Frequency / Adjust using Gov Motor Speed/MW switch B. 1G Bus Frequency / Adjust using Voltage Control Etc. Incorporated. MAB
46	065AK3.04	B	H	2								x		~~U~~ S	Why is the location of the valves given in C, when the location is not provided for other answer choices? Corrected. MAB Q statement should test required actions IAW a certain procedure. Incorporated. MAB Only relevant info that is needed to make the answer choices unique should be included in the answer choices. All of the info wrt reasons should be eliminated because this information is not being tested due to all of the actions being unique. In this case, because the applicant does not need to possess the knowledge required by the K/A to arrive at the correct answer, then the K/A is not met. Incorporated. MAB Consider the following as a possible solution: Align EACs to AFW components IAW SOP-62 within _____ hours in order to _____. A. 1 hour / ensure adequate heat sink. B. 2 hours / prevent exceeding TS cooldown limits Etc. Incorporated. MAB
47	068K6.10	M	H	1					x					~~U~~ S	The third bullet does not specify that the red lights are lit on a specific piece of equipment. On R-18? On drawer – added. OK MAB The last bullet states that the control power fuse is lit. Is the actual fuse lit? Clarified. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															D is not plausible. It would not be reasonable to think that it would be a requirement to continue a voluntary release with the given failure. Q modified. OK MAB C does not appear to be plausible when compared to A because nothing is wrong with RCV-18, so you would surely try to close that prior to locally closing a manual valve. Q modified. OK MAB
48	069AA2.01	B	F	2										S	Q is sat.
49	071A4.01	N	F	2										S	I would prefer C and D state WHITE LIGHT NOT LIT, vice ONLY. Incorporated. MAB Q is sat.
50	072G2.1.27	N	F	1										~~U~~ S	How is the first and second part of A different from each other? Are these not essentially stating the same thing? Q modified. OK MAB Also, the reasons are very general in A. It requires only a very basic knowledge to understand that a rad monitor will provide warning of a radiation hazard, which could be a result of plant damage and could lead to a health hazard. Q modified. OK MAB Thoughts: - Are area rad monitors used to provide the SRO with readings to make E-Plan classifications? - Are area rad monitors used to determine whether adverse numbers are required to be used? - Are area rad monitors used to determine if adverse numbers may be exited, or must you remain in adverse numbers once you are using them (does cont pressure impact adverse numbers differently than radiation)? Incorporated. MAB Distractors could include: - CR HVAC to recirc mode. - Containment isolation. - Isolates liquid/gaseous release. Incorporated. MAB The above are just some ideas to help write a question. I have not researched Farley lesson plans to see which ideas may apply. Incorporated. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Discuss with licensee. Alternatives will need to be found for this question. Some of the distractors are OK, but the correct answer is way too general, which causes this question to not discriminate at the appropriate level. Incorporated. MAB
51	073K3.01	M	H	2										~~E~~ S	It sounds like the A train damper is already aligned, therefore not requiring any operator action. What is the initial status of the B train supply damper? Does the B train supply damper require any manual action? Yes – Open – No. OK MAB
52	074EA1.28	N	H	3					?					~~?~~ S	The second to last bullet states that the accum discharge iso valves are in the closed position. Is this accurate? Or should the bullet state that the handswitches have been placed in the closed position? Incorporated. MAB How is RCS pressure being too high a credible misconception when Sgs have been steamed to 100 psig? Discuss with licensee. Stem changed slightly. MAB
53	075A2.03	N	H	2										S	Q is sat.
54	076A3.02	N	F	2										S	Q is sat.
55	077AA1.02	B	F	2										~~E~~ S	Double check with the licensee to see if there is a chance, based on info in the stem (or lack of info), that the controls are not in the auto voltage adjust mode of operation. The caution is based on restricting manual voltage adjust while the controls are in auto voltage control. If this comment is resolved, then the Q will be sat. Verified. Aligned normally stated in stem OK MAB
56	078K2.02	N	F	2										S	Q is sat.
57	103A4.03	M	F	2										S	Q is sat.
58	103K3.03	N	H	2										S	Q is sat.
59	G2.1.17	N	F	2				x						~~E~~ S	Have licensee discuss plausibility of D. It does not appear to be credible to take action prior to a 3-way communication. If this distractor can be enhanced or replaced, I can likely live with the plausibility of the other distractors. Q modified. OK MAB
60	G2.1.45	N	F	2										S	Q is sat.

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Licensee marked for increased attention. Not sure how to improve the Q. The Q appears to be OK. Noted. MAB
61	G2.1.9	N	F	2										S	Replace "MUST" with "REQUIRED TO". Incorporated. MAB
62	G2.2.3	B	F	2										S	Q is sat.
63	G2.2.36	N	H	2										~~E~~ S	Should "refueling in progress" be changed to "core alterations in progress"? It may not make a difference, but I want to ensure that the water level is established for core alts. Discuss with licensee. Incorporated. MAB
64	G2.3.13	B	H	2										S	Q is sat.
65	G2.3.15	N	F	2										S	Q is sat.
66	G2.3.4	N	F	2										~~E~~ S	Q is sat as long as Farley confirms that this knowledge is required of their ROs. This is a typical SRO-only question at most plants because approving of EDLs is a responsibility og the SED. Q modified. OK MAB Is there an RO learning objective? No. Q modified. OK MAB
67	G2.4.13	M	F	2										~~E~~ S	Q is sat as long as Farley confirms that this knowledge is required of their ROs. This is a typical SRO-only question at most plants because approving of EDLs is a responsibility og the SED. Q modified. OK MAB Is there an RO learning objective? No. Q modified. OK MAB The question asks for the MINIMUM authority: How is this supposed to be applied to the answer choices when the terms "either" and "or" are being used? This potential confusion impacts the plausibility of distractors. I would imagine that validation has not picked up on this because it is very well known that the SED alone has this duty. Q modified. OK MAB
68	G2.4.16	M	H	2										~~E~~ S	This question would usually be regarded as SRO-only material. A procedure transition to SAMGs would be an SRO-only question at most plants. Q modified. OK MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Is there an RO learning objective? No. Q modified. OK MAB Q may be sat pending discussion with licensee. Q modified. OK MAB
69	WE01EG2.2.2	M	F	2										~~E~~ S	ESP-0.0 is only to be entered if SI is in progress or required. The stem states that SI termination is in progress. Does this lead the applicants to guess how far the operators progressed through the termination steps? If SI had been terminated, then ESP-0.0 may not be correct. Discuss with licensee. OK. Q states that SI is required. MAB Is question analysis up to date? OK. MAB Walk though supporting material with the licensee to ensure that EEP-0 is not correct and that it is fully supported with references. Licensee explained. OK MAB
70	WE04EA2.2	M	F	2					?					~~E~~ S	I do not think subcooling is plausible because it is a calculated value. When determining if a leak is isolated, it makes sense to look at a parameter that is directly measured (when given the choice between one that is directly measured and one that is not). I would suggest using pressurizer level instead of subcooling. Discussed. OK MAB I would prefer the first part of the question statement to read, "1) an injection path that is isolated IAW ECP-1.2" Incorporated. MAB
71	WE05EK1.1	N	F	2										~~E~~ S	The question asks for the MINIMUM: How does a test taker apply this when trying to determine between A and B? Is opening a PORV more minimum than opening reactor vessel head vents? – the ambiguity detracts from the plausibility of both of these answer choices since only one item is listed in each choice. Would it be more precise to list each head vent so that there is a clear delineation that A is more minimum than B? Incorporated. MAB The question asks for the minimum actions required to ensure adequate core cooling: Are there any other actions at any given time other than opening one PORV and head vents that would be required? If so, the wording of the question may need to be tightened to ensure that there is one technically correct answer. Incorporated. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
72	WE08EK1.1	N	H	2				x						~~E~~ S	Discuss plausibility of A. Question will be sat if A is replaced. Incorporated. MAB
73	WE11EK1.3	N	H	3										~~?~~ S	I am not following the explanations for correctness and plausibility. The analysis states that we know that B train is lost due to the combination of CF3 and CF5, but I do not see in the stem where CF5 is in alarm. Is CF5 in alarm as a result of another condition in the stem? Licensee explained. OK MAB
74	WE12EK2.1	N	H	2						?				~~?~~ S	Will steam flow and the weight of the disk close the MSIVs the rest of the way with the given plant conditions? If so, does the question have one and only one correct answer? Do we need to be more specific and state that they will move to the test position with air, or that air will move the valve off of its backseat? Discuss some wording enhancements. Q modified. OK MAB
75	WE16EK1.2	N	H	2										S	Q is sat.
SRO-Only Questions															
76	005G2.4.18	N	H	2				x	x				x	~~U~~ S	Do you use RHR and LHSI terms interchangeably? Should the wording be consistent? RHR and LHSI terms are the same at Farley. MAB Is the second part of A the same as the second part of C? If so, then why are they stated differently? Corrected. MAB Second Part of A: "Prevents overheating" of what? Should this state Prevents overheating of the RHR pump components? Corrected. MAB Second part of B: which pump? RHR? Corrected. MAB How is second part of D plausible? How is a HX ever needed when injecting? Q modified. MAB If stopping RHR pumps is done to prevent overheating, then preventing overheating would ensure future operability of the pumps. This may cause the second part of A and B to not be plausible because the second part of A is a subset of B. Discuss with licensee. Q modified. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															SRO-only: Discuss how this question is SRO-only. Is there a procedure selection aspect to the question? To elevate a question to SRO-only based on detailed procedure knowledge, the procedure knowledge must be used to make a procedure selection, which then links it to the 10CFR55.43 requirement for SROs to have procedure selection knowledge. The question appears to be testing whether or not to stop RHR pumps (or to align CCW) and why an operator would perform the action. An RO is required to know why he would either stop an RHR pump or align CCW to the RHR HX. I could not link this question to 10 CFR 55.43. Q modified. MAB
77	007EA2.02	M	H	2	x				x					~~U~~ S	ESP-0.2 appears to be contingent on a cooldown being required when step 19 is being performed. If a cooldown is not required, then UOP-2.3 would be the correct transition. Tech Specs require them to be < 325F within 12 hours, so when step 19 is performed, could the applicant make the decision that it is not necessary to perform the cooldown, or continue to perform the cooldown, at that time? Could the applicant assume that the plant was already less than 325F due to the cooldown that was in progress? Is it necessary to include RCS Cold Leg Temps in the stem? Yes – addressed in revision. MAB Offsite Power will not be restored for 18 hours and Tech Specs require that RCS temp be less than 325F within 12 hours. How is anything except a Natural Circ Cooldown (ESP-0.2) credible? Is there potential to change the UOP-2.3 option to ESP-0.3? Yes – addressed in revision. MAB
78	007G2.4.2	N	H	4								x		~~U~~ S	How is knowledge of EOP entry conditions being tested? Licensee successfully explained how knowledge of the K/A was required to arrive at the correct answer. MAB Do you expect and require your operators to know that the rupture disk will not blow for the first hour of this malfunction? If the licensee believes this knowledge to be operationally valid and a necessary knowledge item for their operators, then this aspect of the question will be OK. Discuss with the licensee. Licensee agreed that shorter term plant and operator response would be more operationally valid. Q revised accordingly. MAB Be specific in the Q statement that the leakage into the PRT is from the PORV. If it were from a makeup water source, such as CCW, then the leakage spec would not apply. Incorporated. MAB
79	008AA2.15	B	L	3								x		~~U~~	How is knowledge of a vapor space accident being tested? The question contains PORV malfunctions requiring the PORVs to be isolated, but there

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
														S	is no vapor space accident; therefore, no knowledge of a vapor space accident is required to answer the question. The analysis of this question was verified by other CEs. (I do understand that this same question and K/A was allowed for the 2007 Vogtle NRC exam, but this question must be evaluated against the requirements of NUREG-1021. Currently this question does not meet the requirements of NUREG-1021) Q modified. MAB Does the question need to explicitly state that the components do not get fixed? This may tighten the question slightly so that a shutdown is required by TS. It may be that no PORV maintenance can likely be performed while hot, but if it is at all possible, then some words may need to be added. Q modified/replaced. MAB
80	014A2.04	N	H	2									x	~~U~~ S	How is this question SRO-only? The second part of each answer choice is being relied upon to meet the K/A at the SRO level. The second part does not require any procedure selection knowledge. An operator only needs to know basic reactor trip criteria or an action that is required when a rod is misaligned. Discuss with licensee. Q replaced. MAB Q may be backward logic – which I will allow as long as the licensee agrees that the Q is presented in a clear manner. Q replaced. MAB
81	015G2.4.11	N	H	2										S	Q is sat.
82	022A2.01	N	H	2				x						~~E~~ S	Suggest adding AUG to each of the days in the distractors. Incorporated. MAB Discuss plausibility of B with licensee. It may not be credible for an applicant to apply a containment cooling condition to the required action for a containment spray condition. One solution would be to change the stem so that the 10 days from entry into the LCO applies, thus proving an extra distractor. Incorporated. MAB
83	022AG2.4.50	M	H	2										~~E~~ S	The ARP does not state an order or sequence for pump start and stop. Does SOP-2.1 direct the operator to start the standby pump prior to securing the running pump? Yes – SOP states the order. MAB Is racking out DF06 required by TS 3.5.2? Have the licensee walk me through this. Yes – inop pump needs to be racked out to make auto start operable. MAB

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Generally we do not require applicants to know > 1 hour TS from memory. This question requires that the applicants know a 72 hour action without a reference provided. One solution would be to state, for the second part of each answer choice, that TS 3.0.3 actions either ARE required or ARE NOT required. Therefore, the specific 72 hours would not appear in the answer choices. Corrected. MAB
84	026A2.04	M	H	2					x					~~U~~ S	Question is SRO-only because of the TS basis knowledge, but there is no procedure selection tie to 10 CFR 55.43. Licensee noted. MAB With the B containment spray pump operating with stable flow, how would an applicant have a credible misconception that the sump had blockage? Why would an operator stop a spray pump with stable flow and conditions met to go to recirc? Discuss plausibility with licensee. Second part of A and B may need to be replaced. Stem revised to address concern. MAB
85	027AA2.04	N	H	2				x	x					~~U~~ S	The Conduct of Ops procedure does not appear to REQUIRE that the SM provides the direction to place the controller back to AUTO. The Conduct of Ops procedure only states that the SS will consult with the SM after the plant is stable. Placing a repaired controller back to auto may not be viewed as an action that would need SM approval. The controller was failed in a mid position whether the controller was in auto or manual. It is also likely that the pressure will be restored to NOP with the controller in manual, then placed in auto. Placing the controller in auto may not even be viewed as a recovery action since the failure did not appear to be related to the controller's behavior as it related to auto control. My concern is that the supporting documentation does not appear to thoroughly support the correct answer. Discuss with licensee. I think this question would require more definitive supporting documentation to support the answer. Q modified to address concerns. MAB No correct answer? Have licensee explain how TS 3.4.1 requires the plant to be stabilized at the current power level. It appears to me that TS 3.4.1 requires that pressure be restored above 2209 psig within 2 hours – this is not the same as stabilizing the plant at the current power level. Furthermore, the plant is already stable at 2205 psig – yet conditions of TS 3.4.1 are not met. Q modified to address concerns. MAB How is immediately beginning a down power plausible? The down power will not improve pressure – it could even lower pressure which would make the situation worse.

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Q modified to address concerns. MAB
86	027G2.2.42	N	H	2										~~E~~ S	Question earmarked for higher scrutiny at licensee's request. Licensee is concerned that question presentation may be confusing or flawed in some manner. One observation: The question statement asks about the operability of the sump, yet the fill in the blank is asking about the operability of the pH control system. This results in a lot of confusion because the test taker does not know whether he is to evaluate the sump for operability of the pH control system. The fill in the blank needs to mirror the question that is being asked. Consider: Which one of the following states the operability status of the ECCS Recirc Fluid pH control system per TS 3.5.6, ECCS Recirculation Fluid pH Control System and the reason? Discuss with licensee. Q modified to address concerns. MAB
87	065AG2.4.47	N	H	2										S	Q is sat.
88	076G2.4.11	N	H	2										S	Q is sat.
89	078G2.2.42	N	H	2										S	Q is sat.
90	G2.1.31	N	H	2										S	Q is sat.
91	G2.2.36	B	F	2					x					~~U~~ S	I can discard A and B because the reasons given are too similar, thus making these two distractors to not be credible. The reasons are not completely independent of one another. For instance: Because no internal valve work was performed, the valve should automatically open when an SIS is received. The reasons must be independent in order to show a clear uniqueness to each choice. Q modified to address concerns. MAB The question statement needs to be tied directly to SOP-0.0. The question statement and answer choices must mimic the exact wording in the procedure because the wording in the procedure does not state requirements by virtue of the word SHOULD. Therefore, the exact wording of the procedure must be tested. Q modified to address concerns. MAB Consider the following: Which one of the following correctly states the OPERABILITY status

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															of the MOV after the tagout has restored power and if INOPERABLE, the actions that are suggested prior to return to service, as stated in the guidance in FNP-0-SOP-0.0? A. The MOV should be declared OPERABLE. B. The MOV should be declared INOPERABLE. The valve is required to be time stroked using an SI signal induced by I&C to demonstrate operability prior to return to service. C. The MOV should be declared INOPERABLE. The MOV should to be time stroked in the open direction to demonstrate operability prior to return to service (No SI signal is required to be used). D. The MOV should be declared INOPERABLE. The MOV should be stroked one full cycle to demonstrate operability prior to return to service (time stroke in open direction is not required and No SI signal is required to be used). There may be a better, more efficient way to word the above suggestion – I was just trying to convey the idea. Q modified to address concerns. MAB The stem states that the valve must be manually closed due to power being removed. Could the control room operator close this valve manually from the MCB prior to power being removed? Is the intent of the question to have the valve locally closed? Q modified to address concerns. MAB Your procedure states that manual operation of an MOV that performs a safety function should be electrically stroked prior to return to service. I think that the procedure words may not reflect the intent of the requirement. I think the procedure step is intended to refer to MOVs that are locally operated mechanically. Licensee noted. MAB
92	G2.3.37	N	H	2										S	Q is sat.
93	G2.3.11	B	F	2										S	Q is sat.
94	G2.3.12	M	F	2										S	Q is sat.
95	G2.4.2	M	H	2								x	x	~~U~~ S	K/A Match: - How is Knowledge of system set points, interlocks, and automatic actions associated with EOP entry conditions being tested? I do not see any entry condition knowledge being required. - The K/A is not met at the SRO level. It is true that the operability portion of this question is SRO, but this knowledge is not required by the K/A. SRO-0nly questions are required to match the K/A with SRO-only required knowledge. This is necessary to preserve the random sample of the SRO

Q#	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															material being tested on the exam. Q replaced. MAB Precautions and Limitations are considered to be RO knowledge and the EDG operability is addressed by the P/L in the procedure. Q replaced. MAB Distractor analysis has a typo on which answer is correct. Corrected. MAB
96	G2.4.20	N	H	2										S	Q is sat.
97	WE03EG2.4.6	N	H	2									x	~~U~~ S	Q does not require SRO-only knowledge to arrive at the correct answer. ROs are required to understand and be able to perform SDM calcs. The RO can easily calculate that they do not meet SDM requirements to facilitate further cooldown. Furthermore, ROs are required to know how to calculate cooldown rate and maintain the plant within the cooldown rates as specified in TS. Q replaced. MAB
98	WE10EA2.2	N	H	2									x	~~U~~ S	Is "Step-wise" a defined term at Farley? If not, then use a few more words to explicitly state that the cooldown is to be completed prior to the depress. Addressed. MAB What 10 CFR 55.43 tie exists to make this an SRO-only level question? Addressed. MAB Does the question force the applicant to make an assumption on the value of subcooling? This affects the plausibility of C and D. If an applicant has no way of knowing how much subcooling exists, then he has no way of figuring out whether or not dumping steam even makes sense. Addressed. MAB Can we be assured that the second part of C and D is not correct? I have concerns that it could be argued as correct. The cooldown will continue, so maybe the wording can be enhanced to ensure that the choice is incorrect. Discuss with licensee. Addressed. MAB
99	WE11 EG2.1.28	N	H	2										S	Q is sat.
100	WE15 EA2.2	M	H	2										S	Are the applicants expected to know what step 7 is intended to do, or does this step need to be described for the applicants in the answer choices/ Addressed. MAB

Facility: FARLEY Date of Exam: 13 APRIL 2010 Exam Level: RO [x] SRO [x]

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

	Printed Name/Signature	Date
a. Grader	MICHAEL K. MEEKS / Michael Meeks	05/26/2010
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	MARK A. BATES / Mark A. Bates	05/26/2010
d. NRC Supervisor (*)	MALCOLM T. WIDMANN / Malcolm T. Widmann	05/28/10

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