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

Facility: VOGTLE 2012-301 Date of Examination: 03/26/2012

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

Target Date*	Task Description (Reference)	Chief Examiner's Initials ①	
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	MM	MB
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	MM	MB
-120	3. Facility contact briefed on security and other requirements (C.2.c)	MM	MB
-120	4. Corporate notification letter sent (C.2.d)	MM	MB
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 3)]	N/A	N/A
{-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)	MM	MB
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	MM	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)	MM	MB
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	MM	MB
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	MM	MB
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	MM	MB
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	MM	MB
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	MM	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)	MM	MB
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	MM	MB
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	MM	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.

① MARK BATES CHIEF EXAMINER OF RECORD, MICHAEL MEEKS CHIEF EXAMINER UNDER INSTRUCTION (U/I).

– OPERATING EXAM ONLY –

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

Facility: Date of Examination:

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

	Printed Name/Signature	Date
a. Author	Thad N. Thompson / Thad N. Thompson	3-21-12
b. Facility Reviewer (*)	GREG WAINWRIGHT / [signature]	3/21/12
c. NRC Chief Examiner (#)	MICHAEL MEEKS / [signature] MARK A. BATES / [signature]	03/21/2012
d. NRC Supervisor	MALCOLM T. WIDMANN / [signature]	03/21/12

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

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

Facility: **Vogtle Units 1 and 2** Date of Examination: **April the 20th, 2012**

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

	Printed Name/Signature	Date
a. Author	Thad N. Thompson / Thad N. Thompson	4-17-12
b. Facility Reviewer (*)	G. Wainwright / Wainwright	4/12/12
c. NRC Chief Examiner (#)	MARK A. BATES / Mark A. Bates MICHAEL MEEKS / Michael Meeks	04/17/2012
d. NRC Supervisor	MALCOLM T. WIDMANN / Malcolm T. Widmann	04/17/12

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

HL-17 NRC

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

1. Pre-Examination

3/26/12

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	G. WAINWRIGHT	Nuc. OPS INST - LEAD		6/1/11		4/23/12	
2.	Ernest M. Thornton	Nuc OPS Instructor		6/1/11		04/23/2012	
3.	Thad N. Thompson	Exam Writer - Contractor		7-18-11		4-23-12	
4.	Scott M. Landmann	Nuc OPS Instructor		8-9-11		4-24-12	
5.	Kyle A Johns	Nuc OPS Instructor		8-18-11		4/23/12	
6.	Ira Bennie White	SSS - WORK CONTROLS		8-22-11		4-23-12	
7.	PAUL BURWINKEL	SM - / SHIFT OVERSIGHT		8-22-11			
8.	James D'Amico	Nuc Ops Inst		8/27/2011		4/24/2012	(1)
9.	SR BROWN	NPO		9/12/11		4/23/12	
10.	DONALD SOWELL	NPO		9-12-11			(2)
11.	DANIEL MONAHON	SS / Control Rm Supervisor		9-12-11		4-23-12	
12.	GARY T. OKUSTADO	OSAO INSTRUCTOR		10-3-11			(3) RW 4/25/12
13.	LEWIS P. VANNIER	Nuc. OPS Instructor		10-10-11		4/23/12	
14.	MICK YOUMANS	SIMULATOR SUPV		10-18-11			(4)
15.	John M Randolph	Simulator Engineer		10-18-11		4/23/12	

NOTES:

(1) SIGNED OFF ON DUPLICATE COPY ATTACHED. (Pg 4)

(2) See PAGE 3

(3) See Page 2

(4) See PAGE 13

PAGE 1

HL-17 NRC

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 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.

3/26/12

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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	G. WAINWRIGHT	Nuc. OPS INST - LEAD		6/1/11		4/23/12	
2.	Ernest M. Thornton	Nuc OPS Instructor		6/1/11		04/23/2012	
3.	Thad N. Thompson	Exam Writer - Contractor		7-18-11		4-23-12	
4.	Scott M. Landmann	Nuc OPS Instructor		8-9-11			
5.	Kyle A Johns	Nuc OPS Instructor		8-18-11		4/23/12	
6.	Lee Bennie White	SSS - WORK CONTROLS		8-22-11		4-23-12	
7.	PAUL BURWINKEL	SM - / SHIFT OVERSIGHT		8-22-11			
8.	James D'Amico	Nuc Ops Inst		8/27/2011			
9.	SR BROWN	NPO		9/12/11		4/23/12	
10.	DONALD SOWELL	NPO		9-12-11			
11.	DANIEL MONAHON	SS / Control Rm Supervisor		9-12-11			
12.	GARY T. OKIST DE	OSAD INSTRUCTOR		10-3-11		4/23/12	①
13.	LEONARD P. VANNIER	Nuc. OPS Instructor		10-10-11		4/23/12	
14.	MICK YOUMANS	SIMULATOR SUPV		10-18-11			
15.	John M Randolph	Simulator Engineer		10-16-11		4/23/12	

NOTES:

① DUPLICATE COPY FOR LINE 12.

PAGE 2

HL-17 NRC

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 (3/26/12) 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	G. WAINWRIGHT	NUC. OPS INST - LEAD		6/1/11		4/23/12
2.	Ernest M. Thornton	Nuc Ops Instructor		6/1/11		04/23/2012
3.	Thad N. Thompson	Exam Writer - Contractor		7-18-11		4-23-12
4.	Scott M. Landmann	Nuc Ops Instructor		8-9-11		
5.	Kyle A Johns	Nuc Ops Instructor		8-18-11		4/23/12
6.	Eric Bennie White	SSS - WORK CONTROLS		8-22-11		4-23-12
7.	PAUL BURWINKEL	SM - / SHIFT OVERSIGHT		8-22-11		
8.	James D'Amico	Nuc Ops Inst		8/27/2011		
9.	SREBROWN	NPO		9/12/11		4/23/12
10.	DONALD SOWELL	NPO		9-12-11		4-25-12
11.	DANIEL MONAHON	SS / Control Rm Supervisor		9-12-11		4-23-12
12.	GARY T. Okinaka	OSA Instructor		10-3-11	(1)	(1)
13.	LEWIS P. VANNIER	Nuc. Ops Instructor		10-10-11		4/23/12
14.	MICK YOUMANS	SIMULATOR SUPV		10-18-11		
15.	John M Randolph	Simulator Engineer		10-18-11		4/23/12

NOTES:

(1) SIGNED OFF ON DUPLICATE COPY ATTACHED.

HL-17 NRC

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/16/12 (3/26/12→) 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	G. WAINWRIGHT	NUC. OPS INST - LEAD		6/1/11		4/23/12	
2.	Ernest M. Thornton	Nuc Ops Instructor		6/1/11		04/23/2012	
3.	Thad N. Thompson	Exam Writer - Contractor		7-18-11		4-23-12	
4.	Scott M. Landmann	Nuc Ops Instructor		8-9-11			
5.	Kyle A Johns	Nuc Ops Instructor		8-18-11		4/23/12	
6.	Eric Benoit White	SSS - WORK CONTROLS		8-22-11		9-23-11	
7.	PAUL BURWINKEL	SM - / SHIFT OVERSIGHT	PH Burwinkel	8-22-11	PH Burwinkel	4-24-12	(2)
8.	James D'Amico	Nuc Ops Inst		8/27/2011			
9.	SR Brown	NPO		9/12/11		4/23/12	
10.	DONALD SOWELL	NPO		9-12-11			
11.	DANIEL MONAHON	SS / Control Rm Supervisor		9-12-11		4-23-12	
12.	GARY T. Okinaka	OSAO Instructor		10-3-11			(1)
13.	LEWIS P. VANNIER	Nuc. Ops Instructor		10-10-11		4/23/12	
14.	MICK YOUMANS	SIMULATOR SUPV		10-18-11			
15.	John M Randolph	Simulator Engineer		10-18-11		4/23/12	

NOTES:

(1) SIGNED OFF ON DUPLICATE COPY ATTACHED.

(2) LINE 7 PREVIOUSLY (ORIGINALLY) SIGNED ON ORIGINAL. THIS IS DUPLICATE.

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 → 4/13/12 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	James C Johnson	Simulator I&C Tech		10/18/11		4/23/12	
2.	SAMUEL RIGGIO	SIM ENGINEER		10/26/11		4-24-12	
3.	MICHAEL/DAVID ASKEW	Procedure Supervisor		11/3/11		4/23/12	
4.	JOHN MCGEE	OPS NUC INSTR, LEAD		11/7/11		4/23/12	
5.	Michael C. Henry	SM/DTC		11/8/11		4/23/12	
6.	Kenneth Jenkins	Instructor		11/21/11		4/23/12	
7.	Mahan/Ashton Parker	SSS		12/6/11		4/23/12	
8.	Eric B. Tew	SSS		12/8/11		4/23/12	
9.	RICHARD BRIGHAM	Training Manager		12/8/11		4/23/12	
10.	CURTIS TALLEY	INSTRUCTOR		12/13/11		4/23/12	
11.	KENNY MCKAY	SSS		12/19/11		4/18/12	
12.	Eric Forehand	NPO		12/19/11		4/23/12	
13.	Matt Horn	SS		12-19-11		4-23-12	
14.	Matt Vineyard	NPO		12-19-11		4/23/12	
15.	Lewis F. Walters	NPO		12-27-11		4-23-12	

NOTES:

① SIGNED OFF - SEE Page 14

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 → 4/13/12 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

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Keith Dueck	NPO		12-28-11		4/23/12	
2.	William D. Clark	NPO		1-03-12		4-23-12	
3.	Michael J Giles	NPO		1-3-12		4-23-12	
4.	Michael Clayburn	SSS		1-17-12		4/23/12	
5.	KEVIN N LOWE	SS		1/30/12			(2)
6.	JESSE L. ICKY II	NPO		1-20-12			(2)
7.	Sterling L. Whitman	NPO		1-20-12			(2)
8.	Stephen C. Harris	SS		1-30-12		4-24-12	
9.	DR Jenkins	NPO		2-9-12		4/23/12	
10.	Rudolph V. Johnson	USS		2-12-12		4-23-12	
(3) 11.	J. T. Lee	SS		2-28-12		~~4/25/12~~	(3) GW 4/26/12
12.	M J LEWIS	NPO		2-28-12		4/17/2012	(1)
13.	BARBAILEY	NPO		28-FEB2012		24 APR 2012	
14.	NELSON S. RAYBURN	SR. HP TECH		2-28-12		4-24-12	
15.	Sharni Kitson	HP Foreman		2-28-12		4-24-12	

NOTES:

(1) EXPOSED TO OPERATING EXAM ONLY.

(2) See Page 7

(3) ~~PER FELDON - GW 4/25/12~~ GW 4/26/12

↳ See Page 15

HL-17 NRC

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

1. **Pre-Examination**

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 → 4/13/12 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	Keith Orrick	NPO		12-28-11		4-23-12
2.	William D. Clark	NPO		1-03-12		4-23-12
3.	Michael J Giles	NPO		1-3-12		4-23-12
4.	Michael Clayburn	SSS		1-17-12		4/23/12
5.	Kevin A Louie	SS		17JAN12		24APR12
6.	Jesse L. Ickes II	NPO		1-20-12		04/24/12
7.	Sterling L. Whitman	NPO		1-20-12		4-24-12
8.	Stephen C. Harris	SS		1-30-12		4-24-12
9.	D.R. Jenkins	NPO		2-9-12		4/23/12
10.	Rudolph V. Johnson	USS		2-12-12		4-23-12
11.	J. T. Zell	SS		2-28-12		
12.	M J Lewis	NPO		2-28-12		4/17/2012 ①
13.	BABAILEY	NPO		28-FEB-2012		24APR2012
14.	Nelson S. Rayburn	SR. HP TECH		2-28-12		4-24-12.
15.	Sharri Xhera	HP Foreman		2-28-12		4-24-12

NOTES:

① Exposed to Operating Exam only.

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12→ 4/13/12 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	CHARLES R SIZEMORE	TRN MGR NEXTERA (PEER REVIEW)		10/4/11			①
2.	Paul DiGiovanna	INPO Team Manager		10/4/11			
3.	FRED J. BRUNS	EXELON - INPO ASSIST VISIT		10/4/11			
4.	William Brockenstein	Instructor/escort		4/9/12		4/13/12	②
5.	SCOTT MAXWELL	INSTRUCTOR/ESCORT		4/10/12		4/17/12	②
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NOTES: ① SIGNED ADDITIONAL PAGE (ATTACHED) (pg 9)

② EXPOSED TO OPERATING EXAM only.

HL-17 NRC

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

1. **Pre-Examination**

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 (3/26/12→) 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	CHARLES R. SIZEMORE	TRN MGR NEXTERA (PEER REVIEW)		10/4/11		4/23/12	
2.	Paul DiGiovanna	INPO Team Manager		10/4/11			
3.	FRED J. BRUNS	EXELON – INPO ASSIST VISIT		10/4/11			
4.	William Brackenstein	Instructor/escort		4/9/12		4/13/12	①
5.	SCOTT MAXWELL	INSTRUCTOR/ESCORT		4/10/12		4/12/12	①
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NOTES:

① EXPOSED TO OPERATING EXAM ONLY.

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 4/9/12 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	MICHAEL LLOYD	OPERATIONS INSTRUCTOR		3/26/12		4/17/12	①
2.	CHRISTOPHER DOMBROWSKI	OPS INSTRUCTOR		3/26/12		4/17/12	①
3.	Naveen Kotoel	SS		3/28/12		4/24/12	
4.	Greg Muxley	NPO		3/28/12		4/24/12	①
5.	FRED HOWARD	(SIM ONLY) SS / SURROGATE		3-29-12		3-30-12	① (Sim only)
6.	TREVOR McCRAW	OPERATIONS INSTRUCTOR		3-29-12		4/17/12	①
7.	WILL DAVENPORT	OPERATIONS INSTRUCTOR		3/29/12		4/17/12	①
8.	Greg Muxley	NPO		4/24/12		4/24/12	①
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NOTES:

① EXPOSED to OPERATING EXAM ONLY.

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4-9-12 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 4-9-12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Victor D Mallard	NDO		4-11-12		4-23-12	
2.	Hans Bishop	SS		4/11/12		4/23/12	
3.	Byron Brown	NPO		4.11.12		4.23.12	
4.	W.R. Dunn	SM		4/11/12		4/23/12	
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NOTES:

ATTN Greg Wainwright

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/16/12 (3/26/12 →) 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 4/16/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Scott Depriest	Reviewer	Scott Depriest	2/8/12	Scott Depriest	4/23/12	
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HL-17 NRC

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

1. Pre-Examination

3/26/12

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 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 4/6/12. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	G. WAINWRIGHT	Nuc. Ops Inst - LEAD		6/1/11		4/23/12	
2.	Ernest M. Thornton	Nuc Ops Instructor		6/1/11		04/23/2012	
3.	Thad N. Thompson	Exam Writer - Contractor		7-18-11		4-23-12	
4.	Scott M. Landmann	Nuc Ops Instructor		8-9-11			
5.	Kyle A Johns	Nuc Ops Instructor		8-18-11		4/23/12	
6.	Eric Bennie White	SSS - WORK CONTROLS		8-22-11		4-23-12	
7.	PAUL BURWINKEL	SM - / SHIFT OVERSIGHT		8-22-11			
8.	James D'Amico	Nuc Ops Inst		8/27/2011			
9.	SR Brown	NPO		9/12/11		4/23/12	
10.	Donald Sowell	NPO		9-12-11			
11.	Daniel Monahon	SS / Control Rm Supervisor		9-12-11			
12.	Gary T. Okinaka	OSAD Instructor		10-3-11			
13.	Lewis P. Vannier	Nuc. Ops Instructor		10-10-11		4/23/12	
14.	Mick Youmans	Simulator Supv		10-18-11		4/23/12	
15.	John M Randolph	Simulator Engineer		10-18-11		4/23/12	

NOTES:

PAGE 13

HL-17 NRC

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 → 4/13/12 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

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	James C Johnson	Simulator I&C Tech		10/18/11		4/23/12	
2.	SAMUEL RIGGIO	SIM ENGINEER		10/26/11		4-24-12	
3.	MICHAEL OKUNIEWSKI	Procedure Supervisor		11/3/11		4/23/12	
4.	JOHN HICKEY	OPS NUC INSTR, LEAD		11/7/11		4/23/12	
5.	Michael C. Henry	SM/DTC		11/8/11		4/23/12	
6.	Kenneth Jenkins	Instructor		11/21/11		4/23/12	
7.	Melvin Alston Parker	SSS		12/1/11		4/23/12	
8.	Eric B. Lewis	SSS		12/8/11		4/25/12	
9.	RICHARD BRIGHAM	Training Manager		12/8/11		4/23/12	
10.	CURTIS TALLEY	INSTRUCTOR		12/13/11		4/25/12	
11.	KENNY MCKAY	SSS		12/19/11		4/18/12	
12.	Eric Forehand	NPO		12/19/11		4/23/12	
13.	Matt Hom	SS		12-19-11		4-23-12	
14.	Matt Vinegar	NPO		12-19-11		4/23/12	
15.	Lewis E Watkins	NPO		12-27-11		4-23-12	

NOTES:

GW 4/26/12

HL-17 NRC

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

1. **Pre-Examination**

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/26/12 → 4/13/12 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**

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Keith Dueck	NPO		12-28-11		4-13-12	
2.	William D. Clark	NPO		1-03-12		4-23-12	
3.	Michael J Giles	NPO		1-3-12		4-23-12	
4.	Michael Clayburn	SRS		1-17-12		4/23/12	
5.	Kevin N Louie	SS		17JAN12		24APR12	
6.	JESSE L. ICAY JR	NPO		1-20-12		04/24/12	
7.	Sterling L. Whitman	NPO		1-20-12		4-24-12	
8.	Stephen C. Harris	SS		1-30-12		4-24-12	
9.	DR. Jenkins	NPO		2-9-12		4/24/12	
10.	Rudolph V. Johnson	USS		2-12-12		4-23-12	
11.	J. T. Zoo	SS		2-28-12		4/25/12	
12.	M. Lewis	NPO		2-28-12		4/17/2012	①
13.	BARBALICI	NPO		28-FEB-2012		24-APR-2012	
14.	NELSON S. RAYBURN	SR. HP TECH		2-28-12		4-24-12	
15.	Sharon Xhaxo	HP Foreman		2-28-12		4-24-12	

NOTES:

① EXPOSED TO OPERATING EXAM ONLY.

HL-17 NRC

1. **Pre-Examination**

3/26/12 →

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 4/13/12 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**

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Charles R. Sizemore	Trn Mgr Nextera (Peer Review)	[illegible]	8/4/11	[illegible]	4/23/12	
2.	Paul DiGiovanna	INPO Team Manager	[illegible]	[illegible]	[illegible]	5/2/12	
3.	Fred T. Bruns	Exelon – INPO Assist Visit	[illegible]	10/4/11	[illegible]	4/27/12	
4.	William Brickenstaff	Instructor/escort	[illegible]	4/9/12	[illegible]	4/18/12	①
5.	Scott Maxwell	Instructor/Escort	[illegible]	4/10/12	[illegible]	4/17/12	①
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① Exposed to operating exam only.

Facility: Vogtle 1 & 2 Date of Examination: 3/26/12 – 4/20/12

Examination Level: RO ☑ SRO Operating Test Number: 2012-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, P	V-NRC-JP-14915-HL17 Perform AFD Monitoring **Description**: With data provided, candidate will perform 14915 Data sheet 6 for AFD monitoring. G2.1.37 (4.3 / 4.6)
Conduct of Operations	R, D	V-NRC-JP-14005-HL17 Calculate Shutdown Margin-Keff Determination for Shutdown Bank Withdrawal **Description:** Reactor Startup in progress. Candidate will determine Keff for Shutdown Bank withdrawal. G2.1.25 (3.9 / 4.2)
Equipment Control	R, N	V-NRC-JP-NMP-AD-003-HL17 Determine Tagging Requirements **Description:** Candidate will determine appropriate fluid boundary points and their associated positions required for the Tagout of Containment Spray Pump 1A. G2.2.13 (4.1 / 4.3)
Radiation Control	R, D	V-NRC-JP-00930-HL17 Proper RWP Implementation **Description:** Candidate will determine proper protective clothing requirements, projected dose and whether the RWP is appropriate for the job task. G2.3.7 (3.5 / 3.6)
Emergency Procedures/Plan	N/A	N/A

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)
(N)ew or (M)odified from bank (≥ 1)
(P)revious 2 exams (≤ 1; randomly selected)

Facility: Vogtle 1 & 2 Date of Examination: 3/26/12 – 4/20/12

Examination Level: RO SRO ☑ SROU ☑ Operating Test Number: 2012-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, P	V-NRC-JP-14915-HL17 Evaluate Inoperable AFD Monitor Alarm **Description:** With data provided, candidate will select 14915 Data sheet 6 for AFD monitoring, evaluate data and take appropriate actions. G2.1.37 (4.3 / 4.6)
Conduct of Operations	R, D	V-NRC-JP-14005-HL17 Calculate Shutdown Margin-Keff Determination for Shutdown Bank Withdrawal **Description:** Reactor Startup in progress. Candidate will determine Keff for Shutdown Bank withdrawal. G2.1.25 (3.9 / 4.2)
Equipment Control	R, N	V-NRC-JP-NMP-AD-003-HL17 Determine Tagging Requirements **Description:** Candidate will determine appropriate fluid boundary points and their associated positions required for the Tagout of Containment Spray Pump 1A. The candidate must also determine any Tech Spec required actions to allow this system to be tagged. G2.2.13 (4.1 / 4.3)
Radiation Control	Δ R, ~~B~~ mkm 03/21/12 mkm 03/21/12 per telcon	V-NRC-JP-00930-HL17 Proper RWP Implementation **Description:** Candidate will determine proper protective clothing requirements, projected dose and whether the RWP is appropriate for the job task. G2.3.7 (3.5 / 3.6)
Emergency Procedures/Plan	R, M	V-NRC-JP-NMP-EP-110-HL17 Classification Determination and EN Form Completion **Description:** The candidate will classify the given emergency and complete the EN Form. G2.4.41 (4.6)

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) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected)

Facility: Vogtle 1 & 2 Date of Examination: 3/26/12 – 4/20/12
Examination Level: RO SRO ☑ SROU ☑ Operating Test Number: 2012-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R, P	V-NRC-JP-14915-HL17 Evaluate Inoperable AFD Monitor Alarm **Description:** With data provided, candidate will select 14915 Data sheet 6 for AFD monitoring, evaluate data and take appropriate actions. G2.1.7 (4.4 / 4.7)
Conduct of Operations	R, D	V-NRC-JP-14005-HL17 Calculate Shutdown Margin-Keff Determination for Shutdown Bank Withdrawal **Description:** Reactor Startup in progress. Candidate will determine Keff for Shutdown Bank withdrawal. G2.1.25 (3.9 / 4.2)
Equipment Control	R, N	V-NRC-JP-NMP-AD-003-HL17 Determine Tagging Requirements **Description:** Candidate will determine appropriate fluid boundary points and their associated positions required for the Tagout of Containment Spray Pump 1A. The candidate must also determine any Tech Spec required actions to allow this system to be tagged. G2.2.13 (4.1 / 4.3)
Radiation Control	R, D	V-NRC-JP-00930-HL17 Proper RWP Implementation **Description:** Candidate will determine proper protective clothing requirements, projected dose and whether the RWP is appropriate for the job task. G2.3.7 (3.5 / 3.6)
Emergency Procedures/Plan	R, M	V-NRC-JP-NMP-EP-110-HL17 Classification Determination and EN Form Completion **Description:** The candidate will classify the given emergency and complete the EN Form. G2.4.44 (4.4)

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

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

Facility: Vogtle 1 & 2 Date of Examination: 3/26/12 – 4/20/12

Exam Level: RO ☑ SRO-I ☑ SRO-U ☑ Operating Test No.: 2012-301

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. V-NRC-JP-14410-HL17 Perform Control Rod Operability Test-Alt path (Two rods drop requiring a manual Reactor Trip). **Description:** Candidate performs control rod operability test for Control bank A. This JPM is modified to drop two rods in a staggered sequence on CBA when CBB test is started. This will require a manual reactor trip per 18003-C, "Rod Control System Malfunction". 001A2.17 (3.3 / 3.8) (RO / SROI)	A, M, S	1
Alternate a. V-NRC-JP-13009-HL17 Perform a Manual Makeup To VCT(Alt-loss off boric acid flow) **Description:** Candidate performs a manual makeup to VCT. This JPM is modified to simulate a blown control power fuse stops the running boric acid transfer pump requiring stopping the makeup. 004A4.12 (3.8 / 3.3) (RO / SROI)	A,M,S	1
b. V-NRC-JP-19013-HL17 Transfer ECCS Pumps To Cold Leg Recirc (Cold Leg Recirc path not available) **Description:** Equipment failures will prevent cold leg recirculation. Candidate is required to identify a loss of emergency coolant recirculation. 006A4.05 (3.9 / 3.8) (RO / SROI / SROU)	A, D, EN, L, S	2
c. V-NRC-JP-19030-HL17 Depressurize RCS To Reduce Break Flow to Ruptured SG (Normal Pressurizer Spray Not available and 1st PORV Block Valve fails to open) **Description:** A SGTR has occurred. The candidate task is to "Depressurize the RCS beginning with 19030-C step 34, until one termination criterion is met". Normal spray controllers will not function. Candidate should use a PORV with complications. 038EA1.04 (4.3 / 4.1) (RO / SROI / SROU)	D, A, P, L, S	3

d. V-NRC-JP-13003-HL17 Start a RCP with a Seal Failure **Description:** Plant is in Mode 3 at 557°F, 2235 psig with three RCPs running. The candidate must start RCP 2 per SOP 13003-1. On start, the #1 seal fails requiring pump shutdown. 003A2.02 (3.7 / 3.9) (RO / SROI)	A, D, L, S	4P
Alternate d. V-NRC-JP-13011-HL-17 Place an RHR Train In Service for RCS Cooldown **Description:** The candidate must place a train of RHR in service for RCS cooldown per SOP 13011-1. 005A4.01 (3.6 / 3.4) (RO / SROI)	D,L,S	4P
e. V-NRC-JP-13610-HL17 Transfer AFW Suction Source to CST 2 **Description:** The candidate must transfer the AFW suction source to CST 2 with AFW in service per SOP 13610-1. 061G2.1.23 (4.3 / 4.4) (RO / SROI)	D, EN, L, S	4S
f. V-NRC-JP-13130-HL17 Dilute Containment With Service Air **Description:** The candidate will be required to use SOP 13130-1, section 4.4.2 to align service air to containment to dilute hydrogen. 028A4.01 (4.0 / 4.0) (RO / SROI)	D, L, P, S	5
g. V-NRC-JP-13427-HL17 Returning ESF Bus from Diesel Generator to Normal Supply **Description:** The candidate will parallel RAT "1B' to DG1B in preparation for DG1B shutdown. 062A4.07 (3.1 / 3.1) (RO / SROI)	M, S	6
h. V-NRC-JP-13301-HL17 Manually Actuate CRI Due to Smoke **Description:** A brush fire on site is causing smoke to enter the control room air intakes. The candidate must perform a Control Room Isolation. 067AA1.05 (3.0 / 3.1) (RO)	M, S	**RO ONLY** 8

Alternate V-NRC-JP-18001-HL17 Place Steam Pressure Bistables in the Tripped Condition Description: Steam Pressure Channel 2PI-524 has failed and the associated Bistables and Master Test switch will be placed in Test. 012A4.04 (3.3 / 3.3)	C, D	7

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. V-NRC-JP-18019-HL17 Establish RWST Gravity Drain Through RHR Pumps to RCS Hot Legs (Cold Legs Not Available) **Description:** During a loss of RHR at midloop level, establish gravity drain to the hot legs per 18019-C Attachment A section C. 025G2.1.20 (4.6 / 4.6) (RO / SROI / SROU)	D, E, L, R, P	4P
j. V-NRC-JP-18038-HL17 Establish Local Control of 1E Switchgears **Description:** The candidate must take local control of the 4160 V switchgear breakers and verify an ACCW pump in service per 18038-2. ACCW will not be in service and RCP shutdown and letdown isolation must be performed. 068AA1.21 (3.9 / 4.1) (RO / SROI / SROU)	A, L, N, E	8
k. V-NRC-JP-13405-HL-17 Energize RHR Inverter 1DD1I6 **Description:** With Unit 1 cooling down to Cold Shutdown, the RHR Loop Suction Valve 1-HV-8702A will be energized using Inverter 1DD1I6. 063G2.1.30 (4.4 / 4.0) (RO / SROI / SROU)	D, E, L, M	6

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(EN)gineered safety feature	- / - / ≥1 (control room system)
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

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

Facility: **Vogtle 1 & 2** Date of Examination: **3/26/12, 4/9/12, 4/16/12** Operating Test Number: **2012-301**

	1. General Criteria	Initials a	Initials b*	Initials c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	EMT	GW	MB
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	EMT	GW	MB
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	EMT	GW	MB
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	EMT	GW	MB
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	EMT	GW	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	EMT	GW	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.	EMT	GW	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.	EMT	GW	MB

		Printed Name / Signature	Date
a.	Author	Thad N. Thompson / Ernest M. Thornton Thad N Thompson / E.M. Thornton	3-19-12 / 3-19-12
b.	Facility Reviewer(*)	Greg C. Wainwright /	3/19/12
c.	NRC Chief Examiner (#)	MICHAEL MEEKS / Michael Meeks MARK A. BATES 03/21/12	03/21/2012
d.	NRC Supervisor	MALCOLM T. WIDMANN /	03/21/12

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

Facilty: **Vogtle 1 & 2** Date of Exam: **3/26/12, 4/9/12, 4/16/12** Scenario Numbers: **1 / 2 / 3** Operating Test No.: **2012-301**

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.	TMT	GW	MWB
2. The scenarios consist mostly of related events.	TMT	GW	MWB
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)	TMT	GW	MWB
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.	TMT	GW	MWB
5. The events are valid with regard to physics and thermodynamics.	TMT	GW	MWB
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	TMT	GW	MWB
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.	TMT	GW	MWB
8. The simulator modeling is not altered.	TMT	GW	MWB
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.	TMT	GW	MWB
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.	TMT	GW	MWB
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	TMT	GW	MWB
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).	TMT	GW	MWB
13. The level of difficulty is appropriate to support licensing decisions for each crew position.	TMT	GW	MWB

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

Facilty: **Vogtle 1 & 2** Date of Exam: **3/26/12, 4/9/12, 4/16/12** Scenario Numbers: **4 / 5 / 6** Operating Test No.: **2012-301**

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

	Target Quantitative Attributes (Per Scenario; See Section D.5.d)	Actual Attributes	--	--	--
1.	Total malfunctions (5–8)	9 / 10 / 9	TMT	BW	MB
2.	Malfunctions after EOP entry (1–2)	3 / 3 / 4	TMT	BW	MB
3.	Abnormal events (2–4)	5 / 5 / 5	TMT	BW	MB
4.	Major transients (1–2)	1 / 1 / 2	TMT	BW	MB
5.	EOPs entered/requiring substantive actions (1–2)	1 / 1 / 2	TMT	BW	MB
6.	EOP contingencies requiring substantive actions (0–2)	1 / 0 / 1	TMT	BW	MB
7.	Critical tasks (2–3)	3 / 3 / 3	TMT	BW	MB

Facilty: **Vogtle 1 & 2** Date of Exam: **3/26/12, 4/9/12, 4/16/12** Scenario Numbers: **7 / /** Operating Test No.: **2012-301**

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

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

Facility: Vogtle 1 and 2 Date of Exam: 3-26, 4-9, 4-16, 4-30 Operating Test No.: 2012-301

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1			2			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO ☐ SRO-I ☑ SRO-U ☑	RX	1			2			6						3	1	1	0
	NOR				2			3						2	1	1	1
	I/C	2,4,5, 6,9, 10,11			1,3,4, 5,8,9			1,2,4, 5,8,9			1,2,3, 4,5,6, 7			26	4	4	2
	MAJ	7,8			7			7			8			5	2	2	1
	TS	2,3,6, 7			1,2,4, 5			1,4,6			1,3,5			14	0	2	2
RO ☑ SRO-I ☑ SRO-U ☐	RX		1			2			6					3	1	1	0
	NOR					6			3					2	1	1	1
	I/C		2,6,9, 10			1,5, 8			2,4,9			1,3,4, 6		13	4	4	2
	MAJ		7,8			7			7			8		5	2	2	1
	TS													0	0	2	2
RO ☑ SRO-I ☑ SRO-U ☐	RX													0	1	1	0
	NOR			1			2			6			1	4	1	1	1
	I/C			4,5 11			3,4,9			1,5,8			2,5,7	12	4	4	2
	MAJ			7,8			7			7			8	5	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:		Date of Exam:								Operating Test No.:								
APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		5			6			7									
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO ☐ SRO-I ☑ SRO-U ☑	RX	2			6			1						3	1	1	0
	NOR	7						10						2	1	1	1
	I/C	1,3,4, 6,8,9, 10,11 12			1,2,4, 5,8,9, 10			2,3,5, 6,7, 11 12						23	4	4	2
	MAJ	9			7			8,9						4	2	2	1
	TS	4,5,6			2,3,4			4,5,6						9	0	2	2
RO ☑ SRO-I ☑ SRO-U ☐	RX		2			6			1					3	1	1	0
	NOR		7						10					2	1	1	1
	I/C		1,8, 10			2,4, 8			3,5,7					9	4	4	2
	MAJ		9			7			8,9					4	2	2	1
	TS													0	0	2	2
RO ☑ SRO-I ☑ SRO-U ☐	RX													0	1	1	0
	NOR			2			6			1				3	1	1	1
	I/C			3,4, 6,11 12			1,5,9, 10			2,6,7, 11,12				14	4	4	2
	MAJ			9			7			8,9				4	2	2	1
	TS													0	0	2	2

Instructions:

3. 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.

4. 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: Vogtle 1 & 2 **Date of Examination**: 3-26, 4-9, 4-16, 4-30 **Operating Test No.:** 2012-301

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

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Facility: Vogtle 1 & 2 **Date of Examination**: 3-26, 4-9, 4-16, 4-30 **Operating Test No.:** 2012-301

Competencies	APPLICANTS							
	RO X				SRO-I X SRO-U X			
	SCENARIO				SCENARIO			
	5	6	7		5	6	7	
Interpret/Diagnose Events and Conditions	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
Comply With and Use Procedures (1)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
Operate Control Boards (2)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12					
Communicate and Interact	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
Demonstrate Supervisory Ability (3)					1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
Comply With and Use Tech. Specs. (3)					4, 5, 6	2, 3, 4	4, 5, 6	

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: VOGTLE Date of Exam: MARCH 2012

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	1	2				2	2			1	9	2	2	4
	Tier Totals	4	4	5				5	5			4	27	5	5	10
2. Plant Systems	1	3	2	3	3	3	3	2	3	2	2	2	28	3	2	5
	2	1	1	1	1	1	0	1	1	1	1	1	10	0 / 2	1	3
	Tier Totals	4	3	4	4	4	3	3	4	3	3	3	38	5	3	8
3. Generic Knowledge and Abilities Categories		1			2			3			4		10	1	2	3	4	7
		2			3			3			2			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:
007EG2.4.2	Reactor Trip - Stabilization - Recovery / 1	4.5	4.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.
008AK3.04	Pressurizer Vapor Space Accident / 3	4.2	4.6	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	RCP tripping requirements
015AK2.10	RCP Malfunctions / 4	2.8	2.8	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	RCP indicators and controls
022AG2.2.42	Loss of Rx Coolant Makeup / 2	3.9	4.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to recognize system parameters that are entry-level conditions for Technical Specifications
025AK2.03	Loss of RHR System / 4	2.7	2.7	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Service water or closed cooling water pumps
026AA1.03	Loss of Component Cooling Water / 8	3.6	3.6	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	SWS as a backup to the CCWS
029EK1.01	ATWS / 1	2.8	3.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Reactor nucleonics and thermo-hydraulics behavior
040AA1.20	Steam Line Rupture - Excessive Heat Transfer / 4	4.1	4.2	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Containment pressure and temperature trends
054AA2.02	Loss of Main Feedwater / 4	4.1	4.4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Differentiation between loss of all MFW and trip of one MFW pump
055EA2.02	Station Blackout / 6	4.4	4.6	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	RCS core cooling through natural circulation cooling to S/G cooling
056AK1.03	Loss of Off-site Power / 6	3.1	3.4	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Definition of subcooling: use of steam tables to determine it

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
062AA2.03	Loss of Nuclear Svc Water / 4	2.6	2.9	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	The valve lineups necessary to restart the SWS while bypassing the portion of the system causing the abnormal condition
065AK3.04	Loss of Instrument Air / 8	3	3.2	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Cross-over to backup air supplies
077AK1.02	Generator Voltage and Electric Grid Disturbances / 6	3.3	3.4	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Over-excitation
WE04EA1.3	LOCA Outside Containment / 3	3.8	4.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Desired operating results during abnormal and emergency situations.
WE05EK2.1	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.7	3.9	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Components and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes and automatic and manual features.
we11EG2.4.6	Loss of Emergency Coolant Recirc. / 4	3.7	4.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge symptom based EOP mitigation strategies.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001AA1.02	Continuous Rod Withdrawal / 1	3.6	3.4	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Rod in-out-hold switch
036AK3.03	Fuel Handling Accident / 8	3.7	4.1	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Guidance contained in EOP for fuel handling incident
037AK1.02	Steam Generator Tube Leak / 3	3.5	3.9	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Leak rate vs. pressure drop
051AA2.02	Loss of Condenser Vacuum / 4	3.9	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Conditions requiring reactor and/or turbine trip
068AA2.10	Control Room Evac. / 8	4.2	4.4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Source range count rate
074EA1.25	Inad. Core Cooling / 4	3.8	3.8	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Atmospheric dump valve controllers and indicators
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.
WE08EK3.4	RCS Overcooling - PTS / 4	3.4	3.7	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	RO or SRO function within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and the limitations in the facilities license and amendments are not violated.
we15EG2.1.32	Containment Flooding / 5	3.8	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to explain and apply all system limits and precautions.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
003K2.02	Reactor Coolant Pump	2.5	2.6	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	CCW pumps
004A2.21	Chemical and Volume Control	2.7	2.7	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Excessive letdown flow, pressure and temperatures on ion exchange resins (also causes)
004K3.06	Chemical and Volume Control	3.4	3.6	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	RCS temperature and pressure
005A1.03	Residual Heat Removal	2.5	2.6	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Closed cooling water flow rate and temperature
006G2.2.4	Emergency Core Cooling	3.6	3.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	(multi-unit) Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.
007A2.06	Pressurizer Relief/Quench Tank	2.6	2.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Bubble formation in PZR
008A3.08	Component Cooling Water	3.6	3.7	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Automatic actions associated with the CCWS that occur as a result of a safety injection signal
010K5.02	Pressurizer Pressure Control	2.6	3.0	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Constant enthalpy expansion through a valve
010K6.03	Pressurizer Pressure Control	3.2	3.6	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	PZR sprays and heaters
012K1.06	Reactor Protection	3.1	3.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	T/G
012K4.09	Reactor Protection	2.8	3.1	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Separation of control and protection circuits

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
013A4.01	Engineered Safety Features Actuation	4.5	4.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	ESFAS-initiated equipment which fails to actuate
022A4.01	Containment Cooling	3.6	3.6	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	CCS fans
026A1.06	Containment Spray	2.7	3.0	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Containment spray pump cooling
039G2.1.25	Main and Reheat Steam	3.9	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to interpret reference materials such as graphs, monographs and tables which contain performance data.
039K5.08	Main and Reheat Steam	3.6	3.6	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Effect of steam removal on reactivity
059K4.08	Main Feedwater	2.5	2.7	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Feedwater regulatory valve operation (on basis of steam flow, feed flow mismatch)
061A3.04	Auxiliary/Emergency Feedwater	4.1	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	Automatic AFW isolation
061K6.02	Auxiliary/Emergency Feedwater	2.6	2.7	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Pumps
062A2.11	AC Electrical Distribution	3.7	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Aligning standby equipment with correct emergency power source (D/G)
062K2.01	AC Electrical Distribution	3.3	3.4	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Major system loads
063K3.01	DC Electrical Distribution	3.7	4.1	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	ED/G

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
063K4.04	DC Electrical Distribution	2.6	2.9	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Trips
064K6.07	Emergency Diesel Generator	2.7	2.9	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Air receivers
073K5.03	Process Radiation Monitoring	2.9	3.4	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Relationship between radiation intensity and exposure limits
076K1.09	Service Water	3.0	3.1	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Reactor building closed cooling water
078K3.01	Instrument Air	3.1	3.4	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	Containment air system
103K1.08	Containment	3.6	3.8	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	SIS, including action of safety injection reset

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
001A3.06	Control Rod Drive	3.9	3.9	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	RCS temperature and pressure
011K2.01	Pressurizer Level Control	3.1	3.2	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Charging pumps
015G2.4.45	Nuclear Instrumentation	4.1	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to prioritize and interpret the significance of each annunciator or alarm.
016K1.09	Non-nuclear Instrumentation	3.7	3.7	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	ESFAS
028A2.02	Hydrogen Recombiner and Purge Control	3.5	3.9	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	LOCA condition and related concern over hydrogen
041K3.02	Steam Dump/Turbine Bypass Control	3.8	3.9	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	RCS
071A1.06	Waste Gas Disposal	2.5	2.8	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	Ventilation system
072K5.02	Area Radiation Monitoring	2.5	3.2	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	Radiation intensity changes with source distance
075K4.01	Circulating Water	2.5	2.8	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	Heat sink
086A4.06	Fire Protection	3.2	3.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	Halon system

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
G2.1.29	Conduct of operations	4.1	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc.
G2.1.8	Conduct of operations	3.4	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to coordinate personnel activities outside the control room.
G2.2.1	Equipment Control	4.5	4.4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity.
G2.2.17	Equipment Control	2.6	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the process for managing maintenance activities during power operations.
G2.2.3	Equipment Control	3.8	3.9	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	(multi-unit license) Knowledge of the design, procedural and operational differences between units.
G2.3.11	Radiation Control	3.8	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to control radiation releases.
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
G2.4.31	Emergency Procedures/Plans	4.2	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of annunciators alarms, indications or response 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:
008AG2.1.19	Pressurizer Vapor Space Accident / 3	3.9	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to use plant computer to evaluate system or component status.
054AG2.1.7	Loss of Main Feedwater / 4	4.4	4.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior and instrument interpretation.
055EA2.01	Station Blackout / 6	3.4	3.7	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Existing valve positioning on a loss of instrument air system
058AG2.4.9	Loss of DC Power / 6	3.8	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.
077AA2.08	Generator Voltage and Electric Grid Disturbances / 6	4.3	4.4	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Criteria to trip the turbine or reactor
WE05EA2.2	Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4	3.7	4.3	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.

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	4.5	4.8	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Proper actions to be taken if automatic safety functions have not taken place
037AA2.10	Steam Generator Tube Leak / 3	3.2	4.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Tech-Spec limits for RCS leakage
we06EG2.4.18	Degraded Core Cooling / 4	3.3	4.0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the specific bases for EOPs.
we10EG2.4.47	Natural Circ. With Seam Void/ 4	4.2	4.2	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
012G2.2.40	Reactor Protection	3.4	4.7	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to apply technical specifications for a system.
039G2.1.28	Main and Reheat Steam	4.1	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the purpose and function of major system components and controls.
063A2.01	DC Electrical Distribution	2.5	3.2	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Grounds
076A2.02	Service Water	2.7	3.1	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Service water header pressure
103A2.02	Containment	2.2	3.2	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Necessary plant conditions for work in containment

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
014A2.04	Rod Position Indication	3.4	3.9	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Misaligned rod
028A2.03	Hydrogen Recombiner and Purge Control	3.4	4.0	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	The hydrogen air concentration in excess of limit flame propagation or detonation with resulting equipment damage in containment
071G2.1.23	Waste Gas Disposal	4.3	4.4	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Ability to perform specific system and integrated plant procedures during all modes of plant operation.

KA	NAME / SAFETY FUNCTION:	IR RO	IR SRO	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOPIC:
G2.1.38	Conduct of operations	3.7	3.8	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the stations requirements for verbal communication when implamenting procedures
G2.2.13	Equipment Control	4.1	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of tagging and clearance 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
G2.4.12	Emergency Procedures/Plans	4.0	4.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of general operating crew responsibilities during emergency operations.
G2.4.37	Emergency Procedures/Plans	3.0	4.1	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	Knowledge of the lines of authority during implamentation of an emergency plan.

Tier / Group	Randomly Selected K/A	Reason for Rejection
2 / 1	103K1.07	No Containment Vacuum System at Vogtle. Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 103K1.08 **Knowledge of the physical connections and/or cause-effect relationships between the containment system and the following systems:** SIS, including action of safety injection reset (CFR: 41.2 to 41.9 / 45.7 to 45.8)
2/1	026A1.02	Unable to write a discriminating question to examine the effects of the containment spray system on containment temperature. The containment spray system is specifically designed to mitigate the effects of a high containment pressure condition, not containment temperature Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 026A1.06 **026 Containment Spray System (CSS)** **Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including:** Containment spray pump cooling (CFR: 41.5 / 45.5)
SRO T1/2	001AA2.01	Unable to write a discriminating question at the SRO level to meet this K/A. Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 001AA2.03 **001 APE: Continuous Rod Withdrawal** **Ability to determine and interpret the following as they apply to the Continuous Rod Withdrawal** : Proper actions to be taken if automatic safety functions have not taken place (CFR: 43.5 / 45.13)

SRO T2/1	012G2.1.27	Unable to write a discriminating question at the SRO level to meet this K/A. Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 012G2.2.40 **012 Reactor Protection System (RPS)** **Ability to apply Technical Specifications for a system.** (CFR: 41.10 / 43.2 / 43.5 / 45.3)
T2/G1	026K2.01	Unable to write a discriminating question that contains plausible distractors due to the common-knowledge nature of power supplies to the Containment Spray pumps. Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 062K2.01 **062 A.C. Electrical Distribution** **K2 Knowledge of bus power supplies to the following:** (CFR: 41.7) K2.01 Major system loads 3.3 3.4
SRO T2/2	015A2.05	Unable to write a discriminating question at the SRO level to meet this K/A. Chief Examiner Under Instruction (U/I) randomly and systematically selected new K/A: 014A2.04 **014 Rod Position Indication System (RPIS)** **A2 Ability to (a) predict the impacts of the following malfunctions or operations on the RPIS; and (b) based on those on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:** (CFR: 41.5 / 43.5 / 45.3 / 45.13) A2.04 Misaligned rod 3.4 3.9

ES-401 **Written Examination Quality Checklist** **Form ES-401-6**

Facility: **Vogtle Units 1 & 2** Date of Exam: **4/20/2012** Exam Level: RO ☑ SRO ☑

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

	Bank	Modified	New
	14 / 3	16 / 5	45 / 17

	Memory	C/A
	33 / 11	42 / 14

	Printed Name / Signature	Date
a. Author	Thad N. Thompson / Thad N. Thompson	4-12-12
b. Facility Reviewer (*)	G. Wainwright / G. Wainwright	4/12/12
c. NRC Chief Examiner (#)	MARK A. BATES / MICHAEL MEEKS / Michael Meeks	04/17/2012
d. NRC Regional Supervisor	NICHOLAS T. VIDUMANSKI / Nicholas T. Vidumanski	04/17/12

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

ES-401 **Written Examination Review Worksheet** **Form ES-401-9**

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
   - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
6. Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D.2.f.
7. Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
8. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
1	H	2	X									Y	N/A	N	E	K/A 001A3.06 1. Q=K/A, Q is at RO level. 2. Stem focus. Need to separate the two parts of the Q with the two plant conditions. We need to provide a Vogtle-specific magnitude of RCS Pressure drop to ensure that a valid OT Delta T runback would occur. Also need an initial Rx power level. Consider the following recommendation for the Q stem, no changes to the distractors: "Unit 1 Initial Conditions: -Power=100%, all control systems is normal alignment. -An RCS pressure control malfunction reduces RCS pressure [to a value of .....]. -Tavg is constant. -A turbine runback initiates. Current Conditions: -Control rods are inserting in automatic -Tavg is 4 degrees F > Tref Which one of the following is the initiating event (based on the **initial** conditions), AND the current expected rod speed, considering only the temperature deviation (based on the **current** conditions)?" 03/15/2012 1. Licensee modified Q as requested by NRC, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
2	F	2				X						Y	N/A	N	U	K/A 001AA1.02 1. Q=K/A, Q is at RO level. 2. Cred Dist: A is non plausible, because checking rod motion stopped is not an action to perform. C is also non plausible, whenever would the operations team open the Rx trip breakers at 70% power and not perform E-0? 3. Check/ensure correct answer: wouldn't the in-hold-out switch already be in the "hold" position for these conditions, so the OATC would only be verifying the switch position and not actually repositioning the switch? 4. Potential overlap issue with one of the simulator scenario events that includes an automatic rod withdrawal abnormal event. 5. Potential fix for 'A' plausibility is to specifically ask what is the next procedural step (instead of the next action). Q is U due to multiple non-plausible distractors. 03/15/2012 1. Licensee presented a slightly modified Q, NRC gave recommendations to make the Q clearly ask the next procedural step vs. the next action taken by the OATC. NRC also gave a recommendation to fix the plausibility of distractor 'C.' Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
3	H	3	X									Y	N/A	N	E	K/A 003K2.02 1. Q=K/A, Q is at RO level. 2. Stem focus: Need to ensure the Q statement is clear concerning the timing of the Q and the lack of operator actions. Appendix E also covers the lack of operator actions, preference to state that whenever possible for clarity? Disciss w/licensee. Consider the following modification to the Q statement: "Based on the current conditions, which one of the following correctly describes the status of the ACCW pumps after the DG1A load sequence is complete, if no operator actions occur?" 03/15/2012 1. Licensee modified Q as requested by NRC, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
4	H	3	X									Y	N/A	M	E	K/A 004A2.21 1. Q=K/A, Q is at RO level 2. Stem focus: need to include RCS boron concentration in Q stem, perhaps at extreme BOL or EOL, to enhance plausibility of C. and D. Also need to be specific with what 5 degrees low means—for example state, "TE-0130 fails 5 degrees below setpoint." 3. Potential overlap issue with this Q and simulator scenario event with T-0130 failure. O.k. as written for now. 03/15/2012 1. Licensee modified Q as requested by the NRC. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
5	H	3	X			X						Y	N/A	M	E	K/A 004K3.06 1. Q=K/A, Q is at RO level. 2. Stem focus: Need to give an initial position for 1HS-112A (i.e., in "To VCT" position?). 3. Cred. Dist: 'C' is not plausible, how would letdown flow that is already maximized go up based on beginning a flush of the demin? All of the orifice isolation valves should be open to get to 120 gpm, is it physically possible? Consider a different approach to distractor 'C.' 03/15/2012 1. Licensee modified Q as requested by NRC, and provided a new distractor for 'C.' Licensee will verify that 'C' is incorrect. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
6	F	2	X									Y	N/A	N	E	K/A 005A1.03 1. Q=K/A, Q is at RO level. 2. Stem focus: what specific temperature instrument is used to make the determination for the second part Q? e.g. "…RHR system temperature as read on TI-XXX, RHR Suction Temperature" (or whatever is used). Otherwise "RHR system temperature" is vague. 03/15/2012 1. Licensee procedure does not specify where the RHR system temperature is taken; NRC requested licensee modify second part of the Q statement to refer to the procedure and title. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
7	F	2				X						Y	N/A	M	E	K/A 006G2.2.4 1. Q=K/A, Q is at RO level. 2. Cred Dist: more clear to state "both unit 1 and unit 2" for second part of distractors A. and C. 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
8	H	2	X			X						Y	N/A	N	U	K/A 007A2.06 1. Q=K/A, Q is at RO level. 2. Stem focus: Slightly modify the first part Q statement as follows: "ALB12-E03 is an _____ alarm for the given plant conditions, and…." 3. Cred dist: Do we need to spell-out what RMWST stands for in the distractor statements, or is it a common enough abbreviation? 4. Cred. Dist: How is first part of choices 'A' or 'B' plausible? You would need to have a PORV open or safety leaking to get a high temp PRT alarm, in what way would that be part of the evolution of drawing a bubble in the PRZR? Q is U due to multiple non plausible distractors. 03/15/2012 1. Licensee modified Q to change conditions in the stem to give a RCS pressure transient vs. asking expected alarms for drawing a pressurizer bubble. First part of Q now requires systems knowledge of whether RHR suction or discharge valve relieves to the PRT. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
9	H	2	X			X						Y	N/A	M	E	K/A 007EG2.4.2 1. Q=K/A, Q is at RO level. 2. Cred Dist: 'D' is a non plausible distractor. When would the operators ever be in ES-0.1 following a SI? Distractor 'D' needs to be another plausible Rx trip. 3. Stem focus: It is always a good practice to differentiate between automatic and manual Rx trips. Modify second bullet to read: "An automatic Reactor trip occurs." 03/15/2012 1. Licensee modified Q to give a new distractor 'D' that was a reactor trip and not an SI signal. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
10	H	2	X									Y	N/A	N	E	K/A 008A3.08 1. Q=K/A, Q is at RO level. 2. Stem focus: Need to include additional information, and resolve timing concerns with Q statement. E.g. consider the following modifications: "... Current conditions: -An automatic Safety Injection occurs with NO loss of offsite power. Based on the current conditions, which one of the following will be the correct status of the CCW pumps following the completion of the load sequencer, and no additional operator actions occur?" 03/15/2012 1. Licensee modified Q as requested by NRC. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
11	H	2				X						Y	N/A	M	U	K/A 008AK3.04 1. Q=K/A, Q is at RO level. 2. Cred Dist: 'D' is a non plausible distractor, because it is such a weak choice when compared with 'C.' i.e. D would only 'reduce' a 'concern' vice preventing a worse RCS depletion. 'A' is a non plausible distractor because the second part of 'A' is not a reason (which is what the Q is asking for), i.e. it's a cue that 'A' is not the correct choice. Credibility of 'B' would be enhanced by providing lowering RCS temperatures in stem. Q is U as written due to multiple non plausible distractors. 03/15/2012 1. Licensee modified Q as requested. Plausibility of 'D' still uncertain. NRC provided recommendation for changing 'D' distractor to include loss of seal injection (loss of CCPs given in the stem). Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
12	H	2				X		X				N	N/A	N	U	K/A 010K5.02 1. Q does NOT meet K/A, Q is at RO level. The operational implications required in the K/A statement are not being tested. This Q is also exclusively GFES-level and needs to be written to be a site-specific Q. 2. Q is actually higher cog level because of the calculations required (i.e. not simple memory recall of facts, etc.) 3. Cred Dist/Job-Link: Second part of Q is non-plausible and is not operationally valid. When would operators need to differentiate between constant entropy and constant enthalpy process (outside of GFES?) Also, Second Law of Thermo states that entropy is always increasing, so constant entropy process is non plausible. Q is U due to multiple non-plausible distracters and not meeting the K/A. 03/15/2012 1. Licensee modified Q as requested by NRC. NRC requested that licensee modify first part of distractor to be different from 650 vs. 278. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
13	H	2	X			X						Y	N/A	B	E	K/A 010K6.03 1. Q=K/A, Q is at RO level. 2. Stem focus: Must be careful to specifically delineate the timing of the Q statement with plant conditions or other ways. For example, consider the following modification to the Q statement: "Based on the current conditions, which one of the following states what effect the 1PIC-455 failure will have on PRZR Backup (B/U) heaters and spray valves? In your answer consider the timeframe that the unit remains at power, also consider that no operator actions occur." 3. Cred. Dist.: The interplay of choices for distractor 'B' are not plausible—it doesn't make sense that a failure in one direction causes a simultaneous occurrence of the B/U heaters to turn on (which is a reaction to low pressure) and the spray valves to open (which is a reaction to high pressure). 03/15/2012 1. NRC proposed modifications to the Q statement to ask about PRZR heaters and status of PRZR block valve response in automatic immediately following the failure. Also modified the failure from master pressurizer controller failure to make it a pressure channel failure. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
14	H	2	X									Y	N/A	M	E	K/A 011K2.01 1. Q=K/A, Q is at RO level. 2. Stem focus: careful with the timing aspect of these Qs again. Consider the following modifications to the Q statement: "Based on the current conditions, if no operator actions occur which one of the following is correct regarding the charging pump status at the completion of the load sequencer?" 3. Stem focus: Question for licensee—do we need to include the switch positions for all charging pumps in the initial conditions; e.g. NCP handswitch in RUN, red light on/green light off; CCP 'A' handswitch in AUTO, etc… This will make it clear what is intended by "all systems in normal alignment" statement. 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
15	F	2	X									Y	N/A	N	E	K/A 012K1.06 1. Q=K/A, Q is at RO level. 2. Stem focus: need to have a Reactor power level in Q stem to make this Q work, use something close to turbine trip-reactor trip permissive setpoint (i.e. not 100% power). 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
16	F	2				X						Y	N/A	B	U	K/A 012K4.09 1. Q=K/A, Q is at RO level. 2. Cred. Dist: Distractors A and D are non plausible. It is common knowledge that control and protection functions are channelized or separated in order to prevent any negative effects from propagating. Furthermore, the fault is non-specific, and not enough information is provided to determine if the fault would cause the channel to trip or not to trip (if it did, in fact, affect the protection side). Q is U due to multiple non-plausible distractors. 03/15/2012 1. Licensee modified Q per NRC request to make four separate answer choices. NRC required to modify one of the four answer choices to make it plausible. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
17	H	3	X			X						Y	N/A	N	E	K/A 013A4.01 1. Q=K/A, Q is at RO level. 2. Stem focus: Ensure the S/G levels are specified to be "narrow range" 3. Cred Dist: Use of the 'only' modifier may not be the best word choice for these conditions. Slight modifications to distractors B, C, and D recommended as follows: "B. expected, the AFW actuation signal is blocked under the current conditions per 12004-C. C. NOT expected, BOTH MDAFW pumps should have started. The TDAFWP should not have started. D. NOT expected, BOTH MDAFW pumps and the TDAFWP should have all started." 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
18	F	2				X						Y	N/A	M	U	K/A 015AK2.10 1. Q=K/A, Q is at RO level. 2. Cred. Dist.: This JPM overlaps with a simulator JPM for starting a RCP, Q needs to be changed. Distractors are not credible because the operators will have just done this evolution on the simulator. 3. Need to put the applicants in a different reason for starting RCPs—maybe starting RCPs to sweep voids out of U-tubes? (or an alternate equivalent) Q is U due to multiple non-plausible distractors (only non plausible from the overlap standpoint). 03/15/2012 1. Licensee presented modified Q to NRC. NRC provided extensive input to change the Q and to make it meet the standard without overlap with the simulator JPM. First part now tests the circuitry and interlock behind the blue light on the RCP oil lift pump, second part Q now tests which RCP breaker has the interlock with the RCP oil lift pump blue light. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
19	H	2	X									Y	N/A	N	E	K/A 015G2.4.45 1. Q=K/A, Q is at RO level 2. Stem focus: Shift "if any" phrase in Q statement to the end of sentence, i.e. "Based on the current conditions, which one of the following is/are annunciator window(s) that will be LIT (if any)?" 03/15/2012 1. Licensee modified Q as per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
20	H	2										Y	N/A	N	S	K/A 016K1.09 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
21	F	2	X			X						Y	N/A	M	E	K/A 022A4.01 1. Q=K/A, Q is at RO level. 2. Stem focus: Include specific lights/nomenclature that are going to be lit/not lit on QMCB. 3. Cred. Dist: The combination for distractor 'D' is not plausible. How is it possible that the coolers would not be running at the lower pressure condition and the higher pressure condition? 03/15/2012 1. Licensee presented modified Q, still needs some work on the plausibility of distractor 'D.' 03/16/2012 1. Licensee presented re-modified Q, better conditions in Q stem and better plausibility in the distractor choices. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
22	H	2				X						Y	N/A	N	U	K/A 022AG2.2.42 1. Q=K/A, Q is at RO level. 2. Cred. Dist: with a CCP tripped and inoperable, how would second part of distractors B and D ever be plausible? Operators will always enter LCO 3.5.2 under these conditions. 3. Stem focus: should we remove the statement about "real" LCOs? Is "real" LCO defined in a plant procedure (conduct of ops?)? Need to be clear about Technical Specification "LCOs" vs. commonly used spoken phrase "in an LCO." If the plant is in a condition where an LCO applies, the plant is either meeting the LCO or not meeting the LCO. A good way to ask these questions is to ask whether "the Condition of the LCO is (or is NOT) met." Q is U due to multiple non-plausible distractors. 03/15/2012 1. Licensee presented modified Q based on the NRC comments. Q stem changed to place the NCP in standby, distractors changed to ask whether required actions of two TRM specs were/were not required to be taken. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
23	F	2				X						Y	N/A	M	E	K/A 025AK2.03 1. Q=K/A, Q is at RO level. 2. Cred. Dist.: Use of the modifier "only" may not be the best option for distractors A. and B. because applicant will have to read other choices to determine what it means. Better way to state may be: "A. 1A RHR Hx and 1A RHR pump seal cooler. 1A RHR pump motor cooler did NOT lose CCW flow. B. 1B RHR Hx and 1B RHR pump seal cooler. 1B RHR pump motor cooler did NOT lose CCW flow." 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
24	F	2				X						Y	N/A	N	E	K/A 026A1.06 1. Q=K/A, Q is at RO level. 2. Cred Dist.: How is it plausible that operators would run a spray pump test without providing miniflow protection to the pump, potentially damaging a safety-related SSC due to rising temperatures? Second part of B and D not plausible. Also, there is a timing part to the Q—are we absolutely sure that temperatures would be stable at all times during the pump test (or, e.g. would they slightly rise and then stabilize). 3. Potential fix: for the second part of the Q, test on what the pump line-up will be, e.g. will there be a recirc lineup to the RWST valved in, or is the recirculation line up not required. Q is E due to multiple non-plausible distractors, but benefit of the doubt given due to ease of correction. 03/15/2012 1. Licensee modified Q based on NRC recommendations. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
25	H	3										Y	N/A	B	S	K/A 026AA1.03 1. Q=K/A, Q is RO level. 2. Q appears SAT at this time.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
26	F	2	X			X						Y	N/A	M	U	K/A 026K2.01 1. Q=K/A, Q is RO level. 2. Cred. Dist.: Containment Spray pumps are major safety-related SSCs, it is not plausible that they would be powered from 480V buses at Vogtle. Second part of distractors A and C is not plausible. 3. Stem focus: Ensure stem contains language specifying no operator actions occur, testing whether or not the spray pump will auto-start or not. Q is U due to multiple non-plausible distractors. 03/15/2012 1. NRC will consider changing the K/A to see if there is a way to get plausible distractors. 03/16/2012 1. NRC chose new random K/A
26	F	2	X	X								Y	N/A	?	E	K/A 062K2.01 (new replacement K/A) 1. Q=K/A, Q is at the RO level. 2. We need to know Q history (i.e. bank/modified/new) and pedigree (if applicable), also distractor analysis needed. 3. Potential for partial overlap with one simulator scenario event deemed acceptable. 4. Stem focus and cues: replace "The plant" with "Unit 1." Simply state the conditions of the buses (other information not strictly needed). Question would then look like this: "Unit 1 tripped from 78% power. -1NAA is de-energized. -1NAB is energized. Based on the given conditions, if no operator actions occur, which one of the following pumps WILL be running? A. {answer choices as given, etc.}" 04/16/2012 1. Licensee accepted NRC recommendations as listed above and modified the Q as requested. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
27	F	3										N	N/A	N	U	K/A 028A2.02 1. Q does NOT meet K/A, Q is at RO level. 2. Applicant can answer both parts of the Q using systems knowledge to obtain the correct answer; knowledge of the procedure to mitigate the condition is not required. Understand that the procedure also includes the information, however due to the other concerns K/A match is not strong enough. Q is U due to not meeting the K/A. 03/15/2012 1. Licensee presented modified Q; however, first part of Q still could be answered using systems knowledge. Table this Q and attempt a re-direct to find a procedural avenue to asking the Q. 03/16/2012 1. Licensee presented a newly re-modified version of this Q during review, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
28	H	3	X			X	X					Y	N/A	B	E	K/A 029EK1.01 1. Q=K/A, Q is at RO level. 2. Cred Dist/partial correct: Second part of B. and C. is potentially a correct action, the only wrong thing is 2185 psig vs. 2135 psig as stop pressure point. Second parts of distractors B. and C. are also subsets of second part A. and D; i.e. lowering RCS pressure to increase charging/emergency boration flow is an "other action that does NOT cooldown the RCS or add positive reactivity." 3. Potential fix: Modify the Q statement to read: "Based on the current conditions, per 19211-C...." Also modify the second part of distractors A. and D. to exactly match the language from the FR-S.1 step: "initiate actions of other Functional Restoration Procedures in effect...." 03/15/2012 1. Licensee modified Q as per NRC request. Q now appears SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
29	H	2					X					Y	N/A	N	E	K/A 036AK3.03 1. Q=K/A, Q is at RO level. 2. Partial: do the exhaust filtration units contribute to a negative pressure in the FHB? If so, is C. a potentially correct answer? Do we need to know the specific alarms that occurred that would have caused the automatic actuation (add to stem?)? 03/15/2012 1. Licensee provided answers to NRC concerns; however, 'c' is still a potentially correct answer. Recommend table this Q and have licensee re-visit. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
30	H	2	X			X		X				Y	N/A	B	U	K/A 037AK1.02 1. Q=K/A, Q is at RO level. 2. Stem focus: Consider changing SHUTDOWN in Q statement to "power reduction" for clarity, SHUTDOWN may also carry the connotation of post-trip activities. 3. Job link: how is it operationally valid to tell an applicant that a geometric size does not change? What indications would be provided/how would an operator know this in the control room? 4. Cred. Dist: Psychometically/logically, the second part of distractors 'C' and 'D' are not needed to make the answer choice unique; therefore, they can be deleted; however, this also causes 'D' to be non plausible. 5. Are there situations in SGTR backfill conditions where delta-P between the RCS and ruptured S/G are monitored/controlled? A situation like that would make the Q more operationally sat. Q is U due to operational validity concerns. Q should be able to be re-worked. 1. Licensee presented modified Q. NRC intervention required to make the Q meet NUREG criteria. Q should now be SAT.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
31	H	3	X	X								Y	N/A	N	E	K/A 039G2.1.25 1. Q=K/A, Q is at RO level with provided references. 2. Stem focus/Cues: grammatical tense in Q statement—use "Valve(s)" instead of "Valves" as this is a minor tip-off. Instead of asking the Q "how many valves exceed tolerance," ask "how many valves are not in tolerance?" "Exceed" is a tip-off because of the low pressure given for the third MSSV. 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT.
32	H	2	X			X						Y	N/A	B	U	K/A 039K5.08 1. Q=K/A, Q is at RO level. 2. Stem focus: After the Q statement, add something like "For your answer, consider that no operator actions are taken to mitigate or compensate for the below events." 3. Cred. Dist.: 'B' and 'D' are causing the exact same effect (lowering S/G pressure/temperature) which then causes the exact same effect on the RCS (lowering Tave, which adds positive reactivity). Therefore, since both distractors are doing the same thing, and there is only one correct answer, neither distractor could be plausible. Potential fix: consider changing one of the distractors to involve a Xe transient that is adding positive reactivity (i.e. Rx startup in the 12-24 hr window when Xe is burning out?). Q is U due to multiple non plausible distractors. 03/15/2012 1. Licensee modified Q per NRC request (Xe transient occurring 15 hours post-trip). Q now appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
33	H	2	X				X					Y	N/A	N	E	K/A 040AA1.20 1. Q=K/A, Q is at RO level. 2. Stem focus/partial correct: need to be careful with the timing of the Q, inserting rods may be required as part of the power reduction with the turbine. Ensure second part of the Q statement reads something like: "Per 18008-C, the FIRST action the operators will perform is to _____ ." Delete the phrase "to lower reactor power" because it weakens the plausibility of inserting rods and is not needed. 03/15/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
34	H	2	X									Y	N/A	N	E	K/A 041K3.02 1. Q=K/A, Q is at the RO level 2. Stem focus: we need more information than is provided to determine the correct answer. Consider the following modifications: "Unit 1 Initial Conditions: -Power=100% -Steam dumps are in the TAVG mode Current Conditions: -Main Turbine automatically trips -Reactor Trip Breaker A opens -Reactor Trip Breaker B is CLOSED and cannot be opened Based on the current conditions, which one of the following correctly completes the following statement, if no other operator actions are performed? RCS Tavg will be controlled at _____ , due to Steam Dumps controlling on the _____ controller." 03/15/2012 1. Licensee modified Q statement per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
35	H	2	X			X						Y	N/A	N	E	K/A 051AA2.02 1. Q=K/A, Q is at the RO level. 2. Stem focus: Slight clarification to the first part Q statement: "Based on the current conditions, a manual Reactor trip _____ required by 18040-C, and …." 3. Cred. Dist.: Interplay between 'D' choices is not plausible. If a reactor trip is NOT required, why would things be so bad that steam dumps would NOT operate. Mindset would be that vacuum allows the plant to stay at power although the steam dumps would not work. 03/15/2012 1. Licensee modified Q per NRC request. Licensee provided further information that resolved concerns over plausibility of distractor 'D.' Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
36	H	2				E						Y	N/A	B	E	K/A 054AA2.02 1. Q=K/A, Q is at the RO level. 2. Cred. Dist: D is not plausible because how would MFW Pump 'A" not trip on SI? No conditions are given in the stem to make anyone consider this choice. C and D are close to implausible for MFW pump "B" because manual operator action is too strong of a choice—no one would allow the B pump to continue to run until the low Tavg condition is reached, manual trip to back-up the assumed failed SI trip makes sense, the others do not. Q is E due to one non plausible distractor (D). 03/15/2012 1. Licensee presented Q with no changes, D still not plausible. NRC provided several ideas to licensee to fix the Q, asked licensee to present option later on. 03/16/2012 1. Licensee presented newly revised Q based upon NRC recommendations from the previous day. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
37	H	3				X						Y	N/A	N	U	K/A 055EA2.02 1. Q=K/A, Q is at RO level. 2. Cred Dist: not plausible that steam dumps would be available in a post-ECA-0.0 situation; no circ water pumps running, no condenser vacuum. There are also some overlap concerns/double jeopardy with Q 35 (dealing with loss of vacuum and effects on steam dumps). 3. Is there any situation in ECA-0.1 where steam dumps are placed in service? Maybe by creating the other option as the right answer resolves the plausibility concerns. Q is U due to multiple non-plausible distractors. 03/15/2012 1. Licensee presented alternate Q. NRC intervention required to assist in developing satisfactory alternative to second part of the question, testing a different method of power restoration and what ARVs would be able to be automatically operated. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
38	H	2	X					X				Y	N/A	N	E	K/A 056AK1.03 1. Q=K/A, Q is RO level. 2. Stem focus: add "approximately" to the Q statement, for example: "Based on the given conditions, the current subcooling value is approximately ____." 3. Job link: Is there a plant document that specifies that subcooling is calculated using CETs instead of Thot? A better way to ask the Q is to state that "qualified SPDS (or whatever that is Vogtle specific) subcooling monitor is reading erratically. The SS directs you to verify the reading by manually calculating subcooling margin. Based on the given conditions, the correct reading as displayed on SPDS TI-XXX, Subcooling, should be approximately _____." I.e., this introduces a little bit of operational validity to the exercise of using steam tables. Another suggestion would be to give five highest CET values, see if applicant knows to use average of 5 highest, or the very highest value. 4. Cred. Dist: when would operators ever average Thots and CETs? (making distractor 'B' non plausible)? 03/15/2012 1. Discussed at length w/licensee. NRC position is that it is better to provide hot leg and cold leg temperature values and CET values, and then ask what the subcooling monitor calculates (more operationally valid). Licensee agreed to table the Q. 04/16/2012 1. Licensee agreed w/NRC recommendations and modified the Q as recommended. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
39	F	2	X			X						Y	N/A	N	E	K/A 058AK3.01 1. Q=K/A, Q is at RO level. 2. Combustion air appears in every choice of the first part Q, consider re-write to ask whether fuel is shut off, or whether fuel is NOT shut off. 3. Consider minor re-write of second part Q statement and second part distractors as follows: "The DG1B output breaker is required to be opened using the **local** breaker _____ ... TRIP pushbutton ... handswitch" 03/15/2012 1. Licensee modified the Q per NRC request. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
40	H	2										Y	N/A	B	S	K/A 059K4.08 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time. 03/15/2012 1. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
41	H	3	X			X	X					Y	N/A	N	U	K/A 061A3.04 1. Q is a borderline K/A match, Q is at RO level. 2. Minor tweak to second column heading: "**MDAFW "B" mini-flow handswitch on Shutdown Panel B**" to ensure parallelism with other column heading/clear any confusion over what Q is asking. 3. Partial correct: there is a timing aspect to this Q; the mini-flow on A pump will be fully open when the pump initially starts, and then will throttle closed eventually over the long term. Will need to bound the Q in time somehow to attempt to make the Q work. 4. Cred. Dist: First part of distractors 'A' and 'B' non plausible. The conditions in the stem for the 'A' MDAFWP are completely normal; therefore, why would the applicant think that the mini-flows would stay fully open, instead of throttling (even a little bit) once the pump starts to deliver flow to the S/Gs? Q is U due to multiple non plausible distractors. 03/15/2012 1. Licensee provided modified Q that included AFW flow rates—therefore addressing the plausibility concerns that were inherent in the initial Q statement. NRC recommended several changes to enhance the modified Q. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
42	F	2				X	X					Y	N/A	B	E	K/A 061K6.02 1. Q=K/A, Q is at RO level. 2. Cred Dist: D is not plausible—what machine or component in the plant resets itself when speed lowers below a mechanical overspeed trip setpoint? 3. Partial: Is A technically correct? Specificially, would the amber light extinguish when the limit switch is reset, after manually reseting the mechanical trip linkage? Discuss w/licensee. 03/15/2012 1. Licensee proposed modified Q based on NRC comments; however, modified Q still had plausibility issues with the 'D' distractor. NRC intervened to propose a different plausible distractor for the 'D' choice. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
43	F	2				X	X					Y	N/A	N	E	K/A 062A2.11 1. Q=K/A, Q is at RO level. 2. Cred. Dist/Partial: All distractors need to be specific as to which components; e.g. "A ACCW Pump" instead of just "ACCW Pump" 03/15/2012 1. Licensee modified the Q per NRC request. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
44	F	4										Y	N/A	N	S	K/A 062AA2.03 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
45	F	2										Y	N/A	N	S	K/A 063K3.01 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
46	F	2				X						Y	N/A	N	U	K/A 063K4.04 1. Q=K/A, Q is at RO level. 2. Cred. Dist: Plausibility of first part of distractors 'A' and 'B' appears weak; if the loss of the B train DC bus affects the B CCP the obvious effect will be to de-energize control power, which causes the main control board handswitch lights to go out. Plausibility of the interplay between 'B' and 'D' also appears weak; if the loss of DC bus affects the pump one way, why would it cause an opposite effect on the lights? Q is U due to multiple non-plausible distractors. 03/15/2012 1. Licensee presented modification to first part of Q distracters, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
47	F	3				X						Y	N/A	B	U	K/A 064K6.07 1. Q=K/A, Q is at RO level. 2. Cred. Dist: Because DG1B has the higher start air pressures, logically it is the 'better' choice. A is NP because if both diesels will accept an emergency start, why would only DG1A (the 'worse' choice) accept a normal start? B is NP because if both dieself would normal start, why would only DG1A (the 'worse' choice) accept an emergency start? Logically the Q can be eliminated down to either C. or D. and knowledge of whether the normal start or the emergency start requires the higher pressures. Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee presented new Q that deals with entry into LCO 3.8.3 based on starting air pressure, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
48	H	2				X						Y	N/A	N	U	K/A 065AK3.04 1. Q=K/A, Q is at RO level. 2. Cred. Dist: having to manual Rx trip is too strong of an option, with immediate urgency, when compared with losing the SFP gate seals, which is a casualty that does not have the same immediate urgency. Also, there are multiple backup mechanisms to the SFP seals (i.e N2 backup tanks). Would a SFP gate seal completely failing and draining with no makeup ever uncover the fuel (or is the gate physically above the top of fuel in the SFP?) This makes the first part of distractors C. and D. non plausible. Plausibility of 70 psig is also weak; at what pressure would a Rx trip be required? Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee presented modified Q that changed the second part of distracters 'C' and 'D;' however issues remained with ensuring the reason for cross-tying instrument air (because there is no AOP background document). NRC presented modification to the Q that directly addressed the procedural step in the AOP (15). K/A is met because knowledge of the procedural step, which is all that is available to use, is knowledge of the reasons for the procedural step. Q now appears SAT.
49	H	2	X									Y	N/A	N	E	K/A 068AA2.10 1. Q is a very borderline K/A match, Q is at RO level. 2. K/A match: As written the knowledge required to answer the Q deals with location of components and correct switch positioning, the erratic NI indications are not part of the determination of the correct answer. Willing to accept. 3. Stem focus: Consider deleting all of the information above the Q statement and re-word the second part Q as follows: "If a fire results in a Unit 1 control room evacuation, per 18038-1, "Operation From Remote Shutdown Panels" the Test/Status Control Switch in the Control Building is required to be placed in the _____ position." 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
50	F	3	X									Y	N/A	B	E	K/A 071A1.06 1. Q=K/A, Q is at RO level. 2. Stem focus: need to slightly re-word the Q statement to be more precise in what Q is asking, for example: "Based on the given conditions, which one of the following correctly completes the following statement? The Auxiliary Bldg HVAC will _____ and per procedure XXXXXX, the operators are required to _____ . A. (1) automatically trip B. (1) automatically trip (2) continue to monitor the radiation monitors. No additional actions with regards to Auxiliary Bldg HVAC are required. C. D. (2) continue to monitor the radiation monitors. No additional actions with regards to Auxiliary Bldg HVAC are required." 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
51	H	2	X			X						Y	N/A	N	E	K/A 072K5.02 1. Q=K/A, Q is at RO level. 2. Operational Validity discussion: This Q is not very operationally valid; however, the K/A is itself not operationally valid and is more of a GFES-type K/A that was randomly selected for the site specific exam. The difference between this Q and others, which may be rejected for operational validity concerns, is that in the other cases the K/A is more conducive to writing an operational valid Q, whereas in this case there is almost no way to write an operationally valid Q to this K/A. Willing the accept this Q on the test per this discussion. 3. Stem focus: Enhance by providing a reason for the very high rad trash? e.g., first bullet to read "Unit 1 is in MODE 5 and containment clean-up is in progress following a substantial primary coolant leak." After the bullet stating the RE-004 is reading 5 mr/hr, add bullet stating e.g. "For your answer, consider that all of the RE-004 reading is due to the high rad trash container." 3. Cred. Dist: Is using the square root of the distances plausible (distractor 'D')? Perhaps using the distances cubed (raised to the third power) is a more plausible option. 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
52	H	2	X	X								Y	N/A	M	E	K/A 073K5.03 1. Q=K/A, Q is at RO level. 2. Stem focus: Pre-planning vs. not pre-planning the work is not part of the determination of the correct answer; simply state in the stem how long the work is going to take in the radiation field. 3. Cues: All distractors need to be carried out to two decimal places to match distractor 'A. 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
53	H	2				X						Y	N/A	N	U	K/A 074EA1.25 1. Q=K/A, Q is at the RO level. 2. Cred. Dist.: With the operators in FR-C.1 and major disaster imminent (true anytime operators are in FR-C.1), setting atmospheric controls to an arbitrary setpoint of 25% is not plausible. In what other EOPs does the EOP specify a particular controller setpoint; rather, they specify cooldown rates using either steam dumps or ARVs. Recommendation: change all instances of 25% to "throttled as needed to maintain a cool down rate of < 100 degrees F/hr in the cold legs." Q is U as written due to multiple non-plausible distractors. 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
54	H	2	X			X						Y	N/A	N	U	K/A 075K4.01 1. Q=K/A, Q is at RO level. 2. Cred. Dist: There is a lot of overlap with this Q and with at least two other Qs dealing with condense loss of vacuum/loss of circ water and loss of steam dump functions. Second part of 'B' and 'D' are no plausible, all the applicant is given in the stem is that there are no circ water pumps running, so without any further information about vacuum, how would anyone think the steam dumps would function as required? Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee presented new Q that went away from steam dump operation in the second part of the Q, newly written Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
55	F	2										Y	N/A	B	S	K/A 076K1.09 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time. 03/16/2012 1. Slightly modified Q to prevent a minor cue based on a previous Q concerning NSCW and ACCW. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
56	H	2				X	X					Y	N/A	N	E	K/A 077AK1.02 1. Q=K/A, Q is at RO level. 2. Partial: could an operator determine that a unit trip was required instead of lowering excitation? Need to ensure D is to absolute correct answer, check with licensee. 3. Cred. Dist: Need to use plant-specific nomenclature for the distractors B, C, D. For example: "take HS-XYZ, MAIN GEN EXCITATION [or whatever] to the RAISE position until generator is at 200 MVARs lagging." 03/16/2012 1. Licensee modified Q per NRC request. However, the modifications to the distracters were not precise enough and could lead an applicant to believe that there was no single correct anser. NRC proposed modifications to the Q to make the answer choices technically correct/technically wrong. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
57	F	2				X						Y	N/A	N	U	K/A 078K3.01 1. Q=K/A, Q is at RO level. 2. Distractors A and B and non plausible, because the consequences of these valves failing open under the given conditions are too severe to the plant when the applicant is considering these failures vs. the valves in distractors C. and D. Furthermore, the interplay between distractors 'A' and 'D' does not make sense—why would the normal PRZR spray valves fail in a different direction that the auxiliary spray valves (i.e. they would have to because there is only one correct answer). Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee modified the Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
58	F	2				X						Y	N/A	N	U	K/A 086A4.06 1. Q=K/A, Q is at RO level. 2. Not credible that one detector failure would cause a Halon activation when the gas is so rare&expensive—similar to single failure criteria. Would it be credible that a single detector failure could actuate a halon system worth so much $$? Potential recommendation to compare two detectors vs. three detectors actuation in second part Q? 3. There are also credibility issues with the first part of distractors 'C' and 'D.' Is there any other plant alarm that has C&T as a primary location for receipt of the alarm? Q is U as written due to multiple non plausible distractors. 03/16/2012 1. Licensee modified Q per NRC recommendations. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
59	F	3				X						Y	N/A	B	E	K/A 103K1.08 1. Q=K/A, Q is at RO level. 2. Cred. Dist.: "Any SI signal" is too strong a choice (i.e. including manual actuation?) when compared to only the Containment Hi-1 actuation signal, and makes the first part of distractors A. and B. non-plausible. 3. Q is considered an E; although Q has multiple non plausible distractors there is a relatively easy editorial change to make the Q work. 4. Consider the following recommendation: "An automatic Containment Isolation Phase A (CIA) is directly actuated by _____ and the circuitry logic allows the CIA signal to be reset _____. Also change first part of distractors C. and D. to read "any automatic SI signal." 03/16/2012 1. Licensee modified the Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
60	F	2				X						Y	N/A	B	E	K/A G2.1.29 1. Q=K/A, Q is at RO level. 2. Distractor A is non plausible. It is common knowledge throughout the plant that manual valves are only checked in the close direction and never in the open. 3. Distractor C is borderline. Consider modifying the second statement in distractor C to read as follows: "Align valve in the required position, notify the SS once the valve is properly aligned, and do NOT continue until SS permission to resume the line-up is obtained." 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
61	F	2		X		X						Y	N/A	N	U	K/A G2.1.8 1. Q=K/A, Q is at RO level. 2. Cred. Dist/Cues: Use of "preferred" in second part Q statement implies just one method, makes second part of distractors A. and B. almost NP. Recommend changing second part of distractors A. and B. to read: "Bridge Phone Ext 3145, codes 123# or 234#." 3. Further plausibility issues with first part of distractors 'B' and 'D.' Whenever would an alternate safe shutdown procedure rely on extra shift personnel, who may not be available in the first place, to operate Shutdown Panel A? Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee modified Q per NRC request; however new Q had overlap with in plant JPM. NRC input changed the Q to resolve the overlap concern and Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
62	F	2				X						N	N/A	B	U	K/A G2.2.1 1. Q does not meet K/A, Q is at RO level. How is the Q testing operation of controls that could affect reactivity? At most the operators in the Q are monitoring SR and using the plant page system. 2. Cred. Dist: There is a subset issue here in that immediately evacuating Containment would stop Core Alterations, which makes second part of distractors 'A' and 'C' non plausible.. Also, the use of the modifier "only" is rarely the best choice when dealing with actions operators will take---there is almost always other actions that are required to be taken. Q is U as written due to multiple non plausible distractors. 03/16/2012 1. Licensee presented new Q, which had multiple issues. NRC recommended a pathway forward with a slightly different approach. Licensee agreed to develop a new Q to this same K/A.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
62	H	2	X			X						Y	N/A	?	U	K/A G2.2.1 (new Q for same K/A) 1. Q=K/A, Q is at RO level. 2. We need to know Q history (i.e. bank/modified/new) and pedigree (if applicable), also distractor analysis needed. 3. Stem focus: we cannot test on 'proper course of action;' we have to test requirements. 4. Cred. Dist.: Delete phrase "...and repeat the ECC calculation." from the second part of distractors B. and D. because it is not needed to differentiate an answer. The second part of distractors A. and C. are not plausible. If a 1/M plot predicts Rx critical below an insertion limit, how is it credible for safe Rx operation to continue with the startup? Q is U as written due to multiple non-plausible distractors.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
62																**[Continuation of Q 62]** Consider the following recommendation for Q replacement: "Given the following: -Time=0700. -12003-C, "Reactor Startup (Mode 3 to Mode 2)" is in progress. - SR NIS counts are 400 cps and increasing slowly. - The 1/M projects criticality to occur below the insertion limit. - 1/M value is at 0.08. -Time=0707. -OATC has inserted control bank rods 770 pcm. -After all rod motion stops, SR NIS counts are 300 cps and increasing slowly. -Time=0730. -No rod motion has occurred since 0707. -SR NIS counts have stabilized at 680 cps. Which one of the following correctly completes the below statements? In accordance with 12003-C, at 0730 the audio count rate _____(1)_____ required to be in service. In accordance with 12003-C, at 0730 a manual reactor trip _____(2)_____ required. A. (1) is (2) is B. (1) is (2) is NOT C. (1) is NOT (2) is NOT D. (1) is NOT (2) is Ans: B. 04/16/2012 1. Licensee accepted NRC recommendation/written Q as shown above with no additional comments or changes. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
63	F	2	X									Y	N/A	M	E	K/A G2.2.17 1. Q=K/A, Q is at RO level. 2. Because plant manager is stronger than OSM, need qualifier to bound the subset. Consider the following modification to the second part Q statement: "the MINIMUM level of authorization required to approve MSPI equipment removal from service that results in a 25% reduction of remaining MSPI margin is the _____" 03/16/2012 1. Licensee presented modified Q per NRC requests; however, during review it was recognized that the modified Q was testing on the SRO-only level. Modified Q to test on four different components, which one is NOT a MSPI component. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
64	F	2				X						Y	N/A	B	U	K/A G2.2.3 1. Q=K/A, Q is at the RO level. 2. Cred. Dist: The analysis of this Q is similar to the previous Q concerning containment spray pump power supplies—the divergeance in bus voltages makes the second part of distractors 'C' and 'D' to be non plausible. DG fuel oil transfer pumps are small pumps, it's not plausible that they would be powered from major safeguards 4160 V buses. Q is U as written due to multiple non plausible distractors. 03/16/2012 1. Licensee presented modified Q based on NRC comments. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
65	F	2				X						Y?	N/A	B	U	K/A G2.3.11 1. Q=K/A, but it is borderline. Q is at RO level. 2. Need to be more precise with distractors. For example, "Adjust SG #3 ARV automatic setpoint to 1125 psig." And "Place SG #3 ARV in MANUAL and maintain SG pressure LESS THAN 1125 psig." (or equivalent) 3. Cred. Dist: Why would any applicant choose to place a controller in manual when an automatic option is available? Makes 'C' and 'D' non plausible. There is no condition in the stem to make the applicant think that there is a reason automatic control will not work. Q is U as written due to multiple non plausible distractors. 03/16/2012 1. Licensee modified Q per NRC request and presented new Q. NRC recommended minor changes to second part distracters C and D to ensure the verbage was clear about uncontrolled depressuriation of the ruptured S/G. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
66	F	2	X				X					Y	N/A	M	E	K/A G2.3.13 1. Q=K/A, Q is at RO level. 2. Stem focus/Partial: SS appears in all answer choices. Better way to write Q statement might be as follows: "Per 93300-C, "Conduct of Refueling Operations," the OATC _____ have the authority to suspend core alterations and per 18006-C, "Fuel Handling Event," the Containment evacuation page announcement will instruct personnel to _____." First part of distractors are now "Does/Does NOT" 03/16/2012 1. Licensee modified Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
67	H	2				X						Y	N/A	B	U	K/A G2.3.14 1. Q=K/A, Q is at RO level. 2. Second part of Q distractors are non plausible due to overlap with Sim JPM H which specifically directs the RO when to close the outside air supply damplers. Q is U due to multiple non plausible distractors. Plausibility concerns in this case are due to overlap, not the specific psychometrics of the Q. 03/16/2012 1. Licensee modified second part Q to move away from isolation of dampers/overlap concerns. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
68	F	2				X	X					Y	N/A	B	E	K/A G2.4.31 1. Q=K/A, Q is at RO level. 2. Cred. Dist: B is not plausible because of the first sentence, which contradicts common sense. 3. Could D be a potentially correct answer? 4. Modify final clause of answer choice 'A' to read: "… as prioritized by the operating crew." Doesn't make sense that EOPs would specifically prioritize alarm response, which is one way to read the last part of distractor 'A.' 03/16/2012 1. Licensee presented modified Q, that still had similar issues. NRC recommended pathway forward using different alarm response criteria from NMP-007-001 sections on alarm response. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
69	H	2	X									Y	N/A	B	E	K/A G2.4.46 1. Q=K/A, Q is at RO level. 2. Add second bullet between the two current bullets in current conditions that explicitly states that DG1A did in fact start when the button is pushed. 03/16/2012 1. Licensee modified the Q per NRC request, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
70	H	2				X						Y	N/A	M	E	K/A WE03EK2.1 1. Q=K/A, Q is at RO level. 2. Cred. Dist: A is not plausible because the type of SI signal generated is not specified (i.e. perhaps make the choice a Containment Hi-1 signal in all distractors it appears?) 03/16/2012 1. Licensee modified the Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
71	H	2				X						Y	Y	N	U	K/A WE04EA1.3 1. Q=K/A, Q is NOT at RO level. Internal EOP transitions (beyond entrance criteria) are considered SRO only knowledge, therefore as written the second part of the Q is SRO-only. 2. Cred. Dist: It is not plausible to transition to E-1 (an optimal recovery procedure) if the LOCA outside containment is not isolated. Q is U due to license level mismatch (SRO only Q on RO exam). 03/16/2012 1. Licensee modified Q per NRC request. However, RVLIS level plausibility was questioned during the review. NRC recommended testing on whether or not RCS pressure was the ONLY parameter that was used by ECA-1.2 to determine whether the leak was isolated or not. Licensee was going to develop this Q, as well as potential alternatives, and present a final version to the NRC following validation(s). 04/16/2012 1. Modified Q after validations questions knowledge of whether to use RCS pressure vs. PRZR pressure as the parameter to verify response. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
72	H	2	X			X						Y	N/A	N	E	K/A WE05EK2.1 1. Q=K/A, Q is RO level. 2. Stem focus: Q needs to be very clear as to what "adequate" means. For example, include the following statement in the stem: "For the purposes of this question, "adequate" as defined by "procedure 19231-C will NOT direct further adjustments to the RCS Feed Path or RCS Bleed path"" (or equivalent.) 03/16/2012 1. Licensee modified the Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
73	H	3										Y	Y	B	U	K/A WE08EK3.4 1. Q=K/A, Q is a weak RO level match. 2. Cred. Dist: Pressurized thermal shock concerns to the S/G shell is not a plausible reason; the entire procedure is focused on brittle fracture concerns of the reactor vessel. Potential fix to compare tensile vs. compressive stresses (GFES-type?)? Q is U due to multiple non plausible distractors. 03/16/2012 1. Licensee modified the Q per NRC request. Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
74	F	2										Y	Y	N	S	K/A WE11EG2.4.6 1. Q=K/A, Q is at RO level. 2. Q appears SAT at this time. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
75	H	2				X						Y	N	N	U	K/A WE15EG2.1.32 1. Q=K/A borderline, Q is a weak RO level match. 2. Cred. Dist: Potential thermal shock to the Reactor Vessel is not plausible due to the excessively large amounts of water that it would take to make it a concern. Also, is it ever possible to have RED path due to containment flooding for Westinghouse plants? Q is U due to multiple non-plausible distractors. 03/16/2012 1. Licensee presented modified Q, NRC gave further guidance and feedback to make the Q meet the standards required by the NUREG. Still a memory level question, Q now appears SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
																SRO Questions
76	H	2		X		X	X					Y	N	N	U	K/A 001AA2.03 1. Q=K/A. SRO-only is NOT met. 2. Cues: In Q stem, to state "…SRO will directly enter procedure…" is a tip-off cue that entry into E-0 is correct. 3. Multiple correct answers. First part of the Q, SDM limits are power distribution and reactivity limits (subset) due to the imprecision of the phrase "power distribution and reactivity limits." Was not able to verify the listed correct answer as correct, TS bases of LCO 3.1.4 mentioned SDM, but did not mention "power distribution and reactivity limits" given a continuous unwarranted rod motion condition. 4. Q is not SRO-only level for TS bases because the information used from TS bases is not exclusive to the SRO position, and is not knowledge of TS bases that is used to analyze TS required actions and terminology 5. Second part of Q contains multiple non-plausible distractors. With a first-out annunciator given in the stem, all operators know that a reactor trip and entry into E-0 is required, so second part of distractors 'A' and 'C' are not credible. Q is UNSAT per the above discussions. 03/14/2012 1. Modified Q presented in office review. 2. Minor changes made to Q statement, "required to" vs. "will." 3. Q now has references (EAL chart), deleted statement that outward rod motion was not noticed, added statement that OATC continues to insert rods in MANUAL, added statement to not consider ED judgment as a basis for declaration. 04/16/2012 1. Final submitted version appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
77	H	2	X	X		X						Y	N	N	U	K/A 008AG2.1.19 1. Q=K/A. SRO-only is NOT met due to the references provided. 2. Cred. Dist.: Not plausible to give references that contain less than 1 hour action statements, which are required to be known from memory. Q is U due to multiple non-plausible distractors and not meeting SRO-only. 3/14/2012 1. Licensee presented Q as is without references. Q would not work without references because it would still be asking greater than one hour Tech Spec actions without a reference provided. 2. NRC provided recommendations to licensee personnel as to an alternative way to get the Q to work; perhaps by using two pictures of IPC computer points. First half Q: operable/inoperable; second half Q are all required TS actions complete (based on the given pictures)? 04/16/2012 1. Licensee presented revised Q in final submittal: is PORV block valve required to be de-energized/what is lift pressure for 'B' PORV 456A. 2. Change "slowing rising" to "slowly rising" for third bullet under Current Conditions. 3. With modification of 2. above, Q now appears SAT for final submittal. MKM.
78	H	2	X									Y	Y	N	E	K/A 012G2.2.40 1. Q=K/A. Q=SRO only. 2. Stem focus: Place the second bulleted statement at the end of the given conditions, change it to read as follows: "Time of discovery of the missed surveillance was 1600 on 05-01-2012." Change Q statement to read as follows: "Which one of the following correctly completes the following statement? Consider that a risk evaluation will NOT be performed. To delay declaring the LCO being NOT met, the surveillance is required to be performed satisfactorily no later than _____." 03/14/2012 1. Licensee modified the Q as requested, Q now appears SAT. 04/16/2012 1. No changes from in-office review, Q is SAT for final submittal. MKM

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
79	H	2	X									Y	N	N	U	K/A 015A2.05 1. Q=K/A. Q is NOT SRO only. 2. Stem focus: add statement 'All RCPs are NOT running," or equivalent. 3. Stem focus: slightly change statement to read: "At the onset of core void formation, as void fraction rises, SR NI response will initially ____." Also change first part of Q distracters to "rise" vice "rises" to grammatically match the tense. 4. SRO only. Neither the first part nor the second part of this Q is SRO only because first part is systems knowledge, second part can be answered with knowledge of major action categories only, which is RO-level knowledge. Q is U due to not meeting SRO-only. 03/14/2012 1. Licensee presented a modified Q. However, Q still does not meet requirements of NUREG. 2. NRC agreed to provide a new K/A for this Q.
79	H	3	X	X		X						Y	N	?	U	K/A 014A2.04 (replacement K/A, entirely new Q) 1. Q=K/A, Q is NOT at SRO level because the operability determination does not require SRO level knowledge (see below). 2. We need to know Q history (i.e. bank/modified/new) and pedigree (if applicable), also distractor analysis needed. 3. Given the initial conditions with rods more than 12 steps divergent, rod group alignment limits are not met—this is RO level knowledge "above the line." Because the Q stem clearly states that I&C determines that the rod control system is demanding motion properly but the rod will not move, it is clear that the rod is somehow mechanically stuck. This determination does not require any specific knowledge of TS bases and is something any operator could determine. For example, an ECCS pump breaker that trips obviously renders the pump inop—this is an operability determination, but not at the SRO level. Therefore, the second part of distractors A. and C. are non-plausible. 4. All verbage after "OPERABLE" or "INOPERABLE" is unnecessary and should be deleted. Q is U due to multiple non-plausible distractors.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
79																**[continuation of Q 79 w/recommended replacement]:** Consider the following recommendation for replacement Q: "Initial Conditions: -Time=0900. -Unit 1 is at 60% power following a refueling outage. -OATC is withdrawing rods when one DRPI is seen not moving with its group. -OATC immediately stops withdrawing rods, and all rod motion stops. -CBD Rod H-8 DRPI indicates 198 steps. -CBD step counters indicate 212 steps. Current Conditions: -Time=0945. -No rod motion has occurred since 0900. -I&C has verified no faults on the DRPI system. -I&C has verified that the rod lift coil for Control Rod H-8 is failed. Which one of the following correctly completes the below statements? Based on the initial conditions, at 0900 **Control Rod H-8** was _____ in accordance with the Bases of TS 3.1.4, Rod Group Alignment Limits. Based on the current conditions, at 0945 **Control Rod H-8** was _____ in accordance with the Bases of TS 3.1.4, Rod Group Alignment Limits. Rod H-8 Status at 0900 / Rod H-8 Status at 0945 A. OPERABLE / INOPERABLE B. INOPERABLE / INOPERABLE C. OPERABLE / OPERABLE D. INOPERABLE / OPERABLE Ans: D 04/16/2012 1. Licensee accepted above NRC recommended Q w/no changes. Q appears SAT in final submittal. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
80	H	2	X			E	E					Y	Y	B	E	K/A 028A2.03 1. Q=K/A. Q=SRO only. 2. Stem Focus: have to re-word second part Q statement to ask what SS is required to do, not what the SS will do; e.g. "the Shift Supervisor is required to direct the UO to FIRST perform section ____." (or some other equivalent Q statement). Also must potentially add statement in stem that no other method of hydrogen concentration reduction has yet been performed (cf. CAUTION statement on p. 14 of 13130-1). 3. Cred Dist/NP distracters: subset issue in that if the explosive limit has been exceeded, then the flammable limit has also been exceeded. Therefore, it would not be logical for any student to pick choices 'A' or 'B,' because either 'C' or 'D' must also be correct. One way to fix this issue is to test whether the explosive limit is or is not exceeded. 03/14/2012 1. Licensee modified Q as requested by NRC. Q is now SAT as written. 04/16/2012 1. No additional changes needed to Q in final submittal, Q appears SAT. MKM.
81	F	2				X						Y	Y	N	E	K/A 037AA2.10 1. Q=K/A. Q=SRO-only 2. Cred Dist: Why would any applicant choose second part of distracters A and C without any information regarding primary coolant activity levels? Recommend adding a primary coolant activity value to the stem to enhance the plausibility. Also ensure second part of Q is asking the basis of the specific limit, potentially add the specific TS bases section (3.4.17) for clarity? 03/14/2012 1. Licensee modified Q as requested by NRC. Q is now SAT as written. 04/16/2012 1. No additional changes needed to Q in final submittal, Q appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
82	F	2										Y	Y	N	S	K/A 039G2.1.28 1. Q=K/A. Q=SRO-only Q appears SAT as written. 04/16/2012 1. No additional changes needed to Q in final submittal, Q appears SAT. MKM.
83	H	2	X									Y	N	N	U	K/A 054AG2.1.7 1. Q=KA. Q is NOT SRO only 2. Stem focus: must also state something like "no other annunciators lit" in stem to allow applicant to differentiate what is going on. 3. SRO-only. Applicant is essentially diagnosing the cause of the annunciators and determining the procedure to enter based on the diagnosis, which is RO-level knowledge. Q is U due to not meeting SRO-only. 03/14/2012 1. Licensee presented new Q. 2. Modified this Q to change statements to enhance plausibility of raising MFPT speed in manual, SRO only met with first part Q on LCO 3.3.2. function of MFPT trip causing AFW actuation met or not met (MFPTs need to be pumping forward for the LCO to be met), basis knowledge. 3. Q potentially SAT as written. 04/16/2012 1. E change to final submittal Q: change second part of distracters B. and D. to read "take manual control of MFPT "B" speed as necessary to restore NR level between 60% and 70%." 2. Final submittal Q should be SAT with above change. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
84	H	3	X									N	Y	N	U	K/A 055EA2.01 1. Q does not meet K/A on the SRO-only level. Q is SRO-only for procedure selection. 2. Stem focus: consider adding bullet to state: "operating crew is at the step to select the recovery procedure." Add more detail to bullet with BIT valves, maybe say "HV-8801A and HV-8801B (BIT DISCH ISOLATION) valves are BOTH closed." Modify second part of Q statement to ask required procedure transition, not what SS will do: "based on the current conditions, the SS is required to transition to _____." We need to ensure the conditions given are not simply determining whether an SI is required or not (which could potentially also be RO-level knowledge). 3. K/A match: valve failure positions are RO-level knowledge, therefore the K/A is not met on the SRO-only level. Q is U due to not meeting K/A on the SRO level. 03/14/2012 1. Licensee presented modified Q based on NRC comments. Modified Q statement was changed by NRC to ensure there were no partially correct answers (to put the SS at the specific point in the procedure where instrument air is being checked.). 2. Independent review of K/A match at the SRO level recommended before calling Q potentially SAT. 03/15/2012 1. Based on independent review of K/A match at the SRO level, further modified the Q to ensure SRO-only level was met based on procedural selection of placing safety-grade charging in service. 04/16/2012 1. No additional changes needed to Q in final submittal, Q appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
85	H	3	X				X					Y	Y	M	U	K/A 058AG2.4.9 1. Q=K/A. Q is SRO-only 2. Stem focus: Better way to organize Q statement: "Based on the current conditions, which one of the following correctly completes the following statement? Per 18034-1, the letdown orifice isolation valves…." Second part Q must ask what LCO(s) is/are required to be entered, not what SS will do. For example: "the Shift Supervisor is required to enter LCO 3.7.5, 'Auxiliary Feedwater,' _____." 3. Partial: in accordance with the rules for TS entry, wouldn't the SS be required to enter both conditions A and B? i.e. given the conditions in the stem, one steam supply valve could be inop (cond A) and a train is also inop (cond B). Answer/Distractor analysis provided for this Q is confusing. 4. Potential fix to test whether enter LCO A and B, or A only? Q is U due to potential for no correct answer as currently written, need to discuss with licensee operability issues above. Rating of this Q can change based on discussions. 03/14/2012 1. Discussed this Q with licensee personnel in the office. To remove doubt over potentially two correct answers, change second part of the Q to only test whether condition B is required to be entered yes/no. 2. Q considered E now. 04/16/2012 1. Potentially need to modify second part of Q statement due to cues/teaching in the stem—perhaps use the language out of the TS statement itself? Need to discuss with MAB. 2. Final submittal Q should be o.k. with the above change made. MKM.
86	H	3										Y	Y	B	S	K/A 063A2.01 1. Q=K/A. Q=SRO only 2. Provided answer/distractor analysis does not support the second part of the Q. Need to update to match the Q. 04/16/2012 1. Final submittal Q answer/distractor analysis still needs to be updated. Will provide feedback w/licensee. Otherwise, Q on final submittal appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
87	F	2				X						Y	Y	N	U	K/A 071G2.1.23 1.Q=K/A. Q=SRO only 2. Cred. Dist: since Q is asking >1 hr actions, we would need to provide a reference for this Q, which makes the Q as currently worded a direct look-up and the second parts of B. And D. non plausible. Also as currently worded, analysis of B. And D. would not occur until the next day (after the release). Q is U due to multiple non-plausible distractors. 03/14/2012 1. Licensee provided two different modifications to the Q. Neither was completely acceptable. NRC modified Q statement and second part of all distractors to achieve a Q that would meet NUREG requirements, by testing whether additional actions were required in the ODCM vs. timing requirements for samples, etc. 04/16/2012 1. Answer/distractor analysis needs to be updated for this Q to reflect final version of Q. No additional changes needed to actual Q in final submittal, Q appears SAT. MKM.
88	H	4	X			X						Y	Y	N	U	K/A 076A2.02 1.Q=K/A. Q=SRO only. 2. Stem focus: Must ask required actions; is entry into INFO LCOs ever required? 3. Cred dist: 'D' is not plausible. With all NSCW pumps in both trains in PTL, how is that NOT LCO 3.0.3? 'C' is also not plausible because why would the operators decide to PTL all train A NSCW pumps when the LO PRESS condition has cleared? 03/14/2012 1. Licensee provided modified Q for discussion. NRC provided recommendations for fixing the Q, Q should be now SAT. First part: is/is not required to place all NSCW pumps in PTL; second part: is/is not required to immediately enter LCO 3.0.3? 2. Licensee will table the Q and ensure that the Q is operationally valid and acceptable for ILO applicant level. 04/16/2012 1. Modified Q as above and submitted with final submittal appears SAT. However, answer/distractor analysis lists two correct answers—verify w/licensee error will be corrected. Otherwise ready to appear on written exam. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
89	H	2	X									Y	N	B	U	K/A 077AA2.08 1. Q=K/A. Q is NOT SRO only, because it tests on whether applicant is required to trip Rx or not. Criteria to trip the Reactor are essentially entry conditions into E-0 and these conditions are RO-level knowledge. 2. Stem focus: Recommended changes to the Q statement, need to test requirements and be clear that voltages were constant during period under review: "Based on the current conditions, which one of the following correctly completes the following statement? If bus voltages were a steady 3595V, the Normal Incoming Breakers would have tripped after _____ and the Shift Supervisor is required to _____." Q is U due to not meeting SRO-only. 03/14/2012 1. Licensee presented argument that due to Rx trip requirement being buried in the AOP that Rx trip requirements in this case would not be "normal" entry in E-0. NRC recommended to licensee in second part of Q whether or not parallel procedure performance (i.e. E-0 and AOP) or just E-0 was required or not. Licensee accepted NRC recommendation. 04/16/2012 1. Q as modified during in-office review now appears SAT w/no additional changes needed as reflected in the final submittal. MKM.
90	F	2										Y	Y	N	S	K/A 103A2.02 1. Q=K/A. Q is SRO only. 2. Q appears SAT at this time. 04/16/2012 1. Q as reflected in the final submittal appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
91	F	3										Y	Y	N	S	G2.1.38 1. Q=K/A, Q=SRO only 2. First part Q statement, consider asking "is required to" instead of "has to" 3. Q appears SAT at this time. 04/16/2012 1. Q as shown in the final submittal appears SAT. MKM.
92	F	2	X									Y	Y	M	E	G 2.2.13 1. Q=K/A, Q=SRO-only 2. Stem focus: Should add "responsible for the work being performed" after Department Supervisor. 03/14/2012 1. Licensee modified Q as requested by NRC. Q now appears SAT. 04/16/2012 1. Q as shown in the final submittal appears SAT. MKM.
93	F	2	X									Y	Y	N	E	G2.2.18 1. Q=K/A, Q=SRO only 2. Stem focus. Second part Q worded a little awkward. Consider the following: "If neither CCP is restored to operable status, the unit is required to be in MODE 4 not later than _____ after CCP 'A' was declared inoperable." 03/14/2012 1. Licensee modified Q as requested by NRC. Also deleted extra information in stem concerning Mode 3 conditions. Q now appears SAT. 04/16/2012 1. Q as shown in the final submittal appears SAT. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
94	F	2				X						Y	Y	M	U	K/A G2.3.12 1. Q=K/A, Q=SRO only. 2. Distractor 'C' is not plausible, it is common sense that declared pregnant females will not be assigned to receive emergency doses. We also need to specify the gender of the other operators. Distractor 'A' is also not plausible when compared with 'D'—'A' operator is both younger and has more dose than 'D.' Q is U due to multiple non plausible distractors. 03/14/2012 1. Licensee proposed modified Q. NRC re-proposed a better three-column format with volunteer status required or not, then modified it into a 2x2 Q. Q now appears SAT.
95	F	3					X					Y	Y	N	E	K/A G2.3.6 1. Q=K/A, Q=SRO only 2. When would ops release a tank without Shift Manager authorization? Potential multiple correct answers? Recommend modifying second part Q statement as follows: "In addition to the SS/SSS, the Chemistry Manager _____ the simultaneous release. Second part distracters would be "is required to approve" and "is NOT required to approve." 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
96	F	2										Y	Y	N	S	K/A G2.4.12 1. Q=K/A, Q=SRO only. 2. Need to ensure 2nd part of B and D. read "Site Are Emergency" 3. Q is otherwise SAT. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
97	F	2					X					Y	Y	M	E	K/A G2.4.37 1. Q=K/A, Q=SRO only 2. Cred Dist: Distractor "B" is not plausible as written. Consider the following recommendation: "Recommending protective actions to offsite agencies, after the initial notifications have been made and the TSC is fully staffed." 03/14/2012 1. Licensee made modifications to Q as recommended by NRC. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.
98	H	2	X				X					Y	Y	M	E	K/A WE05EA2.2 1. Q=K/A, Q=SRO only. 2. Stem focus: Must add RCS pressure value for bleed and feed determination (i.e. bullet with RCS pressure = 2280 psig or equivalent). 3. Cred dist: Potential subset issue with A. and B; if B is true A is also true. Also 'C' is not plausible based on the given conditions. 4. Potential fix? Change Q to make either A or B the correct answer? 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
99	H	3	X			X						Y	Y	N	E	K/A WE06EG2.4.18 1. Q=K/A, Q is SRO only 2. Cred Dist.: First part of C. and D. unclear wording of "Number 1 seal requirements," and it is also not clear when the RCPs would be stopped under those conditions. For the first part of the Q, test on whether it is required to stop the RCPs or NOT. 3. Stem focus: Change "Regarding the SG depressurization..." to "During the SG depressurization..." for additional clarity. 03/14/2012 1. Licensee made adjustments to Q statement as requested by NRC. 04/16/2012 1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation
100	H	4	X				X					Y	Y	N	E	

K/A WE10EG2.4.47

1. Q=K/A, Q is SRO only
2. Based on the information in the Q, correct answer to the Q is A because step 23 RNO would first require repressurization before a transition to ES-0.3. Also try to keep Q on one page if at all possible.

Consider re-write of the Q as follows:

"Current conditions:

-Cooldown per 19002-C, "ES-0.2 Natural Circulation Cooldown" is in progress.
-The SS is at the step in 19002-C to check that a steam void in Reactor Vessel does NOT exist.
-The following data is noted:

Time	RVLIS Upper Range	PRZR Level
10:00	100	25
10:15	100	25
10:30	98	28
10:45	84	58

Based on the current conditions, the NEXT action required by 19002-C is to _____
AND
The MAXIMUM cooldown rate allowed for the procedure to be implemented is _____."

A. (1) repressurize RCS within limits of TS LCO 3.4.3 to collapse potential voids in system and continue cooldown in 19002-C.
(2) 50 F/hr
B. (1) repressurize RCS within limits of TS LCO 3.4.3 to collapse potential voids in system and continue cooldown in 19002-C.
(2) 100 F/hr
C. (1) GO TO 19003-C, "ES-0.3 Natural Circulation Cooldown With Void in Vessel (With RVLIS)."
(2) 50 F/hr
D. (1) GO TO 19003-C, "ES-0.3 Natural Circulation Cooldown With Void in Vessel (With RVLIS)."
(2) 100 F/hr"

03/14/2012

1. Licensee made adjustments to Q as recommended by NRC. Q now appears SAT.

04/16/2012

1. Q as shown in final submittal appears SAT w/no other changes needed. MKM.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	B/M/N	U/E/S	Explanation

ES-403	Written Examination Grading Quality Checklist	Form ES-403-1

Facility: VOGTLE Date of Exam: 04/20/12 Exam Level: RO ☑ SRO ☑

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

	Printed Name/Signature	Date
a. Grader	MICHAEL K. MEEKS / Michael K. Meeks	05/07/12
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	MARK A. BATES / Mark A. Bates	05/07/12
d. NRC Supervisor (*)	MALCOLM T. WIDMANN / Malcolm T. Widmann	05/10/12

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