Facility: OCONEE Date of Examination: MARCH 2009

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

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

* 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.

FINAL WRITTEN

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

Final Submittal

Facility: **Oconee** Date of Examination: **March 13, 2009**

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	CAM	N/A	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.	CAM	↓	MB
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	CAM	↓	MB
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	CAM	↓	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.	N/A	N/A	N/A
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure 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 scenarios will not be repeated on subsequent days.	↓	↓	↓
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	↓	↓	↓
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	↓	↓	↓
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	↓	↓	↓
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	↓	↓	↓
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	CAM	N/A	MB
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	CAM	↓	MB
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	CAM	↓	MB
	d. Check for duplication and overlap among exam sections.	CAM	↓	MB
	e. Check the entire exam for balance of coverage.	CAM	↓	MB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	CAM	↓	MB

	Printed Name / Signature	Date
a. Author	Craig Kontz Olson Mercado /	2-9-09
b. Facility Reviewer (*)	Gabriel Washburn /	2-9-09
c. NRC Chief Examiner (#)	MARK A. BATES /	02/12/2009
d. NRC Supervisor	MALCOLM T. MCDUFFIE /	02/12/09

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

FINAL OP TEST

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

Final Submittal

Facility: **Oconee** Date of Examination: **March, 2009**

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	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.	✓	✓	✓
	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 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 scenarios will not be repeated on subsequent days.	✓	✓	✓
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	✓	✓	✓
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	✓	✓	✓
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	✓	✓	✓
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	✓	✓	✓
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	✓	✓	✓
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	✓	✓	✓
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	✓	✓	✓
	d. Check for duplication and overlap among exam sections.	✓	✓	✓
	e. Check the entire exam for balance of coverage.	✓	✓	✓
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	✓	✓	✓

	Printed Name / Signature	Date
a. Author	Olson Mercado / Olson Mercado	2/23/2009
b. Facility Reviewer (*)	Gabriel Washburn / Gabriel Washburn	2/23/2009
c. NRC Chief Examiner (#)	Craig Kontz /	2/25/09
d. NRC Supervisor	RN Rello /	2/25/09

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

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 3/2/09 & 3/9/09 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 3/2/09 & 3/9/09. 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.	Gabriel WASOFF BUSH	Initial Training Supervisor		9-19-08		3-13-09
2.	Olson K. Mercado	Operations Nuclear Instructor		9-22-08		3-23-09
3.	JAMES M. BONFIGLIO	Exam Developer		9/22/08		
4.	George R. Robinson	Ops Rep		9/29/08		3-23-09
5.	PAUL M. STOVALL	MGR / OPS TRNG		10/15/08		3-16-09
6.	John R. Steely	OTM / OPS TRNG		11/17/08		3-13-09
7.	Christopher P. King	SRO / OPS Shift E		12/10/08		3-18-09
8.	Appignani Joseph S.	RO / OPS Shift C		12/10/08		3-19-09
9.	Clemons, Charles W	RO / C Shift		12/10/08		3-27-09
10.	Angela M. Burkhart	SRO / STA OPS C		12-10-08		3-27-09
11.	Steven R. Shaffer	Operations Nuclear Instructor		12-12-08		3-16-09
12.	BRIAN BOWERS	OPERATIONS NUCLEAR INSTRUCTOR		12-14-08		3-16-09
13.	Archie Newberry	RO / OPS Shift C		12-14-08		3-17-09
14.	Dean Hubbard	Training Manager		12-14-08		3-23-09
15.	Tam Van Vo	Sim Supp.		12-18-08		3-16-09

NOTES:

Photo-copy => NOT ORIGINAL
-see below note

2 of 5

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

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	[illegible]	Initial Training Supervisor		9-13-08		3-13-09
2.	Olson K. Mercado	Operations Nuclear Instructor		9-22-08		
3.	James M. Bonfiglio	Exam Developer		9/22/08		3/15/09
4.	George L. Robinson	OPS Rep		9/29/08		
5.	PAUL M. STOVALL	MGR/OPS TRNG		10/13/08		3-16-09
6.	Julian R. Steely	OTM / OPS TRNG		11/17/08		3-12-09
7.	Christopher P. King	SRO / OPS Shift E		12/10/08		
8.	Appignani Josephus	RO / OPS Shift C		12/10/08		
9.	Clemons, Charles W	RO / C Shift		12/10/08		
10.	Angela M. Burkhart	SRO/STA OPS C		12-10-08		
11.	Steven R. Shaffer	Operations Nuclear Instructor		12-12-08		3-16-09
12.	Brian Bowers	Operations Nuclear Instructor		12-14-08		3-16-09
13.	Robin Newberry	RO/OPS Shift C		12-14-08		
14.	Dena Hubbard	Training Manager		12-14-08		
15.	Tom Van Vo	SIM SUPP		12-18-08		3-16-09

NOTES:

Photocopy = to capture James M. Bonfiglio (in Virginia); helped author written questions.

5 pg. Total 3 of 5
(1) is a faxed photo copy.

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

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	KEITH P. WELCHEL	Sim Supv. ENGINEER	Keith P. Welchel	12/18/08	Keith P. Welchel	3/16/09
2.	Jeff G. Pottmeyer	Senior Engineer	Jeff G. Pottmeyer	12/18/08	Jeff Pottmeyer	03/16/09
3.	JAMES M. BYKO	INSTRUCTOR	James M. Byko	12/18/08	James M. Byko	03/16/09
4.	Joey Woolbright	IT Professional	Joey Woolbright	12/19/08	Joey Woolbright	3/16/09
5.	William Rostron	IT Professional II	William Rostron	12/22/08	William Rostron	3/17/09
6.	MATT ADAIR	RO	Matt Adair	12/27/08	Matt Adair	3/13/09
7.	Bryan Gilbert	RO	Bryan Gilbert	12/27/08	Bryan Gilbert	3/13/09
8.	Scott G. Morris	SRO	Scott G. Morris	12/27/08	Scott G. Morris	3/13/09
9.	J. WAYNE SMITH	SRO	J. Wayne Smith	12-30-08	J. Wayne Smith	3-16-09
10.	THAD INMAN	INSTRUCTOR	Thad Inman	1-3-09	Thad Inman	3-16-09
11.	TRACY ROLAND	SRO	Tracy Roland	1-12-09	Tracy Roland	3-13-09
12.	CHAD SMITH	RO	Chad Smith	1-12-09	Chad Smith	3-13-09
13.	DAVID RATHBONE	SRO	David Rathbone	1-13-09	David Rathbone	3-13-09
14.	RANDALL A. YARBROUGH	INSTRUCTOR	Randall A. Yarbrough	01-27-09	Randall A. Yarbrough	03-16-09
15.	ERIC J DOUG	SRO	Eric J Doug	1-30-09	Eric J Doug	3-17-09

NOTES:

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 3/2/09 & 3/9/09 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 3/2/09 & 3/9/09. 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.	David Gibbon	SRO		1-30-09		3-17-09
2.	Robert Manning	RO	Robert Louis Manning	1-30-09		3-17-09
3.	Robert S Garrick	RO		1-30-09		4-1-09
4.	Eddie L. Anderson	OPS Supt.		2/5/09		3/20/09
5.	JOHN R. ALGEO	OPS INSTRUCTOR		2/5/09		3-17-09
6.	Toby W. Lawson	RO		2/11/09		3-24-09
7.	Kevin Moses	SRO		2/11/09		3/22/09
8.	Diane Terry	ADMIN. SPECIALIST		02/24/09		03-13-09
9.	Elisa Pottmeyer	Admin Spec		2/24/09		03-16-09
10.	Diane Talbert	Admin Spec		2/24/09		3-16-09
11.	TIMOTHY GOULDING	OPS INST		2-26-09		3-16-09
12.	RONALD DOSS	OPS INSTRUCTOR		2/26/9		3/16/9
13.	BRIAN SHALAYDA	SRO / OPS B SHIFT		2-26-09		3-17-09
14.	SAM S. LARK	OPS INSTRUCTOR		3-4-09		3-13-09
15.	Dean Porter	SRO		3-4-09		3-13-09

NOTES: [redacted] tak 3/16/09

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

1. Pre-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Larry Gentry	INSTRUCTOR		3-5-09		3-23-09	
2.	~~Toby Lawson~~	RO		3-24-09			
3.							
4.							
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NOTES:

Initial Submittal

Facility: **Oconee**	Date of Examination: **March, 2009**
Examination Level: RO ☐ SRO ☒	Operating Test Number: **1**

Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations GEN 2.1.23 (4.3/4.4)	**M, R**	**Admin-120, U3 SFP Boron and Volume Change Calculation** – OP/3/A/1104/006 C (SFP Makeup), Encl. 4.1 (Group) (30 mins)
Conduct of Operations GEN 2.1.7 (4.4/4.7)	**N, R**	**Admin-122, Calculation of Primary to Secondary Leak Rate and Unit Shutdown Requirements** AP/1/A/1700/031, Encl. 5.5 (SRO only) (Group) (16 mins)
Equipment Control GEN 2.2.12 (3.7/4.1)	**N, R**	**Admin-209, Determine Low Temperature Overpressure Protection Compliance** PT/600/01 (30 mins)
Radiation Control GEN 2.3.4 (3.2/3.7)	**D, R**	**Admin-302, Calculate the Maximum Permissible Stay Time Within Duke Power Basic Administrative Limits** (Group) (12 mins)
Emergency Plan GEN 2.4.38 (2.2/4.0)	**N, R**	**Admin-408, Determine Emergency Classification and Protective Action Recommendations** (SRO Only) (Group) (20 mins)

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)

Initial Submittal

Facility: **Oconee**	Date of Examination: **March, 2009**
Examination Level: RO [X] SRO [ ]	Operating Test Number: **1**

Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations GEN 2.1.23 (4.3/4.4)	**M, R**	**Admin-120, U3 SFP Boron and Volume Change Calculation** – OP/3/A/1104/006 C (SFP Makeup), Encl. 4.1 (Group) (30 mins)
Conduct of Operations GEN 2.1.37 (4.3/4.6)	**N, R**	**Admin-123, Minimum Incore Detector Operability Verification PT/1/A/1103/019** (RO) (20 mins)
Equipment Control GEN 2.2.12 (3.7/4.1)	**N, R**	**Admin-209, Determine Low Temperature Overpressure Protection Compliance** PT/600/01 (30 mins)
Radiation Control GEN 2.3.4 (3.2/3.7)	**D, R**	**Admin-302, Calculate the Maximum Permissible Stay Time Within Duke Power Basic Administrative Limits** (Group) (12 mins)
Emergency Plan		

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)

Initial Submittal

Facility: **Oconee**	Date of Examination: **March, 2009**
Exam Level: RO ☐ SRO-I ☒ SRO-U ☐	Operating Test No.: 1

Control Room Systems@ (8 for RO); (7 for SRO-I); 2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. **CRO-106 Place Spare Deborating IX In Service** OP/1/A/1103/004 C, Deborating IXs Encl. 4.9 (Spare Deborating IX For RCS Purification) [KA: 004 A2.06 (4.2/4.3)] (16 min)	N, S, L	1
b. **CRO-206, Loss of Normal HPI Makeup** (HP-120 Fails Closed) AP/1/A/1700/014, Loss of Normal HPI Makeup and/or RCP Seal Injection [KA: 004 A2.07 (3.4/3.7)] (15 min)	N, S, E	2
c. CRO-097, Align HPI/LPI Piggyback Mode EOP Encl. 5.12, ECCS Suction Swap to RBES [KA: BW E14 EA1.1 (3.8/3.6)] (11 mins)	D, A, S, E	3
d. CRO-038A, Start A Reactor Coolant Pump Enclosure 4.1, of OP/1/A/1103/006, Enclosure 4.10 of OP/1/1102/001 [KA: 003 A4.03 (2.8/2.5)] (16 mins)	D, A, S	4P
e. **CRO-016, Establish EFDW Flow Through Startup Valves** EOP, Encl. 5.27, Alternate Methods for Controlling EFDW Flow [APE: 054 AA2.04 (4.2/4.3)] (15 min)	M, S, A, E	4S
f. N/A		
g. CRO-008, Energize Main Feeder Busses From CT-5 EOP, Encl. 5.38 (Restoration of Power) [KA: 055 EA1.07 (4.3/4.5) (14 mins)	P, D, S, E	6
h. CRO-085, Adjust Radiation Monitor Setpoints OP/1&2/A/1104/018, GWD System, Encl. 4.9 & 4.10 PT/0/A/230/01, Radiation Monitor Check [KA: 073 A4.01 (3.9/3.9)] (8 mins)	D, S	7

In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. NLO-800, HPSW AB Flood Isolation AP/1&2/A/1700/030 Encl. 5.1, HPSW AB Flood Isolation [KA: BW/A07 AA2.2 (3.3/3.7)] (15 min)	N, A, E	8
j. NLO-017, Align Cooling Water To HPIPs From Station ASWPs EOP Encl. 5.10 "Station ASW Pump Alignment" [KA: 076 A2.01 (3.5*/3.7*)] (16 mins)	D, R, E	4S
k. NLO-037, Place a Control Battery Charger in Service OP/1107/010, Removal From Service and Restoration To Service of a Control Charger" [KA: 063 K1.03 (2.9/3.5)] (12 min)	D	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
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

Initial Submittal

Facility: **Oconee**	Date of Examination: **March, 2009**
Exam Level: RO [X] SRO-I [ ] SRO-U [ ]	Operating Test No.: 1

Control Room Systems@ (8 for RO); (7 for SRO-I); 2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. **CRO-106 Place Spare Deborating IX In Service** OP/1/A/1103/004 C, Deborating IXs Encl. 4.9 (Spare Deborating IX For RCS Purification) [KA: 004 A2.06 (4.2/4.3)] (16 min)	N,S, L	1
b. **CRO-206, Loss of Normal HPI Makeup** (HP-120 Fails Closed) AP/1/A/1700/014, Loss of Normal HPI Makeup and/or RCP Seal Injection [KA: 004 A2.07 (3.4/3.7)] (15 min)	N, S, E	2
c. **CRO-097, Align HPI/LPI Piggyback Mode** EOP Encl. 5.12, ECCS Suction Swap to RBES [KA: BW E14 EA1.1 (3.8/3.6)] (11 mins)	D, A, S, E	3
d. **CRO-038A, Start A Reactor Coolant Pump** EOP Encl. 5.6, RCP Restart [KA: 003 A4.03 (2.8/2.5)] (16 mins)	D, A, S	4P
e. **CRO-016, Establish EFDW Flow Through Startup Valves** EOP, Encl. 5.27, Alternate Methods for Controlling EFDW Flow [APE: 054 AA2.04 (4.2/4.3)] (15 min)	M, S, A, E	4S
f. **CRO-501, Establishing Containment Closure** AP/1/A/1700/026, Loss of Decay Heat Removal [KA: 103 A2.03 (3.5*/3.8*)] (15 min)	M, S, E	5
g. **CRO-008, Energize Main Feeder Busses From CT-5** EOP, Encl. 5.38 (Restoration of Power) [KA: 055 EA1.07 (4.3/4.5) (14 mins)	P, D, S, E	6
h. **CRO-085, Adjust Radiation Monitor Setpoints** OP/1&2/A/1104/018, GWD System, Encl. 4.9 & 4.10 PT/0/A/230/01, Radiation Monitor Check [KA: 073 A4.01 (3.9/3.9)] (8 mins)	D, S	7

In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **NLO-800, HPSW AB Flood Isolation** AP/1-2/A/1700/030 Encl. 5.1, HPSW AB Flood Isolation [KA: BW/A07 AA2.2 (3.3/3.7)] (15 min)	N, A, E	8
j. **NLO-017, Align Cooling Water To HPIPs From Station ASWPs** EOP Encl. 5.10 "Station ASW Pump Alignment" [KA: 076 A2.01 (3.5*/3.7*)] (16 mins)	D, R, E	4S
k. **NLO-037, Place a Control Battery Charger in Service** OP/1107/010, Removal From Service and Restoration To Service of a Control Charger" [KA: 064 K4.01 (2.7/3.0)] (12 min)	D	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
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

Initial Submittal

Facility: **Oconee**	Date of Examination: **March, 2009**
Exam Level: RO ☐ SRO-I ☐ SRO-U ☒	Operating Test No.: 1

Control Room Systems@ (8 for RO); (7 for SRO-I); 2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a. **CRO-106 Place Spare Deborating IX In Service** OP/1/A/1103/004 C, Deborating IXs Encl. 4.9 (Spare Deborating IX For RCS Purification) [KA: 004 A2.06 (4.2/4.3)] (16 min)	N, S, L	1
b.		
c. **CRO-097, Align HPI/LPI Piggyback Mode** EOP Encl. 5.12, ECCS Suction Swap to RBES [KA: BW E14 EA1.1 (3.8/3.6)] (11 mins)	D, A, S, E	3
d.		
e.		
f.		
g.		
h. **CRO-085, Adjust Radiation Monitor Setpoints** OP/1&2/A/1104/018, GWD System, Encl. 4.9 & 4.10 PT/0/A/230/01, Radiation Monitor Check [KA: 073 A4.01 (3.9/3.9)] (8 mins)	D, S	7

In-Plant Systems (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **NLO-800, HPSW AB Flood Isolation** AP/1&2/A/1700/030 Encl. 5.1, HPSW AB Flood Isolation [KA: BW/A07 AA2.2 (3.3/3.7)] (15 min)	N, A, E	8
j. **NLO-017, Align Cooling Water To HPIPs From Station ASWPs** EOP Encl. 5.10 "Station ASW Pump Alignment" [KA: 076 A2.01 (3.5*/3.7*)] (16 mins)	D, R, E	4S
k.		

@ 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
(L)ow-Power	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

FINAL OP TEST

Final Submittal

Facility: **Oconee** Date of Examination: **March, 2009** Operating Test Number: **1**

	1. GENERAL CRITERIA	Initials a	b*	c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).			
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).			
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.			
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			
	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			
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 acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.			
	3. SIMULATOR CRITERIA	--	--	--
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.			

	Printed Name / Signature	Date
a. Author	Olson Mercado / Olson Mercado	2-23-09
b. Facility Reviewer(*)	Gabriel Watsburn / Gabriel Watsburn	2-23-2009
c. NRC Chief Examiner (#)	Craig Kontz /	2/25/09
d. NRC Supervisor	Rick Hellams /	2/25/09

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

FINAL WRITTEN

Final Submittal

Facility: **Oconee** Date of Examination: **March 2, 2009** Operating Test Number: **1**

	1. GENERAL CRITERIA	Initials a	b*	c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	N/A	N/A	N/A
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	↓	↓	↓
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	↓	↓	↓
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	[illegible]	[illegible]	MB
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	N/A →		
	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	N/A ↓	↓	→ ↑
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 acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	↓	←	N/A
	3. SIMULATOR CRITERIA	--	--	--
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	N/A →		

	Printed Name / Signature	Date
a. Author	Olson Mercado / [signature]	2-9-09
b. Facility Reviewer(*)	Gabriel WASHBURN / [signature]	2-9-09
c. NRC Chief Examiner (#)	MARK A. BATES / [signature]	02/12/2009
d. NRC Supervisor	MALCOLM T. WIDMANN / [signature]	02/12/09

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

Facility: **Oconee** Date of Exam: **March 2, 2009** Scenario Numbers: **1 / 2 / 4 / 5** Operating Test No.: **1**

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

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

Facility: **Oconee** Date of Exam: **March, 2009** Operating Test No.: **1**

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

Instructions:

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

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. * Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

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

Author: Owen K. Mendt 2/23/09

NRC Reviewer: 2/25/09

Facility: **OCONEE** Date of Examination: **March, 2009** Operating Test No.: **1**

Competencies	APPLICANTS															
	RO-OATC X SRO-I ☐ SRO-U ☐				RO-BOP X SRO-I ☐ SRO-U ☐				RO ☐ SRO-I X SRO-U ☐				RO ☐ SRO-I ☐ SRO-U ☐			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	4	5	1	2	4	5	1	2	4	5	1	2	3	4
Interpret/Diagnose Events and Conditions	3,5, 8,9	2,3, 4,5, 6,7	2,3, 4,6, 7	2,3, 4,5, 6,7, 8	2,4 ,9	1,2, 3,4, 5,6, 7	1,2, 3,4, 5,6, 7	1,2, 3,4, 5,7, 8	2,3 ,4, 5,6 ,8, 9	2,3 ,4, 5,6 ,7	1,2, 3,4, 5,6, 7	1,2 ,3, 4,5 ,6, 7,8				
Comply With and Use Procedures (1)	3,5, 6,7, 8,9	2,3, 4,5, 6,7	2,3, 4,6, 7	2,3, 4,5, 6,7, 8	1,2 ,3, 4,5 6,7 ,9	1,2, 4,5, 6,7	1,2, 3,4, 5,6, 7	1,3, 4,5, 6,7, 8	1,2 ,3, 4,5 ,6, 7,8 ,9	2,3 ,4, 5,6 ,7	1,2, 3,4, 5,6, 7	1,2 ,3, 4,5 ,6, 7,8				
Operate Control Boards (2)	3,5, 7,8, 9	2,3, 4,5, 6,7	2,3, 4,6, 7	2,3, 6,7, 8	1,2 ,3, 4,5 ,7, 9	1,2, 4,5, 6,7	1,2, 3,4, 5,6, 7	1,4, 5,7, 8								
Communicate and Interact	3,5, 6,7, 8,9	2,3, 4,5, 6,7	2,3, 4,6, 7	2,3, 4,6, 7,8	1,2 ,3, 4,5 ,6, 7,8 ,9	1,2, 4,5, 6,7	1,2, 3,4, 5,6, 7	1,3, 4,5, 7,8	1,2 ,3, 4,5 ,6, 7,8 ,9	2,3 ,4, 5,6 ,7	1,2, 3,4, 5,6, 7	1,2 ,3, 4,5 ,6, 7,8				
Demonstrate Supervisory Ability (3)									1,2 ,3, 4,5 ,6, 7,8 ,9	1,2 ,3, 4,5 ,6, 7	1,2, 3,4, 5,6, 7	1,2 ,3, 4,5 ,6, 7,8				
Comply With and Use Tech. Specs. (3)									1,3 ,4, 68, 9	2,4 ,5	3,5, 6.7	1,3 ,4, 7				

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.

OCONEE 2009-301

FINAL WRITTEN EXAM SAMPLE PLAN

ES-401-1 & 2

THE DRAFT SAMPLE PLAN COMBINED WITH THE ES-401-4 (LIST OF REJECTED K/As) CONSTITUTES THE FINAL WRITTEN EXAM SAMPLE PLAN

Tier / Group	Randomly Selected K/A	Reason for Rejection
RO 2/2	055G2.2.22 ✓	Generic K/A did not allow for a question to be written for Condenser Air Removal. NRC selected 055G2.2.2
SRO 2/2	055G2.2.38 ✓	Generic K/A did not allow for a question to be written for Condenser Air Removal. NRC selected 055G2.2.20
RO 2/1	061K6.02 ✓	(10/16/08) K/A is overlap with 061A2.04. NRC selected replacement 003K6.02
RO 2/2	027K2.01 ✓	(10/16/08) Not applicable to Oconee. Containment Iodine Removal system is not installed at Oconee. NRC selected replacement 041K2.01
RO 2/2	028A2.03 ✓	(10/16/08) Not applicable to Oconee. Hydrogen Recombiner/Purge system not intalled at Oconee. NRC selected replacement 072A2.03
SRO 1/1	038EG2.4.50 ✓	(10/16/08) K/A is overlap with T1/G2 KA 037AG2.4.31. NRC selected replacement 026AG2.4.50
RO 2/1	064A2.07 ✓	(11/10/08) Overlap of concept in T1/G1 KA 077AK1.03. NRC selected replacement 064A2.03
RO 2/1	076K4.06 ✓	(11/10/08) ONS SW System Trains not separated. NRC selected replacement 076K4.02
SRO 1/2	BA01AG2.4.3 ✓	(11/10/08) Generic K/A did not allow for a question to be written for Plant Runback. NRC selected replacement BA01AG2.4.11
RO 1/1	058AK3.02 ✓	(12/8/08) No procedure guidance to support discriminating question. NRC selected re[placement 058AK1.01
RO 1/2	067AK1.02 ✓	(12/8/08) ROs are not members of Fire Brigade. NRC selected replacement 032AK1.01
RO 2/1	004K2.07 ✓	(12/8/08) Unable to develop discriminating question to match KA. NRC selected 004K2.05
RO 2/1	006K3.03 ✓	(12/8/08) Unable to develop discriminating question without creating double jeopardy issues. Containment impacts already sampled. NRC selected replacement 006K3.02
RO 2/2	055G2.2.2 ✓	(12/8/08) Unable to develop discriminating question to match KA. NRC selected replacement 055G2.2.44
SRO 1/2	028AA2.02 ✓	(12/30/08) Unable to develop discriminating question; ONS does not ramp Tave. NRC selected replacement 028AA2.03
SRO 2/2	055G2.2.20 ✓	(12/30/08) Unable to develop discriminating question to match KA. NRC selected replacement 055G2.2.44
SRO T3	G2.1.13 ✓	(12/30/08) Unable to develop discriminating question to match KA. NRC selected replacement G2.1.15
SRO 2/1	022 G2.1.32	Unable to write discriminating SRO Q. NRC selected 006 G2.1.20.
SRO 3	G 2.2.19	Unable to write discriminating SRO Q. NRC selected G2.2.5.

FINAL WRITTEN

ES-401, Rev. 9 **Written Examination Quality Checklist** **Form ES-401-6**

Final Submittal

Facility: **Oconee** Date of Exam: **03/13/2009** Exam Level: RO SRO

					Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.				GCM	[illegible]	MB
2.	a. NRC K/As are referenced for all questions. ✓ b. Facility learning objectives are referenced as available. ✓				GCM	[illegible]	MB
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401				GCM	[illegible]	MB
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).				GCM	[illegible]	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 X the licensee certifies that there is no duplication, or ✓ __ other (explain)				GCM	[illegible]	MB
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank 17 / 6 17 (23%) / 6 (24%)	Modified 9 / 1 9 (36%) / 1 (4%)	New 49 / 18 49 (65%) / 18 (72%)	GCM	[illegible]	MB
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension / analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory 32 / 5 32 (43%) / 5 (20%)	C/A 43 / 20 43 (57%) / 20 (80%)		GCM	[illegible]	MB
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.				GCM	[illegible]	MB
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				GCM	[illegible]	MB
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.				GCM	[illegible]	MB
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.				GCM	[illegible]	MB

	Printed Name / Signature	Date
a. Author	Olson Mercado / Olson Mercado	2-9-09
b. Facility Reviewer (*)	Gabriel WASHBURN / [illegible]	2-9-09
c. NRC Chief Examiner (#)	MARK A. BATES / Mark A. Bates	02/12/2009
d. NRC Regional Supervisor	LAUCHLAN T. WIDDIFIELD / [illegible]	02/12/09

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.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
GENERAL COMMENTS															
B= Bank / M=Modified / N=New / F=Fundamental Level (I.E. Memory) / H=Higher Cognitive Level (I.E. C/A)															
For All BANK questions: swap the order of the answer choices so that applicants cannot rely on recall of the correct answer location.															
When an AP/EOP/etc. is referenced in a question, a Unit designation should precede the procedure number. Check all questions for consistency. (Also for plant components)															
If questions are modified it is always good to re-verify the K/A match.															
"U" designations are preliminary, and subject to change after discussions with the licensee.															
Many questions contain bolded information that instructs the applicants to ASSUME something. NUREG-1021, App. E, instructs them not to make assumptions. If these bolded statements are plant conditions, then they should be stated as such, vice telling the applicants to make assumptions.															
The licensee changed many questions based on continued validation of the exam after their draft exam was submitted to the NRC. Many of these changes enhanced the questions and improved the exam as a whole; however, not all of these changes were made to take a question from unacceptable to acceptable. Many changes enhanced already acceptable questions. Therefore, it is not possible to simply look at the total number of questions that were replaced or significantly modified and equate that to whether or not an exam met the criteria for a submittal which meets the NUREG-1021 quality standard.															
RO EXAM															
1	007EA2.02	M	H	~~1~~ 2 2					x					~~U~~ S	Distractor "D": Initiate HPI Forced Cooling does not appear to be plausible. What parameters are used to make an HPI Forced Cooling decision? If the necessary parameters are not even provided in the stem of the question, then the distractor cannot be plausible. Corrected. MAB 2/11/2009 Is control rod insertion actually incorrect as stated in your distractor analysis? Correct answer now contains insert control rods. OK MAB 2/11/2009 Distractor "A": How is AFIS plausible? What signals feed AFIS? Coupled with manual rod insertion in the first part of the answer, is this still credible. Corrected. MAB 2/11/2009 This question may be better if the power level is lowered. Power now 46%. OK MAB 2/11/2009

Oconee 2009-301

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
2	008AG2.2.22	N	H	~~1~~ ~~2~~ 2					x			x		~~U~~ S	K/A Match: The question is not testing knowledge required by the K/A. The K/A requires that knowledge of LCOs and Safety Limits be tested. This question can be answered only using knowledge of DNBR and systems knowledge. The knowledge of DNB is not related to Tech Specs. A person with no Tech Spec knowledge can answer this question. Q replaced. MAB 2/11/2009 If the second half of each answer choice remains after all other changes have been made, then the wording needs to be changed to "DNBR increasing" and "DNBR decreasing". Q replaced. MAB 2/11/2009 Distractors "C" and "D": Quench Tank parameters disqualify spray valves from being a plausible choice. Suggest adding a parameter in the stem that would differentiate PORVs from safety valves, and replacing spray valves with safety valves. Q replaced. MAB 2/11/2009 The question statement asked for "the" cause. With the parameters given, there is not just one possible cause. The condition could also be caused by a leaking or partially open safety valve. The question statement must be worded to account for this. Q replaced. MAB 2/11/2009
3	009EK1.01	N	F	2	x									~~E~~ S	Place bulleted conditions in the stem using the information in the bolded sentence. Do not bold the conditions in the stem. Provide the applicant with actual conditions that they will have in the control room – I.E. provide them with actual SG levels, vice stating that the levels are at the LOSCM setpoint. This will enhance the operational validity of the question. Furthermore, NUREG-1021, App. E directs applicants not to make assumptions, Licensee explained why stating levels as such was OK. Conditions are now in bulleted form. OK MAB 2/11/2009 I assume that there is no mechanism to be pulling steam from the SG, I.E. blowdowns. I assume that with a SBLOCA, that all auto isolations would have occurred and that no possible method of secondary energy release is possible. Ensure that the licensee verifies this and informs that chief examiner that there is no possible way for SG pressure to be decreasing. Discussed with licensee. OK MAB 2/11/2009 Is the wording in the answer choices too vague? What is meant by Hot Leg Water level? Is this RCS water level in the SG tubes or in the candy cane? Wording enhancements made. MAB 2/11/2009

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Have the licensee explain how it is impossible to have boiler-condenser mode heat transfer with HL water level slightly above the upper tube sheet. Discussed with licensee. OK MAB 2/11/2009
4	011EK2.02	N	H	2	x									E S	Is it necessary to provide more parameters in the stem? For example, what if all WR NIs < 1%, SCM > 0 F, and Pzr Level > 100"? Is the applicant forced to make an assumption wrt these parameters? Discussed with licensee. OK MAB 2/11/2009 Distractor analysis states that 2 pumps are supplying the "A" header. How does the applicant conclude this from the stem? What information in the stem would either state 2 pumps supplying the header, or provide a condition that would result in 2 pumps supplying the header? Is 200 psig enough for the applicant to conclude this? If 200 psig is enough, then OK. Discussed with licensee. OK MAB 2/11/2009 Is there enough info in the stem to conclude that only one pump is supplying the "B" header? If so, then OK. Yes, indicated flow is enough info - Discussed with licensee. OK MAB 2/11/2009 Under what conditions would HP-409 be required to be open? Do the conditions in the stem prevent HP-409 from being in the open position? If 'C' pump was off or inadequate flow was indicated would be indications requiring 409 to be open. Discussed with licensee. OK MAB 2/11/2009
5	015AA2.02	M	H	2										E S	Procedurally, what REQUIRES the operators to trip the affected RCPs prior to them reaching the upper guide bearing and radial bearing temperature? Procedurally, I see where the affected pumps are required to be tripped; however, I see a reasonable argument that a pump could be considered unaffected until temperature limits are exceeded. I will need to see plant documentation that defines that all pumps are required to be tripped even if the temperature limits are not yet exceeded. This is needed to ensure that "B" is also not a potentially correct answer. AP step 4.17 requires stopping pumps. Licensee made significant modifications prior to final submittal due to technical inaccuracies identified with the final validation. OK now, MAB 2/11/2009 Is it possible to remove the temperature trend in the stem? This was a red herring for me to choose "A" for securing all RCPs. Would simply stating that 1LPSW-6 fails closed be enough? I think that the temperature trends are unnecessary information. I would suspect that there is no possible way for the temperature trends to not increase when no cooling flow is being provided.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Temp trend removed. OK MAB 2/11/2009
6	022AA2.02	M	H	3										~~E~~ S	To be safe, should the stem state where the operators are at in AP/14? I.E. Operators have just completed step 3.3, for stopping all HPI pumps. This will serve the purpose of ensuring that the operators do not have any other failures and still have the possibility of using the "1C" HPI pump. Incorporated. OK MAB 2/11/2009
7	025AK1.01	N	F	~~1~~ ~~2~~ 2								x		~~U~~ S	K/A Match: The question does not test the loss of RHRS. LPI pumps have two functions, I.E. they belong to two systems. This question addresses the LPI pumps as they pertain to the safety injection system, which coincides with Safety Function 2 and/or 3. The randomly selected K/A is required to address Safety Function 4 (reference Tier 1 of the sample plan). Q replaced. OK MAB 2/11/2009 The question itself, other than the K/A match, is satisfactory. Q replaced. OK MAB 2/11/2009
8	027AK2.03	N	H	2					x					~~U~~ S	Change wording of last bullet. It is stated as an action, vice a condition. Suggest: "Reactor power = 100%." or "All control rods are fully withdrawn." Q replaced. OK MAB 2/11/2009 Question is written in a backward logic format. This is not prohibited, but should be acknowledged and evaluated. This question is asked from a troubleshooting perspective, which is a job unction of a licensed operator; therefore, this question contains operational validity, even while using a backward logic format. Q replaced. OK MAB 2/11/2009 Why is automatically underlined? Q replaced. OK MAB 2/11/2009 How is WIDE RANGE plausible? Given the reactor parameters that are changing, the failure has obviously affected a CONTROL channel. What systems at Oconee use wide range instrumentation to control a parameter? It is necessary to have a reasonable misconception for the wide range instrumentation to be a plausible choice. A lack of further justification for the wide range instrumentation plausibility would result in "A" and "B" not being plausible. Q replaced. OK MAB 2/11/2009
9	029EG2.2.25	N	H	2										S	Question is satisfactory. Add a "the" prior to "safety limit" in the question statement.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Replace "of" with "or" in the question statement. Corrected. MAB 2/11/2009
10	038EK3.06	N	H	2					x					~~U~~ S	Choices "C" and "D": When would RCS inventory balance (MU-LD) be an invalid method? I do not even need to know that there is a 40% requirement for rad monitors if the inventory balance is always a valid method. I would guess that the inventory balance is also valid at higher power levels. I was able to arrive at the correct answer only by knowing that an inventory balance could be used at low and high power levels and that the rx must be tripped with pzr level going down with charging at max and LD isolated. One possible fix for this would be to change "C" and "D" from "performing an inventory balance" to "monitoring 1RIA-59 and 1RIA-60 is not permitted." This may also require modifying the lead-in portion of the answer choices also. Comment incorporated. OK MAB 2/11/2009 With the conditions presented in the stem, will the operators actually get to a procedure step that directs an inventory balance? If not, then there is no correct answer. Licensee will need to verify this and explain further. For example, per SGTR Tab Step 9, the trip criteria is met. Rx will be tripped and IMAs completed. When operators come back to SGTR tab, they are not required to perform an inventory balance. Comment incorporated. OK MAB 2/11/2009
11	040AK3.01	N	F	~~1~~ ~~2~~ 2				x						~~E~~ S	Distractor "D": How is the reason (2nd part of answer choice) plausible? All control valves are already closed, so how can turbine overspeed be a possible concern? The licensee must explain how the turbine can overspeed when control valves are closed in order to classify this distractor as plausible. Distractors reworked to address concern. MAB 2/11/2009
12	055EA1.01	N	H	~~1~~ ~~2~~ 2								x		~~U~~ S	K/A Match: The question can be answered with no knowledge of CETCs. I can cover up the last column of all the answer choices and arrive at the correct answer, thereby answering the question without any CETC knowledge. The K/A requires testing knowledge of monitoring the CETCs. Corrected. MAB 2/11/2009 The question asks for response over the next five minutes. Is it not true that for the first portion of the stated time period that Tcold and Thot will be stable? Does the question need to ask about a specific point in time, vice a time period? Q clarified. OK MAB 2/11/2009 With the stated parameters, is there any way that NC can be established within the time frame being considered? Has this been run in the

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															simulator? I was actually on watch when we had a loss of forced circulation and NC occurred relatively quickly. I just want to ensure that the plant has the proper documentation and confidence level that there is one and only one correct answer. 5 minutes removed. OK MAB 2/11/2009 A common flaw in question writing is to include too many parts to the answer choices. Many times this serves no purpose but to provide the applicant with more ways to eliminate distracters. Also, there can be unintended consequences such as allowing the question to be answered without testing knowledge of the K/A. Thots deleted. MAB 2/11/2009 Appendix E of NUREG-1021 states that the applicants should not assume things, yet the question tells them to assume that power has not been restored. The current conditions state that there is a station blackout. Why is the bolded statement needed? Corrected. MAB 2/11/2009
13	057AA1.05	N	H	2										~~E~~ S	Did the licensee discuss whether or not breaker indications are affected by the failure? Have the licensee highlight the documentation that supports the last part of "A" as being correct. Discussed with licensee. OK MAB 2/11/2009
14	058AK1.01	N	F	2					x					~~U~~ S	Distractors "C" and "D": How is "DC Output" plausible? Would common sense tell me that if the BC was still being supplied with AC power that a voltage would still be indicated? I am having difficulty determining how an applicant would select an output breaker opening, vice an input breaker opening, that would result in the BC having no indicated voltage. Q replaced. MAB 2/11/2009 Distractor "B": Nothing has occurred to degrade the 1CA Battery. Why would the alternate unit's batteries be supplying the bus? Q replaced. MAB 2/11/2009 If the DC breaker is closed, will zero volts be indicated on the BC? Q replaced. MAB 2/11/2009
15	062 AG2.4.46	N	F	2	x									~~E~~ S	Question construction may be confusing. The question states, "...if the RBACs isolate." Why is this condition not simply stated in the list of current plant conditions? Discuss with licensee. Present information in the simplest, clearest, manner possible. Licensee states that they are comfortable with the wording. MAB 2/11/2009

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
16	065AA1.05	B	H	2						x				~~E~~ S	Is it possible for FW to be controlled when the FRVs fail as-is? Can feedwater pump speed be used to control feedwater? In other words, can Step 4.3 be evaluated as flow being controlled based on the information provided in the stem? Licensee states no. OK MAB 2/11/2009
17	077AK1.03	N	H	~~1~~ ~~2~~ 2										~~E~~ S	This is a GFE question. I am sure there is an equivalent question in the GFE bank. This question should be designated "B"ank, unless the GFE bank has been researched to show that the question is actually original. Q replaced. MAB 2/11/2009 This exam is the Site Specific Written Exam. Is there any way to make this a site specific question? These applicants have already passed the GFE as a prerequisite to taking this test. Q replaced. MAB 2/11/2009
18	BE04EK2.2	B	H	~~1~~ ~~2~~ 2					x	x				~~U~~ S	Distractor "B": With SCM increasing with a stable pressure, this distractor is not plausible. There is not a reasonable misconception for the applicants to choose CETCs increasing. OK MAB 2/11/2009 Distractors "A" and "C": Simply knowing that RCS pressure is stable would not be useful information when it comes to throttling HPI, which make these distracters not plausible. OK MAB 2/11/2009 Distractor "C": Given that SCM is increasing, an applicant could argue that because pressure is stable, and SCM is increasing, then "C" is a correct answer. Corrected. MAB 2/11/2009 This question contains vulnerabilities that must be addressed prior to administration. Corrected. MAB 2/11/2009
19	028AK2.02	N	H	3										S	Question is satisfactory.
20	036AA2.02	B	H	2-3						x				S	Question is satisfactory.
21	037AK1.01	M	H	~~1~~ ~~2~~ 2					x			x		~~U~~ S	The question states that the applicant is to assume that the size of the leak remains constant. Is this an operationally valid statement? How will the applicant have this information available to them in the plant? This will need to be deleted unless this is available to the operator. Q replaced. MAB 2/11/2009 Distractors "A" and "C": Both of these are not plausible because the stem

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															of the question states that RCS pressure has greatly decreased. Is there a reasonable misconception that would lead an applicant to selecting these answers based on an increasing leak rate? Q replaced. MAB 2/11/2009 This question does not test any site specific information. Q replaced. MAB 2/11/2009 Is the applicant to assume that SG pressures also remain constant? Is more information needed in the stem? Q replaced. MAB 2/11/2009 K/A Match Analysis: The analysis states that the applicant must calculate SCM to determine changes in leak rate. Why is this true? The stem provides RCS pressure for initial and current conditions. Knowing that pressure has greatly decreased in the RCS is all I really need to know to determine how leakrate changes. Q replaced. MAB 2/11/2009 K/A Match: Does the applicant need to apply steam tables to understand operational implications of a SGTL? It appears that the applicant can use steam tables to make a determination of SCM without knowing anything about a SGTL. Q replaced. MAB 2/11/2009
22	051AG2.4.2	N	F	2										S	Question is satisfactory.
23	032AK1.01	M	H	~~1~~ 2					x					~~U~~ S	K/A Match: K/A match is OK from a verbatim compliance perspective. No changes necessary based on K/A match. OK MAB 2/11/2009 Distractor "B": This is not plausible. Read the distractor analysis and then read the last bullet of the initial conditions. If the procedure did not require two SR Nis to be designated, then why would the question writer (or the licensed operator) make it a point to designate two SR NIs for fuel hamdling. Would it be possible to designate three NIs for fuel handling? What restrictions are there for SR NI designations? OK with minor changes. MAB 2/11/2009 Distractor "C": This is not plausible because the last bullet in the initial conditions leads the applicant to believe that two SR NIs were "chosen" for the task. If this were the case, then it does not make any sense that NI-1 would have to be returned to operable. OK with minor changes. MAB 2/11/2009 Distractors "A" and "B": If fuel movement may continue, then why would

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															the operators go to special efforts to designate two NIs for fuel movement? Some very basic test taking skills leads the applicant to the answer, without really having plant refueling knowledge. LOD=1. OK with minor changes. MAB 2/11/2009 Rather than using the term "must", use the term "required". Also, please search the exam for similar changes. Question answer choices should always (when possible) be worded to test the "required" actions. OK with minor changes. MAB 2/11/2009
24	074EA1.23	N	F	~~1~~ ~~2~~ 2					x					~~U~~ S	Distractors "B" and "D": A loss of cooling accident is occurring. If SG tubes are designed to handle full operating pressure and the resulting dP, then why would an applicant think that the reason for opening 3RC-4 would be a SG dP concern? Incorporated. MAB 2/11/2009
25	BA06AK3.4	N	H	2										S	Question is satisfactory.
26	BE08 EG2.2.38	M	F	2										S	K/A Match: The link to the facility license is via Tech Specs, which requires EOPs.
27	BE14EA2.1	N	H	2										~~E~~ S	Phrase the question to ask for the first procedure that is <u>required</u> to be performed, vice what will be performed. Incorporated. MAB 2/11/2009 What setpoints cause the ES actuation? 1600 #. OK MAB 2/11/2009 Have the licensee explain in more detail the plausibility of "D". What misconception is necessary for an applicant to choose this answer? Discussed with licensee. OK MAB 2/11/2009
28	003K4.04	B	F	2										S	Question is satisfactory.
29	004K2.05	N	F	2										S	Question is satisfactory.
30	005A4.05	N	F	2										S	Question is satisfactory.
31	006K3.02	N	F	2					x	x		x		~~U~~ S	K/A Match: The K/A requires testing knowledge of how a malfunction of the ECCS will affect the fuel. The only knowledge that is required to answer this question is that the PCT limit is 2200F and that they must make the failed auto action occur by manually initiating the channels. In other words, this question could just as easily have been written as (it boils down to this):

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Unit 1 conditions: - A SBLOCA occurred - ES Failed to actuate Which one of the following correctly states the PCT limit and correctly describes the operator required actions in response to the failed ES actuation? A. 1200F; Manually actuate ES Digital Channels 1 and 2 B. 1200F; Place all ES Channels 1 and 2 components in their ES position C. 2400F; Manually actuate ES Digital Channels 1 and 2 D. 2400F; Place all ES Channels 1 and 2 components in their ES position Q replaced. OK MAB 2/11/2009 The above question tests the same knowledge as the proposed question, but neither question tests knowledge that is required by the K/A. Q replaced. OK MAB 2/11/2009 Distractors "B" and "D": What failure has occurred that would create a misconception that the ES channels would not manually actuate? If the only thing that has happened is a failure of the channels to actuate, it is only common sense to first attempt to manually actuate those channels. Q replaced. OK MAB 2/11/2009 Distractors "B" and "D": Why would the second part not be correct? Is this not a method of manual actuation? "B" could be successfully argued as correct. Do the locations of these actions need to be added – I.E. from the RZ Modules? Q replaced. OK MAB 2/11/2009
32	007K3.01	N	H	2				x						~~E~~ S	Distractor "B": The distractor analysis states that this is plausible if the applicant assumes that RCS activity is negligible. In order for this distractor to be credible, there must be something in the stem to support that credibility. For example, would the answer choice remain incorrect if "RCS activity indicates no fuel failures present" was added to the stem? If this will not work, then consider adding an RCS activity level that is negligible. Incorporated. MAB 2/11/2009
33	008K1.02	B	F	2				x						~~E~~ S	Distractor "C": The licensee needs to explain the reasonable misconception that would lead an applicant to choosing this as the answer. How would having two coolers in service enter into an applicants thinking when answering this question? Addressed. OK MAB 2/11/2009
34	010K4.03	N	F	2										S	Ensure that the values in the answer choices are clearly labeled. Either

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															label the top of each column or state in each answer choice which is which. Incorporated. MAB 2/11/2009
35	010K5.01	B	H	2										~~E~~ S	Is the pzr insurge (level change) time dependent? No. OK MAB 2/11/2009 Have the licensee show me the reference material that explains that pzr heaters would be on given the conditions in the stem. Discussed with licensee. OK MAB 2/11/2009
36	012K6.01	N	H	2				x	?					~~E~~ / ~~U~~ S	Distractor "D": How would the RPS channel not be tripped yet the CRD breaker open? I need to understand this to determine whether or not this distractor is plausible. Discussed with licensee. OK MAB 2/11/2009 Distractors "B" and "D": What is meant by the "associated" CRD breaker? Does each RPS channel have its own CRD breaker? The distractor analysis states that the CRD breaker is still getting power from the other RPS channels, which leads me to believe that an RPS channels does not have an associated CRD breaker. This affects the plausibility of the CRD breaker being open. Discussed with licensee. OK MAB 2/11/2009
37	013K5.01	N	F	2										~~E~~ S	NUREG-1021, App. E, instructs applicants not to assume anything. Restate the bolded statement. Consider adding a third bullet stating that no operator actions have occurred. Discussed with licensee. OK MAB 2/11/2009 Can the third item of each answer choice be eliminated? It does not appear that they are needed to make the answer choices unique. Incorporated. OK MAB 2/11/2009
38	022K2.01	N	F	2										~~E~~ S	NUREG-1021, App. E, instructs applicants not to assume anything. Restate the bolded statement. Consider adding a bullet stating that no operator actions have occurred. Discussed with licensee. OK MAB 2/11/2009 Can the third item of each answer choice be eliminated? It does not appear that they are needed to make the answer choices unique. Incorporated. OK MAB 2/11/2009
39	026A4.05	N	F	2					?					~~E~~ / ~~U~~ S	Discuss plausibility of manual reset of contact buffers. Discussed with licensee. OK MAB 2/11/2009 Discuss changing the first part to test when the contact buffers auto reset. I.E. "RB Pressure Contact Buffers automatically reset at 10 psig / 3

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															psig...." Discussed with licensee. Original Q OK MAB 2/11/2009
40	026G2.4.21	M	H	2								x		~~U~~ S	K/A Match Analysis: How does the question require analysis of containment parameters to assess the radioactivity release control. The second part of the question appears to only be asking for the purpose of caustic addition. How does this require any analysis of parameters? Discussed with licensee. OK MAB 2/11/2009 Have the licensee explain how the K/A is met. The K/A requires knowledge of parameters and logic used to assess a safety function. Discussed with licensee. OK MAB 2/11/2009 Q was originally sat. MAB 2/11/2009
41	039A2.03	N	H	2										S	Ask the question as to what procedure is <u>required</u> to be used, vice the procedure used. Incorporated. MAB 2/11/2009 Is there any risk that an applicant can argue that AP-31 is used until it directs entry into the SGTR Tab via the IAAT statement (>25gpm)? Q now asks for the procedure that contains the actions. OK MAB 2/11/2009
42	039A4.03	N	H	2										S	I could not find AP-28 in the supplied reference material. Is there any way that applicants could successfully argue that "C" is an alternate correct answer? Discuss with licensee. AP-28 verified sat. MAB 2/11/2009
43	059A3.03	N	H	2										S	Question is satisfactory.
44	061A2.04	N	H	2										S	Question is satisfactory.
45	003K6.02	B	H	2				x						~~E~~ S	Discuss the possibility of replacing "B" with "Upper ONLY". This may be the better distractor because the lower and upper seal cavity pressures are not approaching each other. Incorporated. MAB 2/11/2009 Operationally valid question. The last operating test revealed procedural and applicant knowledge weaknesses in this area. OK MAB 2/11/2009
46	062A3.05	N	H	2				x						~~E~~ S	Distractor "A": With the stem stating that amps = 0, the credibility of this distractor is too low. This distractor will need to be replaced, or the stem modified such that amps=0 is not needed to eliminate this distractor.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Amps removed. OK MAB 2/11/2009
47	062K1.02	B	H	2										S	Question is satisfactory.
48	063A1.01	B	F	~~1~~ 2 2					x					~~U~~ S	Distractors "A" and "B": The question is written providing the applicant with a choice between vital and non-vital inverters. Choosing vital inverters as de-energizing is not plausible. Maybe it would be possible to test whether vital inverters are de-energized using the Blackout tab? This may require other changes to the question as well. Q modified. OK MAB 2/11/2009
49	064A2.03	M	H	~~1~~ 2 2		x			x					~~U~~ S	This is purely a GFE question. The applicants have already passed the GFE and this exam is the "Site Specific Written Exam." Is there a method to make this into a site specific question? Q modified. OK MAB 2/11/2009 Distractor "D": Not plausible because if voltage and frequency are confused, then the applicant would not then try to adjust voltage using the speed control. It is the combination of the two parts of the answer that makes it non-plausible. Q modified. OK MAB 2/11/2009 Distractor "A": Not plausible. If the applicant thought that frequency was causing the clockwise direction, which they would if they chose clockwise, then why would the applicant adjust voltage? It is the combination of the two parts of the answer that makes it non-plausible. Q modified. OK MAB 2/11/2009 At Oconee does "fast" mean clockwise? If so, then the answer is being provided in the stem. Why is the word "fast" being supplied in the stem? Is this necessary? Is "fast" referring to speed or direction? Q modified. OK MAB 2/11/2009
50	073G2.1.27	N	F	~~1~~ 2					x					~~U~~ S	Two other chief examiners were consulted and agree that this question does not discriminate at the licensed level. Q replaced. MAB 2/11/2009 Distractor "A": Why would an applicant choose this? Process rad monitors measure radiation in a pipe, whereas ALARA planning is related to rad levels outside of pipes. Q replaced. MAB 2/11/2009 Distractor "C": Same argument as "A". Inside pipe vs. an outside the pipe concern. Q replaced. MAB 2/11/2009

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Distractor "D": Same argument as "A" and "C". Q replaced. MAB 2/11/2009
51	076G2.4.2	B	F	2										S	Add the word "one" after "Any" in distractor "B". This may make it a little easier, but it will ensure that it is incorrect. Incorporated. MAB 2/11/2009 17 mils would always be trip criteria, regardless of conditions in the stem. Are any of the conditions in the stem necessary? Conditions in the stem are not necessary, but they do not harm the Q. OK MAB 2/11/2009
52	076K4.02	N	H	2				x						~~E~~ S	Second part of "D" is a subset of the second part of "C". Aligning ASW would be a method of reducing LPSW loads. Therefore, "D" is not plausible. Test taking skills would allow "D" to be eliminated without having any plant knowledge. Corrected. MAB 2/11/2009
53	078A3.01	B	F	2						x				~~E~~ S	Does the information in the stem eliminate the possibility of IA pressure at some point being lower than 91 psig and does this make a difference? (I.E. does the info in the stem eliminate the possibility of pressure being 85 psig or 88 psig at some point?) Discuss the potential to force the applicant to make assumptions in the stem as to the lowest pressure reached. Incorporated. MAB 2/11/2009 Does tense of the question and answers match? Is the intention of the question to ask for the status of the IA equipment?
54	078K1.03	B	F	~~1~~ ~~2~~ 2					x	x		x		~~U~~ S	I am concerned that "C" is a correct answer. The reason for stationing someone locally is that they are able to perform a contingency action if needed. Would closing a manual containment isolation not be related to containment operability? Q replaced. MAB 2/11/2009 Why is a reason supplied in "B" and "C" and not in the other answer choices? The stem of the question does not ask for a reason. Q replaced. MAB 2/11/2009 Is the intent to simply ask whether constant communication with the CR is required? Q replaced. MAB 2/11/2009 "B" and "C" are potentially subsets of "A" and "D", respectively. Discuss this potential with the licensee. Q replaced. MAB 2/11/2009

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															K/A Match: The K/A requires knowledge of a cause-effect relationship to be tested. This question only appears to test administrative information. Have the licensee explain how the K/A is matched. Q replaced. MAB 2/11/2009
55	103A1.01	N	H	~~1~~ 2 2					x					~~U~~ S	Distractors "A" and "B": Where does the RBCU take suction? The only way that an increase in fan discharge pressure would impact containment pressure would be if the RBCU took a suction from outside containment. If the fans simply circulate air already inside containment, then the first part of "A" and "B" are not credible. Corrected with mod to question. MAB 2/11/2009 Distractor "A": Is there a maximum allowable pressure limit for LPI pumps when taking suction from the sump? Why would an applicant believe that there would be a max pressure limit? A higher pressure would only help push water through the LPI pumps to provide better cooling to the core while on recirc. Corrected with mod to question. MAB 2/11/2009
56	002K4.10	N	H	~~1~~ 2 2					x					~~U~~ S	Distractor "A": How is this plausible? Turning an ENABLE switch to off would signify that something is not going to work as intended; otherwise, why have the switch. Distractors reworked. MAB 2/11/2009 Distractor "B": How is this plausible? Turning an ENABLE switch to off may prevent something from happening, but how would disabling something cause that something to immediately actuate? Distractors reworked. MAB 2/11/2009
57	015A3.01	B	F	2										~~E~~ S	Distractor "A": NI-5 has the same indication as NI-8, so why would someone choose NI-5 without also choosing NI-8? Would it be possible to lower NI-5 to 98.7, or something else that may remain plausible? Don't forget that "D" plausibility appears to play off of the NI-5 value as well. Incorporated. MAB 2/11/2009
58	016K3.04	N	H	2										S	The question statement should tie the answer to the actions directed by AP/28. Add an "... in accordance with 1AP/28." to the question statement. Incorporated. MAB 2/11/2009
59	017K5.02	B	F	2										~~E~~ S	Does the stem require a power level to be stated? If no power level is stated, is there a possible "no correct answer" argument? OK MAB 2/11/2009 Question is satisfactory if the above concern is addressed.
60	041K2.01	N	F	2				x						~~E~~	Distractor "B": Why would failing in a mid position be plausible when the

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
														S	plant has the ability to relieve energy to the atmosphere? Discussed with licensee. OK MAB 2/11/2009
61	072A2.03	N	F	2				x						~~E~~ S	Distractor "D": Does RIA-6 have an air sampling function? If not, then why would a requirement exist to place a portable air sampling unit in the SFP area.? This distractor likely will need to be replaced unless adequate further justification can be supplied. Distractor replaced. MAB 2/11/2009 Why is "D" worded as "continue after …" when it is actually stating "NOT continue.." until a portable air sampling instrument is placed in the SFP area (more similar to the wording of "A" and "C")? Distractor replaced. MAB 2/11/2009
62	034A1.02	N	F	~~1~~ ~~2~~ 2					x					~~E~~ ~~/~~ ~~U~~ S	Have the licensee explain how having only one viable location, such as described in "C" and "D", is credible? Common sense would suggest that placing the fuel bundle in the place where it just came from would be OK. Common sense would also suggest that placing the fuel bundle in the location where it was intended to go would also be OK (the fuel movement plan states that it is OK). "C" and "D" may be eliminated only by applying a small amount of common sense without actually having any fuel handling or procedure knowledge. Q modified. MAB 2/11/2009 Much importance is placed on "C" and "D" only being incorrect because it is not a complete list of viable options to place the fuel bundle. Q modified. MAB 2/11/2009 This question is not well constructed and may not discriminate at the appropriate level. Q modified. MAB 2/11/2009 Discuss options with the licensee. Q modified. MAB 2/11/2009
63	055G2.2.44	N	H	2						x				~~E~~ ~~/~~ ~~U~~ S	Have the licensee explain the plausibility of "A". I do not understand how the applicant could think that reactor power would go up if the applicant assumes that ICS is not in integrated mode. Distractor modified. MAB 2/12/2009 Would "decrease" be a better choice for "A" and "B"? Incorporated. MAB 2/12/2009 Could the applicant successfully argue that reactor power may change a little with a loss of vacuum transient taking place? "Approximately" was added to C and D. MAB 2/12/2009

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															I just want to double check that an applicant, in no way, can use AP/27 to justify a "reduce load" answer. Discuss with the licensee.
64	071K1.06	B	F	2										~~E~~ S	The ARG states that the exhauster will stop if the high setpoint is received. Can the first part of "B" occur without reaching the high setpoint? If so, do the stem or answer choices need enhancement to ensure a correct answer? Incorporated. MAB 2/12/2009
65	075A4.01	N	H	2					x					S	Question is satisfactory.
66	G2.1.1	B	F	2				x						~~E~~ S	"A" is a subset of "D". If "D" is correct, then "A" would also be correct. Either "A" or "D" will need to be changed. Distractors modified. OK MAB 2/12/2009
67	G2.1.18	M	F	2										S	Question is satisfactory.
68	G2.1.39	N	F	2										S	Question is satisfactory.
69	G2.2.14	M	H	2										S	Question is satisfactory.
70	G2.2.7	N	F	2					x					~~E~~ / ~~U~~ S	Control Rod Movement Test is not an infrequent test. Suggestion: Replace Control Rod Movement Test with either "placing a new demin in service" or "moving fuel during a refueling outage" or another acceptable task that is not frequently performed. Incorporated. MAB 2/12/2009
71	G2.3.12	N	H	2				x						~~E~~ S	Distractor "A": This is not credible. If an applicant knows that the area is designated as a LHR Area, which is stated in the first part of the answer, then the applicant is not going to have a reasonable misconception that the door to the room is not required to be locked or guarded. Discussed with licensee. OK MAB 2/12/2009
72	G2.3.14	N	H	~~1~~ 2					?					~~E~~ S	State in the stem that the applicable AP is in progress and that the SRO has directed him to perform an action in the area. This will help to address some of my concerns with remaining in the area. OR Place the leakrate high enough to place them in the EOP. Incorporated. MAB 2/12/2009
73	G2.4.27	N	H	~~?~~ 2										~~?~~ S	The licensee must state the exact procedures and page numbers for the references that they are proposing to supply to the applicant. OK MAB 2/12/2009 I will want the licensee to walk me through this question with the proposed reference package. I will want to better understand how the references

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															impact the plausibility of the distracters, etc. Discussed with licensee. Licensee made some minor adjustments. MAB 2/12/2009
74	G2.4.45	N	H	2										S	Question is satisfactory.
75	G2.4.47	N	H	2					x					~~U~~ S	How will the pressure decrease be linear? Is there a correct answer? Pressure drop would not be linear. Licensee replaced Q. MAB 2/12/2009 Distractors "A" and "C": If they are operating in the permissible region, then why would they be required to declare HPI inoperable? These distracters are not plausible, unless I am missing something. Discuss with licensee. Licensee replaced Q. MAB 2/12/2009
SRO EXAM															
76	011EA2.13	N	H	2									x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. Event diagnosis knowledge, determining the difference between a LOCA and a MSLB, could be used to eliminate "C" and "D", which is RO knowledge. Then determining that forced circulation is not occurring, based on comparison of CETCs and Tcold indications, allowed "B" to be eliminated, which is also RO knowledge. Discussed with licensee. OK MAB 2/12/2009 Does the word "Circulation" need to be inserted between "Forced" and "Cooldown" in answer choices "B" and "D"? No. This is plant specific terminology. OK MAB 2/12/2009
77	022AA2.01	N	H	2									x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. Systems information, pzr level, can be used to determined the difference between a letdown leak and an injection leak, which is RO knowledge. Also using systems knowledge, starting another pump and splitting the normal injection line are the only actions that would resolve the problem. Question modified to require SRO knowledge. MAB 2/12/2009 Under Current Conditions, why is the first bullet needed? Given the info in the second bullet, the first bullet does not appear to be necessary info. Delete the first bullet if it has no impact on the question. Deleted. MAB 2/12/2009
78	027AA2.10	N	H	2										S	Question is satisfactory. Question is testing knowledge required only of the SRO position because TS Bases information is needed to arrive at the correct answer.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
79	026EG2.4.50	N	H	3					?				?	~~?~~ S	Plausibility of "A" and "C": What indications in the stem would cause the applicant to have a misconception that letdown was lost? Temperatures may lead them to think that demins could be bypassed, but I do not see anything that would lead them to think that letdown may have been lost. Discuss with licensee. Enhancements made. OK MAB 2/12/2009 Have the licensee explain further how this question requires SRO-only knowledge to arrive at the correct answer. ROs are required to know AOP entry conditions; therefore, if symptoms for a loss of CCW exist as specified in the ARG, but symptoms of a loss of letdown do not exist, then it would appear that no SRO-only knowledge is needed to answer the question. Discuss with licensee. Enhancements made. OK MAB 2/12/2009 Determination of status of this question will depend on the licensee's justification of the above two comments. Discuss with licensee. Enhancements made. OK MAB 2/12/2009
80	054AG2.4.9	N	H	2										S	"C" and "D": Consider adding the word "manually" between "be" and "throttled". Incorporated. MAB 2/12/2009 First part of "A" and "B" is borderline on plausibility, but OK for now. OK MAB 2/12/2009
81	058G2.2.37	B	H	2										~~E~~ S	Delete information in the answer choices that are not needed to either make the answer correct or make a distractor incorrect. For example, could the answer choices be constructed as follows? A. 1A RPS channel is NOT operable TS 3.3.1 (RPS Instrumentation) action statements are required to be performed. B. etc. (I think the reason it was written in that manner was to raise the plausibility of "C" because it may not make sense to have an INOP channel, yet not enter the TS. However, this is additional information that is not needed to make the answer choice unique.) Incorporated. MAB 2/12/2009 Detailed knowledge of what constitutes operability of an RPS channel is needed to arrive at the correct answer; therefore, question appears to be written at the SRO-only level. Question was independently evaluated for SRO-only LOK by a second Chief Examiner.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
82	028AA2.03	N	H	2									x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. ROs are required to know 1 hour or less TS, which allows "B" and "D" to be eliminated. Systems knowledge can then be used to determine that 1HP-120 fails closed on a loss of IA, which allows "A" to be eliminated. Q modified to require SRO knowledge. OK MAB 2/12/2009 Question was independently evaluated for SRO-only LOK by a second Chief Examiner.
83	037AG2.4.31	N	H	~~1~~ ~~2~~ 2					x					~~U~~ S	"A" and "B" plausibility: • The question statement asks for a procedure, yet "A" and "B" do not provide a procedure in the first part of the answer choices. A procedure network is provided, not a specific procedure. This causes "A" and "B" to not be plausible. • With pressurizer level stable, would an operator ever go to an EOP prior to going to an AOP? Specific procedure added. OK MAB 2/12/2009 Internal procedure transition knowledge is required only of the SRO position. LOD=1 because there are only 2 viable answer choices.
84	BA01AG2.4.11	N	H	2						x				~~E~~ S	Should "of allowable thermal power" be added to the end of the first part of "A" and "B" after "45%"? Incorporated. MAB 2/12/2009 Could "B" be considered a correct answer? Is the word "flat" the key portion to determining the choice as incorrect? Is there some subjective judgment as to what flat means when applied to a radial flux distribution? I know power will shift to the outside of the core as the fuel depletes; however, is it possible that someone could argue that the normal power shift still maintains a relatively flat profile as compared to if a rod drops to the bottom in one of the quadrants. We need to ensure that this is not a potential correct answer and support that clearly with plant documentation. Discussed with licensee. OK MAB 2/12/2009 TS Bases piece is SRO-only knowledge.
85	BE08EA2.1	N	H	2										S	Procedure selection wrt either depressing SGs or abiding by TS limits appears to make this question SRO-only. Question was independently evaluated for SRO-only LOK by a second Chief Examiner.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
86	003G2.4.49	N	H	2				x					x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. RCP trip criteria and resultant Rx Trip criteria are both RO knowledge items. Discussed with licensee. OK MAB 2/12/2009 Question was independently evaluated for SRO-only LOK by a second Chief Examiner. "D" is not plausible because it is not credible to believe that the RCP would be tripped while the reactor was at full power. Corrected. MAB 2/12/2009 Could "reportability" or "notifications" knowledge be tested in conjunction with the RCP trip. Just an idea for a potential fix, there may be a better idea for addressing the concern. Q OK with modifications. MAB 2/12/2009
87	005G2.2.38	B	H	~~1~~ ~~2~~ 2					x	x				~~U~~ S	"A" and "B" do not appear to be plausible because there are no 72 hour actions to restore an LPI train or component. Q replaced. MAB 2/12/2009 Why is "D" incorrect? These actions appear to be required by Tech Specs and are required to be tracked as such. They may not be the most limiting actions as far as time to perform, but they are required actions, thus making this a correct answer. Discuss this with the licensee to see if I am evaluating this answer choice correctly. Q replaced. MAB 2/12/2009 LOD=1 because there are only 2 viable answer choices. Q replaced. MAB 2/12/2009
88	022G2.1.32	N	F	~~1~~ ~~2~~ 2					x				?	~~U~~ S	"A" and "C" are not plausible because a minimum flow limit does not make sense with respect to tube erosion. A maximum limit would be something that would make sense with a tube erosion concern. Discuss with the licensee to ensure that I am not missing something. Q replaced. MAB 2/12/2009 LOD=1 because there are only 2 viable answer choices. Q replaced. MAB 2/12/2009 The question appears to be testing the basis for a system operating procedure precaution/limitation, which would appear to screen as RO knowledge. The information on the basis does appear in the SLC, but it also appears in a lesson plan that contains an RO objective for knowing the basis for this P/L. Discuss aspects of this question with the licensee to make a final determination on SRO-only knowledge requirements of this

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															question. If this limitation did not appear in the P/Ls, then it would screen as SRO-only, but SOP basis information does not screen as SRO-only. Q replaced. MAB 2/12/2009 Question is unsat due to plausibility and potentially unsat due to SRO-only, pending discussion and final evaluation. Q replaced. MAB 2/12/2009
89	026A2.07	B	F	2										S	Question is satisfactory. SRO-only due to testing design basis information from TS.
90	059A2.12	N	H	2										~~E~~ S	The question appears to ask for an EOP action, but then ask for t the SLC basis for limiting the SG level. If this is done, then the question must specifically ask for the EOP step and then ask for the basis in the SLC. The question seems to be confusing because normally an SLC action would be tested and then the basis or reason for that action would be tested. The EOP basis does not appear to discuss the PTS concern as does the SLC, so I want the question statement to be worded specifically so that post-exam issues do not arise because the applicant was confused by this question presentation. Discussed with licensee. Minor enhancements made. OK MAB 2/12/2009 SRO-only because of SLC basis knowledge.
91	016G2.1.30	M	H	2										S	Question is satisfactory. SRO-only because knowledge of design (TS) basis of SSF is required to arrive at the correct answer.
92	055G2.2.44	N	F	2									x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. If a condenser vacuum interlock is the reason that ADVs must be used, then RO knowledge can be used to reduce the answer possibilities to "C" and "D". Knowing the procedure restriction on temperature also appears to screen as RO knowledge, which would allow "D" to be disqualified as an answer choice. Discuss the SRO-only aspects of this question with the licensee. Q modified. MAB 2/12/2009 Question was independently evaluated for SRO-only LOK by a second Chief Examiner. Based on the distractor analysis, is 525 or 527 the error corrected min temp for criticality? Distractor analysis for "B" and "D" state different values for this requirement.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws						Content Flaws			U E S	Comment Explanation
					Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Min B/W	Q= K/A	SRO Only		
															Q modified. MAB 2/12/2009 It appears like there may be an extra character space prior to "to" in each of the answer choices. Q modified. MAB 2/12/2009 "Subsequent" is misspelled in stem. Q modified. MAB 2/12/2009
93	071A2.05	N	H	2						x				~~E~~ S	SRO-only because SLC basis information is required to arrive at the correct answer. What does "small percentage" mean? Could second part of "B" be successfully argued as correct because "small percentage" is not a defined term? I understand that it appears in the question exactly as stated in the SLC basis, but non-specific terminology can open doors to having more than one correct answer. Wording modified. OK MAB 2/12/2009 Similar comments as before: the first part of the question asks for an action as specified in an ARG, then the second part asks for a basis from the SLC, an entirely different document. This may be OK, but the question should specifically ask for the SLC basis, so the applicant knows that the information being tested comes from two different locations. Generally, when possible, the answer should be tied to a specific procedure. This is not always possible, but when it is possible, it acts to tighten up the question. Discussed with licensee. OK MAB 2/12/2009
94	G2.1.15	N	F	2				x						~~E~~ S	Could the work list being performed possibly reference the operator to stroke the valve in accordance with an approved procedure? The question attempts to address this by stating "detailed instructions", but I do not think that rules out the possibility that an approved procedure could be referenced. This may need to be specifically stated in the stem. Enhancements made. OK MAB 2/12/2009 "B" does not appear to be plausible because a conversation would not be credible. The question could be slightly reworked to incorporate the tagout/RR information. For example, distracters could read something like: "Work activities on the work list can be performed if they are prescribed by an approved plant procedure, but not if they are prescribed by a tagout/RR." (Ensure the question is worded such that it is not a collection of T/F statements.) Discussed with licensee. OK MAB 2/12/2009 SRO-only because the task of approving and assigning performance of the

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															work list appears to be an SRO-only function which generally would be launched from the WCC. Question was independently evaluated for SRO-only LOK by a second Chief Examiner.
95	G2.1.42	N	F	~~1~~ 2					x				x	~~U~~ S	Knowledge only required of the SRO position is not needed to answer the question. An RO license allows an RO to move fuel. As part of the responsibilities of a fuel mover, that person needs to know when he/she is required to get approvals from the refueling SRO. Therefore, this particular knowledge that is required to answer this question is not knowledge that only the SRO is required to possess. It is true that this is administrative fuel handling knowledge, but that in and of itself, does not qualify it as SRO-only. Q replaced. MAB 2/12/2009 Question was independently evaluated for SRO-only LOK by a second Chief Examiner. Plausibility of "B": In what instance is it ever necessary to notify the RO of activities on the refuel floor prior to placing a fuel bundle in its desired location? Q replaced. MAB 2/12/2009 Plausibility of "D": Would this not be performed on every fuel move (manual indexing or no manual indexing)? Q replaced. MAB 2/12/2009 Could "C" ever be wrong? For example, even if you needed Rx Eng permission, you would still need Refueling SRO permission as well. Q replaced. MAB 2/12/2009 LOD=1 due to lack of plausibility. Q replaced. MAB 2/12/2009
96	G2.2.19	N	F	~~1~~ 2					x					~~U~~ S	Distractors are not plausible due to many of the same reasons documented in the answer choice analysis. Furthermore, when would checking the overall impact on the plant ever be incorrect. This question does not discriminate at the appropriate level. (LOD=1) Q replaced. MAB 2/12/2009 SRO-only because work order approval is an SRO-only task.
97	G2.2.35	B	H	~~1~~					x					~~U~~	"A" and "B" are not plausible because no indications are provided that would allow an assessment of criticality. When only rod positions are

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
				2										S	provided, the only choice that is conceivable is Mode 3, thus rendering Mode 2 choices to not be credible. (LOD=1) Discussed with licensee. OK MAB 2/12/2009 Good idea for testing at SRO-only level (I.E. Mode change). Delete all information in the answer choices that is not needed to make that answer choices unique. For example, the original answer choices could have been written as: A. Mode 2 No B. Mode 2 Yes C. Mode 3 No D. Mode 3 Yes The above info is all that is needed to make the answer choices unique. Incorporated. MAB 2/12/2009
98	G2.3.13	N	H	~~1~~ 2 2					x				x	~~U~~ S	Plausibility of "C" and "D": What indications exist in the stem for a loss of SDC? Q replaced. MAB 2/12/2009 Distractor "D": What information in the stem tells me that the 2A LPI cooler is in service? Q replaced. MAB 2/12/2009 Distractor "C": A loss of decay heat removal procedure would likely provide ways to regain heat removal. How would stopping an LPI pump help accomplish this? Q replaced. MAB 2/12/2009 Distractor "A": Discuss plausibility with the licensee. Q replaced. MAB 2/12/2009 LOD may = 1, pending conversations with the licensee. Q replaced. MAB 2/12/2009 Knowledge only required of the SRO position is not needed to answer the question. ROs are required to know AOP entry conditions. It appears that AP-26 can be disqualified using RO knowledge. Systems knowledge could then be used to determine how to operate the Keowee units, which is also RO knowledge.

Q #	K/A#	B M N	L O K	L O D	Psychometric Flaws: Stem Focus	Cues	T/F	1 Non Cred Dist	>1 Non Cred Dist	Partial	Content Flaws: Min B/W	Q= K/A	SRO Only	U E S	Comment Explanation
															Q replaced. MAB 2/12/2009 K/A Match Analysis: How is RB evacuation knowledge being tested? It appears that the K/A is met, but I am not following the logic in the analysis. Q replaced. MAB 2/12/2009
99	G2.3.4	N	H	2				x						~~E~~ S	Discuss possibility of changing "D" to 25 rem. Incorporated. MAB 2/12/2009 SRO-only knowdge is required because knowledge of EDLs is needed to arrive at the correct answer.
100	G2.4.11	N	F	~~1~~ 2					x					~~U~~ S	"C" and "D" plausibility: Bypassing requirements for schedule convenience is not credible. Corrected. MAB 2/12/2009 "A" could be successfully argued as correct since nothing in the stem states that the CR SRO is the only one available or that there is not enough time to get a second SRO. Q replaced. MAB 2/12/2009 SRO-only because the task is specific to the SRO job function.

Facility: Oconee Date of Exam: 03/13/2009 Exam Level: RO [X] SRO [X]

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

	Printed Name/Signature	Date
a. Grader	Kontz	3/19/09
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	MARK A. BATES / Mark A. Bates	03/19/2009
d. NRC Supervisor (*)		

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