

# ADMINISTRATIVE DOCUMENTS

(Yellow Paper)

1. Exam Preparation Checklist ..... ES-201-1
2. Exam Outline Quality Checklist ..... ES-201-2
3. Exam Security Agreement(s) ..... ES-201-3
4. Administrative Topics Outline (Final) ..... ES-301-1
5. Control Room Systems & Facility Walk-through Test Outline  
(Final) ..... ES-301-2
6. Operating Test Quality Check Sheet ..... ES-301-3
7. Simulator Scenario Quality Check Sheet ..... ES-301-4
8. Transient and Event Checklist ..... ES-301-5
9. Competencies Checklist ..... ES-301-6
10. Written Exam Quality Check Sheet ..... ES-401-6
11. Written Exam Review Worksheet ..... ES-401-9
12. Written Exam Grading Quality Checklist ..... ES-403-1
13. Post-Exam Check Sheet ..... ES-501-1
14. Facility Submittal Letter [ ]

Facility: <u>McGuire</u>		Date of Examination: <u>May 12-23, 2008</u>
Developed by: Written - Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/> // Operating - Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/>		
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	rfa
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	rfa
-120	3. Facility contact briefed on security and other requirements (C.2.c)	rfa
-120	4. Corporate notification letter sent (C.2.d)	rfa
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 3)]	rfa
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	rfa
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	rfa
{-45}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	rfa
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	rfa
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	rfa
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	rfa
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	rfa
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	rfa
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 5; ES-202, C.2.e; ES-204)	rfa
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	rfa
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	rfa
<p>* 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.</p>		

**FINAL**

Facility:	McGuire	Date of Examination:	5/12/08			
Item	Task Description	Initials			c#	
		a	b*			
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	DL	JK		9	
	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.	DL	JK		9	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	DL	JK		9	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	DL	JK		9	
2. S I M U L A T O R	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	DL	JK		9	
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and scenarios will not be repeated on subsequent days.	DL	JK		9	
	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.	DL	JK		9	
3. W / T	a. Verify that 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 alternate path, low-power, emergency and RCA tasks meet the criteria on the form.	DL	JK		9 x	
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form (2) at least one task is new or significantly modified (3) no more than one task is repeated from the last two NRC licensing examinations	DL	JK		9	
	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.	DL	JK		9	
	4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	DL	JK		9
		b. Assess whether the 10CFR 55.41/43 and 55.45 sampling is appropriate.	DL	JK		9
		c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	DL	JK		9
d. Check for duplication and overlap among exam sections.		DL	JK		9	
e. Check the entire exam for balance of coverage.	DL	JK		9		
f. Assess whether the exam fits the appropriate job level (RO or SRO).	DL	JK		9		
a. Author	Printed Name / Signature		Date			
b. Facility Reviewer (*)	David Lazarony/Western Technical Services		3/14/08			
c. NRC Chief Examiner (#)	FRED BKIRK JR / [Signature]		3/17/08			
d. NRC Supervisor	RON ARILLO / [Signature]		04/02/08			
	MALCOLM T. WIDMANN / [Signature]		04/02/08			
NOTE: # Independent NRC reviewer initial items in Column "c", chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines						

*NO AUDIT NOT DONE YET*

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5/12/08 & 5/19/08 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 5/12/08 and 5/19/08

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 5/12/08 and 5/19/08. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1. Michael O. Rice	OPS / RO	<i>Michael O. Rice</i>	2-14-08	<i>Michael O. Rice</i>	5-27-08
2. Dennis TAYLOR	OPS TNG/SIM	<i>Dennis Taylor</i>	2-13-08	<i>Dennis Taylor</i>	5-27-08
3. Christopher McCall	OPS SRO	<i>Christopher McCall</i>	2/23/08	<i>Christopher McCall</i>	5/3/08
4. DAVID A. NADEAU	OPS / SRO	<i>David A. Nadeau</i>	2/24/08	<i>David A. Nadeau</i>	5/30/08
5. Eric E. Wilkinson	OPS / SRO	<i>Eric E. Wilkinson</i>	2/26/08	<i>Eric E. Wilkinson</i>	6/10/08
6. STEVEN A. HELMS	TNG SUPERVISOR	<i>Steven A. Helms</i>	3-4-08	<i>Steven A. Helms</i>	5-25-08
7. ROBIN J. BELL	OPS/SRO	<i>Robin J. Bell</i>	3-5-08	<i>Robin J. Bell</i>	6-4-08
8. DONNY HARTSELL	SIM TEST VENDOR	<i>Donny Hartsell</i>	3-10-08	<i>Donny Hartsell</i>	5-27-08
9. Chuck ELARI	Simulator Support	<i>Chuck Elari</i>	3-10-08	<i>Chuck Elari</i>	5-27-08
10. Randy BAKER	simulator support	<i>Randy Baker</i>	3-10-08	<i>Randy Baker</i>	5-27-08
11. SUTHASH KUMAR	SIM SUPPORT	<i>Suthash Kumar</i>	3-10-08	<i>Suthash Kumar</i>	5-27-08
12. Nathan P. Poston	McQuire Instructor	<i>Nathan P. Poston</i>	3-11-08	<i>Nathan P. Poston</i>	5-27-08
13. DENNIS MOORE	OPS/HP	<i>Dennis Moore</i>	3-12-08	<i>Dennis Moore</i>	6-04-08
14. THOMAS WOOLEY	Developer	<i>Thomas Wooley</i>	3-18-08	<i>Thomas Wooley</i>	Sec 4 Attachment 3 2/19/08
15. CHARLES MAJURE	SENIOR OPERATIONS SPECIALIST	<i>Charles A. Majure</i>	4-15-08	<i>Charles A. Majure</i>	5/27/08

NOTES:

ops - Linda Gabbert  
 D.J. Bell

2008 McGuire

1. Pre-Examination

5/12/08 and

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5/19/08 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 (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

5/12/08 and 5/19/08

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. <u>Jacqueline Schelky</u>	<u>Admin</u>	<u>Jacqueline Schelky</u>	<u>1/23/08</u>	<u>See attachment 2</u>	<u>6-10-08</u>	
2. <u>Robby Pope</u>	<u>OPT MANAGER</u>	<u>R M Pope</u>	<u>4/16/08</u>	<u>R M Pope</u>	<u>5-23-08</u>	
3. <u>Scotty Broadshaw</u>	<u>Site Training Manager</u>	<u>Scotty Broadshaw</u>	<u>4/16/08</u>	<u>Scotty Broadshaw</u>	<u>5/28/08</u>	
4. <u>VICKIE BREWER</u>	<u>ADMIN SPEC.</u>	<u>Vickie Brewer</u>	<u>4/21/08</u>	<u>Vickie Brewer</u>	<u>5/27/08</u>	
5. <u>Kenneth Canley</u>	<u>OPS TRNG INST</u>	<u>Kenneth Canley</u>	<u>4/22/08</u>	<u>Kenneth Canley</u>	<u>5/27/08</u>	
6. <u>T.R. HALL</u>	<u>OPS MNS / RO</u>	<u>T.R. Hall</u>	<u>4/29/08</u>	<u>T.R. Hall</u>	<u>5/26/08</u>	
7. <u>JM GOLD</u>	<u>OPS SHIFTS SRO</u>	<u>JM Gold</u>	<u>4-30-8</u>	<u>JM Gold</u>	<u>6-10-8</u>	
8. <u>Melissa Silver</u>	<u>OPS SHIFT RO</u>	<u>Melissa Silver</u>	<u>4/30/08</u>	<u>Melissa Silver</u>	<u>5/30/08</u>	
9. <u>ED FACCART</u>	<u>OPS SRO</u>	<u>Ed M. Faccart</u>	<u>05/01/08</u>	<u>Ed M. Faccart</u>	<u>05/27/08</u>	
10. <u>Joseph Glassy</u>	<u>OPS SOM</u>	<u>Joseph Glassy</u>	<u>5/12/08</u>	<u>Joseph Glassy</u>	<u>6/4/08</u>	
11. <u>Vickie L. Reid</u>	<u>Admin Spec.</u>	<u>Vickie L. Reid</u>	<u>5/12/08</u>	<u>Vickie L. Reid</u>	<u>6/4/08</u>	
12. <u>Mike Weiner</u>	<u>OPS Prod / Senior Engr</u>	<u>Mike Weiner</u>	<u>5/12/08</u>	<u>Mike Weiner</u>	<u>6/11/08</u>	
13. _____	_____	_____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____	_____	_____

NOTES: ops - Linda Gabbat  
all ops out

1. Pre-Examination

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. JOSEPH G. ARSENAULT	Developer	<i>Joseph G. Arsenault</i>	11/20/07	See attachment 1 <sup>α PD</sup> 5-27-08	5-27-08	
2. DAVID LAZAROVY	DEVELOPER	<i>David Lazarovy</i>	11/20/07	See attachment 1 <sup>α PD</sup> 5-27-08	5-27-08	
3. Linda Gabbert	McGuire Instructor	<i>L.P. Gabbert</i>	12-13-07	<i>L.P. Gabbert</i>	5-23-08	
4. FRED KIRK	McGuire Instructor	<i>Fred Kirk</i>	12-13-07	<i>Fred Kirk</i>	5-23-08	
5. SCOTT HALVERSON	SSMR VENDOR	<i>Scott Halverson</i>	1-10-07	Scott Halverson via phone <sup>α PD</sup>	6-4-08	
6. JOHN H. SADLER	Sr. Operations Specialist	<i>John H. Sadler</i>	1/13/08	<i>John H. Sadler</i>	5/26/08	
7. Vickie L. McEinnis	Admin. Spec.	<i>Vickie L. McEinnis</i>	1/23/08	<i>Vickie L. McEinnis</i>	6-2-08	
8. KENNETH HOFFMAN	E P - DRILLS	<i>Kenneth Hoffman</i>	1-28-08	<i>Kenneth Hoffman</i>	5-27-08	
9. TERESA PUTNAM	McGuire RO	<i>Teresa B. Putnam</i>	2/2/08	<i>Teresa B. Putnam</i>	5/27/08	
10. Wayne M. Hoyle	McGuire / SRO / OSM	<i>Wayne M. Hoyle</i>	2/13/08	<i>Wayne M. Hoyle</i>	5/27/08	
11. DARRYL BLACKWELDER	MNS / RO	<i>Darryl Blackwelder</i>	2/13/08	<i>Darryl Blackwelder</i>	5/27/08	
12. Catherine Hoffman	OPS / SRO	<i>Catherine Hoffman</i>	2-13-08	<i>Catherine Hoffman</i>	5-27-08	
13. Rob Billings	McGuire Instructor	<i>Rob Billings</i>	2-13-08	<i>Rob Billings</i>	5-27-08	
14. ANDREW SMITH	OPS / RO	<i>Andrew Smith</i>	2/14/08	<i>Andrew Smith</i>	6/27/08	
15. Robert Poole	OPS / RO	<i>Robert Poole</i>	2/14/08	<i>Robert Poole</i>	5/27/08	

NOTES: α PD - Linda Gabbert  
L.P. Gabbert

Facility:	McGuire	Date of Examination:	5/12/08
Examination Level:	SRO	Operating Test Number:	N08-1
Administrative Topic (see Note)	Type Code*	Describe activity to be performed	
Conduct of Operations <i>A1</i>	M, R	2.1.25 (4.2)	Ability to interpret reference materials, such as graphs, curves, tables, etc.
		JPM:	Calculate Dilution Needed for a Specified Rod Change
Conduct of Operations <i>A2</i>	N, R	2.1.20 (4.6)	Ability to interpret and execute procedure steps
		JPM:	Approve a Completed Procedure
Equipment Control <i>A3</i>	N, R	2.2.13 (4.3)	Knowledge of Tagging and Clearance Procedures
		JPM:	Review Mechanical and Electrical Isolation Boundaries to Isolate 1B NI Pump
Radiation Control <i>A4</i>	N, R	2.3.4 (3.7)	Knowledge of radiation exposure under normal or emergency conditions.
		JPM:	Take On-Site Protective Actions During a General Emergency
Emergency Procedures/Plan <i>A5</i>	N, R	2.4.44 (4.4)	Knowledge of Emergency Plan Protective Action Recommendations
		JPM:	Make Protective Action Recommendations and Perform Initial Notification
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.			
*Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom (D)irect from bank ( $\leq 3$ for ROs; $\leq 4$ for SROs & RO retakes) (N)ew or (M)odified from bank ( $\geq 1$ ) (P)revious 2 exams ( $\leq 1$ ; randomly selected)			

Facility:	McGuire	Date of Examination:	5/12/08
Examination Level:	RO	Operating Test Number:	N08-1
Administrative Topic (see Note)	Type Code*	Describe activity to be performed	
Conduct of Operations <i>A1</i>	M, R	2.1.25 (3.9) JPM:	Ability to interpret reference materials, such as graphs, curves, tables, etc. Calculate Dilution Needed for a Specified Rod Change
Conduct of Operations <i>A2</i>	N, S	2.1.19 (3.9) JPM:	Ability to use plant computers to evaluate system or component status Monitor Critical Safety Function Status Trees
Equipment Control <i>A3</i>	N, R	2.2.13 (4.1) JPM:	Knowledge of Tagging and Clearance Procedures Identify Mechanical and Electrical Isolation Boundaries to Isolate 1B NI Pump
Emergency Procedures/Plan <i>A5</i>	M, R	2.4.13 (4.0) JPM:	Knowledge of Crew Roles and Responsibilities During EOP Usage Calculate Reactor Vessel Head Venting Time
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.			
*Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom (D)irect from bank ( $\leq 3$ for ROs; $\leq 4$ for SROs & RO retakes) (N)ew or (M)odified from bank ( $\geq 1$ ) (P)revious 2 exams ( $\leq 1$ ; randomly selected)			

Facility:	McGuire	Date of Examination:	5/12/08
Exam Level (circle one):	<i>RO (only)</i> / SRO(I) / <b>SRO (U)</b>	Operating Test No.:	N08-1
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.	001 Control Rod Drive System Retrieve a Dropped Control Rod	S, D	1
b.	<b>EPE 038 Steam Generator Tube Rupture NC Cooldown During SGTR</b>	<b>S, N, A</b>	<b>3</b>
c.	003 Reactor Coolant Pump System Start "1B" Reactor Coolant Pump	S, M, A	4P
d.	061 Auxiliary/Emergency Feedwater System Operate the Turbine Driven CA Pump from the Control Room	S, M	4S
e.	<b>026 Containment Spray System Manually Actuate Containment Spray System</b>	<b>S, N, A, EN</b>	<b>5</b>
f.	APE 036 Fuel Handling Incidents Start Outside Air Pressure Filter Fan Following Damage of Spent Fuel Assembly	S, M	8
g.	<b>015 Nuclear Instrumentation System Respond to a Source Range Nuclear Instrumentation Failure</b>	<b>S, D, A, L</b>	<b>7</b>
h.	062 AC Electrical Distribution System <i>Restoration of Power to Unit 1 6900V Buses using Offsite Power</i>	S, M	6
In-Plant Systems® (3 for RO; 3 for SRO-I; 3 or 2 for <b>SRO-U</b> )			
i.	<b>004 Chemical and Volume Control System Emergency Borate the Reactor Coolant System Locally Using 2NV-269</b>	<b>D, R, E</b>	<b>1</b>
j.	APE 065 Loss of Instrument Air Ensure Proper Response of Diesel VI Compressors on Loss of VI	D, A, E	8
k.	<b>EPE 055 Station Blackout Establish NC Pump Seal Injection from the SSF</b>	<b>D, E</b>	<b>6</b>

@ 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 (5) / 4-6 (5) / 2-3 (3)
(C)ontrol room	
(D)irect from bank	≤ 8 (5) / ≤ 8 (5) / ≤ 4 (3)
(E)mergency or abnormal in-plant	≥ 1 (3) / ≥ 1 (3) / ≥ 1 (2)
(EN)gineered Safety Feature	- / - / ≥ 1 (1) (Control Room System)
(L)ow-Power / Shutdown	≥ 1 (1) / ≥ 1 (1) / ≥ 1 (1)
(N)ew or (M)odified from bank including 1(A)	≥ 2 (6) / ≥ 2 (5) / ≥ 1 (2)
(P)revious 2 exams	≤ 3 (0) / ≤ 3 (0) / ≤ 2 (0) (Randomly Selected)
(R)CA	≥ 1 (1) / ≥ 1 (1) / ≥ 1 (1)
(S)imulator	

Facility:	McGuire	Date of Examination:	5/12/08	Operating Test Number: N08-1		
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).			DL*	DK	✓
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.			DL*	DK	✓
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).			DL*	DK	✓
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.			DL*	DK	✓
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.			DL*	DK	✓
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			DL*	DK	✓
b.	Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.			DL*	DK	✓
3. SIMULATOR CRITERIA				-	-	-
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.				DL*	DK	✓
		Printed Name / Signature		Date		
a.	Author	David Lazarony, Western Technical Services		DL telcon DK via * Dan Lazarony		5/1/08
b.	Facility Reviewer (*)	FRED BKIRK / Fred B Kirk				5-1-08
c.	NRC Chief Examiner (#)	RON ARELLO / Ron Arello				5/2/08
d.	NRC Supervisor	MALCOLM T. WIDMANN / Malcolm T. Widmann				05/02/08
NOTE: * The facility signature is not applicable for NRC-developed tests.						
# Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.						

DK - Linda Gobbert DK

*FINAL*

Facility: McGuire Date of Exam: 5/12/08 Scenario Numbers: 45 Operating Test No.: N08-1

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.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
2.	The scenarios consist mostly of related events.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
3.	Each event description consists of <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
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.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
5.	The events are valid with regard to physics and thermodynamics.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
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.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
8.	The simulator modeling is not altered.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
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.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
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.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
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).	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>			
Target Quantitative Attributes (Per Scenario; See Section D.5.d)				Actual Attributes					
				4	5		-	-	-
1.	Total malfunctions (5-8)	7	7	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
2.	Malfunctions after EOP entry (1-2)	1	1	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
3.	Abnormal events (2-4)	4	3	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
4.	Major transients (1-2)	1	1	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
5.	EOPs entered/requiring substantive actions (1-2)	1	1	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
6.	EOP contingencies requiring substantive actions (0-2)	1	0	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>
7.	Critical tasks (2-3)	3	2	DL*	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>	<i>[initials]</i>

\* via teleron  
*[signature]* Linda Gebbert

*FINAL*

Facility: McGuire Date of Exam: 5/12/08 Scenario Numbers: 1 2 3 Operating Test No.: N08-1

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.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
2.	The scenarios consist mostly of related events.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
3.	Each event description consists of <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
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.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
5.	The events are valid with regard to physics and thermodynamics.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
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.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
8.	The simulator modeling is not altered.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
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.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
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.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
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).	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	DL*	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	
<b>Target Quantitative Attributes (Per Scenario; See Section D.5.d)</b>				<b>Actual Attributes</b>			
				-	-	-	
				1	2	3	
1.	Total malfunctions (5-8)	7	8	7	DL	<i>[Signature]</i>	<i>[Signature]</i>
2.	Malfunctions after EOP entry (1-2)	2	2	2	DL	<i>[Signature]</i>	<i>[Signature]</i>
3.	Abnormal events (2-4)	3	3	4	DL	<i>[Signature]</i>	<i>[Signature]</i>
4.	Major transients (1-2)	1	1	1	DL	<i>[Signature]</i>	<i>[Signature]</i>
5.	EOPs entered/requiring substantive actions (1-2)	1	1	1	DL	<i>[Signature]</i>	<i>[Signature]</i>
6.	EOP contingencies requiring substantive actions (0-2)	1	1	1	DL	<i>[Signature]</i>	<i>[Signature]</i>
7.	Critical tasks (2-3)	2	2	2	DL	<i>[Signature]</i>	<i>[Signature]</i>

\* via Teleron  
*APD APD let Linda Gabberk*

**FINAL**

Facility:		McGuire		Date of Exam:		5/12/08		Operating Test No.:		N08-1							
A P P L I C A N T	E V E N T  T Y P E	Scenarios															
		1			2			3			4			T O T A L	M I N I M U M (*)		
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P		R	I	U
SROU-1	RX							1					1	1	1	0	
	NOR	1											1	1	1	1	
	I/C	2,3,4,5						4,5					6	4	4	2	
	MAJ	6						6					2	2	2	1	
	TS	3,4											2	0	2	2	
SROU-2	RX												0	1	1	0	
	NOR				3,7			1					3	1	1	1	
	I/C				1,2,4,5,6			2,3,4,5					9	4	4	2	
	MAJ				8			6					2	2	2	1	
	TS				1,5			2,3					4	0	2	2	
SROU-3	RX												0	1	1	0	
	NOR						3	1					2	1	1	1	
	I/C						2,5	2,3,4,5					6	4	4	2	
	MAJ						8	6					2	2	2	1	
	TS							2,3					2	0	2	2	
SROU-4	RX												0	1	1	0	
	NOR				3,7								2	1	1	1	
	I/C				1,2,4,5,6								5	4	4	2	
	MAJ				8								1	2	2	1	
	TS				1,5								2	0	2	2	

**Instructions:**

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

**FINAL**

Facility:		McGuire		Date of Exam:		5/12/08		Operating Test No.:		N08-1							
A P P L I C A N T	E V E N T  T Y P E	Scenarios															
		1			2			3			4			T O T A L	M I N I M U M (*)		
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P		R	I	U
SROU-5	RX												0	1	1	0	
	NOR					3	1						2	1	1	1	
	I/C					2,5	2,3, 4,5						6	4	4	2	
	MAJ					8	6						2	2	2	1	
	TS						2,3						2	0	2	2	
SROI-1	RX					7							1	1	1	0	
	NOR	1									6		2	1	1	1	
	I/C	2,3, 4,5				1,4, 6					1,4		9	4	4	2	
	MAJ	6				8					8		3	2	2	1	
	TS	3,4											2	0	2	2	
SROI-2	RX		4										1	1	1	0	
	NOR										6		1	1	1	1	
	I/C		2, 5								1,2, 3,4, 5		7	4	4	2	
	MAJ		6								8		2	2	2	1	
	TS										1,2, 3		3	0	2	2	
SROI-3	RX					7		1					2	1	1	0	
	NOR	1											1	1	1	1	
	I/C	2,3, 4,5				1,4, 6		4,5					9	4	4	2	
	MAJ	6				8		6					3	2	2	1	
	TS	3,4											2	0	2	2	

**Instructions:**

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

**FINAL**

Facility:		McGuire		Date of Exam:		5/12/08		Operating Test No.:		N08-1							
A P P L I C A N T	E V E N T  T Y P E	Scenarios															
		1			2			3			4			T O T A L	M I N I M U M (*)		
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
SROI-4	RX		4										1	1	1	0	
	NOR				3, 7				1				3	1	1	1	
	I/C		2, 5		1, 2, 4, 5, 6				2, 3				9	4	4	2	
	MAJ		6		8				6				3	2	2	1	
	TS				1, 5								2	0	2	2	
RO-1	RX		4										1	1	1	0	
	NOR								1				1	1	1	1	
	I/C		2, 5						2, 3				4	4	4	2	
	MAJ		6						6				2	2	2	1	
	TS												0	0	2	2	
RO-2	RX				7								1	1	1	0	
	NOR								1				1	1	1	1	
	I/C				1, 4, 6				2, 3				5	4	4	2	
	MAJ				8				6				2	2	2	1	
	TS												0	0	2	2	
RO-3	RX							1					1	1	1	0	
	NOR					3							1	1	1	1	
	I/C					2, 5		4, 5					4	4	4	2	
	MAJ					8		6					2	2	2	1	
	TS												0	0	2	2	

**Instructions:**

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

**FINAL**

Facility: McGuire		Date of Examination: 5/12/08				Operating Test No.: N08-1						
Competencies	APPLICANTS											
	SRO (U/I)				RO/ATC				BOP			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	2-8	1-10	1-8	1-9	2,4,5 6,7,8	1,4,6 7,8	1,4,5 6, 7,8	1,4,5 6,8,9	1,3,4 6,7,8	2,3,5 7,8, 10	1,2,3 6,7,8	2,3,5 6,8,9
Comply With and Use Procedures (1)	1-8	1-10	1-8	1-6, 8-9	2,4,5 6,8	1,4,6 7,8	1,4,5 6,7	1,4,5 6,8	1,3,4 6,7	2,3,5 7,8, 10	1,2,3 6,8	2,3,5 6,8,9
Operate Control Boards (2)	NA	NA	NA	NA	2,4,5 6,8	1,4,6 7,8	1,4,5 6,7	1,4,5 6,8	1,3,4 6,7	2,3,5 7,8, 10	1,2,3 6,8	2,3,5 6,8,9
Communicate and Interact	1-8	1-10	1-8	1-9	1-8	1-10	1-8	1-9	1-8	1-10	1-8	1-9
Demonstrate Supervisory Ability (3)	1-8	1-10	1-8	1-9	NA	NA	NA	NA	NA	NA	NA	NA
Comply With and Use Tech. Specs. (3)	3-4	1,5	2-3	1-3	NA	NA	NA	NA	NA	NA	NA	NA
Notes:												
(1) Includes Technical Specification compliance for RO.												
(2) Optional for an SRO-U.												
(3) Only applicable to SROs.												

**Instructions:**

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

**FINAL**

Facility: McGuire		Date of Examination: 5/12/08				Operating Test No.: N08-1						
Competencies	APPLICANTS											
	SRO (U/I)				RO/ATC				BOP			
	SCENARIO				SCENARIO				SCENARIO			
	5				5				5			
Interpret/Diagnose Events and Conditions	2-8				1,3,5 7,8				2,4,6 7,8			
Comply With and Use Procedures (1)	1-8				1,3,5 7,8				2,4,6 7			
Operate Control Boards (2)	NA				1,3,5 7,8				2,4,6 7			
Communicate and Interact	1-8				1-8				1-8			
Demonstrate Supervisory Ability (3)	1-8				NA				NA			
Comply With and Use Tech. Specs. (3)	2,5				NA				NA			
Notes:												
(1) Includes Technical Specification compliance for RO.												
(2) Optional for an SRO-U.												
(3) Only applicable to SROs.												

*Instructions:*

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

FINAL

Facility:	McGuire	Date of Exam:	5/12/2008	Exam Level:	RO/SRO		
Item Description				Initial			
				a	b*	c#	
1.	Questions and answers technically accurate and applicable to facility.			JGA	ZK	✓	
2.	a. NRC K/As referenced for all questions. b. Facility learning objectives referenced as available.			JGA	ZK	✓	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401			JGA	ZK	✓	
4.	The sampling process was random and systematic. (If more than 4 RO and 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL Program Office)			JGA	ZK	✓	
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 <input checked="" type="checkbox"/> the licensee certifies that there is no duplication, or _____ other (explain)			JGA	ZK	✓	
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 9 / 7	Modified 13/ 5	New 53/13	JGA	ZK	✓
7.	Between 50 and 60 percent of the question on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right	Memory 31 / 6	C/A 44 / 19		JGA	ZK	✓
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.			JGA	ZK	✓	
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.			JGA	ZK	✓	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.			JGA	ZK	✓	
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet.			JGA	ZK	✓	
		Printed Name / Signature		Date			
a.	Author	Joseph G. Arsenault <i>Joseph G. Arsenault</i>		3/15/2008			
b.	Facility Reviewer (*)	FRED B KIRK JR <i>Fred B Kirk Jr</i>		3/17/08			
c.	NRC Chief Examiner (#)	RON ARELLO <i>Ron Arello</i>		3/31/08			
d.	NRC Regional Supervisor	MALCOLM T. WIDOMAN <i>Malcolm T. Widoman</i>		03/21/08			
Note:	* The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.						

\* ES 401-9 COMMENTS WRITTEN

**McGuire 2008-301**

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
<p>Instructions</p> <p>[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]</p> <p>1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.</p> <p>2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).</p> <p>3. Check the appropriate box if a psychometric flaw is identified:                      . The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).                      . The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).                      . The answer choices are a collection of unrelated true/false statements.                      . One or more distractors is not credible.                      . One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).</p> <p>4. Check the appropriate box if a job content error is identified:                      . The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).                      . The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).                      . The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).                      . The question requires reverse logic or application compared to the job requirements.</p> <p>5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).</p> <p>6. Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?</p> <p>7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).</p>																
<p>RO/SRO Combined Question</p> <p><b>Generic: For system generic KA's, state the system then the generic part (i.e.) 026G2.2.22 (Q 15). Containment Spray/Knowledge of LCO's and Safety Limits.</b>  <b>Many of the U's were attributed to non-plausible distractors that could not be supported.</b>  <b>Many of the stems are inconsistent with the use of verbs such as "is and are."</b></p> <p style="text-align: right;"><i>FINAL RESULTS ON EPAM NOTES</i></p>																
1	C	3	X				X		X				Y	N	E	003K1.08 Stem: (,) after power. A and D make absolutely no sense. What about RN and KC flow to and from the NCPs? Repair distractors A and D or explain. RFA 03/25/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
2	M	2					X						Y	N	E	004K5.46 Distractor B is NOT plausible because ALL applicants know that RCPs operate when the plant is NOT solid and DP is maintained. Replace distractor B RFA 03/25/08
3	M	2	X						X				Y	N	E	005K2.03 Third bullet, need a verb. Make this Q a fill in the blank with choices as follows:  A. 600V Unit Load Centers / OPEN B. 600V Unit Load Centers / CLOSED C. 600V Essential Load Centers / OPEN D. 600V Essential Load Centers / CLOSED RFA 03/25/08
4	C	3							X				Y	N	E	006A4.01 The emphasis is on the wrong word. Bold the words "increase" and "decrease" and "4-7" and "7-10" RFA 03/25/08
5	C	3					X						Y	N	E	007A3.01 C is NOT plausible. Change C to "the reactor coolant drain tank." If they do figure out that the #1 seal discharges to the VCT, they will realize that VCT level will not increase if the filter is clogged. However, they may NOT realize that reliefs do NOT dump into the RCDT, which makes the RCDT a plausible distractor. RFA 03/25/08
6	M	2				X							Y	N	U	008K2.02 If B was correct, D would be also If A was correct, C would be also. Distractors C and D need the word "ONLY" This Q is U because of two NP distractors. RFA 03/25/08
7	C	1											Y	N	U	008K4.01 Verbs missing in bullets. This Q has low discriminatory value. Here is a suggested change:  A. The 1B2 trips on over current OR an event causing containment pressure to increase to 1.5 psig. B. An event causing containment pressure to increase to 1.5 psig ONLY. C. The normal supply breaker to 1 ETB opens OR a leak on the shell side of the 1B KC heat exchanger occurs. D. The normal supply breaker to 1 ETB opens ONLY.  This Q is U because of low discriminatory value. RFA 03/25/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
8	C	3				X							Y	N	U	<p>010K1.07            Since Channel 3 failing high will fail the low pressure interlock on PORV's 1NC-32B and 36B, distractor C combined with choice 1 is plausible. By itself it will be readily eliminated. They might consider it if it is coupled with channel 1 failing low. Since the switch is in position 1-4, channel 2 failing high is NOT plausible.</p> <p>A. Channel 1 failing low OR channel 3 failing high            B. Channel 1 failing low ONLY            C. Channel 1 OR channel 4 failing low.            D. channel 4 failing low ONLY</p> <p>This Q is U because the are two potentially NP distractors.            RFA 03/25/08</p>
9	C	3											Y	N	S	<p>012A3.03            RFA 03/25/08</p>
10	C	2											Y	N	S	<p>012K6.03            RFA 03/25/08</p>
11	M	2	X										Y	N	E	<p>012K4.08            The stem does not read well. There is eather a run on sentence or punctuation is missing. I get lost in it. Please re-write.            RFA 03/25/08</p>
12	C	3				X							Y	N	U	<p>022A2.03            It would appear to be common knowledge from an applicant in training that AP-44 is for flooding in the TB and ASB. I do not believe that this qualifies as a plausible distractor.            This Q is U because B and D distractors are not plausible.            Show calculation in distractor analysis.            RFA 03/25/08</p>
13	C	3											Y	N	S	<p>025K6.01            RFA 03/25/08</p>
14	M	2				X							Y	N	U	<p>025K5.01            Distractors B and D say the same thing. Replace one of the two distractors. As a result, B and D are NOT plausible. D could potential be a subset of B. Therefore this Q is U.            RFA 03/25/08</p>

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
15	C	3							X				Y	Y?	E	026G2.2.22 D says that the LCO is not applicable,C says the TS will not be entered. What is the difference between D and C?  Is this required knowledge for RO applicants since this is NOT a 1 hour TS LCO? RFA 03/25/08
16	M	2				X							Y	N	U	026K3.02 Because the FWST Lo-Lo level alarm has occurred, distractors A and B are not plausible. For distractors A and B to be plausible, provide information for the applicant to calculate FWST level. This Q is U because there are two NP distractors. RFA 03/25/08
17	C	3	X						X				Y	N	E	039A4.04 Second Bullet: Normal what supply?? Choices are not complete sentences (generic comment) RFA 03/25/08
18	C?	2	X						X				Y	N	E	039K4.07 I think this Q can be answered even if you delete everything above the WOOTF statement. If so, delete it. This Q meets the criteria to be an (M) question. RFA 03/25/08
19	C	2	X						X				Y	N	E	059A1.03 I think this Q also can be answered even if you delete everything above the WOOTF statement. If so, delete it. This Q meets the criteria to be an (M) question. RFA 03/25/08
20	C	2				X							Y	N	U	061K3.01 CF and NCPs are not safety related which renders these two distractors NP. Replace these 2 distractors. This Q is U because of two NP distractors RFA 03/25/08
21	C	2	X						X				Y	N	E	062A3.05 Move "The BO sequencer actuated Train A status light on SI-14" to the stem. Unbold the words "and" and "then." This will un-complicate the choices. RFA 03/25/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
22	C	2	X						X				Y	N	E	063A1.01 Create a fill in the blank as follows: Battery CXA will be lost in __1__ hours. Battery CXB will be lost in __2__ hours.  1                    2 _____ A. 2                    4 B. 2                    6 C. 3                    4 D. 3                    6  RFA 03/25/08
23	M	2							X				Y	N	E	064K6.08 Stem needs verbs and complete sentences RFA 03/25/08
24	M	2											Y	N	S	073A2.01 RFA 03/25/08
25	M	2											U	N	U	076G2.4.30 The KA is not met. The KA must involve the SW system directly. In the first bullet, it could be any system NOT just RN. The RN system has to have a direct impact on the Q. In fact, you could delete all but the last bullet and still answer the Q This Q is a U because KA not met. RFA 03/19/08
26	C	1											Y	N	U	076K3.07 To low discriminatory value. Change answer as follows:  A. ONLY the 2A1 and 2A2 DG VG Air Compressors AND the 2A NV Pump Gear oil will overheat. B. ONLY the 2A NV Pump Gear oil will overheat. C. ONLY the 2A NS Pump Motor AND the 2A NV Pump Gear oil will overheat. D. The 2A NS Pump Motor AND the 2A NV Pump Gear oil will overheat. Additionally, all makeup capability is lost to the 2A DG KD surge tank.  This Q is a U because the discriminatory value is to low. RFA 03/26/08
27	C	3											Y	N	S	078G2.4.35 RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
28	M	2							X				Y	N	E	103A4.01 Do NOT teach in the stem. Start of with WOOTF... Then list the valves. RFA 03/26/08
29	C	3							X				Y	N	E	014K4.03 Put "Rod F-2 displayed as" in the stem. RFA 03/26/08
30	C	3											Y	N	S	017K6.01 RFA 03/26/08
31	C	3											Y	N	S	015K2.01 RFA 03/26/08
32	M	2				?			X				Y	N	S?	028K1.01 Why is "decrease" plausible in distractors C and D? Prove plausibility and Q will be Sat. RFA 03/26/08
33	M	1				X							Y	N	U	029A4.04 Stem: Change "has" to "have" Add Excore SR monitors to choice B and add Excore SR monitors and/or Trip 2 on 1EMF-16 to A, C, and D to increase discriminatory value. Q is a U because of low DV. RFA 03/26/08
34	M	2											Y	N	S	033K3.01 RFA 03/26/08
35	C	3				X							Y	N	U	035A2.05 Without giving the applicant a misleading lead in that might "suggest" a steam leak, Distractors A and B are not plausible. Furthermore no indication was provided that a PORV was or was NOT open that would potentially steer them to AP-001. Q is a U because of two NP distractors. RFA 03/26/08
36	C	3				X							Y	N	U	041A3.03 If Tave is decreasing, what else would cause it, if there was no steam flow? Suggest giving them a rod shim because inward rod motion will cause a drop in Tave. Right now distractors A and C are NOT plausible (NP). This Q is U because of two NP distractors. RFA 03/26/08
37	M	2							X				Y	N	E	071A1.06 Remove "in" from the stem. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
38	M	2											Y	N	S	086K5.03 RFA 03/26/08
39	M	1				X							Y	N	U	007G2.4.46 Place 1 of the channels that require 2/4 to trip the reactor below the limit. Set it up so 2 reactor trips are in. Add a second annunciator to each choice such that the correct answer has two valid trips, two distractors each have one valid annunciator and one distractor has one channel each below the wire but no annunciators are in. This Q is a U because of low Discriminatory Value. RFA 03/19/08
40	C	3	X										Y	N	U	008AA1.03 I believe that "A" can be a potentially correct answer because one can manually stabilize or maintain a CD rate by adjusting the pot setting.. To ensure that "A" is not an option state in the WOOTF statement "..... describes the action, as stated in ES-1.2, that will ..." As is, this Q is U because there are potentially two correct answers. RFA 03/26/08
41	C	3											Y	N	S	009EK2.03 Much better. Now they have to calc Tstem. RFA 03/26/08
42	M	2					X		X				Y	N	E	011EK3.06 Distractor "B" does not read correctly. I think "are isolated" should be removed. If "D" was correct, "C" would be correct also. Need the word "only" in C. RFA 03/26/08
43	C	3							X				Y	N	E	015/017AA1.16 Move "Initial reactor power was" to the stem. It will read easier. RFA 03/26/08
44	C	3											Y	N	S	022AA2.04 RFA 03/26/08
45	C	3	X				X		X				Y	N	E	025AK2.03 The stem does NOT solicit the effect on the KC system. Re-write the stem to do so. Regarding "C": If the KC system continues to HU, will the NC system eventually start to HU? If so, this may be a possible correct answer. Facility please re-evaluate. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
46	C	3							X				Y	N	S?	027AK1.03 FAC demonstrate how you arrived at this. Did you factor in constant enthalpy? RFA 03/26/08
47	C	3											Y	N	S	029EK2.06 RFA 03/26/08
48	M	2							X				Y	N	E	055EK3.02 The stem has too much fru fru. Re-write the stem as follows:  Which one of the following is the bases for NOT depressurizing the SG's to < 110 psig as stated in ECA-0.0, Loss of all AC Power?  To avoid _____.  A. voiding in the head B. an inadvertent criticality accident C. nitrogen injection into the RCS D. the loss of SG narrow range level  RFA 03/26/08
49	M	2											Y	N	S	056AA1.12 RFA 03/26/08
50	C	3							X				Y	N	E	057AK3.01 To be consistent, why not say in D that turbine impulse pressure channel 1 has failed high (just the opposite of "C")? RFA 03/26/08
51	M	<2	X				X		X				Y	N	E	058AK1.01 Stem: Underline and bold the word <b>minimum</b> Distractors: Bold 1 and 4 and automatically and manually. The level of difficulty is marginal. Therefore, incorporate auxiliary battery criteria into the choices too. RFA 03/26/08
52	M	2				X							Y	N	U	062AA2.06 "D" is also a correct answer the way the Q is written. If "A" was correct, "C" would also be correct. Add words to the stem to isolate the correct answer so other choices cannot be psychometrically eliminated. This Q is U because two distractors can be eliminated by the way the Q is written. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
53	C	3							X				Y	N	E	065AA2.08 The reason for the trip is NOT solicited. Remove the reasons from all choices. C is still the correct answer because the word FIRST I used in the stem. RFA 03/26/08
54	C	3	X			?							Y	N	E	E04EK1.2 Stem: Bring containment pressure up to 8.5 psig to make B, C, and D more plausible. Why has the PRT ruptured? What is dumping into it to cause that? RFA 03/26/08
55	C	3				X							Y	N	U	E11G2.1.23 ECA-1.1, Step 21b. RNO states to stop one or more SI pumps while maintaining >/= to flow required by Enclosure 9. Therefore, distractor "A" is also a correct answer. Replace distractor A. Distractor D is NOT an action. Additionally, D has a reason where the other choices do not. Replace distractor D. This Q is U because two choices are flawed. RFA 03/26/08
56	M	2				X							Y	N	U	E12G2.1.20 Even though B and C are incomplete, they are still correct as it stands. I do not believe that D is plausible because there is no procedure guidance anywhere that directs this. This Q is U because all three distractors are flawed. RFA 03/26/08
57	C	3											Y	N	S	005AA1.02 RFA 03/26/08
58	M	2				X							Y	N	U	024AA2.03 Stem: Why all the fru fru? Why not just say:  WOOTF identifies the number of turns that the pot setting on NVSS5450 must be turned to establish an 18 gpm boration flow rate?  Why would a 25, 30, or a 35 gpm addition be plausible if they were already informed to add at 18 gpm.  As is, B,C, and D are NP. Therefore this Q is a U RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A			SRO Only
59	C	<2	X			?						Y	N	E	032AK1.01 Distractors A and B are weak by themselves. Change Stem to say:  WOOTF describes the <u>minimum</u> cause of SR N-31 indication?  A. Control Power fuse failure OR Instrument Power Fuse failure. B. Control Power fuse failure AND Instrument Power Fuse failure. C. As is D. As is  RFA 03/26/08
60	M	2	X				X		X			Y	N	E	033AA1.02 Distractor "A" in and of itself, is also a correct answer as written. The "ensure" statement in "C" and "D" are NOT solicited. Re-work distractors A, C, and D. RFA 03/26/08
61	C	3				X						Y	N	U	036AK2.01 Last bullet: This is why verbs an complete sentences are necessary. Are you saying "a KF pump is operating" or "the "A" KF pump is operating?" Why would the applicant think that level is to low when they are told that SFP level is +0.4 feet? Distractor B is not plausible. No SFP level trend is provided. Therefore, a cavity seal failure is not plausible. Why is "C" correct? Replace distractors B and D. This Q is U because of two NP distractors. RFA 03/26/08
62	M	2					X					Y	N	E	067AA2.12 Why is distractor "A" plausible? Nothing in the stem remotely indicates a problem with the NCP. Replace distractor "A." RFA 03/26/08
63	M	2					X					Y	N	E	069AK3.01 Distractor D has nothing to do with a rad release offsite. Replace distractor D. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
64	C	3				X							Y	N	U	076AK2.01 If "B" was correct, "A" would be also. If ECCS was actuated, would it cause a crud burst? If so, replace this distractor. This Q is a U due to multiple distractor issues. RFA 03/26/08
65	C	3											Y	N	S	E02G2.4.8 RFA 03/27/08
66	M	2											Y	N	S	G2.1.18 RFA 03/27/08
67	M	2				X							Y	N	U	G2.1.13 Page 7 of 15 of the attached reference states in part: Visitors needing to enter a vital area must be escorted by an authorized individual. This leads me to believe that a badged person in a protected area could be "escorted" into a vital area. If this is true then "B" is also a correct answer. Please re-verify this. "D" is obviously not true and not plausible. This Q is U until these issues on both these distractors are resolved. RFA 03/27/08
68	C	3	X			X							Y	N	U	G2.1.8 There are three actions that could work (B,C, and D). The stem needs to be written to isolate one of them. Currently there are potentially three correct answers. This Q is U until resolved. RFA 03/27/08
69	C	1	X			X							Y	N	U	G2.2.40 100 F is more common then 200 F. Change stem and answer to reflect exceeding the pressurizer cooldown rate too and make each selection a two part answer. Currently, this Q is U because it has no discriminatory value. RFA 03/27/08
70	M	2											Y	N	S	G2.2.2.13 RFA 03/27/08
71	M	2				X			X				Y	N	U	G2.2.6 If "B" was correct, "A" would be correct also. "A" is a subset of "B". "C" is also a correct answer. "C" is a subset of "D." This Q is U because of multiple correct answers. RFA 03/27/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
72	C	<2	X			?							Y	N	E	G2.3.4 4 <sup>th</sup> bullet: Drop "return via the same path." This is implied and will add to the discriminatory value. Stem: Underline and bold <b>maximum</b> . Choices: Delete "no longer than." Currently this Q is just a number cruncher and has low discriminatory value. Modify the 4 <sup>th</sup> bullet as suggested for an S rating. FACILITY make sure this is not on Admin exam. RFA 03/27/08
73	C	3											Y	N	S	G2.3.11 RFA 03/27/08
74	M	2				X							Y	N	U	G2.4.17 Increase the discriminatory value of distractors B and C. They are too obvious that they are just instrument failures. Possibly add some coincidence logic to them. Q is U because of 2 NP distractors RFA 03/27/08
75	C	<2	X			?							Y	N	E	G2.4.14 Change heat sink to an orange path too. As is, the question has marginal discriminatory value. RFA 03/27/08
<b>SRO ONLY</b>																
76	C	3	X						X				Y	Y	E	009G2.1.27 Stem: Describes (1) the <i>next</i> procedure... and (2) the TS basis for FWST minimum volume for this event.  Stem: Change FWST level to 220 inches to make the transition to ES-1.3 more plausible.  A. 1. ES-1.2, Post LOCA Cooldown and Depressurization 2. Ensures ..... RFA 03/19/08
77	C	3	X						X				Y	Y	E	026G2.1.25 Stem; WOOTF describes (1) ...and (2) the <i>required action per AP/21, ...</i>  A. 1. 50 GPM 2. Isolate KC ...  Which references will be provided? RFA 03/19/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
78	C	3				X							Y	Y	U	<p>029EA2.01</p> <p>A and B are not plausible because if you are to remain in FR-S.1 then you would NOT transition to E-0. Rewrite A and B to eliminate ambiguity.</p> <p>C and D: If conditions allow exit from Fr-S.1 then it's obvious that you exit the procedure when directed. Delete "when directed, exit FR-S.1"</p> <p>C. State "continue performance of Enclosure 2"</p> <p>D. State "terminate performance of Enclosure 2"</p> <p>This Q is U because of 2 NP distractors. RFA 03/19/08</p>
79	C	3						X					Y	Y	E	<p>055EA2.03</p> <p>The reference document provided does NOT support the use of Enclosure 9, energizing Unit 1 from Unit 2. However, the use of AP-7 is (see step 4 RNO of E-0.) Please re-evaluate. RFA 03/20/08</p>
80	C	3						X					Y	Y	E	<p>056AA2.18</p> <p>Remove (;) from all choices and align C and D (Emergency is to far to the left) RFA 03/20/08</p>
81	C	3				X							Y	Y	U	<p>058G2.2.37</p> <p>If D was correct, B would be also. Therefore D is NOT plausible If C was correct, A would be also. Therefore C is NOT plausible. Stem: Need to rewrite stem to include the word <b>'minimum'</b> This Q is rated U because of 2 nonplausible distractors. A stem correction will validate distractors C and D. RFA 03/20/08</p>
82	C	3				X							Y	Y	U	<p>003AA2.02</p> <p>Rod withdraw due to the PR NIS Mismatch rate signal only is NOT plausible even though it has an input. It does have an affect on the magnitude but the reference is clear that you could have a significant delta between turbine and nuclear power and NOT have a mismatch. The mismatch is clearly a function of Tave vs Tref. Therefore, This Q is U because distractors B and C are not plausible. Redesign the Q ask what provides the anticipatory signal and that would be the power mismatch input. Distractors could include T and power which would be wrong per OP-MC-IC-IRX, Para 1.2, page 11 RFA 03/20/08</p>

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
83	C	3				X							Y	Y	U	033AA2.05 N-35 being "under-compensated" is not plausible compared to N-36. If N-35 were over-compensated, the indicated power level would read lower than actual power level. Change distractors B and D to read N-35 is over-compensated and the second part to reflect the same. This Q is a U because twodistractors are NP. RFA 03/21/08
84	M	1											Y	U	U	059G2.2.38 Since this is an SRO Q, build in both parts of the TS to include <=/ to 3 rem WB and <=/ 10 rem organ. This Q is a U because the discriminatory value is to low. Additionally, without both parts this is NOT SRO only. RFA 03/21/08
85	C	3											Y	Y	S	E06G2.1.20 RFA 03/21/08
86	C	3											Y	Y	S	010A2.01 RFA 03/21/08
87	C	3				X							Y	Y	U	026A2.03 Change Cntmt pressure to 13 psig. This makes the path more plausible. The actions in "A" are a subset of th "All" the actions in B and D. If B or D was correct, A could be also. The second part of B and D are not plausible because of the wording "... Do NOT perform ..."Use the "if" statement in paragraph 7.15.1.5 of OMP 4-3, P 18 for this distractor. All the distractors need to be re-written. This Q is a U because of two or more NP distractors. RFA 03/21/08
88	C	3	X				X						Y	Y	E	061G2.4.4 Stem: Change WR level to 30% ACC. This will make B more plausible. Stem: Have CA pumps running but not able to generate flow >450 gpm because distractor D is not plausible given the initial conditions that all CA pumps are off. RFA 03/21/08
89	M	2							X				Y	Y	E	073G2.2.22 75 GPD leakage is NOT supported by the attached ref material. Why is 30 GPD plausible? RFA 03/21/08
90	C	3	X						X				Y	Y	E	076A2.02 Stem: Only train "B" SI actuated. Delete bullet #5. Explain why the A EDG does NOT overheat. RFA 03/21/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
91	C	3											Y	Y	S	015G2.1.7 RFA 03/24/08
92	C	3				X							Y	Y	U	028A2.03 The step requires an action. In this case, "do NOT" statements are NOT plausible. Change distractors A and D to "only" statements as follows:  A. Place hydrogen ignitor in service ONLY, because recombiner operating temperatures may cause a challenge to containment integrity due to hydrogen flammability.  D. Similar but change to hydrogen recombines.  This Q is a U because of 2 NP distractors. RFA 03/24/08
93	C	3							X				Y	Y	E	079A2.01 Do NOT teach in distractors. State that 1VI-820 is either open or closed and delete the reason from all 4 choices. Furthermore, the stem does NOT solicit the reason just the position.  RFA 03/24/08
94	M	2					X		X				Y	Y	E	G2.1.35 Distractor D is not plausible because it is common knowledge that RE's are a technical oversite position with no "permissive" authority.  Change choices as follows (example): A. Shift manager OR Fuel handling SRO B. Fuel handling SRO ONLY C. Refueling Supervisor OR Fuel handling SRO D. Refueling Supervisor ONLY  RFA 03/24/08
95	M	2							X				Y	Y	E	G2.2.7 Stem: Change "who is" to Which one of the following is responsible... Reason: The original Q does not read well. I had to read it 3 times before I could figure out what was being asked. RFA 03/24/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
96	C	3				X							Y	Y	U	G2.2.22 It is common knowledge that PORVs are not credited in accident analysis. Replace distractors C and D. This Q is U because of two NP distractors. RFA 03/24/08
97	C	3							X				Y	Y	E	G2.3.14 There is no mention of gross specificity in the stem. Why is shutdown and cooldown to < 500 F plausible? CAF RFA 03/24/08
98	M	2					X						Y	Y	E	G2.3.6 The Q is NOT balanced and renders D not plausible. Rewrite Q to incorporate another "release may be approved" but for a different reason. Since the KA is the ability to approve a release permit, change stem variables to be close to the wire but permissible to conduct the release. RFA 03/24/08
99	C	3				X							Y	Y	U	G2.4.46 Change stem so applicants need to calc Tave via Tstm or acquire Tave by some other means. Otherwise, distractors C and D are not plausible. This Q is U because of two NP distractors. RFA 03/24/08
100	C	3	X				X						Y	Y	E	G2.4.8 Since there is no direct transition to FR-S.1 ever, distractor A is not plausible. Give the applicant entrance into E-0 and rewrite distractors to reflect this. RFA 03/24/08

\* Independent of whether or not it met the KA, mis-classified WRT RO/SRO, or required grammar or *minor* enhancement.

Question Status	
S	Question is Sat with NO Comments
E	Editorial Changes Needed
E*	Questionable Editorial
U	Question is All Hosed Up
S?	Questionable
S*	Question and stem sat - editorial elsewhere
N*	Partially met KA

**McGuire 2008-301**

Q#/ Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A			SRO Only
<p>Instructions</p> <p>[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]</p> <p>1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.</p> <p>2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).</p> <p>3. Check the appropriate box if a psychometric flaw is identified:                      • The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).                      • The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).                      • The answer choices are a collection of unrelated true/false statements.                      • One or more distractors is not credible.                      • One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).</p> <p>4. Check the appropriate box if a job content error is identified:                      • The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).                      • The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).                      • The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).                      • The question requires reverse logic or application compared to the job requirements.</p> <p>5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).</p> <p>6. Based on the reviewer's judgment, is the question as written (U)nacceptable (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?</p> <p>7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).</p>															
<p>RO/SRO Combined Question</p> <p><b>Generic: For system generic KA's, state the system then the generic part (i.e.) 026G2.2.22 (Q 15). Containment Spray/Knowledge of LCO's and Safety Limits.</b>  <b>Many of the U's were attributed to non-plausible distractors that could not be supported.</b>  <b>Many of the stems are inconsistent with the use of verbs such as "is and are."</b></p>															
1	C	3	X				X		X			Y	N	E	003K1.08 Stem: (.) after power. A and D make absolutely no sense. What about RN and KC flow to and from the NCPs? Repair distractors A and D or explain. RFA 03/25/08

*working copy*

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
2	M	2					X						Y	N	E	004K5.46 Distractor B is NOT plausible because ALL applicants know that RCPs operate when the plant is NOT solid and DP is maintained. Replace distractor B RFA 03/25/08
3	M	2	X						X				Y	N	E	005K2.03 Third bullet, need a verb. Make this Q a fill in the blank with choices as follows:  A. 600V Unit Load Centers / OPEN B. 600V Unit Load Centers / CLOSED C. 600V Essential Load Centers / OPEN D. 600V Essential Load Centers / CLOSED RFA 03/25/08
4	C	3							X				Y	N	E	006A4.01 The emphasis is on the wrong word. Bold the words "increase" and "decrease" and "4-7" and "7-10" RFA 03/25/08
5	C	3					X						Y	N	E	007A3.01 C is NOT plausible. Change C to "the reactor coolant drain tank." If they do figure out that the #1 seal discharges to the VCT, they will realize that VCT level will not increase if the filter is clogged. However, they may NOT realize that reliefs do NOT dump into the RCDT, which makes the RCDT a plausible distractor. RFA 03/25/08
6	M	2				X							Y	N	U	008K2.02 If B was correct, D would be also If A was correct, C would be also. Distractors C and D need the word "ONLY" This Q is U because of two NP distractors. RFA 03/25/08
7	C	1											Y	N	U	008K4.01 Verbs missing in bullets. This Q has low discriminatory value. Here is a suggested change:  A. The 1B2 trips on over current OR an event causing containment pressure to increase to 1.5 psig. B. An event causing containment pressure to increase to 1.5 psig ONLY. C. The normal supply breaker to 1 ETB opens OR a leak on the shell side of the 1B KC heat exchanger occurs. D. The normal supply breaker to 1 ETB opens ONLY.  This Q is U because of low discriminatory value. RFA 03/25/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A			SRO Only
8	C	3				X						Y	N	U	<p>010K1.07            Since Channel 3 failing high will fail the low pressure interlock on PORV's 1NC-32B and 36B, distractor C combined with choice 1 is plausible. By itself it will be readily eliminated. They might consider it if it is coupled with channel 1 failing low. Since the switch is in position 1-4, channel 2 failing high is NOT plausible.</p> <p>A. Channel 1 failing low OR channel 3 failing high            B. Channel 1 failing low ONLY            C. Channel 1 OR channel 4 failing low.            D. channel 4 failing low ONLY</p> <p>This Q is U because the are two potentially NP distractors.            RFA 03/25/08</p>
9	C	3										Y	N	S	<p>012A3.03            RFA 03/25/08</p>
10	C	2										Y	N	S	<p>012K6.03            RFA 03/25/08</p>
11	M	2	X									Y	N	E	<p>012K4.08            The stem does not read well. There is either a run on sentence or punctuation is missing. I get lost in it. Please re-write.            RFA 03/25/08</p>
12	C	3				X						Y	N	U	<p>022A2.03            It would appear to be common knowledge from an applicant in training that AP-44 is for flooding in the TB and ASB. I do not believe that this qualifies as a plausible distractor.            This Q is U because B and D distractors are not plausible.            Show calculation in distractor analysis.            RFA 03/25/08</p>
13	C	3										Y	N	S	<p>025K6.01            RFA 03/25/08</p>
14	M	2				X						Y	N	U	<p>025K5.01            Distractors B and D say the same thing. Replace one of the two distractors. As a result, B and D are NOT plausible. D could potential be a subset of B. Therefore this Q is U.            RFA 03/25/08</p>

Q#/ Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws				4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A			SRO Only
15	C	3							X			Y	Y?	E	026G2.2.22 D says that the LCO is not applicable, C says the TS will not be entered. What is the difference between D and C?  Is this required knowledge for RO applicants since this is NOT a 1 hour TS LCO? RFA 03/25/08
16	M	2				X						Y	N	U	026K3.02 Because the FWST Lo-Lo level alarm has occurred, distractors A and B are not plausible. For distractors A and B to be plausible, provide information for the applicant to calculate FWST level. This Q is U because there are two NP distractors. RFA 03/25/08
17	C	3	X						X			Y	N	E	039A4.04 Second Bullet: Normal what supply?? Choices are not complete sentences (generic comment) RFA 03/25/08
18	C?	2	X						X			Y	N	E	039K4.07 I think this Q can be answered even if you delete everything above the WOOTF statement. If so, delete it. This Q meets the criteria to be an (M) question. RFA 03/25/08
19	C	2	X						X			Y	N	E	059A1.03 I think this Q also can be answered even if you delete everything above the WOOTF statement. If so, delete it. This Q meets the criteria to be an (M) question. RFA 03/25/08
20	C	2				X						Y	N	U	061K3.01 CF and NCPs are not safety related which renders these two distractors NP. Replace these 2 distractors. This Q is U because of two NP distractors RFA 03/25/08
21	C	2	X						X			Y	N	E	062A3.05 Move "The BO sequencer actuated Train A status light on SI-14" to the stem. Unbold the words "and" and "then." This will un-complicate the choices. RFA 03/25/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation											
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only													
22	C	2	X						X				Y	N	E	063A1.01 Create a fill in the blank as follows: Battery CXA will be lost in __1__ hours. Battery CXB will be lost in __2__ hours.  <table style="margin-left: 40px;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>A. 2</td> <td>4</td> </tr> <tr> <td>B. 2</td> <td>6</td> </tr> <tr> <td>C. 3</td> <td>4</td> </tr> <tr> <td>D. 3</td> <td>6</td> </tr> </table> RFA 03/25/08	1	2	A. 2	4	B. 2	6	C. 3	4	D. 3	6
1	2																									
A. 2	4																									
B. 2	6																									
C. 3	4																									
D. 3	6																									
23	M	2							X				Y	N	E	064K6.08 Stem needs verbs and complete sentences RFA 03/25/08										
24	M	2											Y	N	S	073A2.01 RFA 03/25/08										
<del>25</del>	M	2											U	N	U	076G2.4.30 <i>2-4-11</i> The KA is not met. The KA must involve the SW system directly. In the first bullet, it could be any system NOT just RN. The RN system has to have a direct impact on the Q. In fact, you could delete all but the last bullet and still answer the Q This Q is a U because KA not met. <input type="checkbox"/> RFA 03/19/08										
26	C	1											Y	N	U	076K3.07 To low discriminatory value. Change answer as follows:  A. ONLY the 2A1 and 2A2 DG VG Air Compressors AND the 2A NV Pump Gear oil will overheat. B. ONLY the 2A NV Pump Gear oil will overheat. C. ONLY the 2A NS Pump Motor AND the 2A NV Pump Gear oil will overheat. D. The 2A NS Pump Motor AND the 2A NV Pump Gear oil will overheat. Additionally, all makeup capability is lost to the 2A DG-KD surge tank.  This Q is a U because the discriminatory value is to low. RFA 03/26/08										
27	C	3											Y	N	S	078G2.4.35 RFA 03/26/08										

*CANNOT WAIT TO KA - NEW Q OK*

*Give new KA f...*

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
28	M	2							X				Y	N	E	103A4.01 Do NOT teach in the stem. Start of with WOOTF... Then list the valves. RFA 03/26/08
29	C	3							X				Y	N	E	014K4.03 Put "Rod F-2 displayed as" in the stem. RFA 03/26/08
30	C	3											Y	N	ES	017K6.01 RFA 03/26/08 E
31	C	3											Y	N	ES	015K2.01 RFA 03/26/08
32	M	2				?			X				Y	N	S?	028K1.01 Why is "decrease" plausible in distractors C and D? Prove plausibility and Q will be Sat. RFA 03/26/08 OK
33	M	1				X							Y	N	U	029A4.04 Stem: Change "has" to "have" Add Excore SR monitors to choice B and add Excore SR monitors and/or Trip 2 on 1EMF-16 to A, C, and D to increase discriminatory value. Q is a U because of low DV. RFA 03/26/08
34	M	2											Y	N	ES	033K3.01 RFA 03/26/08
35	C	3				X							Y	N	U	035A2.05 Without giving the applicant a misleading lead in that might "suggest" a steam leak, Distractors A and B are not plausible. Furthermore no indication was provided that a PORV was or was NOT open that would potentially steer them to AP-001. Q is a U because of two NP distractors. RFA 03/26/08
36	C	3				X							Y	N	U	041A3.03 If Tave is decreasing, what else would cause it, if there was no steam flow? Suggest giving them a rod shim because inward rod motion will cause a drop in Tave. Right now distractors A and C are NOT plausible (NP). This Q is U because of two NP distractors. RFA 03/26/08
37	M	2							X				Y	N	E	071A1.06 Remove "in" from the stem. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	# units	Backward	Q=K/A	SRO Only			
38	M	2											Y	N	S	086K5.03 RFA 03/26/08
39	M	2				X							Y	N	E	007G2.4.46 Place 1 of the channels that require 2/4 to trip the reactor below the limit. Set it up so 2 reactor trips are in. Add a second annunciator to each choice such that the correct answer has two valid trips, two distractors each have one valid annunciator and one distractor has one channel each below the wire but no annunciators are in. This Q is a U because of low Discriminatory Value. RFA 03/19/08
40	C	3	X										Y	N	U	008AA1.03 I believe that "A" can be a potentially correct answer because one can manually stabilize or maintain a CD rate by adjusting the pot setting.. To ensure that "A" is not an option state in the WOOTF statement "..... describes the action, as stated in ES-1.2, that will ..." As is, this Q is U because there are potentially two correct answers. RFA 03/26/08
41	C	3											Y	N	S	009EK2.03 Much better. Now they have to calc Tstem. RFA 03/26/08
42	M	2				X		X					Y	N	E	011EK3.06 Distractor "B" does not read correctly. I think "are isolated" should be removed. If "D" was correct, "C" would be correct also. Need the word "only" in C. RFA 03/26/08
43	C	3						X					Y	N	E	015/017AA1.16 Move "Initial reactor power was" to the stem. It will read easier. RFA 03/26/08
44	C	3											Y	N	S	022AA2.04 RFA 03/26/08
45	C	3	X			X		X					Y	N	E	025AK2.03 The stem does NOT solicit the effect on the KC system. Re-write the stem to do so. Regarding "C": If the KC system continues to HU, will the NC system eventually start to HU? If so, this may be a possible correct answer. Facility please re-evaluate. RFA 03/26/08

*maybe see change to E*

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only		
46	C	3						X				Y	N	S?	027AK1.03 FAC demonstrate how you arrived at this. Did you factor in constant enthalpy? RFA 03/26/08
47	C	3										Y	N	S	029EK2.06 RFA 03/26/08
48	M	2						X				Y	N	E	055EK3.02 The stem has too much fru fru. Re-write the stem as follows:  Which one of the following is the bases for NOT depressurizing the SG's to < 110 psig as stated in ECA-0.0, Loss of all AC Power?  To avoid _____.  A. voiding in the head B. an inadvertent criticality accident C. nitrogen injection into the RCS D. the loss of SG narrow range level  RFA 03/26/08
49	M	2										Y	N	S	056AA1.12 RFA 03/26/08
50	C	3						X				Y	N	E	057AK3.01 To be consistent, why not say in D that turbine impulse pressure channel 1 has failed high (just the opposite of "C")? RFA 03/26/08
51	M	<2	X				X	X				Y	N	E	058AK1.01 Stem: Underline and bold the word <b>minimum</b> Distractors: Bold 1 and 4 and automatically and manually. The level of difficulty is marginal. Therefore, incorporate auxiliary battery criteria into the choices too. RFA 03/26/08
52	M	2				X						Y	N	U	062AA2.06 "D" is also a correct answer the way the Q is written. If "A" was correct, "C" would also be correct. Add words to the stem to isolate the correct answer so other choices cannot be psychometrically eliminated. This Q is U because two distractors can be eliminated by the way the Q is written. RFA 03/26/08

*psychometric flaw corrected in stem*

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
53	C	3							X				Y	N	E	065AA2.08 The reason for the trip is NOT solicited. Remove the reasons from all choices. C is still the correct answer because the word FIRST is used in the stem. RFA 03/26/08
54	C	3	X			?							Y	N	E	E04EK1.2 Stem: Bring containment pressure up to 8.5 psig to make B, C, and D more plausible. Why has the PRT ruptured? What is dumping into it to cause that? RFA 03/26/08
55	C	3				X							Y	N	U	E11G2.1.23 ECA-1.1, Step 21b. RNO states to stop one or more SI pumps while maintaining >= to flow required by Enclosure 9. Therefore, distractor "A" is also a correct answer. Replace distractor A. Distractor D is NOT an action. Additionally, D has a reason where the other choices do not. Replace distractor D. This Q is U because two choices are flawed. RFA 03/26/08
56	M	2				X							Y	N	U	E12G2.1.20 Even though B and C are incomplete, they are still correct as it stands. I do not believe that D is plausible because there is no procedure guidance anywhere that directs this. This Q is U because all three distractors are flawed. RFA 03/26/08
57	C	3											Y	N	S	005AA1.02 RFA 03/26/08
58	M	2				X							Y	N	U	024AA2.03 Stem: Why all the fru fru? Why not just say: WOOTF identifies the number of turns that the pot setting on NVSS5450 must be turned to establish an 18 gpm boration flow rate?  Why would a 25, 30, or a 35 gpm addition be plausible if they were already informed to add at 18 gpm.  As is, B,C, and D are NP. Therefore this Q is a U RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
59	C	<2	X			?							Y	N	E	032AK1.01 Distractors A and B are weak by themselves. Change Stem to say:  WOOTF describes the <u>minimum</u> cause of SR N-31 indication?  A. Control Power fuse failure OR Instrument Power Fuse failure. B. Control Power fuse failure AND Instrument Power Fuse failure. C. As is D. As is  RFA 03/26/08
60	M	2	X				X		X				Y	N	E	033AA1.02 Distractor "A" in and of itself, is also a correct answer as written. The "ensure" statement in "C" and "D" are NOT solicited. Re-work distractors A, C, and D. RFA 03/26/08
61	C	3				X							Y	N	U	036AK2.01 Last bullet: This is why verbs an complete sentences are necessary. Are you saying "a KF pump is operating" or "the "A" KF pump is operating?" Why would the applicant think that level is to low when they are told that SFP level is +0.4 feet? Distractor B is not plausible. No SFP level trend is provided. Therefore, a cavity seal failure is not plausible. Why is "C" correct? Replace distractors B and D. This Q is U because of two NP distractors. RFA 03/26/08
62	M	2					X						Y	N	E	067AA2.12 Why is distractor "A" plausible? Nothing in the stem remotely indicates a problem with the NCP. Replace distractor "A." RFA 03/26/08
63	M	2					X						Y	N	E	069AK3.01 Distractor D has nothing to do with a rad release offsite. Replace distractor D. RFA 03/26/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
64	C	3				X							Y	N	U	076AK2.01 If "B" was correct, "A" would be also. If ECCS was actuated, would it cause a crud burst? If so, replace this distractor. This Q is a U due to multiple distractor issues. RFA 03/26/08
65	C	3											Y	N	S	E02G2.4.8 RFA 03/27/08
66	M	2											Y	N	S	G2.1.18 RFA 03/27/08
67	M	2				X							Y	N	U	G2.1.13 Page 7 of 15 of the attached reference states in part: Visitors needing to enter a vital area must be escorted by an authorized individual. This leads me to believe that a badged person in a protected area could be "escorted" into a vital area. If this is true then "B" is also a correct answer. Please re-verify this. "D" is obviously not true and not plausible. This Q is U until these issues on both these distractors are resolved. RFA 03/27/08
68	C	3	X			X							Y	N	U	G2.1.8 There are three actions that could work (B,C, and D). The stem needs to be written to isolate one of them. Currently there are potentially three correct answers. This Q is U until resolved. RFA 03/27/08
69	C	1	X			X							Y	N	U	G2.2.40 100 F is more common then 200 F. Change stem and answer to reflect exceeding the pressurizer cooldown rate too and make each selection a two part answer. Currently, this Q is U because it has no discriminatory value. RFA 03/27/08
70	M	2											Y	N	S	G2.2.2.13 RFA 03/27/08
71	M	2				X			X				Y	N	U	G2.2.6 If "B" was correct, "A" would be correct also. "A" is a subset of "B". "C" is also a correct answer. "C" is a subset of "D." This Q is U because of multiple correct answers. RFA 03/27/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
72	C	<2	X			?							Y	N	E	G2.3.4 4 <sup>th</sup> bullet: Drop "return via the same path." This is implied and will add to the discriminatory value. Stem: Underline and bold <b>maximum</b> . Choices: Delete "no longer than." Currently this Q is just a number cruncher and has low discriminatory value. Modify the 4 <sup>th</sup> bullet as suggested for an S rating. FACILITY make sure this is not on Admin exam. RFA 03/27/08
73	C	3											Y	N	S	G2.3.11 RFA 03/27/08
74	M	2				X							Y	N	U	G2.4.17 Increase the discriminatory value of distractors B and C. They are too obvious that they are just instrument failures. Possibly add some coincidence logic to them. Q is U because of 2 NP distractors RFA 03/27/08
75	C	<2	X			?							Y	N	E	G2.4.14 Change heat sink to an orange path too. As is, the question has marginal discriminatory value. RFA 03/27/08
<b>SRO ONLY</b>																
76	C	3	X						X				Y	Y	E	009G2.1.27 Stem: Describes (1) the <i>next</i> procedure... and (2) the TS basis for FWST minimum volume for this event.  Stem: Change FWST level to 220 inches to make the transition to ES-1.3 more plausible.  A. 1. ES-1.2, Post LOCA Cooldown and Depressurization 2. Ensures ..... RFA 03/19/08
77	C	3	X						X				Y	Y	E	026G2.1.25 Stem; WOOTF describes (1) ...and (2) the <i>required</i> action per AP/21, ....  A. 1. 50 GPM 2. Isolate KC ...  Which references will be provided? RFA 03/19/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
78	C	3				X							Y	Y	U	<p>029EA2.01 A and B are not plausible because if you are to remain in FR-S.1 then you would NOT transition to E-0. Rewrite A and B to eliminate ambiguity.</p> <p>C and D: If conditions allow exit from Fr-S.1 then it's obvious that you exit the procedure when directed. Delete "when directed, exit FR-S.1" C. State "continue performance of Enclosure 2" D. State "terminate performance of Enclosure 2"</p> <p>This Q is U because of 2 NP distractors. RFA 03/19/08</p>
79	C	3						X					Y	Y	E	<p>055EA2.03 The reference document provided does NOT support the use of Enclosure 9, energizing Unit 1 from Unit 2. However, the use of AP-7 is (see step 4 RNO of E-0.) Please re-evaluate. RFA 03/20/08</p>
80	C	3						X					Y	Y	E	<p>056AA2.18 Remove (;) from all choices and align C and D (Emergency is too far to the left) RFA 03/20/08</p>
81	C	3				X							Y	Y	U	<p>058G2.2.37 If D was correct, B would be also. Therefore D is NOT plausible If C was correct, A would be also. Therefore C is NOT plausible. Stem: Need to rewrite stem to include the word "minimum" This Q is rated U because of 2 nonplausible distractors. A stem correction will validate distractors C and D. RFA 03/20/08</p>
82	C	3				X							Y	Y	U	<p>003AA2.02 Rod withdraw due to the PR NIS Mismatch rate signal only is NOT plausible even though it has an input. It does have an affect on the magnitude but the reference is clear that you could have a significant delta between turbine and nuclear power and NOT have a mismatch. The mismatch is clearly a function of Tave vs Tref. Therefore, This Q is U because distractors B and C are not plausible. Redesign the Q ask what provides the anticipatory signal and that would be the power mismatch input. Distractors could include T and power which would be wrong per OP-MC-IC-IRX, Para 1.2, page 11. RFA 03/20/08</p>

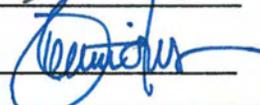
Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
83	C	3				X							Y	Y	U	033AA2.05 N-35 being "under-compensated" is not plausible compared to N-36. If N-35 were over-compensated, the indicated power level would read lower than actual power level. Change distractors B and D to read N-35 is over-compensated and the second part to reflect the same. This Q is a U because two distractors are NP. RFA 03/21/08
84	M	1											Y	U	U	059G2.2.38 Since this is an SRO Q, build in both parts of the TS to include <=/ to 3 rem WB and <=/ 10 rem organ. This Q is a U because the discriminatory value is to low. Additionally, without both parts this is NOT SRO only. RFA 03/21/08
85	C	3											Y	Y	SE	E06G2.1.20 RFA 03/21/08
86	C	3											Y	Y	SE	010A2.01 RFA 03/21/08
87	C	3				X							Y	Y	U	026A2.03 Change Cntmt pressure to 13 psig. This makes the path more plausible. The actions in "A" are a subset of th "All" the actions in B and D. If B or D was correct, A could be also. The second part of B and D are not plausible because of the wording "... Do NOT perform ..." Use the "if" statement in paragraph 7.15.1.5 of OMP 4-3, P 18 for this distractor. All the distractors need to be re-written. This Q is a U because of two or more NP distractors. RFA 03/21/08
88	C	3	X				X						Y	Y	E	061G2.4.4 Stem: Change WR level to 30% ACC. This will make B more plausible. Stem: Have CA pumps running but not able to generate flow >450 gpm because distractor D is not plausible given the initial conditions that all CA pumps are off. RFA 03/21/08
89	M	2							X				Y	Y	E	073G2.2.22 75 GPD leakage is NOT supported by the attached ref material. Why is 30 GPD plausible? RFA 03/21/08
90	C	3	X						X				Y	Y	E	076A2.02 Stem: Only train "B" SI actuated. Delete bullet #5. Explain why the A EDG does NOT overheat. RFA 03/21/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
91	C	3											Y	Y	S	015G2.1.7 RFA 03/24/08
92	C	3				X							Y	Y	U	028A2.03 The step requires an action. In this case, "do NOT" statements are NOT plausible. Change distractors A and D to "only" statements as follows:  A. Place hydrogen ignitor in service ONLY, because recombiner operating temperatures may cause a challenge to containment integrity due to hydrogen flammability.  D. Similar but change to hydrogen recombines.  This Q is a U because of 2 NP distractors. RFA 03/24/08
93	C	3						X					Y	Y	E	079A2.01 Do NOT teach in distractors. State that 1VI-820 is either open or closed and delete the reason from all 4 choices. Furthermore, the stem does NOT solicit the reason just the position.  RFA 03/24/08
94	M	2					X		X				Y	Y	E	G2.1.35 Distractor D is not plausible because it is common knowledge that RE's are a technical oversite position with no "permissive" authority.  Change choices as follows (example): A. Shift manager OR Fuel handling SRO B. Fuel handling SRO ONLY C. Refueling Supervisor OR Fuel handling SRO D. Refueling Supervisor ONLY  RFA 03/24/08
95	M	2						X					Y	Y	E	G2.2.7 Stem: Change "who is" to Which one of the following is responsible... Reason: The original Q does not read well. I had to read it 3 times before I could figure out what was being asked. RFA 03/24/08

Q#	1. LOK (C/A)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
96	C	3				X							Y	Y	U	G2.2.22 It is common knowledge that PORVs are not credited in accident analysis. Replace distractors C and D. This Q is U because of two NP distractors. RFA 03/24/08
97	C	3							X				Y	Y	E	G2.3.14 There is no mention of gross specificity in the stem. Why is shutdown and cooldown to < 500 F plausible? CAF RFA 03/24/08
98	M	2					X						Y	Y	E	G2.3.6 The Q is NOT balanced and renders D not plausible. Rewrite Q to incorporate another "release may be approved" but for a different reason. Since the KA is the ability to approve a release permit, change stem variables to be close to the wire but permissible to conduct the release. RFA 03/24/08
99	C	3				X							Y	Y	U	G2.4.46 Change stem so applicants need to calc Tave via Tstm or acquire Tave by some other means. Otherwise, distractors C and D are not plausible. This Q is U because of two NP distractors. RFA 03/24/08
100	C	3	X				X						Y	Y	E	G2.4.8 Since there is no direct transition to FR-S.1 ever, distractor A is not plausible. Give the applicant entrance into E-0 and rewrite distractors to reflect this. RFA 03/24/08

\* Independent of whether or not it met the KA, mis-classified WRT RO/SRO, or required grammar or *minor* enhancement.

Question Status	
S	Question is Sat with NO Comments
E	Editorial Changes Needed
E*	Questionable Editorial
U	Question is All Hosed Up
S?	Questionable
S*	Question and stem sat - editorial elsewhere
N*	Partially met KA

Facility: McGuire		Date of Exam: May 23, 2008		Exam Level: RO X SRO X	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	blc	N/A	rfa		
2. Answer key changes and question deletions justified and documented	blc		rfa		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	blc		rfa		
4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	blc		rfa		
5. All other failing examinations checked to ensure that grades are justified	N/A		N/A		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	blc		rfa		
Printed Name/Signature			Date		
a. Grader	Bruno L. Caballero		06/30/08		
b. Facility Reviewer(*)	N/A	_____	N/A		
c. NRC Chief Examiner (*)	Ronald F. Aiello		07/01/08		
d. NRC Supervisor (*)	Malcolm T. Widdmann		07/01/08		
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Post-Examination Check Sheet	
Facility: McGuire	
Date of Examination: May 12-23, 2008	
Task Description	Date Complete
1. Facility written exam comments or graded exams received and verified complete	05/30/2008
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	06/30/2008
3. Operating tests graded by NRC examiners	06/30/2008
4. NRC chief examiner review of operating test and written exam grading completed	07/01/2008
5. Responsible supervisor review completed	07/01/2008
6. Management (licensing official) review completed	07/01/2008
7. License and denial letters mailed	07/02/2008
8. Facility notified of results	07/01/2008
9. Examination report issued (refer to NRC MC 0612)	07/03/2008
10. Reference material returned after final resolution of any appeals	N/A

**Final Submittal**  
(Blue Paper)

*McGUIRE MAY 2008-30/*

**FINAL OUTLINES**

**FINAL**

Facility:		McGuire 2008 NRC Exam				Date of Exam:		5/12/2008									
Tier	Group	RO K/A Category Points										SRO-Only Points					
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total	
1. Emergency & Plant Evolutions	1	3	3	3				3	3			3	18	3	3	6	
	2	1	2	1				2	2			1	9	2	2	4	
	Tier Totals	4	5	4				5	5			4	27	5	5	10	
2. Plant Systems	1	2	2	3	3	2	3	2	2	3	3	3	28	3	2	5	
	2	1	1	1	1	1	1	1	1	1	1	0	10	0	2	3	
	Tier Totals	3	3	4	4	3	4	3	3	4	4	3	38	5	3	8	
3. Generic Knowledge & Abilities Categories				1		2		3		4		10	1	2	3	4	7
				3		3		2		2			1	2	2	2	

- Note:
1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two).
  2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
  3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to section D.1.b of ES-401, for guidance regarding elimination of inappropriate K/A statements.
  4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
  5. Absent a plant specific priority, only those KAs having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
  6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
  - 7.\* The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401 for the applicable K/A's
  8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above. If fuel handling equipment is sampled in other than Category A2 or G\* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
  9. For Tier 3, select topics from Section 2 of the K/A Catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10CFR55.43

McGuire 2008 NRC Exam  
Written Examination Outline  
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
009 / Small Break LOCA / 3						X	2.1.27 - Conduct of Operations: Knowledge of system purpose and / or function.	4.0	76
026 / Loss of Component Cooling Water / 8						X	2.1.25 - Conduct of Operations: Ability to interpret reference materials, such as graphs, curves, tables, etc.	4.2	77
029 / Anticipated Transient Without Scram (ATWS) / 1					X		EA2.01 - Ability to determine or interpret the following as they apply to a ATWS: Reactor nuclear instrumentation	4.7	78
055 / Station Blackout / 6					X		EA2.05 - Ability to determine or interpret the following as they apply to a Station Blackout: When battery is approaching fully discharged	3.7	79
056 / Loss of Off-site Power / 6					X		AA2.18 - Ability to determine and interpret the following as they apply to the Loss of Offsite Power: Reactor coolant temperature, pressure, and PZR level recorders	4.0	80
058 / Loss of DC Power / 6						X	2.4.21 - Emergency Procedures / Plan: Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.6	81
007 / Reactor Trip / 1						X	2.4.46 - Emergency Procedures / Plan: Ability to verify that the alarms are consistent with the plant conditions.	4.2	39
008 / Pressurizer Vapor Space Accident / 3				X			AA1.03 - Ability to operate and / or monitor the following as they apply to the Pressurizer Vapor Space Accident: Turbine bypass in manual control to maintain header pressure	2.8	40
009 / Small Break LOCA / 3		X					EK2.03 - Knowledge of the interrelations between the small break LOCA and the following: S/Gs	3.0	41
011 / Large Break LOCA / 3			X				EK3.06 - Knowledge of the reasons for the following responses as the apply to the Large Break LOCA: Actuation of Phase A and B during LOCA initiation	4.3	42
015 / 17 / Reactor Coolant Pump Malfunctions / 4				X			AA1.16 - Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): Low power reactor trip block status lights	3.2	43
022 / Loss of Reactor Coolant Makeup / 2					X		AA2.04 - Ability to determine and interpret the following as they apply to the Loss of Reactor Coolant Pump Makeup: How long PZR level can be maintained within limits	2.9	44
025 / Loss of Residual Heat Removal System / 4		X					AK2.03 - Knowledge of the interrelations between the Loss of Residual Heat Removal System and the following: Service water or closed cooling water pumps	2.7	45
027 / Pressurizer Pressure Control System Malfunction / 3	X						AK1.03 - Knowledge of the operational implications of the following concepts as they apply to Pressurizer Pressure Control Malfunctions: Latent heat of vaporization/condensation	2.6	46
029 / Anticipated Transient Without Scram (ATWS) / 1		X					EK2.06 - Knowledge of the interrelations between the and the following an ATWS: Breakers, relays, and disconnects	2.9	47

McGuire 2008 NRC Exam  
Written Examination Outline  
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
055 / Station Blackout / 6			X				EK3.02 - Knowledge of the reasons for the following responses as they apply to the Station Blackout: Actions contained in EOP for loss of offsite and onsite power	4.3	48
056 / Loss of Off-site Power / 6				X			AA1.12 - Ability to operate and / or monitor the following as they apply to the Loss of Offsite Power: Reactor building cooling unit	3.2	49
057 / Loss of Vital AC Electrical Instrument Bus / 6			X				AK3.01 - Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital ac electrical instrument bus	4.1	50
058 / Loss of DC Power / 6	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to Loss of DC Power: Battery charger equipment and instrumentation	2.8	51
062 / Loss of Nuclear Service Water / 4					X		AA2.06 - Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The length of time after the loss of CCW flow to a component before that component may be damaged	2.8	52
065 / Loss of Instrument Air / 8					X		AA2.08 - Ability to determine and interpret the following as they apply to the Loss of Instrument Air: Failure modes of air-operated equipment	2.9	53
E04 / LOCA Outside Containment / 3	X						EK1.2 - Knowledge of the operational implications of the following concepts as they apply to the (LOCA Outside Containment): Normal, abnormal and emergency operating procedures associated with (LOCA Outside Containment).	3.5	54
E11 / Loss of Emergency Coolant Recirculation / 4						X	2.1.23 - Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.3	55
E12 / Uncontrolled Depressurization of all Steam Generators / 4						X	2.1.20 - Conduct of Operations: Ability to interpret and execute procedure steps.	4.6	56
K/A Category Totals:	3	3	3	3	6	6	Group Point Total:		18/6

McGuire 2008 NRC Exam  
Written Examination Outline  
Emergency and Abnormal Plant Evolutions – Tier 1 Group 2

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
003 / Dropped Control Rod / 1					X		AA2.02 - Ability to determine and interpret the following as they apply to the Dropped Control Rod: Signal inputs to rod control system	2.8	82
033 / Loss of Intermediate Range Nuclear Instrumentation / 7					X		AA2.05 - Ability to determine and interpret the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation: Nature of abnormality, from rapid survey of control room data	3.1	83
059 / Accidental Liquid RadWaste Release / 9						X	2.2.38 - Equipment Control: Knowledge of conditions and limitations in the facility license.	4.5	84
E06 / Degraded Core Cooling / 4						X	2.1.20 - Conduct of Operations: Ability to interpret and execute procedure steps.	4.6	85
005 / Inoperable/Stuck Control Rod / 1				X			AA1.02 - Ability to operate and / or monitor the following as they apply to the Inoperable / Stuck Control Rod: Rod selection switches	3.7	57
024 / Emergency Boration / 1					X		AA2.03 - Ability to determine and interpret the following as they apply to the Emergency Boration: Correlation between boric acid controller setpoint and boric acid flow	2.9	58
032 / Loss of Source Range Nuclear Instrumentation / 7	X						AK1.01 - Knowledge of the operational implications of the following concepts as Effects of voltage changes on performance	2.5	59
033 / Loss of Intermediate Range Nuclear Instrumentation / 7				X			AA1.02 - Ability to operate and / or monitor the following as they apply to the Loss of Intermediate Range Nuclear Instrumentation: Level trip bypass	3.0	60
036 / Fuel Handling Incidents / 8		X					AK2.01 - Knowledge of the interrelations between the Fuel Handling Incidents and the following: Fuel handling equipment	2.9	61
067 / Plant Fire On-site / 8					X		AA2.12 - Ability to determine and interpret the following as they apply to the Plant Fire on Site: Location of vital equipment within fire zone	2.9	62
069 / Loss of Containment Integrity / 5			X				AK3.01 - Knowledge of the reasons for the following responses as they apply to the Loss of Containment Integrity: Guidance contained in EOP for loss of containment integrity	3.8	63
076 / High Reactor Coolant Activity / 9		X					AK2.01 - Knowledge of the interrelations between the High Reactor Coolant Activity and the following: Process radiation monitors	2.6	64
E02 / SI Termination / 3						X	2.4.8 - Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOP's.	3.8	65
K/A Category Totals:	1	2	1	2	4	3	Group Point Total:	9/4	

McGuire 2008 NRC Exam  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp.	Q #
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010 Pressurizer Pressure Control								X				A2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the PZR PCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Heater failures	3.6	86
026 Containment Spray								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the CSS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of ESF	4.4	87
061 Auxillary/Emergency Feedwater										X		2.4.4 - Emergency Procedures / Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.7	88
073 Process Radiation Monitoring										X		2.2.4 - Equipment Control: (multi-unit license) Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.	3.6	89
076 Service Water								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the SWS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Service water header pressure	3.1	90
003 Reactor Coolant Pump	X											K1.08 - Knowledge of the physical connections and/or cause-effect relationships between the RCPS and the following systems: Containment isolation	2.7	1
004 Chemical and Volume Control					X							K5.46 - Knowledge of the operational implications of the following concepts as they apply to the CVCS: Reason for going solid in PZR (collapsing steam bubble): make sure no steam is in PRT when PORV is opened to drain RCS	2.5	2
005 Residual Heat Removal		X										K2.03 - Knowledge of bus power supplies to the following: RCS pressure boundary motor-operated valves	2.7	3
006 Emergency Core Cooling										X		A4.01 - Ability to manually operate and/or monitor in the control room: Pumps	4.1	4
007 Pressurizer Relief/Quench Tank									X			A3.01 - Ability to monitor automatic operation of the PRTS, including: Components which discharge to the PRT	2.7	5
008 Component Cooling Water		X										K2.02 - Knowledge of bus power supplies to the following: CCW pump, including emergency backup	3.0	6
008 Component Cooling Water				X								K4.01 - Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Automatic start of standby pump	3.1	7

McGuire 2008 NRC Exam  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp.	Q #
010 Pressurizer Pressure Control	X											2.9	8
012 Reactor Protection									X			3.4	9
012 Reactor Protection						X						3.3	10
013 Engineered Safety Features Actuation				X								3.1	11
022 Containment Cooling								X				3.1	12
025 Ice Condenser						X						3.4	13
025 Ice Condenser					X							3.0	14
026 Containment Spray										X		4.0	15
026 Containment Spray			X									4.2	16
039 Main and Reheat Steam										X		3.8	17
039 Main and Reheat Steam				X								3.4	18
059 Main Feedwater							X					2.7	19
061 Auxillary/Emergency Feedwater			X									4.4	20
062 AC Electrical Distribution									X			3.5	21
063 DC Electrical Distribution							X					2.5	22

McGuire 2008 NRC Exam  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp.	Q #
064 Emergency Diesel Generator						X						3.2	23
073 Process Radiation Monitoring								X				2.5	24
076 Service Water										X		4.0	25
076 Service Water			X									3.7	26
078 Instrument Air										X		3.8	27
103 Containment											X	3.2	28
K/A Category Totals:	2	2	3	3	2	3	2	5	3	3	5	Group Point Total: 28/5	

McGuire 2008 NRC Exam  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp.	Q #
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015 Nuclear Instrumentation											X	2.1.7 - Conduct of Operations: Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.7	91
028 Hydrogen Recombiner and Purge Control								X				A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the HRPS; and (b) based on those predictions, use Procedures to correct, control, or mitigate the consequences of those malfunctions or operations: The hydrogen air concentration in excess of limit flame propagation or detonation with resulting equipment dam-age in containment	4.0	92
079 Station Air								X				A2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the SAS; and (b) based on those predictions, use Procedures to correct, control, or mitigate the consequences of those malfunctions or operations:: Cross-connection with IAS	3.2	93
014 Rod Position Indication				X								K4.03 - Knowledge of RPIS design feature(s) and/or interlock(s) which provide for the following: Rod Bottom lights	3.2	29
017 In-core Temperature Monitor						X						K6.01 - Knowledge of the effect of a loss or malfunction of the following ITM system components: Sensors and detectors	2.7	30
015 Nuclear Instrumentation System		X										K2.01 - Knowledge of bus power supplies to the following: NIS channels, components, and interconnections	3.3	31
028 Hydrogen Recombiner and Purge Control	X											K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the HRPS and the following systems: Containment annulus ventilation system (including pressure limits)	2.5	32
029 Containment Purge										X		A4.04 - Ability to manually operate and/or monitor in the control room: Containment Evacuation signal	3.5	33
033 Spent Fuel Pool Cooling			X									K3.01 - Knowledge of the effect that a loss or malfunction of the Spent Fuel Pool Cooling System will have on the following: Area ventilation systems	2.6	34
035 Steam Generator								X				A2.05 - Ability to (a) predict the impacts of the following malfunctions or operations on the S/GS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Unbalanced flows to the S/Gs	3.2	35
041 Steam Dump/Turbine Bypass Control									X			A3.03 - Ability to monitor automatic operation of the SDS, including: Steam flow	2.7	36

McGuire 2008 NRC Exam  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp.	Q #
071 Waste Gas Disposal							X					2.5	37
086 Fire Protection					X							3.1	38
K/A Category Totals:	1	1	1	1	1	1	1	3	1	1	1	Group Point Total: 12/3	

1

Facility:		McGuire 2008 NRC Exam	Date:		5/12/2008		
Category	K/A #	Topic	RO		SRO-Only		
			IR	Q#	IR	Q#	
1. Conduct of Operations	2.1.35	Knowledge of the fuel-handling responsibilities of SRO's.			3.9	94	
	2.1.18	Ability to make accurate, clear and concise logs, records, status boards, and reports.	3.6	66			
	2.1.13	Knowledge of facility requirements for controlling vital / controlled access.	2.5	67			
	2.1.8	Ability to coordinate personnel activities outside the control room.	3.4	68			
	Subtotal				3		1
	2. Equipment Control	2.2.7	Knowledge of the process for conducting special or infrequent tests.			3.6	95
2.2.22		Knowledge of limiting conditions for operations and safety limits.			4.7	96	
2.2.40		Ability to apply technical specifications for a system.	3.4	69			
2.2.13		Knowledge of tagging and clearance procedures.	4.1	70			
2.2.6		Knowledge of the process for making changes to procedures.	3.0	71			
Subtotal				3		2	
3. Radiation Control	2.3.14	Knowledge of radiation or containment hazards that may arise during normal, abnormal, or emergency conditions or activities.			3.8	97	
	2.3.6	Ability to approve release permits			3.8	98	
	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.	3.2	72			
	2.3.11	Ability to control radiation releases.	3.8	73			
	Subtotal				2		2
4. Emergency Procedures / Plan	2.4.46	Ability to verify that the alarms are consistent with the plant conditions.			4.2	99	
	2.4.8	Knowledge of how abnormal operating procedures are used in conjunction with EOP's.			4.5	100	
	2.4.17	Knowledge of EOP terms and definitions.	3.9	74			
	2.4.14	Knowledge of general guidelines for EOP usage.	3.8	75			
	Subtotal				2		2
Tier 3 Point Total				10		7	