MCGUIRE EXAM

50-369, 370/2002-301
FEBRUARY 11 - 15, 2002

Administrative Documents
(Yellow Paper)

1. Exam Preparation Checklist ES-201-1
2. Exam Outline Quality Checklist ES-201-2
3. Exam Security Agreement ES-201-3
4. Administrative Topics Outline (Final) ES-301-1
5. Control Room Systems and 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-401-7
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

Facility: McGuire Date of Examination: Written 02/22/02, Operating 02/11-14/02

Examinations Developed by: **Facility** / NRC

Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	LRM
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	LRM
-120	3. Facility contact briefed on security & other requirements (C.2.c)	LRM
-120	4. Corporate notification letter sent (C.2.d)	LRM
[-90]	[5. Reference material due (C.1.e; C.3.c)]	LRM
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	LRM
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	LRM
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	LRM
-30	9. Preliminary license applications due (C.1.l; C.2.g; ES-202)	LRM
-14	10. Final license applications due and assignment sheet prepared (C.1.l; C.2.g; ES-202)	LRM
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	LRM
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	LRM
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	LRM
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	LRM
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	LRM
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	LRM

* Target dates 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 to examinations prepared by the NRC.

McGuire

Facility: Date of Examination: 2/22/02

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.			
	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.			
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.			
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.			
2. SIM	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	CA	[illegible]	LM
	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; ensure each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s)*, and scenarios will not be repeated over successive days.	CA	[illegible]	LM
	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.	CA	[illegible]	LM
3. W/T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	CA	[illegible]	LM
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	CA	[illegible]	LM
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	CA	[illegible]	LM
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	CA	[illegible]	LM
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	CA	[illegible]	LM
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	CA	[illegible]	LM
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	CA	[illegible]	LM
	d. Check for duplication and overlap among exam sections.	CA	[illegible]	LM
	e. Check the entire exam for balance of coverage.	CA	[illegible]	LM
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	CA	[illegible]	LM

	Printed Name / Signature	Date
a. Author	CHARLES SAWYER / [illegible]	11-13-01
b. Facility Reviewer (*)	LARRY E. SARRATT / [illegible]	11-13-01
c. NRC Chief Examiner (#)	LEE R. MILLER / [illegible]	11-14-01
d. NRC Supervisor	GEORGE T. HOPPER / [illegible]	11-21-01

Note: * Not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.

Facility: McGuire Date of Examination: 2/22/02

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	BJ	CS	LM
	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.	BJ	CS	LM
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	BJ	CS	LM
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	BJ	CS	LM
2. SIM	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.			
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; ensure each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s)*, and scenarios will not be repeated over successive days.			
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.			
3. W/T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.			
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.			
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.			
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.			
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.			
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.			
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.			
	d. Check for duplication and overlap among exam sections.			
	e. Check the entire exam for balance of coverage.			
	f. Assess whether the exam fits the appropriate job level (RO or SRO).			

	Printed Name / Signature	Date
a. Author	BRIAN C. HARGENSEN / [signature]	11/8/01
b. Facility Reviewer (*)	CHARLES SAWYER / [signature]	11-13-01
c. NRC Chief Examiner (#)	LEE R. MILLER / [signature]	11-21-01
d. NRC Supervisor	George T. Hopper / [signature]	11-21-01

Note: * Not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 2-11 to 2-22-02 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.Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 2-11 to 2-22-02. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. CHARLES W. SAWYER Sr.	INSTRUCTOR / FACILITY LEAD	Charles W Sawyer, Jr	8-17-01	Charles W Sawyer Jr	2-22-02	✓
2. BRIAN C. HAAGENSEN	EXAMINER / PREPARE EXAM	[illegible]	8-17-01	[illegible]	3/16/02	
3. Robert D. Billings	Instructor	Robert D. Billings	10-8-01	Robert D Billings	3-1-02	
4. Charles E. Newman	Instructor	Charles Newman	10-9-01	Charles Newman	2-25-02	
5. STEVEN A. HELMS	INSTRUCTOR	Steven A Helms	10-9-01	Steven A Helms	2-25-02	✓
6. W. R. BAKER	Simulator SUPPORT	W. R. Baker	10-9-01	W. R. Baker	2/25/02	✓
7. VICKIE BREWER	ADM. SPEC.	Vickie Brewer	10-23-01	Vickie Brewer	2-25-02	✓
8. DENNIS TAYLOR	SIMULATOR ENGINEER	[illegible]	10-23-01	[illegible]	2-25-02	✓
9. LARRY SARRATT	Facility Rep. Ops Supervisor	Larry E. Sarratt	10-30-01	Larry E. Sarratt	3/11/02	
10. Terry Tessnear	Sr Ops Spec / Sim Sppt	Terry L. Tessnear	11-13-01	Terry L. Tessnear	2-25-02	✓
11. Connie Duffell	ADM SPEC	Connie Duffell	11-27-01	Connie R Duffell	2-25-02	✓
12. CHARLES ELAM	SIM. SUPPT	Charles Elam	11-27-01	Charles Elam	2-25-02	
13. Donald Wesley Hilliard	Shift Supervisor - SRO	Donald Wesley Hilliard	11-29-01	Donald W Hilliard	3-11-02	
14. Robert M. Poole	Reactor Operator / RO	Robert M Poole	11-29-01	Robert M Poole	3-11-02	
15. EDDIE L. ROBERTS	SUPERVISOR, INIT. OPS. TRAINING	Eddie L. Roberts	11/29/01	Eddie L. Roberts	2-25-02	✓

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 11-22 FEB 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.Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 11-22 feb. 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. Brian Haagensen	PSHA Examiner		8/17/01		3/16/02	
2. Ronald Fortier	PSHA Examiner		9/25/01		3/21/02	
3. Paul Swetland	PSHA Examiner		9/25/01		3/17/02	
4. Valerie Barnes	PSHA President		10/24/01		4/1/02	
5. Michael Richardson	INSTRUCTOR		12/4/01		9/5/02	
6. James A Dam	Shift Supervisor		12/4/01		4/11/02	
7. Bobby Pope	INSTRUCTOR SUP		12/6/01		2-25-02	
8. Norma Cherry	ADMIN Spec.		12-17-01		2-25-02	
9. John H. Sadler	Nuclear Instructor		2/11/02		2/26/02	
10. William M. Mulkey	Nuclear Instructor		2/11/02		4/2/02	
11. Linda P. Gabbert	Nuclear Instructor		2/11/02		2-26/02	
12. Alan Orton	Ops TNG MGR		2/11/02		3/4/02	
13. Donald E Brenton	OPS MANAGER		2/12/02		3/11/02	
14. Robert P. Weaver	Nuclear Instructor		2/12/02		3/11/02	
15. Gary L. Graham	Nuclear Instructor		2/14/02		2/26/02	

NOTES:

Facility: McGuire		Date of Examination: : Feb 11, 2002
Examination Level (circle one): **RO** / SRO		Operating Test Number: _____
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Reactivity Management K/A 2.1.7 3.7/4.4	**JPM:** Calculate Boron Addition for Rod Change
	Conduct of Operations K/A 2.5.25 2.8/3.1	**JPM:** Calculate Quadrant Power Tilt Ratio
A.2	Equipment Control K/A 2.2.22 3.4/4.1	**JPM:** Determine acceptable Main Generator MegaVars for specified conditions.
		Repeat but different conditions.
A.3	Radiation Control K/A 2.3.2 2.5/2.9	**JPM:** Using a survey map determine dose time calculations
A.4	Emergency Plan K/A 2.4.43 2.8/3.5	**JPM:** Make initial notification to the state/Counties.
		Repeat but different conditions.

Facility: McGuire		Date of Examination: Feb 11, 2002
Examination Level (circle one): RO / **SRO**		Operating Test Number: _____
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Reactivity Management K/A 2.1.7 3.7/4.4	**JPM:** Perform an Estimated Critical Position Calculation
	Conduct of Operations K/A 2.1.25 2.8/3.1	**JPM:** Based on plant conditions calculate head vent time.
A.2	Equipment Control K/A 2.2.13 3.6/3.8	**JPM:** Evaluate a tagout for correctness prior to signing.
A.3	Radiation Control K/A 2.3.2 2.5/2.9	**JPM:** Calculate stay time with and without a respirator
A.4	Emergency Plan K/A 2.4.43 2.8/3.5	**JPM:** Complete the ENS Form and make initial notifications to the State/Counties
		Repeat but different conditions.

Facility: McGuire Date of Examination: Feb.11, 2002
Exam Level (circle one): **RO / SRO(I)** / **SRO(U)** Operating Test :_____

B.1 Control Room Systems		
System / JPM Title	Type Codes*	Safety Function
a. 005/ Respond to a Leak on the ND System while at Mid Loop **(ND-103)** {005-A4.01-3.6/3.4} **(SROU)**	D,S,L,**(P)**	SF-4P
b. 059/ Establish Feedwater Control to S/G's following a reactor trip **(CF-36)** {054-EA2.05-3.5/3.7}	D,S	SF-4S
c. 064/ Start and Load 1B Diesel Generator **(DG-198)** {064-A4.01-4.0/4.3}	N,S	SF-6
d. 004/ Establish normal letdown from excess letdown **(NV-30)** {004-A3.11-3.6/3.4} **(SROU)**	D,S	SF-2
e. 004/ Emergency Borate the Reactor Coolant system using the PD pump **(NV-200A)** {024-AK3.02 4.2/4.4}	N,S,A	SF-1
f. 073/ Realign Cooling TO NCPs After Spurious S/I **(KC-150A)** {073-K4.01-3.3/3.6}	D,S,A	SF-8
g. 008/ Align Containment Spray to Cold Leg Recirc **(NS-182A)** {008-A3.08-3.6/3.7} **(SROU)**	S,A,D **Repeat**	SF-5
B.2 Facility Walk-Through		
a. 078/ Align Control Air from Backup Cylinder to F VI Compressor **(VI-110A)** {078-K4.02-3.2/3.5} **(SROU)**	N,A	SF-8
b. 028/ Start the Hydrogen Recombiner **(VX-20)** {028-A4.01-4.0/4.0}	D	SF-5
c. 062/ SKX start up **(EPL-199)** {057-AA1.01 3.7/3.7} **(New plant equipment) (SROU)**	N,R	SF-6

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, (P)SA

NUREG-1021, Revision 8

(P) - Indicates this JPM is associated with a Risk Significant System or Period as reflected in the MNS Probabilistic Safety Assessment.

Facility:	Date of Examination:	Operating Test Number:

	1. GENERAL CRITERIA	Initials a	Initials b*	Initials c#
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	CA	[illegible]	LM
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	CA	[illegible]	LM
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	CA	[illegible]	LM
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	CA	[illegible]	LM
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	CA	[illegible]	LM
	2. WALK-THROUGH (CATEGORY A & B) 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 · 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	CA	[illegible]	LM
b.	The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	N/A	N/A	N/A
c.	Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity.	CA	[illegible]	LM
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	CA	[illegible]	LM
	3. SIMULATOR (CATEGORY C) CRITERIA	–	–	–
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	CA	[illegible]	LM

	Printed Name / Signature	Date
a. Author	CHARLES SAWYER / [illegible]	12-11-01
b. Facility Reviewer(*)	LARRY SARRATT / [illegible]	12/11/01
c. NRC Chief Examiner (#)	LEE R. MILLER / [illegible]	2/6/02
d. NRC Supervisor	MIKE ERNSTES / [illegible]	2/6/02

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

Facility: Date of Exam: Scenario Numbers: 1 / 2 / Operating Test No.:

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.	CA	[illegible]	LM
2. The scenarios consist mostly of related events.	CA	[illegible]	LM
3. Each event description consists of · the point in the scenario when it is to be initiated · the malfunction(s) that are entered to initiate the event · the symptoms/cues that will be visible to the crew · the expected operator actions (by shift position) · the event termination point (if applicable)	CA	[illegible]	LM
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.	CA	[illegible]	LM
5. The events are valid with regard to physics and thermodynamics.	CA	[illegible]	LM
6. Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	CA	[illegible]	LM
7. If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	N/A	[illegible]	LM
8. The simulator modeling is not altered.	CA	[illegible]	LM
9. The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	CA	[illegible]	LM
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.4 of ES-301.	CA	[illegible]	LM
11. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	CA	[illegible]	LM
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).	CA	[illegible]	LM
13. The level of difficulty is appropriate to support licensing decisions for each crew position.	CA	[illegible]	LM

TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)	Actual Attributes	–	–	–
1. Total malfunctions (5-8)	8 / 7 / 6	CA	[illegible]	LM
2. Malfunctions after EOP entry (1-2)	2 / 2 / 2	CA	[illegible]	LM
3. Abnormal events (2-4)	4 / 4 / 4	CA	[illegible]	LM
4. Major transients (1-2)	1 / 1 / 1	CA	[illegible]	LM
5. EOPs entered/requiring substantive actions (1-2)	2 / 2 / 3	CA	[illegible]	LM
6. EOP contingencies requiring substantive actions (0-2)	1 / 0 / 1	CA	[illegible]	LM
7. Critical tasks (2-3)	2 / 2 / 2	CA	[illegible]	LM

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **RO**	2 **BOP**	3	4
RO1	Reactivity	1	3			
	Normal	1		6		
	Instrument/ Component	4	1,3	2,3		
	Major	1	5	7		
As RO	Reactivity	1				
	Normal	0				
	Instrument/ Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				
SRO-U	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.
(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **BOP**	2 **RO**	3	4
RO2	Reactivity	1		6		
	Normal	1	2			
	Instrument/ Component	4	2,5	1,4		
	Major	1	5	7		
As RO	Reactivity	1				
	Normal	0				
	Instrument/ Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				
SRO-U	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.
(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **SRO**	2 **RO**	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument/ Component	4				
	Major	1				
As RO	Reactivity	1		6		
	Normal	0				
	Instrument/ Component	2		1,4		
	Major	1		7		
SRO-I1						
As SRO	Reactivity	0				
	Normal	1	2			
	Instrument/ Component	2	1,2, 3,4			
	Major	1	5			
SRO-U	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.
(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **RO**	2 **SRO**	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument/ Component	4				
	Major	1				
As RO	Reactivity	1		3		
	Normal	0				
	Instrument/ Component	2		1,3		
	Major	1		5		
SRO-I2						
As SRO	Reactivity	0				
	Normal	1	6			
	Instrument/ Component	2	1,2, 3,4			
	Major	1	7			
SRO-U	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.
(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **SRO**	2 **RO**	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument/ Component	4				
	Major	1				
As RO	Reactivity	1		6		
	Normal	0				
	Instrument/ Component	2		1,4		
	Major	1		7		
SRO-I3						
As SRO	Reactivity	0				
	Normal	1	2			
	Instrument/ Component	2	1,2, 3,4			
	Major	1	5			
SRO-U	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.
(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument/ Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument/ Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				
SRO-U1	Reactivity	0				
	Normal	1	2	6		
	Instrument/ Component	2	1,2, 3,4	1,2 3,4		
	Major	1	5	7		

Instructions:

(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.

(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.

(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Operating Test NO.:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 **RO**	2 **SRO**	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument/ Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument/ Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument/ Component	2				
	Major	1				
SRO-U2	Reactivity	0				
	Normal	1	2	6		
	Instrument/ Component	2	1,3	1,2 3,4		
	Major	1	5	7		

Instructions:

(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.

(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions, but must be significant per Section C.2.a of Appendix D.

(3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author:
NRC Reviewer:

Competencies **Crew 1**	Applicant #1 RO/SRO-I/**SRO-U1** SCENARIO				Applicant #2 **RO1**/SRO-I/SRO-U SCENARIO				Applicant #3 **RO2**/SRO-I/SRO-U SCENARIO			
	1	2	3	4	1 **RO**	2 **BOP**	3	4	1 **BOP**	2 **RO**	3	4
Understand & Interpret Annunciators & Alarms	1,2 4,5	1,2 4			1,3	2,3			2,4	1,4		
Diagnose Events & Conditions	1,2 4,5	1,2 4			1,3	2,3, 5			2,4 ,5	1,4 7		
Understand Plant & System Response	1,2 4,5	1,2 3,4 5,6 7			1,3, 5	2,3			2,4 5	1,4		
Comply With & Use Procedures (1)	1,2 3,4 5	1,2 3,4 5,6 7			1,3, 5	2,3, 5,7			2,4 5	1,4 7		
Operate Control Boards (2)					1,3, 5	2,3, 5			2,4 5	1,4 7		
Communicate & Interact With the Crew	1,2 3,4 5	1,2 3,4 5,6 7			1,2, 3,4, 5	1,2, 3,4, 5,6, 7			1,2 3,4 5	1,2 3,4 5,6 7		
Supervisory Ability (3)	1,2 3,4 5	1,2 3,4 5,6 7										
Comply With & Use Tech. Specs. (3)	2	1										

NOTES:
(1) Includes technical specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

INSTRUCTIONS:

Circle the applicant's license type and check the competencies covered by each scenario in the set.

Author: Charles Lawson
NRC Reviewer: Eric R Thulle

Competencies **Crew 2**	Applicant #1 RO/**SRO-I1**/SRO-U				Applicant #2 RO/**SRO-I2**/SRO-U				Applicant #3 RO/SRO-I/SRO-U			
	SCENARIO				SCENARIO				SCENARIO			
	1 **SRO**	2 **RO**	3	4	1 **RO**	2 **SRO**	3	4	1	2	3	4
Understand & Interpret Annunciators & Alarms	1,2, 3,4, 5	1,4, 7			1,3, 5	1,2, 3,4						
Diagnose Events & Conditions	1,2, 3,4, 5	1,4, 5,7			1,3, 5	1,2, 3,4, 5,7						
Understand Plant & System Response	1,2, 3,4, 5	1,4, 5,7			1,3, 5	1,2, 3,4, 5,7						
Comply With & Use Procedures (1)	1,2, 3,4, 5	1,4, 5,7			1,3, 5	1,2, 3,4, 5,7						
Operate Control Boards (2)		1,4, 5,7			1,3, 5							
Communicate & Interact With the Crew	1,2, 3,4, 5	1,2, 3,4, 5,6, 7			1,2, 3,4, 5	1,2, 3,4, 5,7						
Supervisory Ability (3)	1,2, 3,4, 5					1,2, 3,4, 5,7						
Comply With & Use Tech. Specs. (3)	2					1,2						

NOTES:
(1) Includes technical specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

INSTRUCTIONS:

Circle the applicant's license type and check the competencies covered by each scenario in the set.

Author: Charles Sawyer
NRC Reviewer: Lee R Wheel

Competencies **Crew 3**	Applicant #1 RO/**SRO-I3**/SRO-U				Applicant #2 RO/SRO-I/**SRO-U2**				Applicant #3 RO/SRO-I/SRO-U			
	SCENARIO				SCENARIO				SCENARIO			
	1 **SRO**	2 **RO**	3	4	1 **RO**	2 **SRO**	3	4	1	2	3	4
Understand & Interpret Annunciators & Alarms	1,2,3,4,5	1,4,7			1,3,5	1,2,3,4						
Diagnose Events & Conditions	1,2,3,4,5	1,4,5,7			1,3,5	1,2,3,4,5,7						
Understand Plant & System Response	1,2,3,4,5	1,4,5,7			1,3,5	1,2,3,4,5,7						
Comply With & Use Procedures (1)	1,2,3,4,5	1,4,5,7			1,3,5	1,2,3,4,5,7						
Operate Control Boards (2)		1,4,5,7			1,3,5							
Communicate & Interact With the Crew	1,2,3,4,5	1,2,3,4,5,6,7			1,2,3,4,5	1,2,3,4,5,7						
Supervisory Ability (3)	1,2,3,4,5					1,2,3,4,5,7						
Comply With & Use Tech. Specs. (3)	2					1,2						

NOTES:
(1) Includes technical specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

INSTRUCTIONS:

Circle the applicant's license type and check the competencies covered by each scenario in the set.

Author: _____
NRC Reviewer: _____

Facility: McGUIRE Date of Exam: 2/22/01 Exam Level: (RO) ~~SRO~~

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers technically accurate and applicable to facility	BJ	[illegible]	LM
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	BJ	[illegible]	LM
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	BJ	[illegible]	LM
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			LM
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	BJ	[illegible]	LM
6.	Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right Bank: 23 Modified: 24 New: 53	BJ	[illegible]	LM
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right Memory: 45 C/A: 55	BJ	[illegible]	LM
8.	References/handouts provided do not give away answers	BJ	[illegible]	LM
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	BJ	[illegible]	LM
10.	Question psychometric quality and format meet ES, Appendix B, guidelines	BJ	[illegible]	LM
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	BJ	[illegible]	LM

	Printed Name / Signature	Date
a. Author	BRIAN C. HAAGENSEN / [illegible]	12/11/01
b. Facility Reviewer (*)	LARRY SARRATT / [illegible]	12/11/01
c. NRC Chief Examiner (#)	LEE R. MILLER / [illegible]	2/6/02
d. NRC Regional Supervisor	MIKE EARNTER / [illegible]	2/12/02

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.

Facility: McGUIRE Date of Exam: 2/22/02 Exam Level: ~~RO~~/SRO

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers technically accurate and applicable to facility	BCH	[illegible]	LM
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	BCH	[illegible]	LM
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	BCH	[illegible]	LM
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			LM
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or __ the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	BCH	[illegible]	LM
6.	Bank use meets limits (no more than 75 percent from the bank at least 10 percent new, and the rest modified); enter the actual question distribution at right Bank: 23 Modified: 27 New: 50	BCH	[illegible]	LM
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right Memory: 42 C/A: 58	BCH	[illegible]	LM
8.	References/handouts provided do not give away answers	BCH	[illegible]	LM
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	BCH	[illegible]	LM
10.	Question psychometric quality and format meet ES, Appendix B, guidelines	BCH	[illegible]	LM
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	BCH	[illegible]	LM

	Printed Name / Signature	Date
a. Author	BRIAN C. HAAGENSEN / [signature]	12/11/01
b. Facility Reviewer (*)	LARRY SARRATT / [signature]	12/11/01
c. NRC Chief Examiner (#)	LEE R. Miller / [signature]	2/6/02
d. NRC Regional Supervisor	MIKE ERNSTES / [signature]	2/15/02

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

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
SRO ONLY																
1	H	3												S	069AA2.01, T1G1	034
2	H	3												S	WE11G2.1.7, T1G2	051
3	H	3												S	WE02EA2.1, T1G1	093
4	H	4												S	WE05EA2.2, T1G2	206
5	H	2												S	037AA2.03, T1G2	320
6	F	2												S	024AA2.02,T1G1	297
7	H	3											X	S	G2.1.1 (41.10/45.13), T3, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. T/S related and operability call. 55.43.(b)(2)	348.1
8	F	2												S	G2.2.28, T3	352.1
9	H	3												S	073A4.01,T2G2	479.1
10	H	3												S	059AA2.06, T1G1	481
11	H	3												S	G2.4.44, T3	491.2
12	H	3											X	U	007A3.01 (41.7/45.5), T2G3, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. Facility indicated this was beyond RO knowledge. 55.43(b)(5) Although, contractor will rewrite question and random select from within the same system. New K/A is 007A2.02	524.1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation	
13	H	3												S	G2.3.1, T3	661.1
14	F	3												S	G2.3.8, T3	671.1
15	H	3												E	056AG2.2.23,T1G3, Distracters reference be in Mode 5 before 5/26 at 0800, the answer states must be in Mode 5 at 0800. Comment incorporated	705.1
16	H	2				X								E	003AA2.03, T1G1, Rods M-13 and B-13 used in distracters C and D do not exist. Rods changed to 'M-12' and 'B-12'.	863
17	F	2				X							X	U	039A1.09(41.5/45.5),T2G2, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. Distracters are not plausible. Replace the question and randomly sample system 039 in the A2 section. New K/A is 039A2.04.	864
18	F	2	X				X						X	S	029EK3.06 (41.5/41.10/45.6/45.13), T1G1, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. The stem should be changed to ask "which of the following statements provides the basis for immediately tripping the turbine required by FR-S.1". Without this change there maybe two correct answers A and B. 55.43(b)(5) reference, this is an EOP basis question. Correction made to the stem omitted the word 'why' and added the word 'the' in front of the word 'turbine'. Provided FR-S.1 as the specific EOP basis in the stem.	865

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
19	H	3		X									X	S	005AK1.05 (41.8/41.10/45.3), T1G1, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. The first part of the answer is a direct look-up, which narrows the choice to 50-50. The second part of the answer has two answers with SDM does not change which could lead one to that answer. Check that rods are above RIL as stated in Distracter Analysis for answer B. 55.43(b)(2) Determining wether rod is trippable is an SRO call. Requires two different thought processes on rod and affect on SDM. Reworded question to get rid of reference and focus on SDM aspect.	869.1
20	F	2	X											E	W/E10EA2.1, T1G1, The wording of the stem elicits answer A or B. Stem modified.	871
21	H	3												E	054AA2.08, T1G2, The answers do not specify which level is decreasing. S/G level specified as decreasing.	872
22	F	2					X							E	G2.2.34, T3, There are two possible answers, C and D. The lesson plan does not specify rod insertion required and the procedure does not address allowable time after anticipated time of criticality. Distractor 'C' modified to state 'Trip the reactor and recalculate the ECP.' The licensee operations representative expectation is to insert the control rods and recalculate the ECP.	887.1
23	F	2											X	S	027AK3.03 (41.5/41.10/45.6/45.13), T1G2, does not have a 55.43 reference. There is no facility learning objective specific to SRO ONLY. Question documentation references an incorrect 55.43 subpart. Referenced to a 55.43(b)(5) since it is an EOP basis question.	901
24	H	3												S	G2.4.32, T3, Enclosure 4.2 of RP/0/A/5700/000 Step 4.2U2.1 has "CONTINUED" should this be "END"? No change.	909.1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
25	H	2												E	G2.1.25, T3, Change distracter B to remove "may" in the "NI pump may be stopped." and in distracter A, 380 gpm is not the 50 minute number. Distractor 'A' changed 380 to 378. Distractor 'C' and 'D' numbers changed from 450 to 445 and 500 to 495 respectively.	912
RO ONLY																
1	H	4												U	WE11EG2.1.7, T1G2, This has a 43 reference from the NUREG1022 -should not be RO ONLY. REFERENCE PROVIDED PROVIDES DIRECT ANSWER ECA steps provided asking what alignment should be, procedure does not directly provide this information but is required to determine the alignment. Meets reference 55.41(b)(10) **QUESTION WAS REWRITTEN**	051.2
2	F	3												S	061K5.03, T2G1	158
3	H	3												S	027AK3.03, T1G1	370
4	F	2												S	G2.1.1, T3	328.3
5	H	3												S	001K4.03, T2G1	503.2
6	F	3												S	013K4.11, T2G1	548
7	F	3												S	G2.3.1, T3	564
8	H	3												S	039A1.09, T2G2	605
9	F	2												S	004K6.04,T2G1	613
10	F	3												S	073A4.01, T2G2	671.2
11	H	3						X						E	016G2.1.25, T2G2, Will you require your ROs to use TS in this manner? Question revised to have the RO's to determine when the accumulators exceed T/S limits.	697.1
12	H	3												S	003K3.02, T2G1	715.1

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
13	F	3											X	S	WE05EA2.2, T1G2, This has a 43 reference from the NUREG1022 -should not be RO ONLY Tied to 55.41(b)(10) reference.	776
14	F	2												S	029EK3.06, T1G2	865.1
15	F	2												S	005AK1.05,T1G1	869
16	H	2											X	S	WE09EA2.1, T1G1, This has a 43 reference from the NUREG1022 -should not be RO ONLY. Tied to 55.41(b)(10) reference. Facility has a learning objective in the lesson plan and the facility feels the RO must know this information.	871.1
17	H	3												S	007A3.01, T2G3	875
18	F	3												S	076K2.04, T2G3	882
19	H	2												S	075A2.01, T2G2	886
20	H	4											X	S	G2.2.34, T3, This has a 43 reference from the NUREG1022 - should not be RO ONLY. QUESTION 887.1 USED ON SRO ONLY Tied to 55.41(b)(1) reference.	887
21	H	3												E	059K1.05, T2G1, Distracters B and C should should clarify what temperature is being reached (Tavg) and how many sources required such as 553F on 2/4 loops. Distractor 'B' changed to add Tavg.	890
22	H	2												S	033A3.02, T2G2	892
23	F	2												U	056AG2.2.23, T1G3, This has a 43 reference from the NUREG1022 -should not be RO ONLY. USE OF REFERENCE IS A DIRECT LOOK-UP. Does not discriminate. Tied to 55.41(b)(10) reference. Changing the stem and distractors to focus on the RO's understanding of what makes an EDG inoperable, therefore the reference is not needed.	895

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
24	H	3										X		U	015K3.03, T2G1, The question does not match the KA. The question is more of a TS question on fuel handling. Question will be changed to reflect when can you stop fuel handling vice when can you restart. This change will ensure the question meets the K/A.	897
25												X		S	G2.4.32, T3, CHECK SRO ONLY QUESTION 909.1, Although the event has a loss of all annunciators in the stem, the question deals with EP notification not operator response to the loss. Facility does not have a procedure for loss of all annunciators. K/A changed to G2.4.29 and tied to 55.41.(b)(10). Question will remain as written.	909
RO/SRO COMMON QUESTIONS																
1	H	3												S	033AK1.01, T1G2	037.1
2	F	3												S	012K5.01, T2G2	048
3	H	2												S	G2.3.2, T3	124
4	H	3												S	034A2.01, T2G2	137.1
5	H	2												S	G2.1.21, T3	143.1
6	F	2										X		U	G2.1.31, T3, Delete the "a" in the first sentence. Could an argument be made for "manual or leaving manual off answer and assume that it is in manual"? The question does not match the KA. Deleted 'a' in first sentence of stem. Distractor 'A' changed from '1MC-10' to '1MC-11'. Distractors 'A' and 'B' modified for semetry, 'Ensure AUTO is selected on the heater mode swsitch on 1MC-10 and 5.' These enhancements ensures the question now matches the K/A.	164.1
7	F	2												S	045A4.02, T2G3	177

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
8	F	2				X								U	024AK3.02,T1G1, Distracters A and C imply continuous action to "maintain" and the action was a single step, therefore, distracters A and C are not valid. Question is now 50-50. Change distractor wording in A and C to take out the word 'maintain' and provide action verbs to make these distractors more in line with B and D.	181
9	H	3												S	061K3.02, T2G1	191.1
10	H	3												S	G2.2.4, T3, The stem does not include the #2 reference that is contained in the answer. Comment incorporated.	260.1
11	H	3												S	038EK1.02, T1G2	321
12	H	4										X		U	WE04.EK3.4, T1G1, Question does not match KA. (Possible EK3.2 Change of KA would not skew the sample plan.) K/A changed to W/E04.EK3.2. Question will remain unchanged.	359.2
13	F	2												S	076AA2.01, T1G1	380
14	F	3												S	011EK3.07, T1G1	387
15	H	3												S	061AA1.01, T1G2	398
16	H	2												S	035A1.01, T2G2	400
17	H	2												S	068A4.03,T2G1	407
18	H	3												S	056K1.03,T2G1	415.1
19	H	3												S	029K3.02, T2G2	432.1
20	F	1				X								U	051AA2.02,T1G1, Given AP-23 Loss of condenser vacuum the correct answer is a look-up. Distracters B and C are not credible. Do Not Use a Reference. Question was rewritten and no reference will be provided.	453.1
21	F	2												S	086G2.4.12, T2G2	460

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
22	F	2												N/A	059K1.03, T2G1, Reference material provided(OP-MC-CF-IFE Rev 16 page 33) indicates answer A is correct not answer B. THIS KA USED TWICE. THIS QUESTION NOT ON SAMPLE PLAN. Question submitted in error.	538.1
23	F	3												E	013A2.01, T2G1, To avoid confusion place "2A" before NI, CA, ND (the second pump listed in each line of the answers) Comment incorporated.	540
24	F	2		X										S	055K3.01, T2G2, The distracters A, B, and D are clearly things that would be normal or cause and increase in condenser vaccum. Only answer C is different and stands out as such. Question fine as is.	547
25	H	3												S	G2.2.33, T3	563.2
26	F	3												S	WE03EK2.1, T1G2	571
27	F	2				X								U	040(WE12)AA2.02, T1G1, Reference not required, Answer A could be argued to be correct based on wording of answers. Question will remain as is and no reference will be provided. Facility would not support answer 'A' since applicants must look at the question chronologically.	593
28	H	2												S	056A2.04, T2G1, Listed as new question based on #649 not included. Fine as is question has not been used prior to this exam.	649.1
29	F	2												E	025A2.02, T2G1, Can distracter C be made correct with an argument and an assumption? Fine as is.	681

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
30	F	2					X							U	WE16EK3.1, T1G2, This has two possibly three right answers. What is the reason for having " the controls rods do not trip for 3 minutes? Stem reworded to clarify actions taken for ATWS and the only B NC pump was cycled. The correct answer distractor was reworded to eliminate the words 'cycling' and now 'mechanical shock'.	684
31	F	3												S	G2.3.4, T3,	703.1
32	H	4						X						U	025G2.1.7, T1G2, This has a 43 reference from the NUREG1022 -should not be RO/SRO. Current question difficulty level is too high for RO's (no job link). Question will be replaced and new question will be specifically referenced to a 55.41 for RO's level of knowledge.	710.1
33	F	3												S	064A1.08, T2G2	748.1
34	F	3												S	028K6.01, T2G2	767.1
35	H	4												S	071K1.06, T2G1	771.1
36	F	2												E	G2.1.23, T3, It should be stated in the stem that the communicator is a "qualified person" as required in OMP 4-1 page 15. This will prevent someone from assuming that there is no right answer. Comment incorporated to ensure the applicants know the communicator is qualified. The stem changed to state that the person is in contact with an operator.	331.1
37	H	4				X								U	005A2.02, T2G3, Is this the level of detail McGuire requires of there ROs? Two distracters A and D are not creditible because it is clear by the other two answers that the "Containment Inside Isolation" are not listed. Question will be replaced.	837.1
38	H	4												S	022AA2.04, T1G2, Distracter B and C overlap. Comment incorporated. Distractor 'B' and 'C' changed to ensure no overlap.	857

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation	
39	F	2										X		U	022G2.4.22, T2G1, This has a 43 reference from the NUREG1022 -should not be RO/SRO. Question is not related to KA. Current question will not be used. Question will be rewritten to match the K/A, new question will have a specific 55.41 reference for RO's. K/A will be randomly resampled to 022A3.01	858
40	F	2												S	103A2.04, T2G2, Insert "and" between 2EMF-3 and 2EMF-38. In answer A specify 2EMF-3 actuates the alarm. The word 'and' added to the stem as specified. No change require as a result of the second part of this comment.	859.1
41	H	2												S	072A2.02, T2G1	860
42	F	2												S	006G2.3.4, T2G2	861
43	H	3												S	026K3.02, T2G1	862
44	F	2												S	001A3.08, T2G1	866
45	H	2									X			S	003K6.14, T2G1,	867
46	F	3												E	015AA2.09, T1G1, Change the stem to "when is the earliest time that the 1A NCP must be secured? Comment incorporated. Changed number in stem from '311' to '312'.	870
47	F	2												S	002A2.02, T2G2, The question is a play on "terminate" and block. Recheck sources for SI block to make sure it is not ≤ 1955 Changed '1955' in stem to '1956'.	873
48	H	3												S	057AK1.04, T1G1	874
49	F	2												S	010K4.01, T2G2	876
50	F	3												S	011K5.06, T2G2	877

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
51	H	3										X		S	015K4.01, T2G1, What is a loss of EKVB? Question does not conform to KA Comment retracted, the question meets the K/A. The P-10 interlock is tested. Some clarifications made to the stem and distractors (correcting typographical errors).	878
52	F	1				X								S	062K4.05, T2G2, Distracter B, C, D are not creditible. Question does not discriminate. Automatic sync switch, verified on the simulator that distractors are satifactory, comment withdrawn.	880
53	F	2												S	063A4.03, T2G1	881
54	F	3				X								U	078K4.01, T2G3, It could be said that there is no right answer because answer A states "no response" when the yellow "reset" light will illuminate. Could answer C be correct? Should the stem include information that the Hi/Lo switch is set for HI? Eliminated 'No response' from distractor 'A'. Position of HI/LO switch is understood to be in HI.	883
55	F	2												E	007EK2.02, T1G2, For each answer include "automatic reactor trip signals" rather than "auto", it may prevent confusion and an appeal. Comment incorporated.	884
56	H	4									X			E	004K2.06, T2G1, Documentation supplied does not provide information used in Distracters concerning Channel 4. Reference provided reverse logic the answer. 1EVID is channel 4 power supply to pzr pressure, channel 4 does not feed pzr level. Distractors cover each of the channels affecting pzr level. Answer 'D' is no affect on the system. There is no protective action from channel 4 therefore, the reference of the 'load list' is not needed and will not be provided.	885
57	H	3												S	WE08EK3.3, T1G1	888
58	F	3												S	G2.4.26, T3	889

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	FAC Q #
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
59	F	3				X								E	WE15EK2.2,T1G3, Distracters C and D are not credible. Revised distractor 'C' from 'KC system' to' hydrogen purge is compromised by loss of direct access to containment atmosphere.' Distractor 'D' will remain unchanged.	891
60	H	3												S	014K1.02, T2G1	893.1
61	H	3												S	062AK3.04, T1G1	894
62	H	3							X					U	026G2.2.23, T1G1, This has a 43 reference from the NUREG1022 -should not be RO/SRO. Use of reference makes the question a direct look up. Question will be rewritten and specific tie will be identified to 55.41 for RO knowledge. May need to resample if direct tie to 55.41 can not be made.	896
63	F	2					X							E	022K2.01, T2G1, .Dstracter D needs to be changed. It can be argued that there are two correct answers, if the assumption is made that the power supply to the AHU is from the emergency power supply. Distractor 'D' is being modified.	898
64	H	3												S	008AA1.07, T1G2	899
65	F	3												S	079A2.01, T2G2	900
66	H	3							X					S	028AA2.02, T1G3, This has a 43 reference from the NUREG1022 -should not be RO/SRO. Tied to 55.41(b)(7) reference.	902
67	F	2												E	032AK1.01, T1G2, Distracter D is not credible No modification necessary.	903
68	F	3												E	058AK3.02, T1G2, Distracter B is not credible and provides clues to the correct answer. Major modification of all the distractors.	904
69	F	2										X		S	068AA1.19, T1G1	905

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only			
70	F	2												S	055EK1.01, T1G1	906
71	F	3												S	074EK2.06, T1G1	907
72	F	2												S	067AG2.3.10, T1G1, QUESTION KA LISTED AS SYS BUT IS APE Comment incorporated.	908
73	F	2												S	G2.4.25,T3	910
74	F	3												S	017K3.01,T2G1	911
75	H	4												S	001AK1.21, T1G1	913
76	F	3												S	059K1.03, T2G1	914.1

25 SRO ONLY QUESTION COMMENTS PROVIDED TO MCGUIRE 01/04/02 @ 1400.

ANSWER KEY DISTRIBUTION RO A - 24% B - 37% C - 20% D - 19% SRO - A - 23% B - 38% C - 18% D - 21%

Facility: McGuire Date of Exam: 2/22/02 Exam Level: RO/SRO

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

	Printed Name / Signature	Date
a. Grader	BRIAN C. HAAGENSEN / [illegible]	2/24/02
b. Facility Reviewer(*)	Gary SARRATT / [illegible]	2/20/02
c. NRC Chief Examiner (*)	[illegible]	2/27/02
d. NRC Supervisor (*)	[illegible]	3/8/02

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

Facility: McGUIRE Date of Exam: 2/22/02 Exam Level: RO/SRO

Item Description	Initials a	Initials b	Initials c
1. Clean answer sheets copied before grading	BCH	[illegible]	LKM
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5. All other failing examinations checked to ensure that grades are justified	BCH	[illegible]	LKM
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	BCH	[illegible]	LKM

	Printed Name / Signature	Date
a. Grader	BRIAN C. HAAGENSON / [illegible]	2/24/02
b. Facility Reviewer(*)	LARRY SARRATT / [illegible]	2/25/02
c. NRC Chief Examiner (*)	[illegible]	2/27/02
d. NRC Supervisor (*)	[illegible]	3/13/02

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

	Task Description	Date Complete
1.	Facility written exam comments or graded exams received and verified complete	2/26/02
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	2/27/02
3.	Operating tests graded by NRC examiners	3/01/02
4.	NRC Chief examiner review of written exam and operating test grading completed	3/14/02
5.	Responsible supervisor review completed	3/18/02
6.	Management (licensing official) review completed	3/18/02
7.	License and denial letters mailed	3/22/02
8.	Facility notified of results	3/22/02
9.	Examination report issued (refer to NRC MC 0610)	3/22/02
10.	Reference material returned after final resolution of any appeals	Material will be kept