Administrative Documents

MCGUIRE FEB 2005 EXAM
50-369 & 370/2005-301

FEBRUARY 7 - 15, 2005
FEBRUARY 18, 2005 (written)

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-401-6
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 LTR DTD. 11-29-2004 + ENCLOSURE LTR DTD. 11-18-04 APPROVING PROPOSED EXAM

Facility: McGuire Date of Examination: 2/7-16/05

Examinations Developed by: (Facility) / NRC (circle one)

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	8/17/04
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	8/17/04
-120	3. Facility contact briefed on security and other requirements (C.2.c)	8/17/04
-120	4. Corporate notification letter sent (C.2.d)	8/17/04
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	12/5/04
-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)	10/20/04
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	10/25/04
-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 reference materials due (C.1.e, f, g and h; C.3.d)	12/6/04
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.l; C.2.g; ES-202)	1/7/05
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.l; C.2.i; ES-202)	1/24/05
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	1/12/05
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	1/13/05
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	2/1/05
-7	14. Final applications reviewed; examination approval and waiver letters sent (C.2.i; Attachment 4; ES-204)	1/27/05
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	2/1/05
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	2/1/05

* 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.

Facility: McGUIRE Date of Examination: 2/7-16/05

Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	CA	MP	ATL
	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.	CA	MP	ATL
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	CA	MP	ATL
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	CA	MP	ATL
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	CA	MP	ATL
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	CA	MP	ATL
	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	MP	ATL
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form (2) task repetition from the last two NRC examinations is within the limits specified on the form (3) no tasks are duplicated from the applicants' audit test(s) (4) the number of new or modified tasks meets or exceeds the minimums specified on the form (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	CA	MP	ATL
	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	CA	MP	ATL
	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.	CA	MP	ATL
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	CA	MP	ATL
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	CA	MP	ATL
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	CA	MP	ATL
	d. Check for duplication and overlap among exam sections.	CA	MP	ATL
	e. Check the entire exam for balance of coverage.	CA	MP	ATL
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	CA	MP	ATL

	Printed Name/Signature	Date
a. Author	CHARLES W. SAWYER / Charles W Sawyer	11.24.04
b. Facility Reviewer (*)	ROBIN J. BELL / Robin J Bell	11.24.04
c. NRC Chief Examiner (#)	GEORGE F. HOPPES / George F. Hoppes	2-1-05
d. NRC Supervisor	James A. Moorman III / James A. Moorman III	2-1-05

Note: # 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 Feb. 2005 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of Feb. 2005 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.	RONALD J. KATALINICH	NUCLEAR STATION INSTRUCTOR		12/1/04			
2.	RICHARD V BENNETT	SRO on LOA N		12/1/04			
3.	DENNIS J. TAYLOR	SIMULATOR ENGINEER		12/6/04		2-21-05	
4.	SUTHASH KUMAR	IT P3.		12/7/04		2-21-05	
5.	EDWARD J. MACEY, JR	SIMULATOR ENGINEER		1/4/05		3/14/05	
6.	JASON MCALLISTER	OPS SHIFT SUPV		2-1-05		2-21-05	
7.	JERRY RUMFELT	OPS SHIFT MANAGER		2-7-05		2/21/05	
8.	LINDA GOBBERT	INSTRUCTOR		2-7-05		2-21-05	
9.	MARC MULLEY	INSTRUCTOR		2-7-05		2/21/05	
10.	W/ RANDY BAKER	SIMULATOR SUPPORT		2-7-05		2-21-05	
11.	CHARLES E. ELAM	SIMULATOR SUPPORT		2/7/05		2-21-05	
12.	WILEY KILLETTE	INSTRUCTOR		2/7/05		2/21/05	
13.							
14.							
15.							

NOTES:

See attached

[redacted]

1. Pre-Examination

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2. Post-Examination

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1.	RONALD J. KATALINICH	NUCLEAR STATION INSTRUCTOR		12/1/04		3-15-05
2.	RICHARD V BENNETT	JAD ON ROA N		12/1/04		3/15/05
3.	DENNIS J. TAYLOR	SIMULATOR ENGINEER		12/6/04		2-21-05
4.	SUTHASH KUMAR	IT D3		12/9/04		2.21.05
5.	EDWARD J. MACKEY, IV	STATION EXECUTIVE		1/4/05		3/14/05
6.	JASON MCALLISTER	OPS SHIFT SUPV		2-1-05		2-21-05
7.	JERRY RUMFELT	OPS SHIFT MANAGER		2-7-05		2/21/05
8.	LINDA GOBBERT	INSTRUCTOR		2-7-05		2-21-05
9.	MARC MULLEN	INSTRUCTOR		2-7-05		2/21/05
10.	WILLIAM RANEY	SIMULATOR SUPPORT		2-7-05		2-21-05
11.	CHARLES E. ELAM	SIMULATOR SUPPORT		2/7/05		2-21-05
12.	WILEY KILLETTE	INSTRUCTOR		2/7/05		2/21/05
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NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing exa[illegible]ions sc[illegible] the week(s) of JAN 31 to Feb 18, 2005 as of the date of my signature. I agree that I will not knowingly divulge any information about th[illegible] examinatio[illegible]ons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provi[illegible]performance [illegible]edba[illegible] applican[illegible] scheduled to be administered these licensing examinations from this date until completion of examin[illegible]on admini[illegible]ation, exce[illegible]fic[illegible] noted below and authorized by the NRC. Furthermore, I am aware of the physical security measures[illegible] requi[illegible]ments (as docu[illegible] facility licensee's procedures) and understand that violation of the conditions of this agreement may r[illegible]ncellation of the exam[illegible]ns and/or an enforcement action against me or the facility licensee. I will immediately report to facility manager[illegible] 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[illegible]ation concer[illegible]e NRC licensing examinations administered during the week(s) of JAN 31 to Feb 18, 2005. From the date that I entered into this s[illegible]t until the c[illegible]mpletion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicant[illegible]who wer[illegible]ed th[illegible]e 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	Point of Contact		8.9.04		2.21.05	
2.	John H Zelm	Instructor		8/11/04		3/2/05	
3.	ROBIN J. BELL	FACILITY REP[illegible]TATIVE		8.24.04		3/05	
4.	Robert D Billings	Instructor		9-1-04	Robert D. Billings	2-22-05	
5.	Alan Orten	Ope[illegible]/ANVAL		9-30-04	Alan Orten	2-21-05	
6.	Andrew Garrett	[illegible]IA		9-15-04		3-6-05	
7.	Donald Wesley Hill, Jr.	[illegible]iff		9-15-04		3-8-05	
8.	Spencer Hackney	OP[illegible]staff		9-23-04	S. Hackney	3-7-05	
9.	ROBBY POPE	INT[illegible]		10-11-04		2-22-05	
10.	PAXTON FATSSOUK	[illegible]rvisor		10-27-04		3-9-05	
11.	WARREN H. MOORE	[illegible]OR		10-28-04		3-10-05	
12.	SEVONE F. RIN[illegible]	NRC CH[illegible]OR		11/1/04		2/6/05	
13.	Charles L Jacobs	Nuclear Con[illegible]erator		11/1/04		3/9/05	
14.	Lemuel Brown	Nuclear S[illegible]Supervisor		11/1/04		3/10/05	
15.	Catherine Sw[illegible]k	Nuclear Shi[illegible]Supv		11-17-04		3-6-05	
16	Teresa Rit[illegible]	Nuclear R[illegible]tor Operator		11-19-04		3/1/05	

NOTES:
17 Terry S. Tes[illegible] Sr Ops[illegible]e-Sim Sppt — Terry S. Tessnow — 12-6-04 — Terry S. Tessnow — 2-21-05

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of FEB. 2005 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of FEB. 2005. 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.	RICHARD BENNETT	ERO TRAINING		12/1/04		2/18/05	
2.	RONALD J. KATAUNICH	NUCLEAR STATION INSTRUCTOR		12/1/04		2-18-05	
3.		Simulator Support		12/15/04		2/18/05	
4.	JOHN K. SUPTERA	INITIAL TRAINING SUPERVISOR		12/15/04		2/18/05	
5.	Sarah A Coy	Ops Training Liaison	Sarah A Coy	01/13/05	Sarah A Coy	2/18/05	
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1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of FEB 05 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of FEB 05. 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.	Amy P. Peabody	OPS validator	Amy P. Peabody	2/3/05	Amy P. Peabody	2/18/05	
2.	JEFFREY A NIEBERDING	OPS VALIDATOR		2/3/05		2/18/05	
3.	LANCE E Shelley	OPS Validator		2/3/05		2/18/05	
4.	ROBIN J BELL	MNS FACILITY REP	2-3-05	2/3/05		3-4-05	
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Facility: McGuire Date of Examination: 2/7-16/05
Examination Level (circle one): (RO) SRO Operating Test Number: 1

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	AFD Calculation with inoperability
Conduct of Operations	N,S	Perform a Shift turnover
Equipment Control	M,	Manual NC Leakage Calculation
Radiation Control		
Emergency Plan	N,C	Perform RP/11 Conducting a Site Assembly or Evacuation

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

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

Facility: McGuire
Examination Level (circle one): RO / (SRO)
Date of Examination: 2/7-14/05
Operating Test Number: 1

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N	AFD Calculation with inoperability determination
Conduct of Operations	M	Shift Manning Requirements
Equipment Control	N	Thermal Margin Calculation and Evaluation of Work Allowed
Radiation Control	M, P, C	Review and Approve a GWR
Emergency Plan	M, C	RP/07 Earthquake with Technical Specification

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

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

Facility: ___McGuire ___ Date of Examination: 2/7-16/05
Exam Level (circle one): RO / SRO-I / SRO-U Operating Test No.: 1

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

System / JPM Title	Type Code*	Safety Function
a. Respond to a Loss of Component Cooling (KC-234A)	N, S, A	SF-8
* b. Respond to a Leak on operating ND System while at Mid Loop	D, L, P	SF-4P
c. Intermediate Range Failure (ENB-235A) **(SROU)**	N, S, A	SF-7
d. Align the Containment Spray system to Cold Leg Recirculation (NS-182A) **(SROU)**	D,S,P,A	SF-5
e. Respond to Additional Dropped Rods While Retrieving a Dropped Control Rod (IRE 174IA)	A, D, S	SF-1
f. Establish Feedwater Flow to S/G's following a Runback (CF-237)	N,S	SF-4S
g. Align Normal Charging With NV Recirc Path Isolated (NV-146A)	A,D, S	SF-2
h. Start and Load 1B D/G then Separate From the Grid (DG-198) **(SROU)**	D, S	SF-6
In-Plant Systems@ (3 for RO; 3 for SRO-I; 3 or 2 for SRO-U)		
i. Control Steam Pressure Using SM PORVs (Unit 2) (SM238) **(SROU)**	E, B	SF-4S
j. Borate the Reactor Coolant System from the Auxiliary Shutdown Panel ASP-138 **(SROU)**	R, E, B	SF-1
k. Aligning Control Air from Backup Cylinders to F VI Compressor VI-110A)	E, A, P	SF-8

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

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

* N/A SROI

Facility: McGuire Date of Examination: 2/7-16/05 Operating Test Number: 1

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

		Printed Name / Signature	Date
a.	Author	CHARLES W. SAWYER / Charles W. Sawyer	11-24-04
b.	Facility Reviewer(*)	ROBIN T. BELL / Robin T. Bell	11-24-04
c.	NRC Chief Examiner (#)	George T. Hopper / George T. Hopper	2-2-05
d.	NRC Supervisor	James H. Moorman, III / James H. Moorman, III	2-1-05

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

Facility: McGuire Date of Exam: 2/7-14/03 Scenario Numbers: 1 / 2 / 3 Operating Test No.: 1

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

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

Crew 1 R1, R6 U1, I1

Facility: Date of Exam: Operating Test No.:

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 SRO	2 ATC	2 BOP	3 SRO	3 ATC	3 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM
RO 1	RX														1*
	NOR			1						6				2	1*
SRO-I	I/C			2,5,6		1,3				2,4				5	4*
SRO-U	MAJ			8		7				7				3	2
	TS														2
RO	RX	7												1	1*
	NOR	1						6						2	1*
SRO-I	I/C	2·6						2·5						9	4*
SRO-U1	MAJ	8						7						2	2
	TS	3,5,6						2,3						5	2
RO	RX		7											1	1*
	NOR				5									1	1*
SRO-I1	I/C		3,4		1-4									6	4*
SRO-U	MAJ		8		7									2	2
	TS				1,4,5									3	2
RO 6	RX								1					1	1*
	NOR						5		6					2	1*
SRO-I	I/C						2,4,6		3,5					5	4*
SRO-U	MAJ						7		7					2	2
	TS														2

Instructions:

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

Author: Charles Hawkins

NRC Reviewer: [signature]

U2 U3
I2 I3
Crews 2 & 3 R2 R3

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

Facility: Date of Exam: Operating Test No.:

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

Instructions:

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

Author: Charles Sawyer

NRC Reviewer: W. Gott

U4
R4
CREW 4 R5

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

Facility:		Date of Exam:													Operating Test No.:	
APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM
		1			2			3			4				
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION				
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		
RO 4	RX		7											1	1*
	NOR						5							1	1*
SRO-I	I/C		3,4				2,4,6							5	4*
SRO-U	MAJ		8				7							2	2
	TS														2
RO 5	RX			7										1	1*
	NOR			1										1	1*
SRO-I	I/C			2,4,5		1,3								5	4*
SRO-U	MAJ			8		7								2	2
	TS														2
RO	RX	7												1	1*
	NOR	1			5									2	1*
SRO-I	I/C	2-6			1-4									96	4*
SRO-U 4	MAJ	8			7									2	2
	TS	5,6			1,4,5									5	2
RO	RX														1*
	NOR														1*
SRO-I	I/C														4*
SRO-U	MAJ														2
	TS														2

Instructions:

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

Author: Charles Sawyer

NRC Reviewer: N.J. Rogers

Crew 1 R1-R6, I1, U1

Facility: McGuire Date of Examination: Feb 7, 2005 Operating Test No.: 1

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

Notes:
(1) Includes Technical Specification compliance for an 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.

Author: Charles Hawyer

NRC Reviewer: Kenneth D. Clayton

U2 U3
I 2 I 3
R2 R3
CREWS

Facility: McGuire Date of Examination: Feb 2005 Operating Test No.: 1

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

Notes:
(1) Includes Technical Specification compliance for an 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.

Author: Charles Dawson

NRC Reviewer: [illegible]

U4
R4
CREW 4 RS

Facility: McGuire Date of Examination: Feb 2005 Operating Test No.: 1

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

Notes:
(1) Includes Technical Specification compliance for an 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.

Author: _____

NRC Reviewer: _____

Facility: Date of Exam: Exam Level: RO/SRO

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.	CA	MP	N/A
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	CA	MP	N/A
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401	CA	MP	N/A
4.	If more than four RO and two SRO questions are repeated from the last two NRC licensing exams, the facility licensee's sampling process was random and systematic. N/A			N/A
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 __ the audit exam was completed before the license exam was started __ the examinations were developed independently __ the licensee certifies that there is no duplication __ other (explain)	CA	MP	N/A
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.	CA	MP	N/A
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	CA	MP	N/A
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.	CA	MP	N/A
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.	CA	MP	N/A
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.	CA	MP	N/A
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.	CA	MP	N/A

	Bank	Modified	New
	14/5	5/1	56/17

	Memory	C/A
	36/5	39/20

	Printed Name / Signature	Date
a. Author	CHARLES W. Sawyer / Charles W Sawyer	1-27-05
b. Facility Reviewer (*)	ROBIN J. BELL / Robin J Bell	1/27/05
c. NRC Chief Examiner (#)	~~George Tu Hopper~~ James T Yerman / James T Yerman	2-1-05
d. NRC Regional Supervisor	Judith Mc / Judith Mc	2-1-05

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: Stem Focus	Cues	T/F	Cred. Dist.	Partial	4. Job Content Flaws: Job-Link	Minutia	#/ units	Back-ward	5. Other: Q= K/A	SRO Only	6. U/E/S	7. Explanation

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - 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).
4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
6. 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?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

14/75

46 – (2)

39 (H) 52%

36 (F) 48%

14-B

5-M

56-N

RO/SRO Combined Question

1090	H	2												E S	Discuss using over/under compensated vice "higher than actual" ✓ B
1091	H	2				a								E S	MS leak not even detectable on RCS. Only MSLB. Suggest lvl instrument ref leg leak. N A TO SG POOR OPER
1092	H	2												E S	Change maintenance to repair ✓ B
1093	F	2				d								E S	reword d to make it look more like b & c ✓ N
1094	F	3												E S	See comments on question Removed periods N
1095	H	3		x										E S	Good start. Need more words to explain basis for distractors. See comments N

14 U / 75 = 19%

11/75 = 14.6% IS A unsat

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1096	H	3		X		x								E S	typo on K/A E is A. Delete the word "insurge". See comments on question. N
1097	F	2				B								U S	a is not really the bases for the step. B is implausible. See coments (rewrote stem) N
1098	H	2												E? S	This is a NOT K/A (reverse) question. Ie when not to use steam dumps. M
1099	F	2												S S	MSIV isolation ? B
1100	F	1												E S	Discuss stem N
1101	F	2										x		E S	Reword stem to remain in SBO conditions. If other diesel start there is no SBO. N
1102	H	2		x								x OK		E S	Question tests indications and not the effect on motors of loss of bus. Also if you are verifying actions have occurred they are not manual. KA TYPO N
1103	H	1	x											U S	B corect in any circumstance. See comments on question. N
1104	H	2												S	~~see question Re: PZR level not lost~~ OK
1105	H	3	x											E S	change b,c,d SG to 13,16,14 so that the 3.5 psig in containment means something to the question. Other numbers are below 12% and ACC does't matter. N
1106	H	2	x									X		U S	Not a loss of recirculation if NLO restores valve open. Question should deal with subject of K/A. Ie How long would NLO have to get valve open before loss of FWST due to depletion? N
1107	H	2												E S	Is "d" fully closed? What % gives alarm? Can you do perform this at high power? N
1108	F	2	X									x		E S	What kind of malfunction.? AP encompasses many. Does not match KA in the way it is worded. Must tie to conditions and limitations in facility license. Should be worded something like " To prevent approaching or exceeding DNBR limits" B
1109	H	2												S	N
1110	H	2				a								E S	Should avoid using NONE. ~~Change "a " to "SG specific activity levels" Add unit at 100 % powor and give normal RCS activity level.~~ N
1111	F	2										x		U S	This is not an accidental release. N
1112	F	3				bd								E S	Distractor analysis needs work. Replace "no safety injection signal " with "MSL break outside containment, MSIVs manually closed and"... N

Rewrite *

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1113	H	2					a							E S	See comments on use of the word preferred. ok N
1114	H	3						x						E S	Need to ensure there is enough information in the stem to support that 2 RCPs are still running . Is this RO required knowledge? N
1115	H	2		x										E S	Remove last bullet regarding charging. B
1116	H	3				a								E S	add mode 4 or 5 to stem. To make a"a" plausible. Is the second sentence necessary. Look like teaching. N
1117	F	2												E S	Fix distractor analysis and mark "a" correct. Change expected to approximate. B
1118	F	2				d								E S	Change d to read ..."could cause the failure of the primary ..." These steps ensure the reactor is shutdown immediately and maintained in mode 2 until the condition is corrected. Add "shutdown *and cooldown* is initiated" to answer c. B
1119	H	2												S S	What is LTOP setpoint ? Will relief lift so you do not get large increase in pressure ? N
1120	F	3				cd								E S	Feedwater isolation plausible.? N
1121	F	2				d								E S	d does not remove from system. Try venting the VCT. Do head vent go to PRT? N
1122	F	2												S ✓	make d a single loop drain ✓ N
1123	H(F)	2										X		? S	Listed KA does not match outline . Should be 008A1.03 ✓ Discuss answer N
1124	F	2				cd								E S	50 minutes too long to be time critical. Change to 30 minutes and place in accordance with AP-21 in stem. N
1125	H	3										X		E S	KA deals with malfunction of PZR not instrument. A leak at the weld for the instrument could fail detector to read low (1950?) and meet K/A. © Change modulate to "cycle to maintain pressure". Delete Reactor will not trip in a,b,c. Delete 3rd line of d. M
1126	H	3				a								E S	change a to Loop 1 Tave fails HIGH. B
1127	H	3		x										E S	Remove bypass from stem. Reword d to be like others. Channel 1 and 2 tripped, cnmt spray would actuate N

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1128	H	1		x										S U	Stem helps to answer question 1120. Reword to All actions associated with RCS pressure reaching P-11 are complete. With cnmt pressure at 1.3 psig stem does not matter or add to question. Change Pzr pressure 1840 psig. Ctmt pressure .8 psig. Change answer to b. M
1129	F	2												S ✓	B
1130	F	2				ac								E S	Distractors not very plausible. What ΔP would be required? N
1131	H	2		x		ab								U S	Delete last bullet after 12 psig. A,b distractors can be tossed because they are non specific. N
1132	H	3												S S	Discuss use of reference. Which window is illuminated? M
1133	F	2		x		c								E S	Putting feedwater isolation in stem eliminates a,b. Change stem to: Upon receipt of a P-14 signal which of the following occurs? M
1134	H	3												S ✓	N
1135	F	1										x		U ✓	KA is for diesel driven AFW pump. The closest match is turbine driven AFW pump. What is the power supply for control power ? N?
1136	F	1				bcd								U S	3 distractors very similar or essentially the same condition therfore all can be eliminated.. Do you have ground fault detection circuitry? Bank question distractors better. Replace b or c B
1137	F	2		x										E S	If c true then a & b would be true. Therefore , abc are incorrect. Add if an SI signal were to occur to end of stem. Add only to a. Change c to would start automatically. N
1138	F	3												S ✓	N
1139	F	1												U ✓	add to stem, line voltage is 4150v and DG is 4200V. Reword last sentence to ...Must be done before closing the 1ETA Emergency Breaker IAW the procedure. N
1140	F	2												S ~~U~~	No correct answer. 1EMF-35 Trip II shuts down all fans. N
1141	H	2										X		? S	How does this relate to the Secondary closed cooling water ? Rewrite N
1142	H	3	X											U S	Question does not elicit the desired response. Stem and distractors need to be reworded. Why would DG be running? See Comments N
1143	F	2												S ✓	N
1144	F	2												U S	No correct answer since earliest time would be when at 32%level.. Also all Sgs would not read exactly the same. Rework N

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation	
1145	F	2											?	E S	Assume all communications operate normally. Are we bordering on SRO event classificaiton?	N
1146	H	3												S ✓	~~Must ensure that SG levels do not go < 17% during the trancient~~	N
1147	H	2												E S	Discuss	N
1148	H	2												S ✓		N
1149	H	2				c								E S	c not real credible. A c	N
1150	H	3										x		? S ✓	Answer is not related to K/A ie there is no effect on the FHS due to loss of rad monitor. This may meet K/A discuss use of references.	N
1151	H	2												S ✓	Rods in Auto ?	N
1152*	F	2												S ✓		B
1153	H	1		X										U S	Cannot describe what features are lost upon loss of 1EVDD. This points directly to "a" since from the control board is eliminated from the stem. Remove bullet statements.	N
1154	H	3										X		E S	Appears to not meet the K/A. Where is the inadvertent actuation? 201	N
1155	F	2												S ✓	The last bullet about NCO feels announcement is warranted in reference may be a problem.	N
1156	F	2												E S	Add IAW OMP 5-2 to stem. Make answer Fire drill in Unit 2 cable spreading room.	N
1157	F	2												S ✓		B
1158	F	2												E S	~~The answer is d not c.~~ Change refueling to core unload.	N
1159	F	2												S ✓	May want to put IAW procedure...../	N
1160	H	3	x											? S	Not exactly sure what the question is asking. Stem not clear Rewrote stem	N
1161	F	2												S ✓		B
1162	F	3												E S	Bullets are somewhat confusing. May want to be more specific to eliminate questions during the exam.	N
1163	H	3												? S	What are distractors based on? Rewrote stem	B
1164	F	2 ✓												? S	Discuss discriminatory value OK	N

1154 *

ES-401 | Written Examination Review Worksheet SRO only | Form ES-401-9

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

Instructions

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

1. Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
2. Enter the level of difficulty (LOD) of each question using a 1 - 5 (easy - difficult) rating scale (questions in the 2 - 4 range are acceptable).
3. Check the appropriate box if a psychometric flaw is identified:
   - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
   - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
   - The answer choices are a collection of unrelated true/false statements.
   - 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).
4. Check the appropriate box if a job content error is identified:
   - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
   - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
   - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
   - The question requires reverse logic or application compared to the job requirements.
5. Check questions that are sampled for conformance with the approved K/A and those that are designated SRO-only (K/A and license level mismatches are unacceptable).
6. 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?
7. At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

RO/SRO Combined Question

1165	H	2				~~a,d~~								~~S~~ E	Why is E-0 plausible in distractors?	N
1166	H	3										X		~~U~~ S	Question deals with actual concerns following action taken with a given RCS leak in stem. Since question does not determine or intrepret whether charging line leak exists/does not match K/A	N
1167	H	2		x										S ~~E~~	Must give entire reference to TS reference Manual rather than pg 14.	N
1168	H	2	x											S ~~E~~	Give indications ↕ rather than say "getting worse". Standby MUP should be dissassembled not just tagged for maintenance.	N

merge. 2 questions

$\frac{5}{25}$ U = 20% 7/25 = 28% KA m/u

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1169	H	2				b						X		U S	SD: "Try to restore" sticks out. Suggest "Close ------to restore offsite power" Could also be additional correct answer. N 1B DG needs to be broken K/A This is ECA 0.0 recovery action and not troubleshooting . N
1170	H	2				b,d								S U	Why would status lights remain illuminated? would as distractors N
1171	~~F~~ H	2												? S	Why is this not just systems knowledge ? B
1172	H	2				b,d								E S	What is indication that implies you have a high level deviation for distractors b,d.? How do I know A and B heaters are off? N
1173	F	2	x											E S	Do not need data in stem. Procedure does not require cation bed in service. May want to reword. N
1174	H	2										x		S E	2 part K/A. Need procedure part of K/A implied procedure N
1175	H	2												S ?	Discuss: 2 inoperable effluent monitors N
1176	H	3		x										E S	Teaching in stem: delete reference to void formation. Need to discuss references. N
1177	H	2										X		U S	This is not a 1 hour action statement. Need to state 3.03 action statement to be consistent. N
1178	H	2	x											S E	Need some initial conditions stated in stem for shutdown cooling. N
1179	H	2										X		U S	K/A is predict the impacts of Loss of Air to SS valve and use procedures. Applicant must be able to predict the impact of loss of air, i.e.2SA-48ABC fails open and then choose procedural path. Also reword to say which one of the following actions are correct per plant procedures. N
1180	H	3										x		E S	Mising second part of K/A. Reword stem WOOTF describes the effect on the release and the actions required. Change distractors a,d to include actions. Why no sampling required? ~~Add "Ref Provided"~~ N
1181	H	3	x											S E	Should tie question to specific procedure i.e. AP-11. Add IAW AP-11 after 3-2. N
1182	H	2										x		S E	Predict the impact part of K/A ? N
1183	H	2					b							S E	Distractor b is not wrong since it will comply with TS 5.2.2. B
1184	H	3												S ?	Discuss M

2.4.23

reworded stem

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/ units	Back-ward	Q= K/A	SRO Only	U/E/S	Explanation
1185	F	2				x								E/S	Need distractor analysis. WOOTF describes the **correct** actions of the OSM for this request? Discuss distractors B
1186	Fvc	2												S	Why is this comprehensive ? Vice memory
1187	F	2		X										E/S	words "reduce radiation and guard against personnel exposure" lead right to a. Eliminate all after "take". N
1188	H	3												S	B
1189	F	2		x										E	RP/0/A/5700/000 is a hand out for 1168 &1178. Ref may be used to eliminate d. Discuss distractors. B
26															
27															
28															
29															
30															
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41															

ES-403, Rev. 9	Written Examination Grading Quality Checklist	Form ES-403-1

Facility: McGuire Nuclear Plant Date of Exam: 2/18/2005 Exam Level: **RO/SRO**

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

	Printed Name/Signature	Date
a. Grader	T.C. Kolb / TCKolb	3-8-05
b. Facility Reviewer(*)	N/A	N/A
c. NRC Chief Examiner (*)	George T. Hopper / George T. Hopper	3-8-05
d. NRC Supervisor (*)	James H. Moorman, III / James H. Moorman	3-8-05

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

Post-Examination Check Sheet McGuire		
Task Description		**Date Complete**
1.	Facility written exam comments or graded exams received and verified complete	2/25/05
2.	Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	3/2/05
3.	Operating tests graded by NRC examiners	3/5/05
4.	NRC chief examiner review of operating test and written exam grading completed	3/7/05
5.	Responsible supervisor review completed	3/8/05
6.	Management (licensing official) review completed	3/8/05
7.	License and denial letters mailed	3/9/05
8.	Facility notified of results	3/9/05
9.	Examination report issued (refer to NRC MC 0612)	3/21/05
10.	Reference material returned after final resolution of any appeals	N/A

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November 29, 2004

Mr. William D. Travers
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth Street, SW Suite 23T85
Atlanta, GA 30303-3415

Subject: McGuire Nuclear Station
Reactor and Senior Reactor Operator Initial Examinations
50-369/2005-301 and 370/2005-301

The enclosed information is provided in response to your request of August 17, 2004. This information is supports the McGuire licensed operator examinations scheduled during the month of February 2005.

Specific items provided in response to the request:

- Simulator Scenarios - (ES-D-1, Scenario Outline Forms in the book)
- Administrative Topics - (ES 301-1, Administrative Topics Outline Forms in the book)
- Job Performance Measures - (ES 301-2, Control Room Systems and Facility Walk-Through Test Outline Forms in the book)
- Examination Quality Assurance Checklist Form, ES 201-2
- Operating Test Quality Checklist Form, ES 301-3
- Simulator Scenario Quality Checklist Form, ES 301-4
- Transient and Event Checklist Form, ES 301-5
- Competencies Checklist Form, ES 301-6
- Reactor Operator and Senior Reactor Operator Written Questions
- Reference Materials

The McGuire Operations Facility Representative has reviewed and approved the proposed examination material per NUREG-1021, Revision 9, Section 201. The completion of this action is documented in the attached letter dated November 18, 2004.

Questions or comments should be directed to Charles Sawyer at (704) 875-5248.

Gary R. Peterson

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November 18, 2004

To: Gary Peterson

From: Robin Bell

As the McGuire facility representative I have reviewed and approved the proposed examination material for the NRC examination to be administered in February 2005. I have determined this material is accurate, operationally valid, and ready for NRC review. This review and approval is done per NUREG 1021, Revision 9 section 201.

Robin Bell
McGuire Operations