

**NORTH ANNA
EXAM 2002-301**

**50-338 AND 50-339
JUNE 6, 10-14, & 24-25, 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 (FAA)
- ✓4. ✓ Administrative Topics Outline (Final) ES-301-1
- ✓5. ✓ Control Room Systems and Facility Walk-through Test Outline
(Final) ES-301-2 C
- ✓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
- ✓RECORD OF REJECTED K/As ES-401-10

Facility: North Anna Nuclear StationDate of Exam: June 6 - 26, 2002Examinations Developed by: Written: NRC
Operating: NRC

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

* 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: North Anna		Date of Examination: Written 06/06/02; Operating Wks: 6/10 & 6/24, 2002		
Item	Task Description	Initials		
		a	b	c
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.	JSN	7	0
	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.	JSN	1	0
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JSN	1	0
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JSN	1	0
2. S I M	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.	JSN		0
	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.	JSN		0
	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.	JSN		0
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.	JSN	2/3	0
	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.	JSN		0
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	JSN		0
	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.	JSN		0
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	JSN		0
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JSN		0
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JSN		0
	d. Check for duplication and overlap among exam sections.	JSN		0
	e. Check the entire exam for balance of coverage.	JSN		0
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JSN	1	1
a. Author		Written (ISM) <u>James S. Melh</u>		Operating (gwl) <u>JSN</u>
b. Facility Reviewer (*)		N/A		
c. NRC Chief Examiner (#)		<u>[Signature]</u>		
d. NRC Supervisor		<u>George T. Hopper / Steve J. Hopper</u>		
Note:		* Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.		

Date
6/5/02

6/5/02

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of June 24, 2002 ^{June 10, 2002} 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 6/10/02 + 6/24/02. 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)	DATENOTE
1. Steven R. Crawford	Instructor/Exam author + Facility contact	[Signature]	2-21-02	[Signature]	6-26-02
2. Joseph B. Scott	Supervisor Nuclear Trng-OPS/Contact	[Signature]	2-21-02	[Signature]	7/17/02
3. Denise G. Tiblis	Instructor/Exam author + Facility contact	[Signature]	2-21-02	[Signature]	6/26/02
4. ALIAN A. KOZAK	SR SIMULATOR SUPPORT COORD.	[Signature]	2-25-02	[Signature]	6/26/02
5. SHARAD KUMAR	SR SIMULATOR SUPPORT COORD.	[Signature]	02-25-02	[Signature]	07/02/02
6. KENNETH W. ELBERT	SR SIMULATOR SUPPORT COORD.	[Signature]	02-25-02	[Signature]	07/17/02
7. Khanh Le	Simulator Support Coord.	[Signature]	04-02-02	[Signature]	July 02, 2002
8. JAMES W. JOHNSTONE	NIGHT SHIFT SUPERVISOR/VALIDATOR	[Signature]	4-5-02	[Signature]	7-4-02
9. Ronald D. Butler Jr.	Control Room Operator / VALIDATOR	[Signature]	4-5-02	[Signature]	7/4/02
10. RANDALL E. GARRETT	INSTRUCTOR / VALIDATOR	[Signature]	4-5-02	[Signature]	7/2/02
11. Donna L. Brecko	Admin Staff / Simulator Procedures	[Signature]	4-5-02	[Signature]	7/2/02
12. Walt Shura	Supervisor Training (Support)	[Signature]	4/18-02	[Signature]	2 July 2002
13. TRICIA HICKS	ADMIN	[Signature]	4/17/02	[Signature]	7/4/02
14. DACE K. SNYDER SR	SECURITY / SAFE ASSISTANCE	[Signature]	4/28/02	[Signature]	7/12/02
15. THOMAS W. DURBERT	LCRB / OPERATOR / Validate written exam	[Signature]	5/2/02	[Signature]	7/5/02

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of June 24, 2002 June 10, 2002 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 6/10/02 - 6/24/02. 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)	DATENOTE
1. ROBERT BLANCHARD	Control Room Operator/Validate written	<i>Robert Blanchard</i>	5/2/02	<i>Robert Blanchard</i>	7-17-02
2. JEFF MOSHER	ASSIST SHIFTSUP / VALIDATE WRITTEN	<i>Jeff Mosher</i>	5-2-02	<i>Jeff Mosher</i>	7-5-02
3. MARK F. TAYLOR	CRO / VALIDATE SIMULATOR	<i>Mark F. Taylor</i>	5/10/02	<i>Mark F. Taylor</i>	7/4/02
4. CHARLES RULEY	CRO / VALIDATE SIMULATOR	<i>Charles Ruley</i>	5-10-02	<i>Charles Ruley</i>	7-4-02
5. DAVID CITENFIELD	INSTRUCTOR/validate sim.	<i>David Citenfield</i>	5-10-02	<i>David Citenfield</i>	7-23-02
6. EDWARD N. PRASK	INSTRUCTOR / VALIDATE SIMULATOR	<i>Edward N. Prask</i>	5-10-02	<i>Edward N. Prask</i>	7/2/02
7. ROBERT C. STARR	Instructor / validate simulator	<i>Robert C. Starr</i>	5/10/02	<i>Robert C. Starr</i>	7/2/02
8. JACK M. DAVIS	DIR SAFETY LICENSING / MANAGEMENT RENEW	<i>Jack M. Davis</i>	5/13/02	<i>Jack M. Davis</i>	7/12/02
9. JAMES DAUBERMAN	Supv Shift OPS / OPS oversight	<i>James Dauberman</i>	6-10-02	<i>James Dauberman</i>	7-23-02
10. KENN M. LINIC	SR INSTRUCTOR / SIMULATION OPERATOR	<i>Kenn M. Linic</i>	6-10-02	<i>Kenn M. Linic</i>	7-30-02
11. RICHARD LEE STEVENS	SR INSTRUCTOR / SURROGATE OP	<i>Richard Lee Stevens</i>	6/10/02	<i>Richard Lee Stevens</i>	7/2/02
12. JAMES R. SHAEWEL	SR Instr / surrogate ops	<i>James R. Shaevel</i>	6/19/02	<i>James R. Shaevel</i>	7/12/02
13. KENN M. LINIC	SR Instr / surrogate ops	<i>Kenn M. Linic</i>			
14.					
15.					

NOTES:

Facility: North Anna Power StationDate of Examination: 6/10-14/2002Examination Level **RO**Operating Test Number: **1A**

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Plant Parameters Verification (Both)	JPM Determine the Quadrant Power Tilt Ratio by Hand Calculation (1-PT-23) Bank - R709; 015-A1.04, 3.5/3.7
	Knowledge of fuel handling. (Both)	JPM Respond to a loss of source-range nuclear instrumentation during refueling (1-AP-4.1) Bank - R714 (modified); G-2.2.30, 3.5/3.3
A.2	Tagging and Clearance Procedures (RO)	JPM Expand the boundaries of a tagging order. New; G-2.2.13, 3.6/3.8
A.3	Radiation Control (Both)	JPM Determine Dose Rates with Airborne Activity Present. New; G-2.3.1, 2.6/3.0
A.4	Emergency Communications (RO)	JPM Given a set of plant conditions, make proper notifications for an Emergency Condition. New; G-2.4.39, 3.3/3.1

FINAL

Facility: North Anna Power Station
 Examination Level: SRO

Date of Examination: 6/10-14/2002
 Operating Test Number: 1A

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Plant parameters verification (Both)	JPM Determine the Quadrant Power Tilt Ratio by Hand Calculation (1-PT-23) Bank - R709; 015-A1.04, 3.5/3.7
	Knowledge of Fuel Handling. (Both)	JPM Respond to a loss of source-range nuclear instrumentation during refueling (1-AP-4.1) Bank - R714 (modified); G-2.2.30, 3.5/3.3
A.2	Tagging and Clearance Procedures (SRO)	JPM Review the expanded boundaries of a tagging order New; G-2.2.13, 3.6/3.8
A.3	Radiation Control (Both)	JPM Determine Dose Rates with Airborne Activity Present. New; G-2.3.1, 2.6/3.0
A.4	Emergency Action Levels and Classifications (SRO)	JPM Given a set of plant conditions, determine applicable EPIP classification, including any required PAR's New; G-2.4.41, 2.3/4.1

FINAL

Facility: North AnnaDate of Examination: 6/10-14 /2002Exam Level (circle one): **RO / SRO(I) / SRO(U)**

Operating Test No.: _____

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Perform the Immediate Operator Actions in Response to a continuous uncontrolled rod motion. (R475MOD). 001AA1.01	M,S,A	1
b. Respond to a Shutdown LOCA in Mode 4. (R693). 002A2.01	D,A,S,L	2
c. Initiate RCS bleed and feed in response to a loss of secondary heat sink (1-FR-H.1) (R223). E05-EA1.1	D,S,A	4S
d. Start A Reactor Coolant Pump. (1-OP-5.2) (R164MOD). 003A4.01	M,S,A	4P
e. Reduce Containment Pressure to Subatmospheric (1-FR-Z.4) (R765) 022A4.04	D,S	5
f. Establish Safety Injection flow during a loss of all AC power recovery with safety Injection required. (R208). 056AA1.06	D,S	6
g. Respond to a Leak in the Component Cooling Water System (1-AP-15) (R707). 008A2.02	D,S	8

B.2 Facility Walk-Through

a. Align a charging flow path locally. (N907) 004-A2.07	D,R	2
b. Prepare the SBO Diesel Generator for Loading Following an automatic start (N1671). 055EA2.03	D	6
c. Transfer the Remote Monitoring ex-core neutron flux detector to its Dedicated Power Source (N963). 067AA2.16	D	9

* 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

FINAL

Facility: North AnnaDate of Examination: 6/10-14 /2002Exam Level (circle one): RO / SRO(I) / **SRO(U)**

Operating Test No.: _____

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Perform the Immediate Operator Actions in Response to a continuous uncontrolled rod motion. (R475MOD). 001AA1.01	M,S,A	1
b. Respond to a Shutdown LOCA in Mode 4. (R693). 002A2.01	D,A,S,L	2
c. Initiate RCS bleed and feed in response to a loss of secondary heat sink (1-FR-H.1) (R223). E05-EA1.1	D,S,A	4S
d. Start A Reactor Coolant Pump. (1-OP-5.2) (R164MOD). 003A4.01	M,S,A	4P
e. Reduce Containment Pressure to Subatmospheric (1-FR-Z.4) (R765) 022A4.04	D,S	5
f. Establish Safety Injection flow during a loss of all AC power recovery with safety Injection required. (R208). 056AA1.06	D,S	6
g. Respond to a Leak in the Component Cooling Water System (1-AP-15) (R707). 008A2.02	D,S	8

B.2 Facility Walk-Through

a. Align a charging flow path locally. (N907) 04-A2.07	D,R	2
b. Prepare the SBO Diesel Generator for Loading Following an automatic start (N1671). 055EA2.03	D	6
c. Transfer the Remote Monitoring ex-core neutron flux detector to its Dedicated Power Source (N963). 067AA2.16	D	9

* 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

FINAL

Facility: <u>North Anna</u>		Date of Examination: <u>6-10-02/6-24-02</u>		Operating Test Number: <u>1A</u>	
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).	SL	JM	✓	2
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	SL	JM	✓	2
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).	N/A		→	2
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	SL	JM	✓	2
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	SL	JM	✓	2
2. WALK-THROUGH (CATEGORY A & B) CRITERIA			-	-	-
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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 	SL	JM	✓	2
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	N/A		→	2
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.	SL	JM	✓	2
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	SL	JM	✓	2
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.	SL	JM	✓	2
a. Author <u>2-Outline</u> <u>Steven R. Crawford</u> / <u>SL Crawford</u>		Printed Name / Signature		Date <u>3-14-2005</u> <u>5-20-2002</u>	
b. Facility Reviewer(*) <u>Joseph B. Scott Jr.</u> / <u>Joseph B. Scott Jr.</u>				<u>5-22-2002</u>	
c. NRC Chief Examiner (#) <u>Ron Adello</u> / <u>Ron Adello</u>				<u>4/5/02</u>	
d. NRC Supervisor <u>George T. Hopper</u> / <u>George T. Hopper</u>				<u>6/5/02</u>	
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.					

Facility: <u>North Anna</u>		Date of Exam: <u>6/10/2002</u>		Scenario Numbers: <u>1121</u>		Operating Test No.: <u>1A</u>	
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.	SL	gm				
2.	The scenarios consist mostly of related events.	SL	gm				
3.	Each event description consists of <ul style="list-style-type: none"> 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) 	SL	gm				
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.	SL	gm				
5.	The events are valid with regard to physics and thermodynamics.	SL	gm				
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	SL	gm				
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.	SL	gm				
8.	The simulator modeling is not altered.	SL	gm				
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.	SL	gm				
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.	SL	gm				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	SL	gm				
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).	SL	gm				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	SL	gm				
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)		Actual Attributes		-	-	-	
1.	Total malfunctions (5-8)	7181 N/A					
2.	Malfunctions after EOP entry (1-2)	1131					
3.	Abnormal events (2-4)	5151					
4.	Major transients (1-2)	2111					
5.	EOPs entered/requiring substantive actions (1-2)	2131					
6.	EOP contingencies requiring substantive actions (0-2)	0111					
7.	Critical tasks (2-3)	1121					

Facility: <u>North Anna</u>		Date of Exam: <u>6/24/2002</u>		Scenario Numbers: <u>3 14 15</u>		Operating Test No.: <u>1A</u>	
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.	SL	JM				
2.	The scenarios consist mostly of related events.	SL	JM				
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)	SL	JM				
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.	SL	JM				
5.	The events are valid with regard to physics and thermodynamics.	SL	JM				
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	SL	JM				
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.	SL	JM				
8.	The simulator modeling is not altered.	SL	JM				
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.	SL	JM				
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.	SL	JM				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	SL	JM				
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).	SL	JM				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	SL	JM				
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO: SEE SECTION D.4.D)		Actual Attributes		-	-	-	
1.	Total malfunctions (5-8)	6 1 6 1 5					
2.	Malfunctions after EOP entry (1-2)	1 1 1 1					
3.	Abnormal events (2-4)	6 1 4 1 3					
4.	Major transients (1-2)	1 1 1 2					
5.	EOPs entered/requiring substantive actions (1-2)	1 1 2 1 1					
6.	EOP contingencies requiring substantive actions (0-2)	0 1 1 1 1					
7.	Critical tasks (2-3)	2 1 1 2					

OPERATING TEST NO.: 1A

Applicant Type	Evolution Type	Minimum Number	Positions/Scenario Number							
			RO 1 BOP		RO 2 BOP		RO 3 BOP		RO 4 BOP	
RO	Reactivity	1	6	N/A	3	N/A	6	N/A	2	N/A
	Normal	1	N/A	1	N/A	1	2	N/A	N/A	1
	Instrument / Component	4	2,4	3,7	2,5	4,6	3,4,5	1,4,5	5,6	3,4
	Major	1	8	8	8	8	8	8	7	7
As RO	Reactivity	1	6		N/A		6		N/A	
	Normal	0	N/A		N/A		N/A		N/A	
	Instrument / Component	2	2,4		N/A		3,4,5		N/A	
	Major	1	8		N/A		8		N/A	
SRO-I										
	Reactivity	0	N/A		N/A		N/A		N/A	
	Normal	1	N/A		1		N/A		1	
	Instrument / Component	2	N/A		2,4,5,6		N/A		3,4,5,6	
As SRO	Major	1	N/A		8		N/A		7	
SRO-U	Reactivity	0	N/A		N/A		N/A		N/A	
	Normal	1	1		1		2		1	
	Instrument / Component	2	2,3,4,7		2,4,5,6		1,3,4,5		3,4,5,6	
	Major	1	8		8		8		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 (refer to Section D.4.d) 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:



Steven R. Crawford

NRC Reviewer:



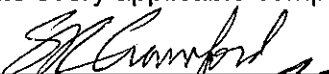
Ron Adella

CREW 1	RO-1		RO-2		SROU-1	
Competencies	Scenario/Position		Scenario/Position		Scenario/Position	
	1-RO	2-BOP	1-BOP	2-RO	1-SRO	2-SRO
Understand and Interpret Annunciators and Alarms	2,4,5,8,9	4,6	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7
Diagnose Events and Conditions	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Understand Plant and System Response	2,4,8,9	4,6	3,7,9	2,5,7	2,3,4,7,8,9	2,4,5,6,7
Comply With and Use Procedures (1)	2,4,5,8	4,6,8	1,3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Operate Control Boards (2)	2,4,8	4,6,8	3,7,9	2,5,7	N/A	N/A
Communicate and Interact With the Crew	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	2,3,4,5,7,8,9	2,4,5,6,7,8
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	2,3,4,5	6,7
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 enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:


 Steven R. Crawford

NRC Reviewer:

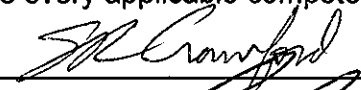

 R. W. Drell

CREW 2	RO-3		RO-4		SROU-2	
Competencies	Scenario/Position		Scenario/Position		Scenario/Position	
	1-RO	2-BOP	1-BOP	2-RO	1-SRO	2-SRO
Understand and Interpret Annunciators and Alarms	2,4,5,8,9	4,6	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7
Diagnose Events and Conditions	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Understand Plant and System Response	2,4,8,9	4,6	3,7,9	2,5,7	2,3,4,7,8,9	2,4,5,6,7
Comply With and Use Procedures (1)	2,4,5,8	4,6,8	1,3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Operate Control Boards (2)	2,4,8	4,6,8	3,7,9	2,5,7	N/A	N/A
Communicate and Interact With the Crew	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	2,3,4,5,7,8,9	2,4,5,6,7,8
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	2,3,4,5	6,7
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 enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:


 Steven R. Crawford

NRC Reviewer:

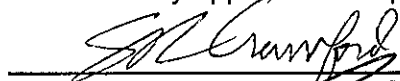

 Ron A. 1/10

CREW 3	RO-5		RO-6		SROU-3	
Competencies	Scenario/Position		Scenario/Position		Scenario/Position	
	1-RO	2-BOP	1-BOP	2-RO	1-SRO	2-SRO
Understand and Interpret Annunciators and Alarms	2,4,5,8,9	4,6	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7
Diagnose Events and Conditions	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Understand Plant and System Response	2,4,8,9	4,6	3,7,9	2,5,7	2,3,4,7,8,9	2,4,5,6,7
Comply With and Use Procedures (1)	2,4,5,8	4,6,8	1,3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Operate Control Boards (2)	2,4,8	4,6,8	3,7,9	2,5,7	N/A	N/A
Communicate and Interact With the Crew	2,4,5,8,9	4,6,8	3,7,9	2,5,7	2,3,4,5,7,8,9	2,4,5,6,7,8
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	2,3,4,5,7,8,9	2,4,5,6,7,8
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	2,3,4,5	6,7
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 enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:


 Steven R. Crawford

NRC Reviewer:


 Ron Aello

CREW 4	SROI-1		Surrogate		SROU-4	
Competencies	Scenario/Position		Scenario/Position		Scenario/Position	
	1-RO	2-SRO	1-BOP	2-BOP	1-SRO	2-RO
Understand and Interpret Annunciators and Alarms	2,4,5,8,9	2,4,5,6,7	N/A	N/A	2,3,4,5,7,8,9	2,5,7
Diagnose Events and Conditions	2,4,5,8,9	2,4,5,6,7,8	N/A	N/A	2,3,4,5,7,8,9	2,5,7
Understand Plant and System Response	2,4,8,9	2,4,5,6,7	N/A	N/A	2,3,4,7,8,9	2,5,7
Comply With and Use Procedures (1)	2,4,5,8	2,4,5,6,7,8	N/A	N/A	2,3,4,5,7,8,9	2,5,7
Operate Control Boards (2)	2,4,8	N/A	N/A	N/A	N/A	2,5,7
Communicate and Interact With the Crew	2,4,5,8,9	2,4,5,6,7,8	N/A	N/A	2,3,4,5,7,8,9	2,5,7
Demonstrate Supervisory Ability (3)	N/A	2,4,5,6,7,8	N/A	N/A	2,3,4,5,7,8,9	N/A
Comply With and Use Tech. Specs. (3)	N/A	6,7	N/A	N/A	2,3,4,5	N/A

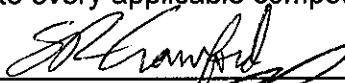
Notes:

(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 enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:

 Steven R. Grantford

NRC Reviewer:

 R. R. Die-110

CREW 5	SROI-2		Surrogate		SROU-5	
Competencies	Scenario/Position		Scenario/Position		Scenario/Position	
	3-RO	4-SRO	3-BOP	4-BOP	3-SRO	4-RO
Understand and Interpret Annunciators and Alarms	3,4,7,8	3,4,5,6,7,8	N/A	N/A	1,3,4,7,8	4,5,6,7,8
Diagnose Events and Conditions	3,4,5,7,8	3,4,5,6,7,8	N/A	N/A	1,3,4,5,7,8	4,5,6,7,8
Understand Plant and System Response	3,4,5,7,8	3,4,5,6,7,8	N/A	N/A	3,4,5,7,8	4,5,6,7,8
Comply With and Use Procedures (1)	3,4,5,7,8	3,4,5,6,7,8	N/A	N/A	1,3,4,5,7,8	4,5,6,7,8
Operate Control Boards (2)	3,4,5,7,8	N/A	N/A	N/A	N/A	3,5,6,7,8
Communicate and Interact With the Crew	3,4,5,7,8	3,4,5,6,7,8	N/A	N/A	1,3,4,5,7,8	4,5,6,7,8
Demonstrate Supervisory Ability (3)	N/A	3,4,5,6,7,8	N/A	N/A	1,3,4,5,7,8	N/A
Comply With and Use Tech. Specs. (3)	N/A	3,4,5	N/A	N/A	1,4,5,7	N/A

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 enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:




NRC Reviewer:

Facility: North Anna		Date of Exam: 06/06/02		Exam Level: SRO			
Item Description				Initial			
				a	b*	c*	
1. Questions and answers technically accurate and applicable to facility				FSM	N/A	✓	
2. a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available				FSM	N/A	✓	
3. RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401				FSM	N/A	✓	
1. Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process						✓	
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input checked="" type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)				FSM	N/A	✓	
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	Modified	New	FSM	N/A	✓
		32	21	47			
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		C/A	FSM	N/A	✓
		40		60			
8. References/handouts provided do not give away answers				FSM	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				FSM	N/A	✓	
10. Question psychometric quality and format meet ES, Appendix B, guidelines				FSM	N/A	✓	
11. The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet				FSM	N/A	✓	
Printed Name / Signature a. Author <u>LARRY S. Mellen / Larry S. Mellen</u> b. Facility Reviewer (*) <u>N/A</u> c. NRC Chief Examiner (#) <u>RONALD E. ARETIO</u> d. NRC Regional Supervisor <u>George T. Hopper / George T. Hopper</u>				Date a. Author <u>5/7/02</u> b. Facility Reviewer (*) <u>N/A</u> c. NRC Chief Examiner (#) <u>5/7/02</u> d. NRC Regional Supervisor <u>6/5/02</u>			
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: North Anna		Date of Exam: 06/06/02		Exam Level: RO																																						
Item Description				Initial																																						
				a	b*	c*																																				
1.	Questions and answers technically accurate and applicable to facility			fsn	N/A	✓																																				
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available			fsn	N/A	✓																																				
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401			fsn	N/A	✓																																				
1.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process					✓																																				
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input type="checkbox"/> the audit exam was systematically and randomly developed; or <input type="checkbox"/> the audit exam was completed before the license exam was started; or <input checked="" type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input type="checkbox"/> other (explain)			fsn	N/A	✓																																				
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	Modified	New	fsn	N/A	✓																																			
		35	22	43																																						
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	C/A		fsn	N/A	✓																																			
		43	57																																							
8.	References/handouts provided do not give away answers			fsn	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			fsn	N/A	✓																																				
10.	Question psychometric quality and format meet ES, Appendix B, guidelines			fsn	N/A	✓																																				
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet			fsn	N/A	✓																																				
<table border="0"> <tr> <td colspan="4"></td> <td colspan="2">Printed Name / Signature</td> <td>Date</td> </tr> <tr> <td>a. Author</td> <td colspan="3">LARRY MELEN / JAMES S. MULL</td> <td colspan="2"></td> <td>5/7/02</td> </tr> <tr> <td>b. Facility Reviewer (*)</td> <td colspan="3">N/A</td> <td colspan="2"></td> <td>N/A</td> </tr> <tr> <td>c. NRC Chief Examiner (#)</td> <td colspan="3">RONALD F. ARELLANO</td> <td colspan="2"></td> <td>5/5/02</td> </tr> <tr> <td>d. NRC Regional Supervisor</td> <td colspan="3">George T. Nappa / George D. Schryer</td> <td colspan="2"></td> <td>6/5/02</td> </tr> </table>												Printed Name / Signature		Date	a. Author	LARRY MELEN / JAMES S. MULL					5/7/02	b. Facility Reviewer (*)	N/A					N/A	c. NRC Chief Examiner (#)	RONALD F. ARELLANO					5/5/02	d. NRC Regional Supervisor	George T. Nappa / George D. Schryer					6/5/02
				Printed Name / Signature		Date																																				
a. Author	LARRY MELEN / JAMES S. MULL					5/7/02																																				
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Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. U/E/S	7. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job- Link	Minutia	#/ units	Back- ward	Q= K/A	SRO Only			
RO/SRO COMBINED QUESTIONS																
1	H	3												S	No comments.	
2	H	4					X							E	Distractor "c" was correct (modified); minor editorial changes.	
3	F	4												S	No comments.	
4	H	2												E	Minor editorial changes.	
5	H	2	X											U	Designated answer is incorrect, distractor "a" is correct; insufficient information.	
6	H	3	X											E	Changed from "low" to "high" to elicit correct answer; minor editorial changes.	
7	H	3												E	One minor editorial change.	
8	H	2												S	No comments.	
9	F	2												E	Added mark number description to flow transmitter	
10	H	2												E	Minor editorial changes.	
11	H	2												U	No correct answer; modified distractor "c" to make it correct; replaced statement in stem concerning venting to the PRT.	
12	H	3												E	Minor editorial changes.	
13	F	2												E	Minor editorial changes.	
14	F	2												E	Minor editorial changes.	
15	F	2						X						U	Not operationally oriented (not important to know when Phase A is reset); K/A does not apply at North Anna, replaced K/A and developed new test item.	
16	H	2												S	No comment.	
17	H	2												S	No comment.	

18	H	4												E	Changed PRZR pressure from 1850 to 1750, minor editorial changes.
19	H	2												E	Minor editorial changes.
20	F	2												S	No comment.
21	H	3												E	Minor editorial changes.
22	H	3							X					U	Original item tested memory-level knowledge not required to be memorized by operators. Replaced with higher-level bank item.
23	H	2												S	No comment.
24	H	2												E	Minor editorial changes.
25	H	4												E	Changed the initial conditions from spurious SI to main steamline break that was isolated; minor editorial changes.
26	F	2												S	No comment.
27	F	2										X		U	Test item does not measure K/A and K/A not applicable at NAPS; replaced K/A and test item.
28	H	2												E	Minor editorial changes.
29	H	3												S	No comment.
30	H	4												E	Minor editorial change.
31	H	2												E	Minor editorial change.
32	H	3												E	Minor editorial changes.
33	H	2												S	No comment.
34	H	2												E	Minor editorial changes.
35	H	2												S	No comment.
36	H													U	Designated answer was incorrect, changed "C" charging pump to NOT running to make the answer correct.

37	H	3												E	Minor editorial changes.
38	F	2												S	No comment.
39	H	2												S	No comment.
40	H	3												S	No comment.
41	F	2							X					E	Revised distractors, since operators are not required to know which DC bus supplies the pump, only that the pump is powered from one of the 125-volt DC busses.
42	H	3												S	No comment.
43	H	3												U	Designated answer was incorrect, designated distractor "d" as correct answer (recent plant modification installed backdraft dampers, which require no IA to operate)
44	H	2												S	No comment.
45	H	3						X	X					U	Trivial information, not operationally oriented and not required to be memorized. Replaced with new item.
46	F	2						X						U	Not operationally oriented. Replaced with new item.
47	F	2												S	No comment.
48	F	2												E	Minor editorial changes.
49	F	2												S	No comment.
50	F	3						X						U	Not operationally oriented, replaced with new item.
51	F	2												E	Minor editorial changes.
52	F	2												E	Minor editorial change.
53	H	2												S	No comment.
54	F	2												S	No comment.
55	F	2												E	Minor editorial changes.
56	F	2												E	Minor editorial changes.

[illegible]

3	H	3													E	Minor editorial changes.
4	F	2													S	Facility: No comment. NRC: Add procedure usage to meet K/A.
5	F	3													E	Minor editorial changes.
6	H	4													E	Minor editorial changes; designated as references provided.
7	H	3													U	Designated answer is incorrect; designated "d" as correct answer and made minor editorial changes.
8	H	3							X						E	Facility: Minor editorial changes, designated as references provided. NRC: Add location to meet K/A.
9	H	2													S	No comment.
10	F	2													U	Designated answer is incorrect; designated "c" as correct answer and made minor editorial changes.
11	F	2													S	No comment.
12	F	3													U	Not operationally oriented and not required knowledge; replaced with bank item.
13	H	3													S	No comment.
14	H	2													E	Minor editorial changes.
15	F	3													S	No comment.
16	H	3													E	Minor editorial changes.
17	H	2													E	Minor editorial changes.
18	H	3													S	No comment.
19	H	3													S	No comment.
20	H	3							X						U	Not operationally oriented and not required knowledge; replaced with new item.
21	F	4													S	No comment.
22	H	3													U	No correct answer; revised distractor "d" to make it correct.


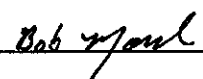


23	F	3												S	No comment.
24	H	4												S	Facility: No comment. NRC: Changed question to reflect a LOCA outside containment vs a steam break outside containment. Added a procedure selection to complete the K/A.
25	H	3												S	No comment.
RO ONLY QUESTIONS															
1	F	2												E	Minor editorial changes.
2	H	3	X											E	Minor editorial change.
3	F	4												U	Nearly identical to common item #63 (K/A G2.4.23); replaced with new item.
4	H	3												S	No comment.
5	H	2												E	Minor editorial changes.
6	H	2												E	Minor editorial changes.
7	H	2												E	Minor editorial changes; designed at reference provided.
8	H	3												S	No comment.
9	H	2												E	Minor editorial changes.
10	F	2												S	No comment.
11	F	2												S	No comment.
12	F	3												U	Designated answer is incorrect (due to a recent change to 1-AP-20); revised distractor "a" and designated as the correct answer; minor editorial changes.
13	F	3												S	Minor editorial changes.
14	F	2												E	Minor editorial changes.
15	H	3												E	Minor editorial changes.
16	H	2												E	Minor editorial changes.

17	F	2													E	Minor editorial changes.
18	F	2													E	Minor editorial changes.
19	H	2													E	Minor editorial changes.
20	F	2													S	No comment.
21	F	3													U	The reason stated for distractors "b" and "d" is not plausible; replace with bank item.
22	F	2													E	Minor editorial changes.
23	H	3													U	No correct answer was designated; designated "b" as the correct answer; also made minor editorial changes.
24	H	2													E	Minor editorial changes.
25	F	2													E	Minor editorial changes.

Instructions

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

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- 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).
- 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.
 - More than one distractor 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).
- 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.
- 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).
- 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?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

Facility: North Anna Nuclear Station		Date of Exam: ^{at time} May 06, 2002		Exam Level: RO	
Item Description		Initials			
		a	b	c	
1.	Clean answer sheets copied before grading	✓	⊙	✓	
2.	Answer key changes and question deletions justified and documented	✓	⊙	⊙	
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	✓	⊙	⊙	
4.	Grading for all borderline cases (80% +/- 2%) reviewed in detail	✓	⊙	⊙	
5.	All other failing examinations checked to ensure that grades are justified	✓	⊙	⊙	
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	✓	⊙	✓	
Printed Name / Signature		Date			
a. Grader	___Ronald Aiello___ 	7/22/02			
b. NRC Reviewer	___Bob Monk___ 	7/22/02			
b. Facility Reviewer(*)	___N/A___	N/A			
c. NRC Chief Examiner (*)	___Ronald Aiello___ 	7/22/02			
d. NRC Supervisor (*)	___Michael Ernstes___ 	7/23/02			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

Facility: North Anna Nuclear Station		Date of Exam: May ^{June} 06, 2002		Exam Level: SRO	
Item Description		Initials			
		a	b	c	
1.	Clean answer sheets copied before grading	<i>✓</i>		<i>✓</i>	
2.	Answer key changes and question deletions justified and documented	<i>✓</i>		<i>✓</i>	
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<i>✓</i>		<i>✓</i>	
4.	Grading for all borderline cases (80% +/- 2%) reviewed in detail	<i>✓</i>		<i>✓</i>	
5.	All other failing examinations checked to ensure that grades are justified	<i>✓</i>		<i>✓</i>	
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	<i>✓</i>		<i>✓</i>	
Printed Name / Signature		Date			
a. Grader	___ Ronald Aiello <i>[Signature]</i>	<i>7/22/02</i>			
b. NRC Reviewer	___ Bob Monk <i>[Signature]</i>	<i>7/22/02</i>			
b. Facility Reviewer(*)	___ N/A	<i>N/A</i>			
c. NRC Chief Examiner (*)	___ Ronald Aiello <i>[Signature]</i>	<i>7/22/02</i>			
d. NRC Supervisor (*)	___ Michael Ernstes <i>[Signature]</i>	<i>7/23/02</i>			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					

North Anna Nuclear Station	
Task Description	Date Complete
1. Facility written exam comments or graded exams received and verified complete	7/12/02
2. Facility written exam comments reviewed and incorporated and NRC grading completed, if necessary	7/12/02
3. Operating tests graded by NRC examiners	7/23/02
4. NRC Chief examiner review of written exam and operating test grading completed	7/23/02
5. Responsible supervisor review completed	7/23/02
6. Management (licensing official) review completed	7/26/02
7. License and denial letters mailed	7/26/02
8. Facility notified of results	7/26/02
9. Examination report issued (refer to NRC MC 0610)	7/25/02
10. Reference material returned after final resolution of any appeals	N/A

Facility: North Anna

Tier / Group	Randomly Selected K/A	Reason for Rejection
T1G2 (S)	022AA2.03 (3.1/3.6)	Changed K/A to T1G1 011EA2.01 (4.2/4.7) in order to satisfy topic.
T1G3 (S)	028AA2.02 (3.4/3.8)	Changed K/A to T1G2 065AA2.08 (2.9/3.3) in order to satisfy topic.
T1G2 (S)	032AA2.04 (2.2/3.1)	Changed K/A to 032AA2.09 (2.5/2.9) in order to satisfy topic.
T1G3 (S)	036AA2.01 (3.4/4.1)	Changed K/A to 036AA2.02 (3.4/4.1). <i>[This was a K/A typo correction]</i>
T1G2 (S)	060G2.4.21 3.7/4.3)	Changed K/A to 060G2.4.11 (3.4/3.6) in order to satisfy topic
T3 (S)	G2.1.11 (3.0/3.8)	Changed K/A to G2.1.12 (2.9/4.0) in order to satisfy topic
T3 (S)	G2.1.7 (3.7/4.4)	Changed K/A to G2.4.18 (2.7/3.6) in order to satisfy topic
T1G2 (S)	WE03EA2.1 (3.4/4.2)	Changed K/A to WE03EK3.2 (3.4/3.9) in order to satisfy topic.
T1G1 (S)	067G2.4.26 (2.9/3.3)	Changed K/A to G2.4.29 (2.6/4.0) in order to satisfy topic
T2G2 (R)	011K6.01 (2.7/3.1)	Changed K/A importance to (2.8/3.2). <i>[This was a K/A typo correction]</i>
T2G1 (C)	003A4.02 (4.3/4.5)	Changed K/A to T2G2 002A4.02 (4.3/4.5) in order to satisfy topic.
T2G1 (C)	004G2.1.27 (3.2/3.3)	Changed K/A to 004A1.06 (3.0/3.2) in order to satisfy topic.
T1G1 (C)	062AK3.03 (4.0/4.2)	Changed K/A to T2G3 076K4.02 (2.9/3.2) in order to satisfy topic. [Tier Change]
T1G1 (C)	011EK3.06 (4.3/4.3)	Changed K/A to T2G2 103A3.01 (3.9/4.2) in order to satisfy topic. [Tier Change]