ES-201 Examination Preparation Checklist Form ES-201-1 (R8,S1)

Facility: **FitzPatrick** Date of Examination: **November 5, 2001**

Examinations Developed by: **NRC**

Target Date*	Task Description / Reference	Chief Examiner's Initials
6/5/01	1. Examination administration date confirmed (C.1.a; C.2.a & b)	5/30/01
6/5/01	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	5/30/01
-120	3. Facility contact briefed on security & other requirements (C.2.c)	5/30/01
06/5/01	4. Corporate notification letter sent (C.2.d)	5/30/01
[8/6/01]	[5. Reference material due (C.1.e; C.3.c)]	7/9/01
8/13/01	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	7/3/01
8/20/01	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	7/11/01
9/17/01	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	9/28/01
10/5/01	9. Preliminary license applications due (C.1.l; C.2.g; ES-202)	10/17/01
10/19/01	10. Final license applications due and assignment sheet prepared (C.1.l; C.2.g; ES-202)	10/24/01
10/26/01	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	10/29/01
10/22/01	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	10/1/01
10/29/01	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	9/28/01 10/29/01
10/29/01	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	10/29/01
10/29/01	15. Proctoring/written exam administration guidelines reviewed with facility licensee and authorization granted to give written exams (if applicable) (C.3.k)	10/29/01
10/29/01	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	10/29/01

* 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: Fitz Patrick | Date of Examination: Nov. 2001

Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model per ES-401.		NA	
	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.		NA	
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.		NA	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.		NA	
2. SIM	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.		NA	
	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.		NA	
	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.		NA	
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.		NA	
	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.		NA	
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.		NA	
	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.		NA	
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.		NA	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.		NA	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.		NA	
	d. Check for duplication and overlap among exam sections.		NA	
	e. Check the entire exam for balance of coverage.		NA	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).		NA	

	Printed Name / Signature	Date
a. Author	Alan Blamey /	10/29/01
b. Facility Reviewer (*)	NA	—
c. NRC Chief Examiner (#)	J. H. Williams /	10/29/01
d. NRC Supervisor	R. J. Conte /	10/29/01

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

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5NOV01 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 5NOV01. 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 W. DeVercelly	Nuclear Training Specialist		8/28/01		11/14/01	All
2.	PETER R. RYAN	Control Room Supervisor		9/6/01		11/27/01	written - all
3.	TONY ROBERTS	NUCLEAR TRAINING SPECIALIST		9/28/01		11/14/01	All
4.	Murray Wayne Drake	NUC TRG Specialist		9/28/01	SEE ATTACHED FAX	11/27/01	All
5.	Randell Kenna	Sr. Nuclear Operator		10/3/01		11/27/01	written - all
6.	DONALD TORBIT	ASS. ST. OPS Manager		10/3/01		11/26/01	written - all
7.	Richard WERNER	Nuclear Control Room OPERATOR		10/3/01		11/27/01	written - all
8.	Kerry S Allen	Kerry S Allen SM op.		10/3/01		11/30/01	written - all
9.	Michael A Fochtman	Michael A Fochtman Sim Support		10/3/01		11/14/01	Simulator - part
10.	GARY E. FRANK	NUC TNG SPECIALIST		10/22/01		11/26/01	written - part
11.	Barbara Page	Barbara Page - Clerk		10/24/01		11/07/01	written - attach
12.	David E. Burch	Senior Design Eng. - EOPs		10/24/01		11/26/01	written - attach
13.	Thomas L. Harriman	Nuclear Training Specialist		11/6/01		11/14/01	Sim. Operator
14.	MARK A. CARPENTIER	SOFTWARE SPECIALIST		11/6/01		11/14/01	Sim Support
15.	VILTOL WALZ	OPERATIONS SHIFT MANAGER		11/6/01		12/4/01	Sim - Observer

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 11/5/01 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

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	Steve Reininghaus	OPS Training Supervisor		11/6/01		11/14/01	Sim Observer
2.	Garfield Perrine	Simulator Support		11/6/01		11/26/01	Sim Support
3.	FRANK DEVENEY	OPS TRAINING LOI PA		11/7/01		11/14/01	Sim Surrogate
4.	PATRICK BERRY	TRAINING MANAGER		11/7/01		11/27/01	Sim Observer
5.	TOM PLUMPTON	SHIFT MANAGER		11/7/01		11/27/01	Sim Surrogate
6.	JOSEPH ROMANOWSKI	TRAINING INSTRUCTOR		11/8/01		11/14/01	ESCORT
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 5NOV01 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 5NOV01. 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 W. DeVercally	Nuclear Training Specialist		8/28/01		11/14/01	All
2.	PETER R. RYAN	Control Room Supervisor		9/6/01		11/27/01	written - all
3.	Tony Roberts	Nuclear Training Specialist		9/29/01		11/14/01	All
4.	Murray W. Drake	NRC TRG Specialist		9/29/01		11/27/01	All
5.	Wendell Keaaf	Senior Nuclear Operator		10/3/01		11/27/01	Written all
6.	David Torbit	Assist. Ops Manager		10/3/01		11/26/01	Written - all
7.	Richard Wegner	Nuclear Control Room Operator		10/3/01		11/27/01	written - all
8.	Kathy S Allen	Kathy S Allen SM op.		10/2/01			written - all
9.	Michael A Fochtman	Sim Support		10/3/01		11/14/01	Simulator - part
10.	Gary E. Frank	NRC TRG SPECIALIST		10/22/01		11/26/01	written - part
11.	Barbara Page	Barbara Page - Chalk		10/24/01		11/29/01	written - attach
12.	David E. Burch	Senior Design Engr. - Chalk		10/24/01		11/29/01	written - attach
13.	Thomas L. Harrison	Nuclear Training Specialist		11/6/01		11/14/01	Sim. Operator
14.	MARK A. CARPENTER	Software Specialist		11/6/01		11/14/01	& Sim Support
15.	VICTOR WALZ	OPERATIONS SHIFT MANAGER		11/6/01			Sim - observer

NOTES:

Facility: Fitz Patrick Date of Examination: 11/5-9/01 Operating Test Number: 1

Notes

	1. GENERAL CRITERIA	Initials a	b*	c#	Notes
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).	B	N/A	gmw	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	B	N/A	gmw	
c.	The operating test shall not duplicate items from the applicants' audit test(s)(see Section D.1.a).	B	N/A	gmw	N3
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	B	N/A	gmw	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	B	N/A	gmw	
	2. WALK-THROUGH (CATEGORY A & B) CRITERIA	–	–	–	
a.	Each JPM includes the following, as applicable: · initial conditions · initiating cues · references and tools, including associated procedures · reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee · specific performance criteria that include: - detailed expected actions with exact criteria and nomenclature - system response and other examiner cues - statements describing important observations to be made by the applicant - criteria for successful completion of the task - identification of critical steps and their associated performance standards - restrictions on the sequence of steps, if applicable	B	N/A	gmw	N1 N2
b.	The prescripted questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	B	N/A	gmw	
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.	B	N/A	gmw	
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	B	N/A	gmw	
	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.	B	NA	gmw	

	Printed Name / Signature	Date
a. Author	Alan Blamey /	9/28/01
b. Facility Reviewer(*)	NA	
c. NRC Chief Examiner (#)	J. Herb Williams /	9/28/01
d. NRC Supervisor	Richard Conte /	9/28/01

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

Revised based on validation comments 11/28/01 10/29/01

Notes

Facility: FitzPatrick Date of Exam: 11/5-9/21 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.	B	NA		
2.	The scenarios consist mostly of related events.	B	NA		
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)	10/26/21 B	NA		N4
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.	B	NA		
5.	The events are valid with regard to physics and thermodynamics.	B	NA		
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	10/26 B	NA		N5
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.	B	NA		
8.	The simulator modeling is not altered.	B 10/26	NA		N5
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.	10/26 B	NA		N5
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.	B	NA		
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	B	NA		
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).	B	NA		
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	B	NA		

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

Facility: FitzPatrick Date of Exam: Nov. 2001 Scenario Numbers: 1 / 2 / 3 Operating Test No.:

QUALITATIVE ATTRIBUTES		Initials a	b*	c#
1.	The initial conditions are realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue the operators into expected events.	~~		
2.	The scenarios consist mostly of related events.			
3.	Each event description consists of · the point in the scenario when it is to be initiated · the malfunction(s) that are entered to initiate the event · the symptoms/cues that will be visible to the crew · the expected operator actions (by shift position) · the event termination point (if applicable)			
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.			
5.	The events are valid with regard to physics and thermodynamics.			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.			
8.	The simulator modeling is not altered.			
9.	The scenarios have been validated. Any open simulator performance deficiencies 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.4 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.4.D)		Actual Attributes	–	–	–
1.	Total malfunctions (5-8)	6 / 5 / 6	~~B~~	NA	
2.	Malfunctions after EOP entry (1-2)	3 / 1 / 2	~~B~~	NA	
3.	Abnormal events (2-4)	3 / 3 / 5	~~B~~	NA	
4.	Major transients (1-2)	2 / 1 / 3	~~B~~	NA	
5.	EOPs entered/requiring substantive actions (1-2)	2 / 1 / 2	~~B~~	NA	
6.	EOP contingencies requiring substantive actions (0-2)	1 / 0 / 1	~~B~~	NA	
7.	Critical tasks (2-3)	2 / 2 / 2	~~B~~	NA	

Revised After Validation

See main ES-301-4 form for other signatures

Notes for ES-301-03

N1 Administrative JPM A.1 Verification of Core Thermal Power

The JPM requires a computer Power & flow log for 80% power. This must be inserted into both the RO and SRO JPM.

Completed During validation week.

N2 Control Room JPM B.1.d Failure of the "A" Reactor Recirculation Pump no. 1 & no. 2 Seal.

This is a new JPM and must have a time validation on the simulator.

Complete. This task was changed to "A" Reactor Recirculation Pump high vibration during validation week. The seal leak would provide to much distraction to other personnel in the control during the exam.

N3 Duplication of JPMs.

There were four JPM that were identified as being duplicates. The licensee will change these duplicate JPMs in the audit exam before administration.

Complete. The JPMs were not duplicated.

Notes for ES-301-4

N4 Event Descriptions

The event descriptions will be completed at the simulator during the validation week.

Competed and included into the scenarios.

N5 These items will be completed during the simulator validation week.

Completed during validation week.

Prior to Validation

OPERATING TEST NO.: TEAM-1 (A1, B1)

Applicant Type		Evolution Type	Minimum Number	Scenario Number 1	Scenario Number 2	Scenario Number 3	Scenario Number 4
RO		Reactivity	1		E1		
		Normal	1	E2			
		Instrument / Component	4	E7, E8	E3, E6		
		Major	1	E4, E6	E5		
SRO-I	As RO	Reactivity	1	E1			
		Normal	0				
		Instrument / Component	2	E3, E5			
		Major	1	E4, E6			
	As SRO	Reactivity	0		E1		
		Normal	1		E2		
		Instrument / Component	2		E3, E4, E6, E7, E8		
		Major	1		E5		
SRO-U		Reactivity	0	E1			
		Normal	1	E2			
		Instrument / Component	2	E3, E5, E7, E8			
		Major	1	E4, E6			

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: Alan Blamey / [signature]

NRC Reviewer: J.H. Williams / G.H. Williams

OPERATING TEST NO.: TEAM-2 (A2, B2)

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1		E1		
	Normal	1	E2			
	Instrument / Component	4	E7, E8	E3, E6		
	Major	1	E4, E6	E5		
As RO	Reactivity	1	E1			
	Normal	0				
	Instrument / Component	2	E3, E5			
	Major	1	E4, E6			
SRO-I						
As SRO	Reactivity	0		E1		
	Normal	1		E2		
	Instrument / Component	2		E3, E4 E6, E7 E8		
	Major	1		E5		
SRO-U	Reactivity	0	E1			
	Normal	1	E2			
	Instrument / Component	2	E3, E5 E7, E8			
	Major	1	E4, E6			

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: Alan Blaney / [signature]

NRC Reviewer: Steve Williams / [signature]

OPERATING TEST NO.: TEAM 3 (A3, B3)

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1		E1		
	Normal	1	E2			
	Instrument / Component	4	E7, E8	E3, E6		
	Major	1	E4, E6	E5		
As RO	Reactivity	1	E1			
	Normal	0				
	Instrument / Component	2	E3, E5			
	Major	1	E4, E6			
SRO-I						
As SRO	Reactivity	0		E1		
	Normal	1		E2		
	Instrument / Component	2		E3, E4 E6, E7 E8		
	Major	1		E5		
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / [signature]

NRC Reviewer: J. Williams / [signature]

OPERATING TEST NO.: TEAM 4 (A4, B4)

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1		E1		
	Normal	1	E2			
	Instrument / Component	4	E7, E8	E3, E6		
	Major	1	E4, E6	E5		
As RO	Reactivity	1	E1			
	Normal	0				
	Instrument / Component	2	E3, E5			
	Major	1	E4, E6			
SRO-I						
As SRO	Reactivity	0		E1		
	Normal	1		E2		
	Instrument / Component	2		E3, E4 E6, E7 E8		
	Major	1		E5		
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / [signature]

NRC Reviewer: J. [illegible] / [signature]

After Validation

ES-301 Transient and Event Checklist Form ES-301-5 (R8, S1)

OPERATING TEST NO.: SRO U-1

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument / Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				
SRO-U	Reactivity	0	2			
	Normal	1	1, 7			
	Instrument / Component	2	3, 5, 8, 9			
	Major	1	4, 6			

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: Alan Blawey / Alan Blawey

NRC Reviewer: Julian H. Williams / Julian H. Williams

OPERATING TEST NO.: SROU-2

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1				
	Normal	0				
	Instrument / Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				
SRO-U	Reactivity	0	2			
	Normal	1	1, 7			
	Instrument / Component	2	3, 5, 8 9			
	Major	1	4, 6			

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: Alan Blamey / [signature]

NRC Reviewer: J. H. Williams / [signature]

OPERATING TEST NO.: SRO1 -1

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1	2			
	Normal	0	1, 7			
	Instrument / Component	2	8, 9			
	Major	1	4, 6			
SRO-I						
As SRO	Reactivity	0		2		
	Normal	1		1		
	Instrument / Component	2		3, 4, 6, 7		
	Major	1		5		
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions: (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / Alan Blamey

NRC Reviewer: J. H. Williams / J. H. Williams

OPERATING TEST NO.: SROI - 2

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1	2			
	Normal	0	1, 7			
	Instrument / Component	2	8, 9			
	Major	1	4, 6			
SRO-I						
As SRO	Reactivity	0		2		
	Normal	1		1		
	Instrument / Component	2		3, 4, 6, 7		
	Major	1		5		
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / [signature]

NRC Reviewer: J. H. Williams / [signature]

OPERATING TEST NO.: SRO I-3

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1				
	Normal	1				
	Instrument / Component	4				
	Major	1				
As RO	Reactivity	1		2		
	Normal	0		1		
	Instrument / Component	2		4, 7		
	Major	1		5		
SRO-I						
As SRO	Reactivity	0	2			
	Normal	1	1, 7			
	Instrument / Component	2	3, 5, 8, 9			
	Major	1	4, 6			
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / [signature]

NRC Reviewer: J.H. Williams / J.H. Williams

OPERATING TEST NO.: RO-1

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1	2	3	4
RO	Reactivity	1	2			
	Normal	1	1, 7			
	Instrument / Component	4	8, 9	3, 6		
	Major	1	4, 6	5		
As RO	Reactivity	1				
	Normal	0				
	Instrument / Component	2				
	Major	1				
SRO-I						
As SRO	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				
SRO-U	Reactivity	0				
	Normal	1				
	Instrument / Component	2				
	Major	1				

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / Alan Blamey

NRC Reviewer: J. H. W. Williams / J. H. W. Williams

OPERATING TEST NO.: RO -2

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

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / Alan Blamey

NRC Reviewer: J.H. Williams / J.H. Williams

OPERATING TEST NO.: RO-3

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

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / Alan Blamey

NRC Reviewer: T. H. Williams / T. H. Williams

OPERATING TEST NO.: RO-4

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

Instructions:
(1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
(2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (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: Alan Blamey / Alan Blamey

NRC Reviewer: J. H. Williams / J. H. Williams

Post Validation

ES-301 Competencies Checklist Form ES-301-6 (R8, S1)

RO-1, RO-2 RO-3, RO-4 SROI-1 SROI-2 SROI-3 SROU-1 SROU-2

Competencies	Applicant #1 ~~RO~~/~~SRO-I~~/~~SRO-U~~ SCENARIO				Applicant #2 ~~RO~~/~~SRO-I~~/~~SRO-U~~ SCENARIO				Applicant #3 ~~RO~~/~~SRO-I~~/~~SRO-U~~ SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	1,3 4,6, 8,9	3,4 5,6 7			1, 4, 7, 8, 9	1, 3, 4, 5, 6, 7			4, 5, 6, 8, 9			
Diagnose Events and Conditions	3, 4, 5 6, 8, 9	3, 4 6			4, 6, 8, 9	3, 4 5, 6, 7			3-8			
Understand Plant and System Response	3, 4, 5 6, 7	4, 5, 6, 7			3, 4, 6, 7, 8, 9	3, 4, 5, 6 7			3, 4, 6, 8			
Comply With and Use Procedures (1)	1, 3, 7, 8	1-7			1, 2, 7, 8, 9	3, 5, 6, 7			1, 3, 4, 5, 6, 7			
Operate Control Boards (2)	1-9	1-7			1, 2, 4, 6, 7, 8, 9	NA			NA			
Communicate and Interact With the Crew	1-9	1-7			ALL	ALL			ALL			
Demonstrate Supervisory Ability (3)	NA	NA			NA	3, 4 5, 6 7			ALL			
Comply With and Use Tech. Specs. (3)	NA	NA			NA	3			3			

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: Alan Blamey / [signature]

NRC Reviewer: J. W. Williams / [signature]

Prior to Validation

ES-301 Competencies Checklist Form ES-301-6 (R8, S1)

RO-1, RO-2 RO-3, RO-4 SROI-1, SROI-2 SROI-3, SROI-4 SROU-1, SROU-2

Competencies	Applicant #1 (RO/~~SRO-I/SRO-U~~) SCENARIO				Applicant #2 (~~RO~~/SRO-I/~~SRO-U~~) SCENARIO				Applicant #3 (~~RO/SRO-I~~/SRO-U) SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	4,6 7,8	3,6			3,5 6	2-8			3-8			
Diagnose Events and Conditions	4,6 7,8	3,6			3,5 7	2-8			2-8			
Understand Plant and System Response	4,6 7,8	3,1 6,7			1,3 5,7	3,4, 5,6, 7			2-8			
Comply With and Use Procedures (1)	2,6 7,8	3,1 6			1,3 5	3,6 7			ALL			
Operate Control Boards (2)	2,6 7,8	3,1 6			1,3 5	NA			NA			
Communicate and Interact With the Crew	2,6 7,8	3,1 6,7			1,3	ALL			ALL			
Demonstrate Supervisory Ability (3)	NA	NA				1 3-8			ALL			
Comply With and Use Tech. Specs. (3)	NA	NA			3	3			3			

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: Alan Blamey / [signature]

NRC Reviewer: J.M. Williams / [signature]

ES-401 | Written Examination Quality Checklist | Form ES-401-7 (R8, S1)

NOTES

Facility: **FitzPatrick** Date of Exam: **Nov. 5, 2001** Exam Level: **SRO**

	Item Description	Initial a	b*	c#
1.	Questions and answers technically accurate and applicable to facility	B	-	q/RW
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	B	-	q/RW
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	B	-	q/RW
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			q/RW
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or X the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	B	-	q/RW
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: 14 / Modified: 5 / New: 81	B	-	q/RW
7.	Between 50 and 60 percent of the questions on the exam (including 10 new questions) are written at the comprehension/analysis level; enter the actual question distribution at right Memory: 45 / C/A: 55	B	-	q/RW
8.	References/handouts provided do not give away answers	B	-	q/RW
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	B	-	q/RW
10.	Question psychometric quality and format meet ES, Appendix B, guidelines	B	-	q/RW
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	B	-	q/RW

	Printed Name / Signature	Date
a. Author	Alan Blamey /Alan Blamey/	9/14/01
b. Facility Reviewer (*)	N/A	
c. NRC Chief Examiner (#)	Julian H. Williams /Julian H. Williams/	9/24/01
d. NRC Regional Supervisor	R.J. Cert / RJ Cert/	9/26/01 NI

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.

Reviewed based on validation comments

JHWilliams 10/23/01

RJ Cert 10/29/01

ES-401 | Written Examination Quality Checklist | Form ES-401-7 (R8, S1)

NOTES

Facility: **FitzPatrick** Date of Exam: **Nov. 5, 2001** Exam Level: **RO**

	Item Description	Initial a	Initial b*	Initial c#
1.	Questions and answers technically accurate and applicable to facility	JB	–	gpm
2.	a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	JB	–	gpm
3.	RO/SRO overlap is no more than 75 percent, and SRO questions are appropriate per Section D.2.d of ES-401	JB	–	gpm
4.	Question selection and duplication from the last two NRC licensing exams appears consistent with a systematic sampling process			gpm
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed; or __ the audit exam was completed before the license exam was started; or X the examinations were developed independently; or __ the licensee certifies that there is no duplication; or __ other (explain)	JB	–	gpm
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: 19 / Modified: 5 / New: 76	JB	–	gpm
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: 46 / C/A: 54	JB	–	gpm
8.	References/handouts provided do not give away answers	JB	–	gpm
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	JB	–	gpm
10.	Question psychometric quality and format meet ES, Appendix B, guidelines	JB	–	gpm
11.	The exam contains 100, one-point, multiple choice items; the total is correct and agrees with value on cover sheet	JB	–	gpm

	Printed Name / Signature	Date
a. Author	Alan Blamey	9/14/01
b. Facility Reviewer (*)	N/A	
c. NRC Chief Examiner (#)	Julius A. Williams / Julius A. Williams	9/24/01
d. NRC Regional Supervisor	R.J. Caruso / R.J. Caruso	9/26/01

N1

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.

Reviewed based on validation comments

JAW Williams 10/24/01

RJC 10/26/01

401-7

Notes for ES-~~301-03~~

N1 The written exam was reviewed in detail by the author, chief examiner and facility reviewer. The group 1 & 2 question were also reviewed in detail by the NRC regional supervisor but the group 3 & 4 questions were not reviewed in detail by the supervisor.

FitzPatrick Written Exam Reviews

NRC Region I Reviews:	July 9, 2001, through September 7, 2001, the questions were reviewed via the chief examiner and branch chief. The final product was the DRAFT EXAM. This copy is in the FitzPatrick Written Exam Book 2.
NRC Review with Facility	During the week of September 10, 2001, two facility SROs reviewed the draft exam. This "DRAFT EXAM WITH FACILITY" is in the FitzPatrick Written Exam Book 2. These comments were included into the "FINAL DRAFT." ES-401-9, Written Exam Review Worksheet," was completed for the FINAL DRAFT copy.
FitzPatrick Validation	October 3, 2001, FitzPatrick validated the FINAL DRAFT with 2 ROs and 2 SROs. Comments were incorporated into the "FITZ. FINAL WRITTEN EXAM." Changes made to the FINAL DRAFT to create the FITZ. FINAL WRITTEN EXAM were documented on a ES-401-9, "Written Exam Review Worksheet."

Facility: FitzPatrick	Date of Exam: November 5, 2001	Exam Level: **RO**

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

		Printed Name / Signature	Date
a. Grader	A. Blamey	[signature]	11/15/01
b. Facility Reviewer(*)		N/A	—
c. NRC Chief Examiner (*)	H. Williams	[signature]	11/21/01
d. NRC Supervisor (*)	R. Conte	[signature]	11/27/01

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

① All exams were 100% reviewed.

Facility: FitzPatrick	Date of Exam: November 5, 2001	Exam Level: **SRO**

	Item Description	Initials a	Initials b	Initials 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)	①	–	①
4.	Grading for all borderline cases (80% +/- 2%) reviewed in detail	NA	NA	NA
5.	All other failing examinations checked to ensure that grades are justified	NA	NA	NA
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	A. Blamey		11/15/01
b. Facility Reviewer(*)		N/A	–
c. NRC Chief Examiner (*)	H. Williams		11/21/01
d. NRC Supervisor (*)	R. Conte		11/20/01

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

① All exams were 100% reviewed.