

Facility: <u>SUBJEKANA</u>		Date of Examination: <u>8/2004</u>
Examinations Developed by: <u>Facility</u> / NRC (circle one)		
Target Date*	Task Description / Reference	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a & b)	<i>[Signature]</i>
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	<i>[Signature]</i>
-120	3. Facility contact briefed on security & other requirements (C.2.c)	<i>[Signature]</i>
-120	4. Corporate notification letter sent (C.2.d)	<i>[Signature]</i>
[-90]	[5. Reference material due (C.1.e; C.3.c)]	<i>[Signature]</i>
-75	6. Integrated examination outline(s) due (C.1.e & f; C.3.d)	<i>[Signature]</i>
-70	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	<i>[Signature]</i>
-45	8. Proposed examinations, supporting documentation, and reference materials due (C.1.e, f, g & h; C.3.d)	<i>[Signature]</i>
-30	9. Preliminary license applications due (C.1.i; C.2.g; ES-202)	<i>[Signature]</i>
-14	10. Final license applications due and assignment sheet prepared (C.1.i; C.2.g; ES-202)	<i>[Signature]</i>
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	<i>[Signature]</i>
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f & h; C.3.g)	<i>[Signature]</i>
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	<i>[Signature]</i>
-7	14. Final applications reviewed; assignment sheet updated; waiver letters sent (C.2.g, ES-204)	<i>[Signature]</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>[Signature]</i>
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	<i>[Signature]</i>
<p>* 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.</p> <p>[ ] Applies only to examinations prepared by the NRC.</p>		

**Susquehanna Learning Center**  
707 Salem Boulevard  
P.O. Box 467  
Berwick, PA 18603-0467  
570-542-3353



May 19, 2004

Mr. Joseph D'Antonio

USNRC Chief Examiner  
USNRC Region 1  
475 Allendale Road  
King of Prussia, PA 19406-1415

Susquehanna Learning Center  
**Examination Outlines**  
PLA 005762            File A14-13D

Dear Mr. D'Antonio:

Enclosed for your review and approval are the outlines for the PPL Susquehanna, LLC Initial Licensed Operator Examination scheduled to begin Monday, August 9, 2004. These outlines are submitted in accordance with NUREG 1021, "Operator Licensing Examination Standards for Power Reactors" (Draft Revision 9). The following materials are enclosed:

- Form ES-201-2, Examination Outline Quality Checklist - Rev. 0 (Signed)
- Form ES-201-3, Examination Security Agreement (Copy)
- Form ES-301-1, Administrative Topics Outline RO - Rev. 0
- Form ES-301-1, Administrative Topics Outline SRO - Rev. 0
- Form ES-301-2, Control Room/In-Plant Systems Outline RO - Rev. 0
- Form ES-301-2, Control Room/In-Plant Systems Outline SRO-I - Rev. 0
- Form ES-301-2 Control Room/In-Plant Systems Outline SRO-U - Rev. 0
- Form ES-301-4, Simulator Scenario Quality Checklist - Rev. 0 (Unsigned)
- **RO Written Outline**
  - Form ES-401-1, BWR Examination Outline - RO - Rev. 0 (10 Pages)
  - Form ES-401-3, Generic Knowledge and Abilities Outline Tier 3-RO - Rev. 0 (1 Page)
- **SRO Written Outline**
  - Form ES-401-1, BWR Examination Outline - SRO - Rev. 0 (5 Pages)
  - Form ES-401-3, Generic Knowledge and Abilities Outline Tier 3-SRO - Rev. 0 (1 Page)
- Form ES-401-4, Record of Rejected K/As - Rev. 0
- Form ES-D-1, Scenario Outline - Rev. 0 (5 - All New)

The unsigned Forms, ES-301-4, Simulator Scenario Quality Checklist, are being sent to support Form ES-201-2, Examination Outline Quality Checklist. A signed version of this form will be sent with the exam materials submittal.

The Written Exam Outline was compiled using the Random Selection Process described in ES-401, Attachment 1, Example Systematic Sampling Methodology and the K/A Elimination Guidance provided in ES-401, Attachment 2, K/A Elimination Guidance. Rejected K/As were documented on Form ES-401-4, Record of Rejected K/As.

The expected additions to the Exam Security Agreement are additional Operation's Validation Team members.

We request these materials be withheld from public disclosure until after the completion of the exam. If you have any questions, please feel free to contact me at 570-542-3326 or Rich Brooks at 570-542-1891.

Sincerely,



Kenneth M. Roush  
Manager-Nuclear Training

Response: No

Enclosures: Listed

cc: R. R. Boesch  
Ops Letter File  
Nuc Records-Site

rb for kr - exam outlines - pla 005762

RB/KMR/vah

Facility: <b>SSSES</b>		Date of Examination: <b>08/09-08/13 2004</b>		
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.	RJB	KMR	✓
	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.	RJB	KMR	✓
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RJB	KMR	✓
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RJB	KMR	✓
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.	RJB	KMR	✓
	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 applicant's audit test(s)*, and scenarios will not be repeated on subsequent days.	RJB	KMR	✓
	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.	RJB	KMR	✓
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 applicant's audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	RJB	KMR	✓
	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) 4 - 6 (2 - 3 for SRO-U) 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.	RJB	KMR	✓
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	RJB	KMR	✓
	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 subsequent days.	RJB	KMR	✓
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.	RJB	KMR	✓
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RJB	KMR	✓
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RJB	KMR	✓
	d. Check for duplication and overlap among exam sections.	RJB	KMR	✓
	e. Check the entire exam for balance of coverage.	RJB	KMR	✓
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RJB	KMR	✓
Printed Name / Signature		Date		
a. Author	Richard J. Brooks / Michael J. Brooks	05/18/04		
b. Facility Reviewer (*)	K. M. Reusch / KMR	5/19/04		
c. NRC Chief Examiner (#)	J. G. ...	6/14/04		
d. NRC Supervisor	Richard J. Costa / RJC	6/15/04		
Note: • Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c", chief examiner concurrence required.				

1. Pre-Examination

Susquehanna

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 8/9/2004 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 8/9 & 8/16/04 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. Gregory J. Fowler	Project Digital Control Analyst	<i>Gregory J. Fowler</i>	11-11-03	<i>Gregory J. Fowler</i>	8/12/04	
2. Richard J. Brooks	Exam Coordinator	<i>R. Brooks</i>	11-13-03	<i>R. Brooks</i>	8/12/04	
3. Terry W. Logsdon	Exam Developer	<i>Terry W. Logsdon</i>	11-14-03	<i>Terry W. Logsdon</i>	8/12/04	①
4. Scott Dieffenbacher	Computer System Hardware Analyst	<i>Scott Dieffenbacher</i>	11/10/03	<i>Scott Dieffenbacher</i>	8/19/04	
5. R.H. Hal	EXA-DEV.	<i>R.H. Hal</i>	11/15/03	<i>R.H. Hal</i>	8/12/04	
6. C.E. Dodge	Sim Lead	<i>C.E. Dodge</i>	11/17/03	<i>C.E. Dodge</i>	8/20/04	
7. DC Krupp	Engineer	<i>DC Krupp</i>	11/24/03	<i>DC Krupp</i>	8/19/04	
8. Darwin Dutton	SME	<i>Darwin Dutton</i>	01/20/04	<i>Darwin Dutton</i>	08/31/04	
9. FRED BEUNS	Exam Developer	<i>Fred Beuns</i>	2/2/04	<i>Fred Beuns</i>	8/17/04	
10. Frank Taralli	Sim Test Operator	<i>Frank Taralli</i>	2/19/04	<i>Frank Taralli</i>	8/19/04	
11. Guy Wywn	Exam Developer	<i>Guy Wywn</i>	2/23/04	<i>Guy Wywn</i>	8/17/04	
12. Jon M. Diltz	Program Support Lead	<i>Jon M. Diltz</i>	3/22/04	<i>Jon M. Diltz</i>	8-30-04	
13. Raymond J. Triano	Ops validator	<i>Raymond J. Triano</i>	5/5/04	<i>Raymond J. Triano</i>	8/30/04	
14. Carl Young	SME / Validator	<i>Carl Young</i>	5/10/04	<i>Carl Young</i>	8/19/04	
15. Russell B DeVore	Sim Instructor / STA Instructor	<i>Russell B DeVore</i>	5/17/04	<i>Russell B DeVore</i>	8/18/04	

NOTES: PAGE 1 of 3 ① see attached copy with "ORIGINAL" signature *R. Brooks*

1. Pre-Examination

Susquehanna

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 8/9/2004 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 8/14-16/04. 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. <u>ROBERT WISZOLEK</u>	<u>SIM EVALUATOR</u>	<u>[Signature]</u>	<u>5/7/04</u>	<u>[Signature]</u>	<u>8/19/04</u>	
2. <u>DAVID S. BORGER</u>	<u>UNIT SUPERVISOR / OPS</u>	<u>[Signature]</u>	<u>5-7-2004</u>	<u>[Signature]</u>	<u>8-25-04</u>	
3. <u>Bill Morris</u>	<u>UNIT SUPERVISOR</u>	<u>[Signature]</u>	<u>5/7/04</u>	<u>[Signature]</u>	<u>8/30/04</u>	
4. <u>John Snyder</u>	<u>Unit Supervisor</u>	<u>[Signature]</u>	<u>5/7/04</u>	<u>[Signature]</u>	<u>8/23/04</u>	
5. <u>FRANK MURIN</u>	<u>PCO / RO</u>	<u>[Signature]</u>	<u>5-11-2004</u>	<u>[Signature]</u>	<u>8/24/04</u>	
6. <u>Dimitrios Marinos</u>	<u>Ops Validation</u>	<u>[Signature]</u>	<u>5/12/04</u>	<u>[Signature]</u>	<u>8/20/04</u>	
7. <u>ROBERT P. BINGMAN</u>	<u>OPS VALIDATION</u>	<u>[Signature]</u>	<u>5/13/04</u>	<u>[Signature]</u>	<u>8/23/04</u>	
8. <u>Ken Roush</u>	<u>Manager - Nuclear Training</u>	<u>[Signature]</u>	<u>5/19/04</u>	<u>[Signature]</u>	<u>8/20/04</u>	
9. <u>Thomas Greer</u>	<u>US / OPS VALIDATION</u>	<u>[Signature]</u>	<u>5-26-04</u>	<u>[Signature]</u>	<u>9-1-04</u>	
10. <u>Nicholas Yonchik</u>	<u>Computer SME</u>	<u>[Signature]</u>	<u>6-2-04</u>	<u>[Signature]</u>	<u>8/17/04</u>	
11. <u>Michael Kiegotruck</u>	<u>PCO / RO</u>	<u>[Signature]</u>	<u>7-13-04</u>	<u>[Signature]</u>	<u>8/23/04</u>	
12. <u>James E. BLEISMAN</u>	<u>PCO/RO</u>	<u>[Signature]</u>	<u>7-13-04</u>	<u>[Signature]</u>	<u>8-30-04</u>	
13. <u>Richard C. Good, Jr.</u>	<u>Steno Clerk General</u>	<u>[Signature]</u>	<u>7-13-04</u>	<u>[Signature]</u>	<u>8-19-04</u>	
14. <u>VICKY A. HORVAT</u>	<u>STENO CLERK GENERAL</u>	<u>[Signature]</u>	<u>7-22-04</u>	<u>[Signature]</u>	<u>8/17/04</u>	
15. <u>MARTIN J. LUSTINE</u>	<u>UNIT SUPV.</u>	<u>[Signature]</u>	<u>7/23/04</u>	<u>[Signature]</u>	<u>8/24/04</u>	

NOTES: PAGE 2 of 3

1. Pre-Examination

Susquehanna

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 8/9/04 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 8/9 & 8/16/04 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. Robert Boesch	Supv-Ops Instruction/Trng	<i>Robert Boesch</i>	8/9/04	<i>Robert Boesch</i>	8/30/04	
2. RICH E. CHIN	Sim Instructor / MPL	<i>Richard E. Chin</i>	8/9/04	<i>Richard E. Chin</i>	8/20/04	
3. JEFF HELSEL	ADM-OPS WORK CONTROL	<i>Jeff Helsel</i>	8/9/04	<i>Jeff Helsel</i>	8/17/04	
4. CLIFFORD W. WOODMAN	SIM INSTRUCTOR / <sup>POST EXAM</sup> WRITTEN COMMENTS	<i>Clifford Woodman</i>	8/9/04	<i>Clifford Woodman</i>	8/17/04	
5. Jon Seak	Unit Supervisor / TLU Program Lead	<i>Jon Seak</i>	8/10/04	<i>Jon Seak</i>	8/19/04	
6. Sidney Morgan	Sim Inst / <sup>POST EXAM</sup> WRITTEN COMMENTS	<i>Sidney Morgan</i>	8/16/04	<i>Sidney Morgan</i>	8/18/04	
7.						
8.						
9.						
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14.						
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NOTES: PAGE 3 of 3

1. Pre-Examination

Susquehanna

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 8/9/2004 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 8/9/8/16/04 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. Gregory J. Fewler	Project Dir./Control Analyst	<i>Gregory J. Fewler</i>	11-11-03		8/18/04	
2. Richard J. Brooks	Exam Coordinator	<i>RJ Brooks</i>	11-13-03	<i>RJ Brooks</i>	8/17/04	
3. Terry W. Logsdon	Exam Developer	<i>Terry W. Logsdon</i>	11-14-03	<i>Terry W. Logsdon</i>	8/22/04	①
4. Scott D. Leffenbaker	Computer System Hardware Analyst	<i>Scott D. Leffenbaker</i>	11-19-03	<i>Scott D. Leffenbaker</i>	8/19/04	
5. R H Hal	EXA-DEV.	<i>RH Hal</i>	11/15/03	<i>RH Hal</i>	8/12/04	
6. C.E. Dodge	Sim Lead	<i>C.E. Dodge</i>	11/17/03	<i>C.E. Dodge</i>	8/20/04	
7. DC Krupp	Engineer	<i>DC Krupp</i>	11/24/03	<i>DC Krupp</i>	8/19/04	
8. Darwin Dutton	SME	<i>Darwin Dutton</i>	8/20/04			
9. Fred Beins	Exam Developer	<i>Fred Beins</i>	2/2/04	<i>Fred Beins</i>	8/17/04	
10. Frank Tarselli	Sim Test Operator	<i>Frank Tarselli</i>	2/19/04	<i>Frank Tarselli</i>	8/19/04	
11. Guy Wynn	EXAM DEVELOPER	<i>Guy Wynn</i>	2/23/04	<i>Guy Wynn</i>	8/17/04	
12. Jon M. Diltz	Program Support Lead	<i>Jon M. Diltz</i>	3/22/04			
13. Raymond J. Triano	Ops validator	<i>Raymond J. Triano</i>	5/5/04			
14. Carl Young	SME / Validator	<i>Carl Young</i>	5/18/04	<i>Carl Young</i>	8/19/04	
15. Russell B DeVore	Sim Instructor / STA Instructor	<i>Russell B DeVore</i>	5/7/04	<i>Russell B DeVore</i>	8/18/04	

NOTES: PAGE 1 of 3

① Copied & then obtained "original" signature *RJ Brooks*



Facility: <b>SUSQUEHANNA</b>		Date of Examination: <b>08/09-08/13 2004</b>		Operating Test Number:	
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).	RJB	KMT	J	2nd score
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	RJB	KMT	J	
c.	The operating test shall not duplicate items from the applicants= audit test(s) (see Section D.1.a).	RJB	KMT	J	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	RJB	KMT	J	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	RJB	KMT	J	
2. WALK-THROUGH CRITERIA			-	-	-
a.	Each JPM includes the following, as applicable: ≡ initial conditions ≡ initiating cues ≡ references and tools, including associated procedures ≡ reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee ≡ 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	RJB	KMT	J	
b.	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	RJB	KMT	J	
c.	At least 20 percent of the JPMs on each test are new or significantly modified.	RJB	KMT	J	
3. SIMULATOR CRITERIA			-	-	-
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	RJB	KMT	J	
		Printed Name / Signature		Date	
a. Author	<u>Richard J. Brooks / Richard J. Brooks</u>		<u>6/10/04</u>		
b. Facility Reviewer(*)	<u>Kenneth M. Roush / Kenneth M. Roush</u>		<u>6/11/04</u>		
c. NRC Chief Examiner (#)	<u>J. J. ANTONIO / J. J. ANTONIO</u>		<u>7/7/04</u>		
d. NRC Supervisor	<u>R. J. Conroy / R. J. Conroy</u>		<u>7/8/04</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: <b>SSES</b> Date of Exam: <b>08/09-08/13 2004</b> Scenario Numbers: <b>ILO-301, 501, 601, 401, 302</b> Operating Test No.: <b>N/A</b>		Initials		
QUALITATIVE ATTRIBUTES		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.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
2.	The scenarios consist mostly of related events.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
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)	<i>BJG</i>	<i>KMP</i>	<i>2</i>
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
5.	The events are valid with regard to physics and thermodynamics.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
8.	The simulator modeling is not altered.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
9.	The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	<i>BJG</i>	<i>KMP</i>	<i>2</i>
12.	Each applicant will be significantly involved in the minimum number of transients and events specified on Form ES-301-5 (submit the form with the simulator scenarios).	<i>BJG</i>	<i>KMP</i>	<i>2</i>
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	<i>BJG</i>	<i>KMP</i>	<i>2</i>
<b>TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.5.d)</b>		Actual Attributes		
1.	Total malfunctions (5-8)	9/9/6/8/7	<i>BJG</i>	<i>KMP</i>
2.	Malfunctions after EOP entry (1-2) [RCIC steam leak, RCIC isolation failure, RWCU leak, 2 ADS SRVs fail to open]	4/4/2/4/3	<i>BJG</i>	<i>KMP</i>
3.	Abnormal events (2-4) [ON-155, ON-134, ON-143]	3/2/2/1/3	<i>BJG</i>	<i>KMP</i>
4.	Major transients (1-2) [RCIC steam leak, Rapid Depressurization]	2/2/1/3/2	<i>BJG</i>	<i>KMP</i>
5.	EOPs entered/requiring substantive actions (1-2) [102, 103, 104]	3/2/2/2/3	<i>BJG</i>	<i>KMP</i>
6.	EOP contingencies requiring substantive actions (0-2) [112]	1/2/1/1/1	<i>BJG</i>	<i>KMP</i>
7.	Critical tasks (2-3)	2/4/3/4/2	<i>BJG</i>	<i>KMP</i>

OPERATING TEST NO.: Primary Scenarios

Applicant Type	Evolution Type	Minimum Number	Scenario Number					
			1 (301)		2 (501)		3 (601)	
			RO	BOP	RO	BOP	RO	BOP
RO	Reactivity	1*					4	
	Normal	1*		1		1		1
	Instrument / Component	4*	3,5,6,9	2,4,8,11	3,4,5	2,3,5,7,8,9	5	2,3,7,8
	Major	1		7,10	6	6,10	6	6

As RO	Reactivity	1*					4	
	Normal	0		1		1		1
	Instrument / Component	2*	3,5,6,9	2,4,8,11	3,4,5	2,3,5,7,8,9	5	2,3,7,8
	Major	1		7,10	6	6,10	6	6

SRO-I

As SRO	Reactivity	0					4	
	Normal	1*		1		1		1
	Instrument / Component	2*	3,5,6,9	2,4,8,11	3,4	2,5,7,8,9	5	2,3,7,8
	Major	1		7,10		6,10	6	

SRO-U	Reactivity	0					4	
	Normal	1*		1		1		1
	Instrument / Component	2*	3,5,6,9	2,4,8,11	3,4	2,5,7,8,9	5	2,3,7,8
	Major	1		7,10		6,10	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.45.d) but must be significant per Section C.2.a of Appendix D. \* Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one for-one basis.

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

Author: R.J. Brooks *R.J. Brooks*  
 NRC Reviewer: *[Signature]*

OPERATING TEST NO.: Backup Scenarios

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			4 (302)		5 (401)	
			RO	BOP	RO	BOP
RO	Reactivity	1*				
	Normal	1*	1	1		1
	Instrument / Component	4*	3,4,5	2,4,5,6,7	3	2,4,6,7,8,9
	Major	1	8	8,9	5	5,10

As RO	Reactivity	1*				
	Normal	0	1	1		1
	Instrument / Component	2*	3,4,5	2,4,5,6,7	3	2,4,6,7,8,9
	Major	1	8	8,9	5	5,10

SRO-I

As SRO	Reactivity	0				
	Normal	1*	1			1
	Instrument / Component	2*	3,4	2,5,6,7	3	2,4,6,7,8,9
	Major	1	8	9	5	10

SRO-U	Reactivity	0				
	Normal	1*	1			1
	Instrument / Component	2*	3,4	2,5,6,7	3	2,4,6,7,8,9
	Major	1	8	9	5	10

- 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.45.d) but must be significant per Section C.2.a of Appendix D. \* Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a one for-one basis.
  - (3) Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author: R. J. B. [Signature]  
 NRC Reviewer: [Signature]

Competencies	SRO					RO					BOP				
	SCENARIO					SCENARIO					SCENARIO				
	301	501	601	302	401	301	501	601	302	401	301	501	601	302	401
Interpret / Diagnose Events and Conditions	3-11	2-10	2-8	3-9	2-10	3-6, 9, 10	3-6, 10	3-6, 8	3-5, 8	3, 5, 6, 7, 10	2, 4, 5, 7, 8, 10, 11	2, 3, 5-10	2, 3, 5-8	2, 4-9	2-10
Comply With and Use Procedures (1)	1, 3-11	3-10	3-8	3-9	3, 5-10	1, 3-6, 9	3-6, 10	3-6	1, 3-5, 8	3, 5, 7, 10	1, 2, 4-8, 10, 11	1-3, 5-7, 9, 10	1-3, 5-8	2, 4-9	1, 2, 4-10
Operate Control Boards (2)	X	X	X	X	X	3, 5, 6, 9	3-6	3-6	1, 3-5, 8	3, 5, 7, 10	1, 2, 4-8, 10, 11	1-3, 5-7, 9, 10	1-3, 5-8	2, 4-9	1, 2, 4-10
Communicate and Interact	1-11	1-10	1-8	1-9	1-10	1-11	1-10	1-8	1-9	1-10	1-11	1-10	1-8	1-9	1-10
Demonstrate Supervisory Ability (3)	1-11	1-10	1-8	1-9	1-10	X	X	X	X	X	X	X	X	X	X
Comply With and Use Tech. Specs. (3)	1, 3, 4	2, 4	2	3	2, 4	X	X	X	X	X	X	X	X	X	X
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: R.J. Books / RJ Books

NRC Reviewer: [Signature]

Facility: **SUSQUEHANNA** Date of Exam: **08/09-08/13 2004** Exam Level: **RO/SRO**

Item Description	Initial					
	a	b*	c*			
1. Questions and answers technically accurate and applicable to facility	RJB	KMR	✓			
2. a. NRC K/As referenced for all questions b. Facility learning objectives referenced as available	RJB	KMR	✓			
3. SRO questions are appropriate per Section D.2.d of ES-401	RJB	KMR	✓			
4. 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 checked="" 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 type="checkbox"/> the examinations were developed independently; or <input type="checkbox"/> the licensee certifies that there is no duplication; or <input checked="" type="checkbox"/> other (explain) <u>checked no duplicate KIAs</u>	RJB	KMR	✓			
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 RO / SRO-only question distribution(s) at right	Bank <b>9</b>	Modified <b>12</b>	New <b>79</b>	RJB	KMR	✓
7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	M/F <b>31 30/1</b>	C/A <b>44/40 45/24</b>		RJB	KMR	✓
8. References/handouts provided do not give away answers	RJB	KMR	✓			
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	RJB	KMR	✓			
10. Question psychometric quality and format meet ES, Appendix B, guidelines	RJB	KMR	✓			
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet	RJB	KMR	✓			

Printed Name / Signature	Date
a. Author <u>R. J. Brooks</u> <i>RJB</i>	<u>6/10/04</u>
b. Facility Reviewer (*) <u>Kenneth M. Rowland</u> <i>KMR</i>	<u>6/11/04</u>
c. NRC Chief Examiner (#) <u>J. D'Antonio</u> <i>JDA</i>	<u>8/3/04</u>
d. NRC Regional Supervisor <u>Richard T. Conte</u> <i>RC</i>	<u>8/5/04</u>

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

① RO & SRO exams will need to be given separately. otherwise the SRO references could be used to obtain information that could be helpful in answering RO questions.  
NA - MODIFIED REFERENCE PACKAGE JMB *RJB 6/10/04*

Facility: <b>SUSQUEHANNA</b>		Date of Exam: <b>8/9-8/17 2004</b>		Exam Level: <b>RO/SRO</b>	
Item Description	Initials				
	a	b	c		
1. Clean answer sheets copied before grading	<i>M</i>	<i>egz</i>	<i>J</i>		
2. Answer key changes and question deletions justified and documented	<i>M</i>	<i>egz</i>	<i>J</i>		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<i>M</i>	<i>egz</i>	<i>J</i>		
4. Grading for all borderline cases (80 +/- 2% overall and 70 +/- 4% on the SRO-only) reviewed in detail	<i>M</i>	<i>egz</i>	<i>J</i>		
5. All other failing examinations checked to ensure that grades are justified	<i>M</i>	<i>egz</i>	<i>J</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>M</i>	<i>egz</i>	<i>J</i>		
Printed Name / Signature		Date			
a. Grader	<i>R. Halm / R. Halm</i>			<u>8/18/04</u>	
b. Facility Reviewer(*)	<i>R. J. Brooks / M. L. Brown</i>			<u>8/23/04</u>	
c. NRC Chief Examiner (*)	<i>M. L. Brown / J. D'Antonio</i>			<u>8/25/04</u>	
d. NRC Supervisor (*)	<i>R. J. Centre / [Signature]</i>			<u>9/13/04</u>	
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					