

Facility: Beaver Valley Unit 1 Date of Examination: 10/31/16
 Developed by: Written: Facility NRC // Operating Facility NRC

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	JS
-150	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	JS
-150	3. Facility contact briefed on security and other requirements (C.2.c)	JS
-150	4. Corporate notification letter sent (C.2.d)	JS
[-120]	5. Reference material due (C.1.e; C.3.c; Attachment 3)	JS
{-90}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1, ES-401-1/2, ES-401N-1/2, ES-401-3, ES-401N-3, ES-401-4, and ES-401N-4, as applicable (C.1.e and f; C.3.d)	JS
{-85}	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	JS
{-60}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, ES-401N-6, and any Form ES-201-2, ES-201-3, ES-301-1, or ES-301-2 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	JS
-45	9. Written exam and operating test reviews completed. (C.3.f)	JS
-30	10. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	JS
-21	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	NA
-21	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	NA
-14	13. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	JS
-14	14. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	JS
-7	15. Facility licensee management queried regarding the licensee's views on the examination. (C.2.j)	NA
-7	16. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 5; ES-202, C.2.e; ES-204)	JS
-7	17. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	JS
-7	18. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	JS

* Target dates are generally based on facility-prepared examinations and 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] {Does not apply} to examinations prepared by the NRC.

} License Developed Exam

Facility Beaver Valley Unit 1		Date of Examination: October 31, 2016 to November 18, 2016		
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 or ES-401N.	JCH	P	WJ
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 or ES-401N and whether all K/A categories are appropriately sampled.	JCH	P	WJ
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	JCH	P	WJ
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JCH	P	WJ
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, technical specifications and major transients.	JCH	P	WJ
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicant's audit test(s), and scenarios will not be repeated on subsequent days.	JCH	P	WJ
	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.	JCH	P	WJ
3. W / T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) task repetition from the last two NRC examinations is within the limits specified on the form. (3) no tasks are duplicated from the applicant's audit test(s). (4) the number of new or modified tasks meets or exceeds the minimums specified on the form. (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	JCH	P	WJ
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form. (2) at least one task is new or significantly modified. (3) no more than one task is repeated from the last two NRC licensing examinations.	JCH	P	WJ
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	JCH	P	WJ
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.	JCH	P	WJ
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	JCH	P	WJ
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JCH	P	WJ
	d. Check for duplication and overlap among exam sections.	JCH	P	WJ
	e. Check the entire exam for balance of coverage.	JCH	P	WJ
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JCH	P	WJ
Printed Name / Signature		Date		
a. Author	T. A. Gaydosik <i>T.A. Gaydosik</i>	8/31/16		
b. Facility Reviewer (*)	S. P. Snook <i>S.P. Snook</i>	8/31/16		
c. NRC Chief Examiner (#)	David Silk <i>David Silk</i>	10/4/16 <i>*</i>		
d. NRC Supervisor	Donald Jackson <i>Donald Jackson</i>	10/17/16		
Note:	# Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. * Not applicable for NRC-prepared examination outlines			

** Earlier 201-2 Form was signed prior to completion of validation. Item 2.c. was not initial by licensee at 90 day submittal point.*

Facility **Beaver Valley Unit 1** Date of Examination: **October 31, 2016 to November 18, 2016**

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 or ES-401N.	Joh	P		
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 or ES-401N and whether all K/A categories are appropriately sampled.	Joh	P		
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	Joh	P		
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	Joh	P		
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, technical specifications and major transients.	Joh	P		
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicant's audit test(s), and scenarios will not be repeated on subsequent days.	Joh	P		
	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.	①	①		
3. W / T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) task repetition from the last two NRC examinations is within the limits specified on the form. (3) no tasks are duplicated from the applicant's audit test(s). (4) the number of new or modified tasks meets or exceeds the minimums specified on the form. (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	Joh	P		
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form. (2) at least one task is new or significantly modified. (3) no more than one task is repeated from the last two NRC licensing examinations.	Joh	P		
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	Joh	P		
	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.	Joh	P	
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	Joh	P		
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	Joh	P		
d. Check for duplication and overlap among exam sections.	Joh	P			
e. Check the entire exam for balance of coverage.	Joh	P			
f. Assess whether the exam fits the appropriate job level (RO or SRO).	Joh	P			

	Printed Name / Signature	Date
a. Author	T. A. Gaydosik <i>T. A. Gaydosik</i>	7/26/16 ①
b. Facility Reviewer (*)	S. P. Snook <i>S. P. Snook</i>	7/26/16 ①
c. NRC Chief Examiner (#)	_____	_____
d. NRC Supervisor	_____	_____

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.
* Not applicable for NRC-prepared examination outlines

① Item 2.c to be completed following Scenario Development and validation, will be resubmitted with Exam materials

Facility Beaver Valley Unit 1		Date of Examination: October 31, 2016 to November 18, 2016		
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 or ES-401N.	Joh	P	OS
	b. Assess whether the outline was systematically and randomly prepared in accordance with Section D.1 of ES-401 or ES-401N and whether all K/A categories are appropriately sampled.	Joh	P	OS
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	Joh	P	OS
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	Joh	P	OS
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, technical specifications and major transients.	Joh	P	OS
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity; and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicant's audit test(s), and scenarios will not be repeated on subsequent days.	Joh	P	OS
	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.	①	①	OS
3. W / T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) the required number of control room and in-plant tasks distributed among the safety functions as specified on the form. (2) task repetition from the last two NRC examinations is within the limits specified on the form. (3) no tasks are duplicated from the applicant's audit test(s). (4) the number of new or modified tasks meets or exceeds the minimums specified on the form. (5) the number of alternate path, low-power, emergency, and RCA tasks meet the criteria on the form.	Joh	P	OS
	b. Verify that the administrative outline meets the criteria specified on Form ES-301-1: (1) the tasks are distributed among the topics as specified on the form. (2) at least one task is new or significantly modified. (3) no more than one task is repeated from the last two NRC licensing examinations.	Joh	P	OS
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	Joh	P	OS
	4. a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	Joh	P	OS
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	Joh	P	OS
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	Joh	P	OS
4. G E N E R A L	d. Check for duplication and overlap among exam sections.	Joh	P	OS
	e. Check the entire exam for balance of coverage.	Joh	P	OS
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	Joh	P	OS

	Printed Name / Signature	Date
a. Author	<u>T. A. Gaydosik</u> <i>T.A. Gaydosik</i>	<u>7/26/16</u> ①
b. Facility Reviewer (*)	<u>S. P. Snook</u> <i>S.P. Snook</i>	<u>7/26/16</u> ①
c. NRC Chief Examiner (#)	<u>David Silk / Donald Jackson</u>	<u>9/8/16</u>
d. NRC Supervisor	<u>Donald Jackson</u> <i>Donald Jackson</i>	<u>9/15/16</u>

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.
* Not applicable for NRC-prepared examination outlines

① Item 2.c to be completed following Scenario Development and validation, will be resubmitted with Exam materials

ORIGINAL

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** 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>THOMAS A. GAYDOSIK</u>	<u>LEAD FLEET EXAM TEAM</u>	<u>[Signature]</u>	<u>1/5/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
2. <u>Michael S. Klingensmith</u>	<u>Fleet Exam Team Dev.</u>	<u>[Signature]</u>	<u>1-5-16</u>	<u>[Signature]</u>	<u>11-15-16</u>	
3. <u>PAUL T. EISENMAN</u>	<u>FLEET EXAM TEAM DEVELOPER</u>	<u>[Signature]</u>	<u>1-6-16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
4. <u>SHAWN SNOOK</u>	<u>SHIFT MANAGER / FACILITY REP</u>	<u>[Signature]</u>	<u>2/23/10</u>	<u>[Signature]</u>	<u>11/16/16</u>	
5. <u>Rick CAVALTEAR</u>	<u>Software Specialist</u>	<u>[Signature]</u>	<u>7/12/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
6. <u>DANIEL KAMENBERG</u>	<u>OPS TRG SUPERINTENDENT</u>	<u>[Signature]</u>	<u>7/26/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
7. <u>JOHN BALDWIN</u>	<u>RO</u>	<u>[Signature]</u>	<u>8-15-16</u>	<u>[Signature]</u>	<u>11/16/16</u>	
8. <u>STEVE CHUDY</u>	<u>RO</u>	<u>[Signature]</u>	<u>8-15-16</u>	<u>[Signature]</u>	<u>11-16-16</u>	
9. <u>Luke Prandfort</u>	<u>US/SM</u>	<u>[Signature]</u>	<u>8/15/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
10. <u>Cassandra Washington</u>	<u>Sim Software</u>	<u>[Signature]</u>	<u>8/15/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
11. <u>Hugh E Bruner</u>	<u>Sim Hardware</u>	<u>[Signature]</u>	<u>8-16-16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
12. <u>THOMAS F. OLCARY</u>	<u>US/SM</u>	<u>[Signature]</u>	<u>8-16-16</u>	<u>[Signature]</u>	<u>11-15-16</u>	
13. <u>Russell C. Fairfield</u>	<u>Sim Spcl.</u>	<u>[Signature]</u>	<u>8-30-16</u>	<u>[Signature]</u>	<u>11-16-16</u>	
14. <u>Kent F. Sloan</u>	<u>SM</u>	<u>[Signature]</u>	<u>9/12/16</u>	<u>[Signature]</u>	<u>11-16-16</u>	
15. <u>Ron Gilchrist</u>	<u>US</u>	<u>[Signature]</u>	<u>9/12/16</u>	<u>[Signature]</u>	<u>11/16/16</u>	

NOTES: **BV1LOT16 NRC Exam**

ORIGINAL

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** 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>Mike Librich</u>	<u>Reactor Operator</u>	<u>[Signature]</u>	<u>9-12-16</u>	<u>[Signature]</u>	<u>11-17-16</u>	
2. <u>SEAN HART</u>	<u>R.O.</u>	<u>[Signature]</u>	<u>9-12-16</u>	<u>[Signature]</u>	<u>11-17-16</u>	
3. <u>Dave Froble II</u>	<u>Reactor Operator</u>	<u>[Signature]</u>	<u>9-13-16</u>	<u>[Signature]</u>	<u>11-17-16</u>	
4. <u>Marina C. Jones</u>	<u>Nuc. Int. Clerk</u>	<u>[Signature]</u>	<u>10-24-16</u>	<u>[Signature]</u>	<u>11-15-16</u>	
5. <u>Greg Pellet</u>	<u>Supv</u>	<u>[Signature]</u>	<u>10/27/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
6. <u>Paul T. Rappel</u>	<u>Instructor</u>	<u>[Signature]</u>	<u>10/27/16</u>	<u>[Signature]</u>	<u>11/10/16</u>	①
7. <u>BOB KRISTOPHEL</u>	<u>Ops. Supt.</u>	<u>[Signature]</u>	<u>10-27-16</u>	<u>[Signature]</u>	<u>11-15-16</u>	
8. <u>Daniel J Murray</u>	<u>Performance Improvement</u>	<u>[Signature]</u>	<u>10-28-16</u>	<u>[Signature]</u>	<u>11-15-16</u>	
9. <u>KEVIN BAETH</u>	<u>OPS INST</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
10. <u>Dan Mihill</u>	<u>OPS INSTRUCTOR</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
11. <u>LEIF GORSON</u>	<u>OPS INSTRUCTOR</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
12. <u>David Spindler</u>	<u>OPS Instructor</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
13. <u>[Signature]</u>	<u>OPS INSTRUCTOR</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	
14. <u>Patrick S. Peltier</u>	<u>OPS Instructor</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/10/16</u>	①
15. <u>SEAN JONNY</u>	<u>OPS INSTRUCTOR</u>	<u>[Signature]</u>	<u>10/28/16</u>	<u>[Signature]</u>	<u>11/15/16</u>	

NOTES: **BV1LOT16 NRC Exam** ① Proctored operating exam only had no knowledge of written exam content Joe Rappan
11/14/16

ORIGINAL

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination


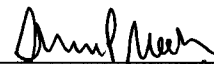
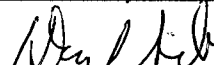
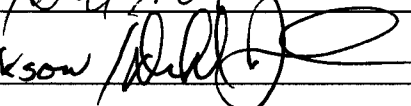
To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) **10/31/2016 through 11/18/2016 @ Beaver Valley Unit 1** From the date that I entered into this security agreement until the completion 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. DANIEL A. TIBERIO	SUPV. SIM SUPPORT		10-31-16		11/15/16	
2. Andrew C. Jacques	ILT Instructor		10-31-16		11/15/16	
3. Joshua Buzzell	unit sup - in training		11-4-16		11/15/16	
4. THOMAS MUNROE	NUCLEAR OPERATOR IN TRAINING		11-4-16		11/15/16	
5. PEYTON STONE	NUCLEAR OPERATOR IN TRAINING		11-4-16		11/15/16	
6. Shawn Ragsdale	Unit Sup - in-Training		11-4-16		11/16/16	
7. Willis Hollingsworth	Unit Sup - in-Training		11-4-16		11/15/16	
8. CHRISTOPHER L. RUSSELL	LOCT INSTRUCTOR		11/7/16		11/15/16	
9.						
10.						
11.						
12.						
13.						
14.						
15.						

NOTES: **BV1LOT16 NRC Exam**

Facility: **Beaver Valley Unit 1** Date of Examination: **October 31, 2016 to November 18, 2016** Operating Test Number: **BV1LOT16**

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).	JCH	P	JH
b. There is no day-to-day repetition between this and other operating tests to be administered during this examination.	JCH	P	JH
c. The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).	JCH	P	JH
d. Overlap with the written examination and between different parts of the operating test is within acceptable limits.	JCH	P	JH
e. It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	JCH	P	JH
2. WALK-THROUGH 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 	JCH	P	JH
b. Ensure that any changes from the previously approved systems and administrative walk-through outlines (Forms ES-301-1 and 2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last 2 NRC examinations) specified on those forms and Form ES-201-2.	JCH	P	JH
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.	JCH	P	JH

	Printed Name / Signature	Date
a. Author	T. A. Gaydosik 	8-25-16
b. Facility Reviewer (*)	S. P. Snook 	8/29/16
c. NRC Chief Examiner (#)	David Silk 	10/4/16
1. NRC Supervisor	Donald Jackson 	10/7/16

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

Facility: Beaver Valley Unit 1 Date of Exam: October 31, 2016 to November 18, 2016 Scenario Numbers _____ Operating Test No.: BV1LOT16													
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.					JSB	P	WJ					
2.	The scenarios consist mostly of related events.					JSB	P	WJ					
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) or conditions 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) 					JSB	P	WJ					
4.	The events are valid with regard to physics and thermodynamics.					JSB	P	WJ					
5.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.					JSB	P	WJ					
6.	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.					JSB	P	WJ					
7.	The simulator modeling is not altered.					JSB	P	WJ					
8.	The scenarios have been validated. Pursuant to 10 CFR 55.46(d), any open simulator performance deficiencies or deviations from the referenced plant have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.					JSB	P	WJ					
9.	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.					JSB	P	WJ					
10.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).					JSB	P	WJ					
11.	The scenario set provides the opportunity for each applicant to be evaluated in each of the applicable rating factors. (Competency Rating factors as described on forms ES-303-1 and ES-303-3.					JSB	P	WJ					
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).					JSB	P	WJ					
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.					JSB	P	WJ					
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.5.d)						Actual Attributes							
						#1	#2	#3	#4	#5			
1.	Malfunctions after EOP entry (1-2)					4	3	3	4	2	JSB	P	WJ
2.	Abnormal events (2-4)					4	3	4	3	5	JSB	P	WJ
3.	Major transients (1-2)					2	1	1	1	2	JSB	P	WJ
4.	EOPs entered/requiring substantive actions (1-2)					3	2	2	3	1	JSB	P	WJ
5.	EOP contingencies requiring substantive actions (0-2)					1	0	0	0	1	JSB	P	WJ
6.	EOP based Critical tasks (2-3)					3	3	3	3	3	JSB	P	WJ
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.													

Facility Beaver Valley Unit 1 Date of Exam October 31, 2016 to November 18, 2016 Operating Test No BV1LOT16

A P P L I C A N T	E V E N T T Y P E	Scenarios															T O T A L	M I N I M U M(-)			
		1			2			3			4 SPARE			5							
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
																	R	I	U		
M A S T E R	RX		4			4			1			3							1	1	0
	NOR				4		4	1,4		4		3		3	4		4		1	1	1
	I/C	1,2,3,4,6,7,9,10	1,3,6,10,7,9	2,4,7,9	1,2,3,6,7,8	2,3,6	1,7,8	2,3,5,8,9,10,11	3,8,11	2,5,9,10	2,4,6,8,9,10,11	6,8,11	2,4,9,10	1,2,3,5,6,8,9	1,3,6,8	2,5,9			4	4	2
	MAJ	5,8	5,8	5,8	5	5	5	7	7	7	7	7	7	7	7,10	7,10	7,10		2	2	1
	TS	1,2			2,3			5,6				1,5			3,4,5				0	2	2
RO-1 <input checked="" type="checkbox"/>	RX		4															1	1	1	0
	NOR						4			4								2	1	1	1
	I/C		1,3,6,10				1,7,8			2,5,9,10								11	4	4	2
	MAJ		5,8				5			7								4	2	2	1
	TS																	0	0	2	2
RO-2 <input checked="" type="checkbox"/>	RX					4												1	1	1	0
	NOR																	0	1	1	1
	I/C			2,4,7,9		2,3,6												7	4	4	2
	MAJ			5,8		5												3	2	2	1
	TS																	0	0	2	2
RO-3 <input checked="" type="checkbox"/>	RX		4															1	1	1	0
	NOR									4						4		2	1	1	1
	I/C		1,3,6,10							2,5,9,10					2,5,9			11	4	4	2
	MAJ		5,8							7					7,10			5	2	2	1
	TS																	0	0	2	2
RO-4 <input checked="" type="checkbox"/>	RX																	0	1	1	0
	NOR																	0	1	1	1
	I/C			2,4,7,9											1,3,6,8			8	4	4	2
	MAJ			5,8											7,10			4	2	2	1
	TS																	0	0	2	2

Facility Beaver Valley Unit 1 Date of Exam October 31, 2016 to November 18, 2016 Operating Test No BV1LOT16

A P P L I C A N T	E V E N T T Y P E	Scenarios															T O T A L	M I N I M U M (-)		
		1			2			3			4 SPARE			5						
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N						
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P				
																	R	I	U	
RO-5 <input checked="" type="checkbox"/>	RX					4											1	1	1	0
	NOR															4	1	1	1	1
	I/C			2,4, 7,9		2,3, 6										2,5, 9	10	4	4	2
	MAJ			5,8		5										7,10	5	2	2	1
	TS																0	0	2	2
RO-6 <input checked="" type="checkbox"/>	RX								1								1	1	1	0
	NOR						4									4	2	1	1	1
	I/C						1,7, 8		3,8, 11							2,5, 9	9	4	4	2
	MAJ						5		7							7,10	4	2	2	1
	TS																0	0	2	2
RO-7 <input checked="" type="checkbox"/>	RX					4											1	1	1	0
	NOR									4							1	1	1	1
	I/C					2,3, 6			2,5, 9,10								7	4	4	2
	MAJ					5			7								2	2	2	1
	TS																0	0	2	2
RO-8 <input checked="" type="checkbox"/>	RX		4														1	1	1	0
	NOR						4			4							2	1	1	1
	I/C		1,3, 6,10			1,7, 8			2,5, 9,10								11	4	4	2
	MAJ		5,8			5			7								4	2	2	1
	TS																0	0	2	2

Facility		Beaver Valley Unit 1		Date of Exam		October 31, 2016 to November 18, 2016		Operating Test No		BV1LOT16									
A P P L I C A N T	E V E N T T Y P E	Scenarios											T O T A L	M I N I M U M(-)					
		1			2			3			4 SPARE						5		
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N					
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C		B O P	S R O	A T C	B O P		
												R	I	U					
RO-9 <input checked="" type="checkbox"/>	RX				4											1	1	1	0
	NOR								4							1	1	1	1
	I/C			2,4, 7,9	2,3, 6				2,5, 9,10							11	4	4	2
	MAJ			5,8	5				7							4	2	2	1
	TS															0	0	2	2
RO-10 <input checked="" type="checkbox"/>	RX		4													1	1	1	0
	NOR					4			4							2	1	1	1
	I/C		1,3, 6,10			1,7, 8			2,5, 9,10							11	4	4	2
	MAJ		5,8			5			7							4	2	2	1
	TS															0	0	2	2
RO-11 <input checked="" type="checkbox"/>	RX				4											1	1	1	0
	NOR															0	1	1	1
	I/C			2,4, 7,9	2,3, 6											7	4	4	2
	MAJ			5,8	5											3	2	2	1
	TS															0	0	2	2
RO-12 <input checked="" type="checkbox"/>	RX				4											1	1	1	0
	NOR													4		1	1	1	1
	I/C			2,4, 7,9	2,3, 6									2,5, 9		10	4	4	2
	MAJ			5,8	5									7,10		5	2	2	1
	TS															0	0	2	2

Facility		Beaver Valley Unit 1		Date of Exam		October 31, 2016 to November 18, 2016		Operating Test No		BV1LOT16											
A P P L I C A N T	E V E N T T Y P E	Scenarios															T O T A L	M I N I M U M (-)			
		1			2			3			4 SPARE			5							
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N							
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P					
																	R	I	U		
RO-13 <input checked="" type="checkbox"/>	RX							1									1	1	1	0	
	NOR															4	1	1	1	1	
	I/C							3,8, 11								2,5, 9	6	4	4	2	
	MAJ							7								7,10	3	2	2	1	
	TS																0	0	2	2	
SROI-1 <input checked="" type="checkbox"/>	RX							1									1	1	1	0	
	NOR				4												1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10			1,2, 3,6, 7,8			3,8, 11										17	4	4	2
	MAJ	5,8			5			7									4	2	2	1	
	TS	1,2,			2,3												4	0	2	2	
SROI-2 <input checked="" type="checkbox"/>	RX							1									1	1	1	0	
	NOR														4		1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10						3,8, 11							1,2, 3,5, 6,8, 9		18	4	4	2	
	MAJ	5,8						7							7,10		5	2	2	1	
	TS	1,2,													3,4, 5		5	0	2	2	
SROI-3 <input checked="" type="checkbox"/>	RX																0	1	1	0	
	NOR				4												1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10			1,2, 3,6, 7,8											1,3, 6,8	18	4	4	2	
	MAJ	5,8			5										7,10		5	2	2	1	
	TS	1,2,			2,3												4	0	2	2	

Facility		Beaver Valley Unit 1		Date of Exam		October 31, 2016 to November 18, 2016		Operating Test No		BV1LOT16										
A P P L I C A N T	E V E N T T Y P E	Scenarios											T O T A L	M I N I M U M(-)						
		1			2			3			4 SPARE						5			
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N						C R E W P O S I T I O N			
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C					B O P	S R O	A T C	B O P
															R	I	U			
SROI-4 <input checked="" type="checkbox"/>	RX		4													1	1	1	0	
	NOR					4								4		2	1	1	1	
	I/C		1,3, 6,10			1,7, 8								1,2, 3,5, 6,8, 9		14	4	4	2	
	MAJ		5,8			5								7,10		5	2	2	1	
	TS													3,4, 5		3	0	2	2	
SROI-5 <input checked="" type="checkbox"/>	RX															0	1	1	0	
	NOR				4			1,4								3	1	1	1	
	I/C				1,2, 3,6, 7,8			2,3, 5,8, 9,10, ,11						1,3, 6,8		17	4	4	2	
	MAJ				5			7						7,9		4	2	2	1	
	TS				2,3			5,6								4	0	2	2	
SROI-6 <input checked="" type="checkbox"/>	RX							1								1	1	1	0	
	NOR				4											1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10			1,2, 3,6, 7,8			3,8, 11								17	4	4	2	
	MAJ	5,8			5			7								4	2	2	1	
	TS	1,2			2,3											4	0	2	2	
SROI-7 <input checked="" type="checkbox"/>	RX							1								1	1	1	0	
	NOR				4											1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10			1,2, 3,6, 7,8			3,8, 11								17	4	4	2	
	MAJ	5,8			5			7								4	2	2	1	
	TS	1,2			2,3											4	0	2	2	

Facility		Beaver Valley Unit 1		Date of Exam		October 31, 2016 to November 18, 2016		Operating Test No		BV1LOT16										
A P P L I C A N T	E V E N T T Y P E	Scenarios											T O T A L	M I N I M U M (-)						
		1			2			3			4 SPARE						5			
		C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N			C R E W P O S I T I O N						C R E W P O S I T I O N			
		S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C	B O P	S R O	A T C					B O P	S R O	A T C	B O P
															R	I	U			
SROI-8 <input checked="" type="checkbox"/>	RX															0	1	1	0	
	NOR				4											1	1	1	1	
	I/C	1,2, 3,4, 6,7, 9,10			1,2, 3,6, 7,8										1,3, 6,8	18	4	4	2	
	MAJ	5,8			5										7,10	5	2	2	1	
	TS	1,2			2,3											4	0	2	2	
SROI-9 <input checked="" type="checkbox"/>	RX		4												1	1	1	0		
	NOR					4								4	2	1	1	1		
	I/C		1,3, 6,10			1,7, 8								1,2, 3,5, 6,8, 9	14	4	4	2		
	MAJ		5,8			5								7,10	5	2	2	1		
	TS													3,4, 5	3	0	2	2		
SROI-10 <input checked="" type="checkbox"/>	RX														0	1	1	0		
	NOR						1,4								2	1	1	1		
	I/C						2,3, 5,8, 9,10, 11							1,3, 6,8	11	4	4	2		
	MAJ						7							7,10	3	2	2	1		
	TS						5,6								2	0	2	2		

			<p>Instructions:</p> <ol style="list-style-type: none"> 1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls" (ATC) and "balance-of-plant" (BOP) positions; Instant SROs (SRO-I) must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an SRO-I <i>additionally</i> serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position. 2. Reactivity manipulations may be conducted under normal or <i>controlled</i> abnormal conditions (refer to Section D.5.d) but must be significant per section C.2.a of Appendix D. (-) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 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 requirements specified for the applicant's license level in the right-hand columns. 4. For licensees that use the ATC operator primarily for monitoring plant parameters, the chief examiner may place SRO-I applicants in either the ATC or BOP position to best evaluate the SRO-I in manipulating plant controls.
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Facility: Beaver Valley Unit 1		Date of Examination: October 31, 2016 to November 18, 2016					Operating Test No.: BV1LOT16								
Competencies	APPLICANTS														
	ATC <input checked="" type="checkbox"/>					BOP <input checked="" type="checkbox"/>					SRO-I <input checked="" type="checkbox"/>				
	SCENARIO					SCENARIO					SCENARIO				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Interpret/Diagnosis Events and Conditions	1,3, 4,5, 6,8, 10	2,3,4 ,5,6	1,3, 7,8, 11	3,5, 6,7, 8,11	1,3, 6,7, 8,10	2,4, 5,7, 8,9	1,4, 5,7, 8	2,4, 5,7, 9,10	2,3, 4,7, 9,10	2,4, 5,7, 9,10	1,2, 3,4, 5,6, 7,8, 9,10	1,2, 3,4, 5,6, 7,8	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,4, 5,6, 7,8, 9,10	1,2, 3,4, 5,6, 7,8, 9,10
Comply With and Use Procedures (1)	1,3, 4,5, 6,8, 10	2,3,4 ,5,6	1,2, 7,8, 11	3,6, 7,8, 11	1,3, 6,7, 8,10	2,4, 5,7, 8,9	1,4, 5,7, 8	2,4, 5,7, 9,10	2,3, 4,7, 9,10	2,4, 5,7, 9,10	1,2, 3,4, 5,6, 7,8, 9,10	1,2, 3,4, 5,6, 7,8	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,5, 6,7, 7,8, 8,9, 10, 9,10	1,2, 3,4, 5,6, 7,8, 9,10
Operate Control Boards (2)	1,3, 4,5, 6,8, 10	2,3,4 ,5,6	1,2, 7,8, 11	3,6, 7,8, 11	1,3, 6,7, 8,10	2,4, 5,7, 8,9	1,4, 5,7, 8	2,4, 5,7, 9,10	2,3, 4,7, 9,10	2,4, 5,7, 9,10					
Communicate and Interact	1,3, 4,5, 6,8, 10	2,3,4 ,5,6	1,2, 7,8, 11	3,4, 5,7, 8,11	1,3, 6,7, 8,10	2,4, 5,7, 8,9	1,4, 5,7, 8	2,4, 5,7, 9,10	2,3, 4,7, 9,10	2,4, 5,7, 9,10	1,2, 3,4, 5,6, 7,8, 9,10	1,2, 3,4, 5,6, 7,8	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,4, 5,6, 7,8, 9,10
Demonstrate Supervisory Ability (3)											1,2, 3,4, 5,6, 7,8, 9,10	1,2, 3,4, 5,6, 7,8	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,4, 5,6, 7,8, 9,10, 11	1,2, 3,4, 5,6, 7,8, 9,10
Comply With and Use Tech. Specs. (3)											1,2	2,3	5,6,	1,5	3,4, 5
<p>Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.</p>															

Instructions:

Check 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. (This includes all rating factors for each competency.) (Competency Rating factors as described on forms ES-303-1 and 303-3.)

Facility: : <u>Beaver Valley Unit 1</u> Date of Exam: <u>October 31, 2016 to November 18, 2016</u> Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>			
Item Description	Initials		
	a	b	c
1. Clean answer sheets copied before grading	Job	P	WJ
2. Answer key changes and question deletions justified and documented	Job	P	WJ
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	Job	P	WJ/TF
4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	Job	P	WJ/TF
5. All other failing examinations checked to ensure that grades are justified	Job	P	WJ
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	Job	P	WJ
Printed Name/Signature		Date	
a. Grader	T. A. Gaydosik <u>T. A. Gaydosik</u>	11/21/16	
b. Facility Reviewer(*)	S. P. Snook <u>S. P. Snook</u>	11/21/16	
c. NRC Chief Examiner (*)	David Silk/Buddie <u>David Silk/Buddie</u> Todd Fish/Judd Silk <u>Todd Fish/Judd Silk</u>	11/25/16/11/28/2016	
d. NRC Supervisor (*)	D.E. Jackson <u>D.E. Jackson</u>	12/12/16	
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.			