Facility: Beaver Valley 2 Date of Examination: 10/7/19

Developed by: Written: Facility ☑ NRC ☐ // Operating Facility ☑ NRC ☐

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-240	1. Examination administration date confirmed (C.1.a; C.2.a–b). For NRC-prepared exams, arrangements are made for the facility to submit reference materials (C.1.e; C.3.c; Attachment 3).	
-210	2. NRC examiners and facility contact assigned (C.1.d; C.2.f).	
-210	3. Facility contact briefed on security and other requirements (C.2.c). As applicable, the facility contact submits to the NRC any prescreened K/As for elimination from the written examination outline, with a description of the facility's prescreening process (ES-401, D.1.b).	
-210	4. Reference material due for NRC-prepared exams (C.1.e; C.3.c; Attachment 3).	
-210	5. Corporate notification letter sent (C.2.e).	
-195	6. NRC-developed written examination outline (ES-401-1/2 or ES-401N-1/2 and ES-401-3 or ES-401N-3) sent to facility contact (must be on the exam security agreement) (C.1.e–f; C.2.h; C.3.d–e).	
-150	7. Operating test outline(s) and other checklists due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, and ES-D-1, as applicable (C.1.e–f; C.3.d–e).	
-136	8. Operating test outline(s) reviewed by the NRC and feedback provided to facility licensee (C.2.h; C.3.d–e).	
-75	9. Proposed examinations (written, JPMs, and scenarios, as applicable) and outlines (Forms ES-301-1, ES-301-2, ES-D-1, ES-401-1/2 or ES-401N-1/2, and ES-401-3 or ES-401N-3); supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, ES-401-6, ES-401N-6, and any Form ES-201-2 and ES-201-3 updates); and reference materials due (C.1.e–h; C.3.d).	
-75	10. Examinations prepared by the NRC are approved by the NRC supervisor and forwarded for facility licensee review (C.1.i; C.2.h; C.3.f–g).	NA
-60	11. Preliminary waiver/excusal requests due (C.1.m; C.2.c; ES-202).	
-50	12. Written exam and operating test reviews completed (C.3.f).	
-35	13. Examination review results discussed between the NRC and facility licensee (C.1.i; C.1.k–l; C.2.h; C.3.g). The NRC and the facility licensee conduct exam preparatory week.	
-30	14. Preliminary license applications and waiver/excusal requests, as applicable (NRC Form 398) due (C.1.m; C.2.i; ES-202).	
-14	15. Final license applications and waiver/excusal requests, as applicable (NRC Form 398), due and Form ES-201-4 prepared (C.1.m; C.2.k; ES-202).	
-7	16. Written examinations and operating tests approved by the NRC supervisor (C.2.j–k; C.3.h).	
-7	17. Request facility licensee management feedback on the examination (C.2.l).	NA
-7	18. Final applications reviewed; one or two (if more than 10) applications audited to confirm qualifications/eligibility; and examination approval and waiver/excusal letters sent (C.2.k; Attachment 5; ES-202, C.3.j; ES-204).	
-7	19. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k).	
-7	20. Approved scenarios and job performance measures distributed to NRC examiners (C.3.i).	

* Target dates are based on facility-prepared examinations and the examination date identified in the corporate notification letter. These dates are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.

ES-201 Examination Outline Quality Checklist Form ES-201-2

Facility: Beaver Valley Unit 2 BV2LOT19 Date of Examination: 10/7/2019 to 10/18/2019

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	JOA	TNO	DS
	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.	①	①	DS
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	JOA	TNO	DS
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JOA	TNO	DS
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	JOA	TNO	DS
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	JOA	TNO	DS
	c. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D and in Section D.5, "Specific Instructions for the 'Simulator Operating Test,'" of ES-301 (including overlap).	JOA	TNO	DS
3. WALKTHROUGH	a. Verify that the systems walkthrough outline meets the criteria specified on Form ES-301-2: (1) The outline(s) contains 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 radiologically controlled area tasks meets the criteria on the form.	JOA	TNO	DS
	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.	JOA	TNO	DS
	c. Determine whether there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	JOA	TNO	DS
4. GENERAL	a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	JOA	TNO	DS
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	JOA	TNO	DS
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JOA	TNO	DS
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	JOA	TNO	DS
	e. Check the entire exam for balance of coverage.	JOA	TNO	DS
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JOA	TNO	DS

	Printed Name / Signature	Date
a. Author	T.A. Gaydosik T. A. Gaydosik	7/17/19
b. Facility Reviewer (*)	T.N. Opel	7/17/19
c. NRC Chief Examiner (#)	David Silk David Silk	8/14/19
NRC Supervisor	Donald Jackson	9/6/19

Note: * Not applicable for NRC-prepared examination outlines # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required. ① Item 1 Written Exam Outlines were generated by NRC.

Facility: Beaver Valley Unit 2 BV2LOT19 Date of Examination: 10/7/2019 to 10/18/2019

Item	Task Description	Initials a	Initials b*	Initials c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	①	①	
	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.	①	①	
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	①	①	
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	JAS	TNO	
2. SIMULATOR	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, technical specifications, and major transients.	JAS	TNO	
	b. Assess whether there are enough scenario sets (and spares) to test the projected number and mix of applicants in accordance with the expected crew composition and rotation schedule without compromising exam integrity, and ensure that each applicant can be tested using at least one new or significantly modified scenario, that no scenarios are duplicated from the applicants' audit test(s), and that scenarios will not be repeated on subsequent days.	JAS	TNO	
	c. To the extent possible, assess whether the outline(s) conforms with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D and in Section D.5, "Specific Instructions for the 'Simulator Operating Test,'" of ES-301 (including overlap).	JAS	TNO	
3. WALKTHROUGH	a. Verify that the systems walkthrough outline meets the criteria specified on Form ES-301-2: (1) The outline(s) contains 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 witnin 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 radiologically controlled area tasks meets the criteria on the form.	JAS	TNO	
	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.	JAS	TNO	
	c. Determine whether there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	JAS	TNO	
4. GENERAL	a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	JAS	TNO	
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	JAS	TNO	
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	JAS	TNO	
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	JAS	TNO	
	e. Check the entire exam for balance of coverage.	JAS	TNO	
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	JAS	TNO	

	Printed Name / Signature	Date
a. Author	T.A. Gaydosik T.A. Gaydosik	5/6/19
b. Facility Reviewer (*)	T.N. Opel	5/6/19
c. NRC Chief Examiner (#)	David Silk	5/15/19
d. NRC Supervisor	Donald Jackson	6/3/19

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

① Item 1 Written Exam Outlines were generated by NRC.

1. Pre-Examination

ORIGINAL

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2** 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's 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's 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 **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2**. 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.	**T. A. Gaydosik**	**Lead, Fleet Exam Team**		11-6-18		10/17/19	
2.	**M. S. Klingensmith**	**Fleet Exam Developer**		10-26-18	P. Eisenmann for M. Klingensmith	10/21/19	(1)
3.	**P. T. Eisenmann**	**Fleet Exam Developer**		10/29/18		10/16/19	
4.	Tyrell Opel	Shift Manager		6/18/19		10/17/19	
5.	Justin Crocker	Shift Manager		6/10/19		10/20/19	
6.	Ryan M. Morton	Reactor Operator		6/10/19		10/19/19	
7.	Robert Pearson	Reactor Operator		6/10/19		10/19/19	
8.	Andrew Scott	Unit Supervisor		6/10/19		10/19/19	
9.	Mark Baldinger	Reactor Operator		6/26/19		10/17/19	
10.	Eric Glenz	Reactor Operator		06/26/19		10/17/19	
11.	Ron B. Ferrie	SRO		6/26/19		10/17/19	
12.	William Ogden	SRO		7/10/19		10/17/19	
13.	Jason Sandoval	Reactor Operator		7-10-19		10.16.19	
14.	John Brooks	Reactor Operator		7/10/19		10/16/19	
15.	James (Jake) Dowil	SRO		7/10/19		10/18/19	

NOTES: (1) Per Telecon, 10/16/19 @ 0930 hrs, P. Eisenmann 10/21/19

1. Pre-Examination

ORIGINAL

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2** 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's 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's 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 **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2**. 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
16.	DANIEL A. TIBERIO	SIMULATOR		10-1-19		10-16-19	
17.	Richard CANDIERE	Simulator		10-1-19		10-21-19	
18.	Hugh Brunner	Sim Hardware		10-1-19		10-16-19	
19.	Casandra Washington	Simulator Software		10-1-19		10/16/19	
20.	Greg Pellet	ILT SP		10/1/19		10/16/19	
21.	KRISTIN HILL	CLERK		10/7/19		10-16-19	
22.	GEORGE CHRISTOPHE	INSTRUCTOR		100719	P. GISENMAN for G. CHRISTOPHE	10/16/19	(2)
23.	Andrew Jacques	INSTRUCTOR		10/7/19		10-16-19	
24.	CLAYTON HURST	INSTRUCTOR		10/07/19		—	(1)
25.	Nicholas MUNOZ	INSTRUCTOR		10/07/19		10.16.19	
26.	JEFF HOLMES	INSTRUCTOR		10/07/19		10-16-19	
27.	WILL COTHEN	TRN - MGR		10/7/19		10-20-19	
28.	TOM GILLET	INSTR.		10/7/19		10/17/19	
29.	Benjamin P. Hunt	INSTRUCTOR		10/7/19		10/20/19	
30.							

NOTES: (1) For Telecom (2) For Telecon, 10/16/19 @ 1520 hrs, P. Gisenman 10/16/19

1. Pre-Examination

ORIGINAL

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2** 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's 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's 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 **10/07/2019 through 10/18/2019 @ Beaver Valley Unit 2**. 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
31.	Matthew R Polk	Reactor Operator		9/3/19		10/20/19	
32.	Sean McGee	SRO		9/3/19		10/16/19	
33.	DAVID L. HUGHES	REACTOR OPERATOR		9-3-19	P. GISENMANN for D. NUGENT	10/16/19	(1)
34.							
35.							
36.							
37.							
38.							
39.							
40.							

NOTES:
(1) Per Telecon, 10/16/19 @ 1525 hrs P. Gisenmann 10/16/19

Facility: Beaver Valley Unit 2 Date of Examination: 10/7/2018 to 10/18/2019 Operating Test Number: BV2LOT19

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

	Printed Name / Signature	Date
a. Author	T. A. Gaydosik	7/17/19
b. Facility Reviewer (*)	T. N. Opel	7/17/19
c. NRC Chief Examiner (#)	David Silk	8/14/19
d. NRC Supervisor	Donald Jackson	9/6/19

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 2 Date of Exam: 10/7/2019 to 10/18/2018 Scenario Numbers / 1 / 2 / 3 / 4 Operating Test No.: BV2LOT19

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 following: • 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)			
4. The events are valid with regard to physics and thermodynamics.			
5. Sequencing and timing of events is reasonable and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.			
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.			
7. The simulator modeling is not altered.			
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.			
9. Scenarios are new or significantly modified in accordance with Section D.5 of ES-301.			
10. All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).			
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.)			
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. Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.			
14. The level of difficulty is appropriate to support licensing decisions for each crew position.			

TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.5.d)	Actual Attributes #1	#2	#3	#4	a	b*	c#
1. Malfunctions after EOP entry (1-2)	3	5	3	4			
2. Abnormal events (2-4)	3	3	4	3			
3. Major transients (1-2)	2	1	1	2			
4. EOPs entered/requiring substantive actions (1-2)	3	3	4	3			
5. Entry into a contingency EOP with substantive actions (≥ 1 per scenario set)	1	0	1	0			
6. Preidentified critical tasks (≥ 2)	2	3	3	3			
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.	(BY SCENARIO #)						

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(-)		
		1			3			2			4 (Spare)						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
MASTER	RX		4									1			1	1	0
	NOR	4		4							1,3		3		1	1	1
	I/C	1,2,3, 6,8,9	1,3,8	2,6,9	1,2,3, 4,6,7, 8	1,2,4, 7	2,3,6, 8	1,2,3, 5,6,7, 8,9	1,3,6, 7	2,3,5, 8,9	2,5,6, 8,10, 11,12	2,6, 10	5,8, 11,12		4	4	2
	MAJ	5,7	5,7	5,7	5	5	5	4	4	4	7,9	7,9	7,9		2	2	1
	TS	2,3			1,2,4			2,3			4,5,6				0	2	2
RO-1 ☒	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9		1,2,4, 7				2,3,5, 8,9				12	4	4	2
	MAJ			5,7		5				4				4	2	2	1
	TS													0	0	2	2
RO-2 ☒	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8				2,3,6, 8							7	4	4	2
	MAJ		5,7				5							3	2	2	1
	TS													0	0	2	2
RO-3 ☒	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9		1,2,4, 7								7	4	4	2
	MAJ			5,7		5								3	2	2	1
	TS													0	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(·)		
		1			3			2			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO-4 [X]	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8				2,3,6, 8			2,3,5, 8,9				12	4	4	2
	MAJ		5,7				5			4				4	2	2	1
	TS													0	0	2	2
RO-5 [X]	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9			2,3,6, 8		1,3,6, 7					11	4	4	2
	MAJ			5,7			5		4					4	2	2	1
	TS													0	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	3 SRO	3 ATC	3 BOP	2 SRO	2 ATC	2 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM(-) R	I	U
SRO-I -1 ☒	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8		1,2,3, 4,6,7, 8			1,2,3, 5,6,7, 8,9						18	4	4	2
	MAJ		5,7		5			4						4	2	2	1
	TS				1,2,4			2,3						5	0	2	2
SRO-I -2 ☒	RX													0	1	1	0
	NOR	4												1	1	1	1
	I/C	1,2,3, 6,8,9			1,2,3, 4,6,7, 8				1,3,6, 7					17	4	4	2
	MAJ	5,7			5				4					4	2	2	1
	TS	2,3			1,2,4									5	0	2	2
SRO-I -3 ☒	RX													0	1	1	0
	NOR													1	1	1	1
	I/C													18	4	4	2
	MAJ													4	2	2	1
	TS													4	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	3 SRO	3 ATC	3 BOP	2 SRO	2 ATC	2 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM(·) R	I	U
SRO-U 1 ☒	RX													0	1	1	0
	NOR	4												1	1	1	1
	I/C	1,2,3, 6,8,9												6	4	4	2
	MAJ	5,7												2	2	2	1
	TS	2,3												2	0	2	2
SRO-U 2 ☒	RX													0	1	1	0
	NOR													0	1	1	1
	I/C													7	4	4	2
	MAJ													1	2	2	1
	TS													3	0	2	2

Instructions:

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 *additionally* 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 *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional I/C 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 new reactor facility 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.

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM M(·)		
		1			2			3			4 (Spare)						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
MASTER	RX		4									1			1	1	0
	NOR	4		4							1,3		3		1	1	1
	I/C	1,2,3, 6,8,9	1,3,8	2,6,9	1,2,3, 5,6,7, 8,9	1,3,6, 7	2,3,5, 8,9	1,2,3, 4,6,7, 8	1,2,4, 7	2,3,6, 8	2,5,6, 8,10, 11,12	2,6, 10	5,8, 11,12		4	4	2
	MAJ	5,7	5,7	5,7	4	4	4	5	5	5	7,9	7,9	7,9		2	2	1
	TS	2,3			2,3			1,2,4			4,5,6				0	2	2
RO-1 ☒	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9		1,3,6, 7				2,3,6, 8				11	4	4	2
	MAJ			5,7		4				5				4	2	2	1
	TS													0	0	2	2
RO-2 ☒	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8				2,3,5, 8,9							8	4	4	2
	MAJ		5,7				4							3	2	2	1
	TS													0	0	2	2
RO-3 ☒	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9		1,3,6, 7								7	4	4	2
	MAJ			5,7		4								3	2	2	1
	TS													0	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION			2 CREW POSITION			3 CREW POSITION			4 CREW POSITION			TOTAL	MINIMUM M(·)		
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO-4 ☒	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8							2,3,6,8				7	4	4	2
	MAJ		5,7							5				3	2	2	1
	TS													0	0	2	2
RO-5 ☒	RX													0	1	1	0
	NOR			4										1	1	1	1
	I/C			2,6,9			2,3,5,8,9		1,2,4,7					12	4	4	2
	MAJ			5,7			4		5					4	2	2	1
	TS													0	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 SRO	2 ATC	2 BOP	3 SRO	3 ATC	3 BOP	4 SRO	4 ATC	4 BOP	TOTAL	MINIMUM M(-) R	I	U
SRO-I -1 ☒	RX		4											1	1	1	0
	NOR													0	1	1	1
	I/C		1,3,8		1,2,3, 5,6,7, 8,9			1,2,3, 4,6,7, 8						18	4	4	2
	MAJ		5,7		4			5						4	2	2	1
	TS				2,3			1,2,4						5	0	2	2
SRO-I -2 ☒	RX													0	1	1	0
	NOR	4												1	1	1	1
	I/C	1,2,3, 6,8,9			1,2,3, 5,6,7, 8,9				1,2,4, 7					18	4	4	2
	MAJ	5,7			4				5					4	2	2	1
	TS	2,3			2,3									4	0	2	2

Facility Beaver Valley Unit 2 Date of Exam: 10/7/2019 to 10/18/2019 Operating Test No: BV2LOT19

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	ATC	BOP	2 CREW POSITION SRO	ATC	BOP	3 CREW POSITION SRO	ATC	BOP	4 CREW POSITION SRO	ATC	BOP	TOTAL	MINIMUM(·) R	I	U
SRO-U 1 ☒	RX													0	1	1	0
	NOR	4												1	1	1	1
	I/C	1,2,3, 6,8,9												6	4	4	2
	MAJ	5,7												2	2	2	1
	TS	2,3												2	0	2	2
SRO-U 2 ☒	RX													0	1	1	0
	NOR													1	1	1	1
	I/C													13	4	4	2
	MAJ													3	2	2	1
	TS													5	0	2	2

Instructions:

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 *additionally* 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 *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional I/C 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 new reactor facility 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.

Facility: Beaver Valley Unit 2 Date of Examination: 10/7/2019 to 10/18/2019 Operating Test No.: BV2LOT19

Competencies	APPLICANTS															
	ATC ☑				BOP ☑				SRO-I ☑				SRO-U ☑			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnosis Events and Conditions	1,3 5,8	1,3 4,6 7	1,2 4,5 7	2,6 9 10	2,5 6,7 9	2,3 4,5 8,9	2,3 5,6 8	5,7 8,9 11 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	2,3 4,5 6,7 8,9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Comply With and Use Procedures (1)	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 6,9 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,8 9 11 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Operate Control Boards (2)	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 6,7 9 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,7 8,9 11 12								
Communicate and Interact	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 4,6 7,9 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,7 8,9 11 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Demonstrate Supervisory Ability (3)									1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Comply With and Use Tech. Specs. (3)									2,3	2,3	1,2 4	4,5 6	2,3		1,2 4	

Notes:
(1) Includes Technical Specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

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.) (Forms ES-303-1 and ES-303-3 describe the competency rating factors.)

Facility: Beaver Valley Unit 2 Date of Examination: 10/7/2019 to 10/18/2019 Operating Test No.: BV2LOT19

Competencies	APPLICANTS															
	ATC ☑				BOP ☑				SRO-I ☑				SRO-U ☑			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnosis Events and Conditions	1,3 5,8	1,3 4,6 7	1,2 4,5 7	2,6 9 10	2,5 6,7 9	2,3 4,5 8,9	2,3 5,6 8	5,7 8,9 11 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	2,3 4,5 6,7 8,9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Comply With and Use Procedures (1)	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 6,7 9, 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,7 8,9 11 12 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Operate Control Boards (2)	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 6,7 9 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,7 8,9 11 12								
Communicate and Interact	1,3 4,5 7,8	1,3 4,6 7	1,2 4,5 7	1,2 6,7 9 10	2,4 5,6 7,9	2,3 4,5 8,9	2,3 5,6 8	1,3 5,7 8,9 11 12	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Demonstrate Supervisory Ability (3)									1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8 9	1,2 3,4 5,6 7,8	1,2 3,4 5,6 7,8 9 10 11 12	1,2 3,4 5,6 7,8 9		1,2 3,4 5,6 7,8	
Comply With and Use Tech. Specs. (3)									2,3	2,3	1,2 4	4,5 6	2,3		1,2 4	

Notes:
(1) Includes Technical Specification compliance for an RO.
(2) Optional for an SRO-U.
(3) Only applicable to SROs.

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.) (Forms ES-303-1 and ES-303-3 describe the competency rating factors.)

Facility: **Beaver Valley Unit 2** Date of Exam: **10/15/2019** Exam Level: RO ☒ SRO ☒

	Item Description	Initials a	Initials b	Initials c
1.	Clean answer sheets copied before grading	Iaf	TNO	[illegible]
2.	Proposed answer key changes and question deletions justified and documented (facility reviewer initials not required (N/R) if NO post-examination comments are submitted)	N/R	N/R	N/R
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	Iaf	TNO	[illegible]
4.	Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only exam) reviewed in detail	Iaf	TNO	[illegible]
5.	All other failing examinations checked to ensure that grades are justified	N/A	N/A	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	Iaf	TNO	[illegible]

	Printed Name/Signature	Date
a. Grader	T. A. Gaydosik [signature]	10/17/19
b. Facility Reviewer(*)	T. N. Opel [signature]	10/17/19
c. NRC Chief Examiner (*)	David Silk / [signature] Peter Ott / [signature]	10/28/19 10/29/19
d. NRC Supervisor (*)	Donald Jackson / [signature]	10/29/19

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