

Facility: **Watt's Bar**Date of Examination: **Week of August 12**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).	10/1/18 <i>[Signature]</i>
-210	2. NRC examiners and facility contact assigned (C.1.d; C.2.f).	1/8 <i>[Signature]</i>
-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).	1/8 <i>[Signature]</i>
-210	4. Reference material due for NRC-prepared exams (C.1.e; C.3.c; Attachment 3).	n/a
-210	5. Corporate notification letter sent (C.2.e). ML19018A225	1/18 <i>[Signature]</i>
-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).	n/a
-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).	1/30 <i>[Signature]</i>
-136	8. Operating test outline(s) reviewed by the NRC and feedback provided to facility licensee (C.2.h; C.3.d-e).	2/11 <i>[Signature]</i>
-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).	5/20 <i>[Signature]</i>
-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).	n/a
-60	11. Preliminary waiver/excusal requests due (C.1.m; C.2.c; ES-202).	n/a
-50	12. Written exam and operating test reviews completed (C.3.f).	6/3 <i>[Signature]</i>
-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.	7/11 <i>[Signature]</i>
-30	14. Preliminary license applications and waiver/excusal requests, as applicable (NRC Form 398) due (C.1.m; C.2.i; ES-202).	7/12 <i>[Signature]</i>
-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).	7/29 <i>[Signature]</i>
-7	16. Written examinations and operating tests approved by the NRC supervisor (C.2.j-k; C.3.h).	8/5 <i>[Signature]</i>
-7	17. Request facility licensee management feedback on the examination (C.2.l).	<i>[Signature]</i>
-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).	7/29 <i>[Signature]</i>
-7	19. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k).	7/9 <i>[Signature]</i>
-7	20. Approved scenarios and job performance measures distributed to NRC examiners (C.3.i).	8/12 <i>[Signature]</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.

Facility: Watts Bar		Date of Examination: 8/12/2019		
Item	Task Description	Initials		
		a	b*	c**
WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model in accordance with ES-401 or ES-401N.	N/A	N/A	N/A
	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.	N/A	N/A	N/A
	c. Assess whether the outline overemphasizes any systems, evolutions, or generic topics.	N/A	N/A	N/A
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	N/A	N/A	✓
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.	1/1	BB	✓
	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.	1/1	BB	✓
	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).	1/1	BB	✓
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.	1/1	BB	✓
	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.	1/1	BB	✓
	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.	1/1	BB	✓
GENERAL	a. Assess whether plant-specific priorities (including probabilistic risk assessment and individual plant examination insights) are covered in the appropriate exam sections.	1/1	BB	✓
	b. Assess whether the 10 CFR 55.41, 55.43, and 55.45 sampling is appropriate.	1/1	BB	✓
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	1/1	BB	✓
	d. Check for duplication and overlap among exam sections and the last two NRC exams.	1/1	BB	✓
	e. Check the entire exam for balance of coverage.	1/1	BB	✓
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	1/1	BB	✓
a. Author <u>Tim Gabosch</u> b. Facility Reviewer (*) <u>Brian S. McElroy</u> c. NRC Chief Examiner (#) <u>J. V. McElroy</u> d. NRC Supervisor <u>G. J. McElroy</u>		Printed Name/Signature Date 8/11/19 8/11/19 8/11/19 8/12/19		

* Not applicable for NRC-prepared examination outlines.
 # The independent NRC reviewer initials items in column "c"; the chief examiner's concurrence is required.

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the U.S. Nuclear Regulatory Commission (NRC) licensing examinations scheduled for the week(s) of 8/12/19 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 8/12/19. 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. TIM GABOSCH	EXAM TEAM LEAD		10/5/18		8/22/19	
2. Russell Joplin	CORP Exam Manager		10/16/18		8/27/19	
3. DAVID JACKSON	EXAM TEAM		10/10/18		8/22/19	
4. Matthew Hall	Sim Engineer		1/28/19		8/22/19	
5. Ryan Ferguson	Sim Engineer		4/28/19		8/26/19	
6. P.K. Stephens	SRO		4/25/19		9/4/19	
7. M. Bruckey	SRO		7/25/19		9/1/19	
8. A. Walcott	SRO/SM		4/15/19		10/1/19	
9. WHITE, J.R.	RO		4/25/19		9/18/19	
10. MARK HORTON	RO		4-25-19		10-18	
11. Patrick O'Brien	ILT Supervisor		5/1/19		8/26/19	
12. Thomas J. Wilson	RO		5/9/19		9/4/19	
13. Alicia Jenkins	JRO		5/9/19		9/19/19	
14. THOMAS HEIMEL	RO		6/21/19		10/1/19	
15. GREG RATLIFF	RO		7-8-19		9-4-19	

NOTES:

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1. <u>TIM GABOSCH</u>	<u>EXAM TEAM LEAD</u>	<u>[Signature]</u>	<u>10/5/19</u>	<u>[Signature]</u>	<u>8/22/19</u>	
2. <u>Russell Joplin</u>	<u>Corp Exam Manager</u>	<u>[Signature]</u>	<u>10/16/19</u>	<u>RW</u>	<u>8/27/19</u>	
3. <u>DAVID JACKSON</u>	<u>EXAM TEAM</u>	<u>[Signature]</u>	<u>10/16/19</u>	<u>[Signature]</u>	<u>08/28/19</u>	
4. <u>Matthew H. H</u>	<u>Sim Engineer</u>	<u>[Signature]</u>	<u>1/25/19</u>	<u>[Signature]</u>	<u>8/28/19</u>	
5. <u>Evan Ferguson</u>	<u>Sim Engineer</u>	<u>[Signature]</u>	<u>1/25/19</u>	<u>[Signature]</u>	<u>8/28/19</u>	
6. <u>BRIAN MCILWAIN</u>	<u>FACILITY REP</u>	<u>[Signature]</u>	<u>1/28/19</u>	<u>[Signature]</u>	<u>8/29/19</u>	
7. <u>Todd Blankenship</u>	<u>Unit Operator</u>	<u>[Signature]</u>	<u>4/8/19</u>	<u>[Signature]</u>	<u>10/2/19</u>	
8. <u>Brian Joseph</u>	<u>SRO</u>	<u>[Signature]</u>	<u>4/8/19</u>	<u>[Signature]</u>	<u>7/4/19</u>	
9. <u>Jeremy R. Thompson</u>	<u>SRO</u>	<u>[Signature]</u>	<u>4/8/19</u>	<u>[Signature]</u>	<u>9/1/19</u>	
10. <u>Sean M. Mobley</u>	<u>RO</u>	<u>[Signature]</u>	<u>4/10/19</u>	<u>[Signature]</u>	<u>9-25-19</u>	
11. <u>Michael Petersen</u>	<u>Instructor Supv</u>	<u>[Signature]</u>	<u>4/11/19</u>	<u>[Signature]</u>	<u>8/27/19</u>	
12. <u>KR SKUBISZ</u>	<u>SRO</u>	<u>[Signature]</u>	<u>4/11/19</u>	<u>[Signature]</u>	<u>8/27/19</u>	
13. <u>CRUZ, D.R.</u>	<u>RO</u>	<u>[Signature]</u>	<u>04/11/19</u>	<u>[Signature]</u>	<u>8/27/19</u>	
14. <u>Leon Heat</u>	<u>OP TRAINING MGR</u>	<u>[Signature]</u>	<u>4-11-19</u>	<u>[Signature]</u>	<u>8/27/19</u>	
15. <u>Paul Blakely</u>	<u>US</u>	<u>[Signature]</u>	<u>4-23-19</u>	<u>[Signature]</u>	<u>10/1/19</u>	

NOTES: 1, SIGNED OFF OF EXAMINATION SECURITY VIA TELEPHONE CALL

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1. William Horton	SRO		7-9-19		10-1-19	
2. JIM REEY	S, M MGR		7-9-19		8/22/19	
3. ERIC SILVERS	RO		7/9/19		9/18/19	
4. Nathan Malice	RO		7-9-19		9-17-19	
5. Robert Pollins	SRO		7-9-19		9-11-19	
6. RUJADO	SRO		7-17-19		9/18/19	
7. Scott E. O'Rourke	RO		7/24/19		10/1/19	
8. Justin Peng	SRO		7/24/19		10/1/19	
9. Jason Caldwell	RO		7/24/19		10/1/19	
10. Justin Gallagher	SMA		8/20/19		9/17/19	
11. Pedro A. Williams, Jr	SM/SITE REP		8/7/19		8/22/19	
12. Ryan Schramberg	Training		8/12/19		8/26/19	
13. James Perkins	Training		8/12/19		8/26/19	
14. Corey Schoo	Training		8/12/19		9/4/19	
15. JACOB MARTIN	TRAINING		8/12/19		8-27-19	


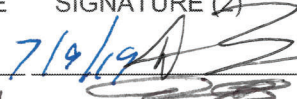


NOTES:

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	DAMON FEOLLEY	OPS SUP.		7/14/19		9/17/19	
2.	JARED GREEN	OPS INSI		8-15-19		8-24-19	9-4-19
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

Facility: Watts Bar		Date of Examination: 8/12/2019		Operating Test Number: 301	
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).	JB	JB	JB	JB
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	JB	JB	JB	JB
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a.).	JB	JB	JB	JB
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	JB	JB	JB	JB
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	JB	JB	JB	JB
2. Walkthrough 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 operationally important 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 	JB	JB	JB	JB
b.	Ensure that any changes from the previously approved systems and administrative walkthrough outlines (Forms ES-301-1 and ES-301-2) have not caused the test to deviate from any of the acceptance criteria (e.g., item distribution, bank use, repetition from the last two NRC examinations) specified on those forms and Form ES-201-2.	JB	JB	JB	JB
3. Simulator Criteria			--	--	--
The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4, and a copy is attached.		JB	JB	JB	JB
a.	Author	Tim Gabosch	Printed Name/Signature		Date
b.	Facility Reviewer (*)	Brian McInay	JB		7/16/19
c.	NRC Chief Examiner (#)	J. Viera	JB		7/16/19
d.	NRC Supervisor	Gerald McInay	JB		8/1/19
<p>* The facility licensee signature is not applicable for NRC-developed tests.</p> <p># The independent NRC reviewer initials items in column "c"; the chief examiner concurrence is required.</p>					

Facility: Watts Bar		Date of Exam: 8/12/2019		Scenario Numbers: 1 / 2 / 3 / 4		Operating Test No.: 301	
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.		JS	JS	JS		
2.	The scenarios consist mostly of related events.		JS	JS	JS		
3.	Each event description consists of the following: <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) 		JS	JS	JS		
4.	The events are valid with regard to physics and thermodynamics.		JS	JS	JS		
5.	Sequencing and timing of events is reasonable and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.		JS	JS	JS		
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.		JS	JS	JS		
7.	The simulator modeling is not altered.		JS	JS	JS		
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.		JS	JS	JS		
9.	Scenarios are new or significantly modified in accordance with Section D.5 of ES-301.		JS	JS	JS		
10.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).		JS	JS	JS		
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.)		JS	JS	JS		
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).		JS	JS	JS		
13.	Applicants are evaluated on a similar number of preidentified critical tasks across scenarios, when possible.		JS	JS	JS		
14.	The level of difficulty is appropriate to support licensing decisions for each crew position.		JS	JS	JS		
Target Quantitative Attributes per Scenario (See Section D.5.d)			Actual Attributes				
1.	Malfunctions after EOP entry (1-2)	2 / 3 / 3 / 2	JS	JS	JS		
2.	Abnormal events (2-4)	4 / 4 / 3 / 4	JS	JS	JS		
3.	Major transients (1-2)	1 / 1 / 1 / 1	JS	JS	JS		
4.	EOPs entered/requiring substantive actions (1-2)	1 / 2 / 2 / 1	JS	JS	JS		
5.	Entry into a contingency EOP with substantive actions (≥ 1 per scenario set)	1 / 0 / 0 / 1	JS	JS	JS		
6.	Preidentified critical tasks (≥ 2)	2 / 2 / 3 / 2	JS	JS	JS		
<p>* The facility licensee signature is not applicable for NRC-developed tests.</p> <p># An independent NRC reviewer initials items in column "c"; chief examiner concurrence is required.</p>							

Facility: Watts Bar				Date of Exam: August 2019				Operating Test No.: 301										
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			x							
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION							
		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 <input type="checkbox"/>	RX		4		7										2	1	1	0
SRO-I ₁ <input checked="" type="checkbox"/>	NOR		1		2										2	1	1	1
SRO-U <input checked="" type="checkbox"/>	I/C		5,8		3,4,5,6, 10,11					4,8,10					11	4	4	2
	MAJ		7		8					7					3	2	2	1
	TS				3,5										2	0	2	2
RO <input type="checkbox"/>	RX	4			7										2	1	1	0
SRO-I ₂ <input checked="" type="checkbox"/>	NOR	1			2										2	1	1	1
SRO-U <input checked="" type="checkbox"/>	I/C	3,5,6,8,9			4,6,10										8	4	4	2
	MAJ	7			8										2	2	2	1
	TS	2,5													2	0	2	2
RO <input type="checkbox"/>	RX		4					6							2	1	1	0
SRO-I _{3&6} <input checked="" type="checkbox"/>	NOR		1					1							2	1	1	1
SRO-U <input checked="" type="checkbox"/>	I/C		5,8			3,5,9,11		3,4,5,8,9							11	4	4	2
	MAJ		7			8		7							3	2	2	1
	TS							3,4							2	0	2	2
RO <input type="checkbox"/>	RX															1	1	0
SRO-I <input type="checkbox"/>	NOR															1	1	1
SRO-U <input type="checkbox"/>	I/C															4	4	2
	MAJ															2	2	1
	TS															0	2	2

Instructions:

- 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.
- 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 instrument or component malfunctions on a one-for-one basis.
- 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.
- 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.

Facility: Watts Bar				Date of Exam: August 2019				Operating Test No.: 301										
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			x							
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION							
		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 <input type="checkbox"/> SRO-I ₄ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>	RX				7				6						2	1	1	0
	NOR			3	2				1						3	1	1	1
	I/C			6,9	3,4,5,6,10,11				3,5,9						11	4	4	2
	MAJ			7	8				7						3	2	2	1
	TS				3,5										2	0	2	2
RO <input type="checkbox"/> SRO-I ₅ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>	RX	4				7								2	1	1	0	
	NOR	1				2								2	1	1	1	
	I/C	3,5,6,8,9				4,6,10				4,8,10				11	4	4	2	
	MAJ	7				8				7				3	2	2	1	
	TS	2,5												2	0	2	2	
RO <input type="checkbox"/> SRO-I ₇ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>	RX	4							6					2	1	1	0	
	NOR	1							1					2	1	1	1	
	I/C	3,5,6,8,9							3,5,9					8	4	4	2	
	MAJ	7							7					2	2	2	1	
	TS	2,5												2	0	2	2	
RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>	RX															1	1	0
	NOR															1	1	1
	I/C															4	4	2
	MAJ															2	2	1
	TS															0	2	2

Instructions:

- 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.
- 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 instrument or component malfunctions on a one-for-one basis.
- 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.
- 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.

Facility: Watts Bar		Date of Examination: 8/12/2019				Operating Test No.: 301										
Competencies	APPLICANTS															
	RO <input type="checkbox"/> SRO-I ₄ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I ₅ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I ₇ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	BOP	SRO	ATC		SRO	ATC	BOP		SRO		ATC					
Interpret/Diagnose Events and Conditions	3,6,7,9	3,4,5,6,8,10,11	3,5,7,9		3,4,5,6,8,10,11	4,6,8,10	4,7,8,10		3,4,5,6,8,10,11		3,5,7,9					
Comply with and Use Procedures (1)	ALL	ALL	ALL		ALL	ALL	ALL		ALL		ALL					
Operate Control Boards (2)	3,6,7,9		1,3,5,6,7,9			2,4,6,7,8,10	4,7,8,10				1,3,5,6,7,9					
Communicate and Interact	ALL	ALL	ALL		ALL	ALL	ALL		ALL		ALL					
Demonstrate Supervisory Ability (3)		1,2,3,4,5,6,7,8,9			2,3,4,5,6,7,8,10,11				2,3,4,5,6,7,8,10,11							
Comply with and Use TS (3)		2,5			3,5				3,5							
Notes: (1) Includes TS compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.																

Instructions:

Check the applicants' 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: Watts Bar		Date of Examination: 8/12/2019				Operating Test No.: 301										
Competencies	APPLICANTS															
	RO <input type="checkbox"/> SRO-I ₁ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I ₂ <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I _{3 & 6} <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>				RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	ATC	SRO	BOP		SRO	ATC			ATC	BOP	SRO					
Interpret/Diagnose Events and Conditions	3,5,6,7,8,9	3,4,5,6,8,10,11	4,7,8,10		3,4,5,6,8,10,11	4,6,8,10			5,7,8	3,5,8,9,11	3,4,5,7,8,9					
Comply with and Use Procedures (1)	ALL	ALL	ALL		ALL	ALL			ALL	ALL	ALL					
Operate Control Boards (2)	4,5,7,8		4,7,8,10			2,4,6,7,8,10			1,4,5,7,8	4,7,8,10						
Communicate and Interact	ALL	ALL	ALL		ALL	ALL			ALL	ALL	ALL					
Demonstrate Supervisory Ability (3)		1,2,3,4,5,6,7,8,9			2,3,4,5,6,7,8,10,11						1,3,4,5,6,7,8,9					
Comply with and Use TS (3)		2,5			3,5						3,4					
Notes: (1) Includes TS compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.																

Instructions:

Check the applicants' 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: <u>Watts Bar</u>		Date of Exam: <u>8/21/19</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	<u>JS</u>	<u>n/a</u>	<u>JS</u>		
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)	<u>n/r</u>	<u>n/a</u>	<u>n/r</u>		
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	<u>JS</u>	<u>n/a</u>	<u>JS</u>		
4. Grading for all borderline cases (80% \pm 2% overall and 70% or 80%, as applicable, \pm 4% on the SRO-only exam) reviewed in detail	<u>JS</u>	<u>n/a</u>	<u>JS</u>		
5. All other failing examinations checked to ensure that grades are justified	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>		
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by one-half or more of the applicants	<u>JS</u>	<u>n/a</u>	<u>JS</u>		
Printed Name/Signature		Date			
a. Grader	<u>JASON D. BUNOY / [Signature]</u>	<u>9/4/2019</u>			
b. Facility Reviewer(*)	<u>n/a</u>				
c. NRC Chief Examiner (*)	<u>Joseph Viera / [Signature]</u>	<u>9/4/2019</u>			
d. NRC Supervisor (*)	<u>GERARD McCoy / [Signature]</u>	<u>10/17/2019</u>			
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.					



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

WBL-19-009

January 31, 2019

10 CFR 55.5
10 CFR 55.49
10 CFR 55.40(b)(3)

Ms. Catherine Haney
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

Attn: Mr. Joseph Viera

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: Submittal of Initial Operator Licensing Outline

Reference: NRC Letter to TVA, "Watts Bar Nuclear Plant Units 1 and 2 - Notification of Licensed Operator Initial Examination 05000390/2019301, 05000391/2019301," dated January 18, 2019

In accordance with the referenced letter, the Tennessee Valley Authority is providing supporting reference materials in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors."

The operating test is scheduled to be administered during the week of August 12, 2019. The written examination is scheduled to be administered the week of August 19, 2019. In order to meet the examination schedule, Watts Bar was requested by the NRC to furnish this examination material by January 31, 2019.

Enclosure 1 includes the supporting reference materials for the reactor operator's and senior reactor operator's examinations.

U.S. Nuclear Regulatory Commission
Page 2
January 31, 2019

In accordance with Title 10 of the Federal Code of Regulations (10 CFR) 55.49, and NUREG-1021, appropriate measures have been taken to ensure examination integrity and security. Accordingly, it is requested that this letter and the enclosed documents be withheld from public disclosure until the examinations are completed.

There are no new regulatory commitments in this letter. If you have any questions, please contact Leon Neat, Operations Training Manager at (423) 365-1256 or Kim Hulvey, Site Licensing Manager, at (423) 365-7720.

Respectfully,

A handwritten signature in dark ink, appearing to read 'Paul Simmons', with a long horizontal flourish extending to the right.

Paul Simmons
Site Vice President
Watts Bar Nuclear Plant

Enclosure: Supporting Reference Materials for the Initial Operator License
Examinations

cc: (w/o Enclosures)
Chief, NRC Operator Licensing Branch
NRC Senior Resident Inspector



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

WBL-19-033

May 16, 2019

10 CFR 55.5
10 CFR 55.40

Ms. Catherine Haney, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
Marquis One Tower
245 Peachtree Center Avenue, NE, Suite 1200
Atlanta, Georgia 30303-1257

Attn: Mr. Joseph Viera

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391


Subject: Submittal of Licensed Operator Initial Examination Operating Test
Reference: NRC Letter to TVA, "Watts Bar Nuclear Plant - Notification of Licensed Operator Initial Examination 05000390/2019301, 05000391/2019301," dated January 18, 2019

Enclosed is the operating test and related materials as requested in the referenced letter.

In accordance with NUREG-1021, Revision 11, Section ES-201, "Initial Operator Licensing Examination Process," please ensure that the enclosed materials are withheld from public disclosure until after the examinations are complete.

There are no new regulatory commitments in this letter. If you have any questions, please contact Leon Neat, Operations Training Manager at (423) 365-1256 or Kim Hulvey, Site Licensing Manager, at (423) 365-7720.

Respectfully,



Anthony L. Williams IV
Site Vice President
Watts Bar Nuclear Plant

U.S. Nuclear Regulatory Commission
Page 2
May 16, 2019

Enclosure: (Overnight delivery to Mr. Joseph Viera, NRC Region II)
Operating Test and Related Material

cc: (w/o Enclosures)
Chief, NRC Operator Licensing Branch
NRC Senior Resident Inspector
ECM

Personally Identifiable Information - Withhold Under 10 CFR 2.390

This letter is decontrolled when separated from the enclosure

Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

WBL-19-042

July 30, 2019

10 CFR 55.5
10 CFR 55.33
10 CFR 55.49

Ms. Laura Dudes, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
245 Peachtree Center Avenue, NE, Suite 1200
Atlanta, Georgia 30303-1257

Attention: Mr. Gerald McCoy

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License No. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: Senior Reactor Operator Initial Examination Application

Reference: NRC letter to TVA, "Watts Bar Nuclear Plant Units 1 and 2 - Notification of Licensed Operator Initial Examination 05000390/2019301, 05000391/2019301" dated January 18, 2019

The Nuclear Regulatory Commission (NRC) informed the Tennessee Valley Authority (TVA) in the above referenced letter that the NRC will be administering the licensing examination operating tests during the week of August 12, 2019, with written examinations being administered during the week of August 19, 2019.

The Referenced letter indicated that TVA should submit signed senior reactor operator license applications, medical certifications, and waiver requests, if any, at least 14 days before the first examination date. This letter submits the Personal Qualification Statements (NRC Form 398), Certification of Medical Examinations (NRC Form 396) and waiver requests for the individuals scheduled to take the licensing examinations.

Enclosure 1 provides the name, license applying for and type of application. Enclosure 2 provides the Personal Qualification Statements and Certification of Medical Examinations for the applicants.

Personally Identifiable Information - Withhold Under 10 CFR 2.390

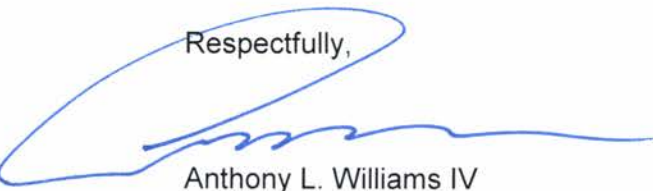
This letter is decontrolled when separated from the enclosure

U.S. Nuclear Regulatory Commission
Page 2
July 30, 2019

This letter contains no regulatory commitments. This letter includes medical information that is considered by TVA to be of a personal nature and, as such, is requested to be withheld from public disclosure in accordance with 10 CFR 2.390(a)(6).

If you have any questions, please contact Leon Neat, Operations Training Manager at (423) 365-1256.

Respectfully,



Anthony L. Williams IV
Site Vice President
Watts Bar Nuclear Plant

Enclosures: 1. Senior Reactor Operator (SRO) Applicants
 2. Personal Qualification Statements (NRC Form 398)
 and Certification of Medical Examinations (NRC Form 396)

cc: w/o Enclosures
 NRC Senior Resident Inspector

Personally Identifiable Information - Withhold Under 10 CFR 2.390
This letter is decontrolled when separated from the enclosure



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

WBL-19-049

August 28, 2019

10 CFR 55.5
10 CFR 55.49
10 CFR 55.40(b)

Ms. Laura Dudes, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
245 Peachtree Center Avenue, NE, Suite 1200
Atlanta, Georgia 30303-1257

Attn: Mr. Joseph Viera

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: Senior Reactor Operator Initial Examination Documentation

Reference: Nuclear Regulatory Commission's (NRC's) letter to the Tennessee Valley Authority (TVA) dated January 18, 2019, "Watts Bar Nuclear Plant Units 1 and 2 - Notification of Licensed Operator Initial Examination 05000390/2019301, 05000391/2019301"

As agreed to in the Reference, the Tennessee Valley Authority (TVA) administered a written examination to a group of licensed operator applicants on August 21, 2019. In accordance with NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Examination Standard (ES) 501, "Initial Post-Examination Activities," TVA is submitting the following enclosures.

Enclosure 1 - The graded written examinations (i.e., each applicant's original answer and examination cover sheets) and a clean copy of each applicant's answer sheet.

Enclosure 2 - The master examination(s) and answer key(s), annotated to indicate any changes made while administering and grading the examination(s).

Personally Identifiable Information - Withhold Under 10 CFR 2.390
This letter is decontrolled when separated from the enclosure

U.S. Nuclear Regulatory Commission
Page 2
August 28, 2019

Enclosure 3 - Any questions asked by the applicants and the answers given to the applicant during the written examination.

Enclosure 4 - All examination administration or post-examination review comments made by the facility licensee and the applicants after the written examination and/or operating tests.

Enclosure 5 - The seating chart for the written examination.

Enclosure 6 - A completed Form ES-403-1, "Written Examination Grading Quality Checklist"

Enclosure 7 - The results of any performance analysis that was performed for the written examination, with recommended substantive changes.

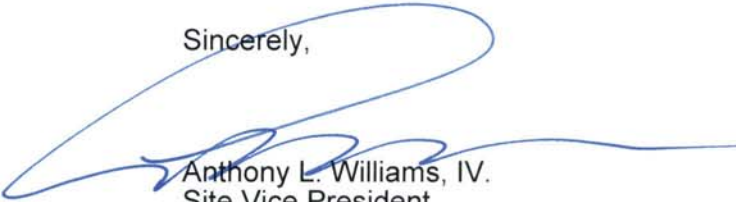
Enclosure 8 - Original Form(s) ES-201-3, "Examination Security Agreement," with a pre- and post-examination signature by every individual who had detailed knowledge of any part of the operating tests or written examination before they were administered.

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) 55.49, and NUREG-1021, appropriate measures have been taken to ensure examination integrity and security.

Because of the administratively confidential nature of the enclosed material, it is requested that the information forwarded to Mr. Joseph Viera and contained in Enclosures 1 through 8 be withheld from public disclosure until the examinations are completed.

This letter contains no new regulatory commitments. Should you have questions concerning this submittal, please contact Leon Neat, Operations Training Manager, at (423) 365-1256.

Sincerely,



Anthony L. Williams, IV.
Site Vice President
Watts Bar Nuclear Plant

Personally Identifiable Information - Withhold Under 10 CFR 2.390
This letter is decontrolled when separated from the enclosure

U. S. Nuclear Regulatory Commission
Page 3
August 28, 2019

Enclosures:

cc: (with Enclosures):
Chief, NRC Operator Licensing Branch

cc: (w/o Enclosures):
NRC Senior Resident Inspector
NRC Project Manager

Personally Identifiable Information - Withhold Under 10 CFR 2.390
This letter is decontrolled when separated from the enclosure

U. S. Nuclear Regulatory Commission
Page 4
August 28, 2019

MAB:BMD

bcc (w/o Enclosures):

T. Marshall
L. Neat
V. Perry
C. Rice
J. Staggs
ECM