

**PROPOSED EXAMINATION COVER LETTER AND CHECKLISTS**  
**FOR THE**  
**QUAD CITIES NUCLEAR POWER STATION INITIAL EXAMINATION**  
**JUNE 2007**

Facility: Quad Cities Units 1 & 2		Date of Examination: June 2007		
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).	CM	N/A	BP
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	CM	N/A	BP
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	CM	N/A	BP
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	CM	N/A	BP
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	CM	N/A	BP
2. Walk-Through Criteria		--	--	--
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> <li>• initial conditions</li> <li>• initiating cues</li> <li>• references and tools, including associated procedures</li> <li>• reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee</li> <li>• operationally important specific performance criteria that include:                             <ul style="list-style-type: none"> <li>– detailed expected actions with exact criteria and nomenclature</li> <li>– system response and other examiner cues</li> <li>– statements describing important observations to be made by the applicant</li> <li>– criteria for successful completion of the task</li> <li>– identification of critical steps and their associated performance standards</li> <li>– restrictions on the sequence of steps, if applicable</li> </ul> </li> </ul>	CM	N/A	MFS
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.	CM	N/A	MFS
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.		CM	N/A	BP
Printed Name / Signature		Date		
a.	Author <u>Carl Moore / Carl Moore</u>	<u>4/13/07</u>		
b.	Facility Reviewer(*) <u>N/A</u>			
c.	NRC Chief Examiner (#) <u>Reginald Walton / R Keith Walton</u>	<u>4/13/2007</u>		
d.	NRC Supervisor <u># Hironori Petersen / Hironori Petersen</u>	<u>6/6/07</u>		
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.				

Facility: Quad Cities Units 1 & 2		Date of Exam: June, 2007		Scenario Numbers: 1 / 2 / 3 / 4		
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.	CLM	N/A	BP		
2.	The scenarios consist mostly of related events.	CLM	N/A	BP		
3.	Each event description consists of <ul style="list-style-type: none"> <li>the point in the scenario when it is to be initiated</li> <li>the malfunction(s) that are entered to initiate the event</li> <li>the symptoms/cues that will be visible to the crew</li> <li>the expected operator actions (by shift position)</li> <li>the event termination point (if applicable)</li> </ul>	CLM	N/A	BP		
4.	No more than one non-mechanistic failure (e.g., pipe break) is incorporated into the scenario without a credible preceding incident such as a seismic event.	CLM	N/A	BP		
5.	The events are valid with regard to physics and thermodynamics.	CLM	N/A	BP		
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	CLM	N/A	BP		
7.	If time compression techniques are used, the scenario summary clearly so indicates. Operators have sufficient time to carry out expected activities without undue time constraints. Cues are given.	N/A	N/A	BP		
8.	The simulator modeling is not altered.	CLM	N/A	BP		
9.	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.	CLM	N/A	MCS		
10.	Every operator will be evaluated using at least one new or significantly modified scenario. All other scenarios have been altered in accordance with Section D.5 of ES-301.	CLM	N/A	BP		
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	CLM	N/A	BP		
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).	CLM	N/A	BP		
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	CLM	N/A	BP		
<b>Target Quantitative Attributes (Per Scenario; See Section D.5.d)</b>		Actual Attributes		--	--	--
1.	Total malfunctions (5-8)	6 / 5 / 7 / 7		CLM	N/A	BP
2.	Malfunctions after EOP entry (1-2)	1 / 0 / 1 / 2		CLM	N/A	BP
3.	Abnormal events (2-4)	3 / 3 / 3 / 3		CLM	N/A	BP
4.	Major transients (1-2)	1 / 1 / 1 / 1		CLM	N/A	BP
5.	EOPs entered/requiring substantive actions (1-2)	3 / 2 / 2 / 2		CLM	N/A	BP
6.	EOP contingencies requiring substantive actions (0-2)	1 / 1 / 0 / 1		CLM	N/A	BP
7.	Critical tasks (2-3)	2 / 2 / 2 / 2		CLM	N/A	BP

Facility: Quad Cities Units 1 & 2		Date of Exam: June 2007		Operating Test No.: 2007-301								
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				
		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		
RO	RX		1		2						2	1*
	NOR				1					1	2	1*
SRO-I	I/C		3,6,8		3,4,5,7					5,6,7	10	4*
SRO-U	MAJ		7		8					7	3	2
	TS				3,6						2	2
RO	RX					2		2,6			3	1*
	NOR			2				1			2	1*
SRO-I	I/C			4,5,8		3,5		4,5,6,7			9	4*
SRO-U	MAJ			7		8		7			3	2
	TS							3,5			2	2
RO	RX	1							2,6		3	1*
	NOR	2					1				2	1*
SRO-I	I/C	3,4,5,8					4,7		4,7		8	4*
SRO-U	MAJ	7					8		7		3	2
	TS	4,6									2	2
RO	RX											1*
	NOR											1*
SRO-I	I/C											4*
SRO-U	MAJ											2
	TS											2

Instructions:

1. Circle 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 must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 instrument or component malfunctions on a 1-for-1 basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author: Carl Moore 4/13/07  
 NRC Reviewer: Ronald Walter 4/13/2007

Facility: Quad Cities Units 1 & 2		Date of Exam: June 2007		Operating Test No.: 2007-301								
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				
		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		
RO  SRO-I  SRO-U	RX		1		2						2	1*
	NOR				1					1	2	1*
	I/C		3,6,8		3,4,5,7					5,6,7	10	4*
	MAJ		7		8					7	3	2
	TS				3,6						2	2
RO  SRO-I  SRO-U	RX	1				2		2,6			4	1*
	NOR	2						1			2	1*
	I/C	3,4,5,8				3,5		4,5,6,7			11	4*
	MAJ	7				8		7			3	2
	TS	4,6						3,5			4	2
RO  SRO-I  SRO-U	RX								2,6		2	1*
	NOR			2			1				2	1*
	I/C			4,5,8			4,7		4,7		7	4*
	MAJ			7			8		7		3	2
	TS										0	2
RO  SRO-I  SRO-U	RX											1*
	NOR											1*
	I/C											4*
	MAJ											2
	TS											2

Instructions:

1. Circle 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 must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 instrument or component malfunctions on a 1-for-1 basis.
3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirement.

Author: Eric Moore 4/13/07

NRC Reviewer: Royal Walter 4/13/2007

Facility: Quad Cities Units 1 & 2		Date of Exam: June 2007		Operating Test No.: 2007-301								
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
		4			2			1				
		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		
RO	RX		1								1	1*
	NOR				1						1	1*
SRO-I	I/C		4, 6		2, 4, 6						5	4*
SRO-U	MAJ		7		5						2	2
	TS				2, 3, 4						3	2
RO	RX					1					1	1*
	NOR	1, 2									2	1*
SRO-I	I/C	4, 5, 6			2, 6						5	4*
SRO-U	MAJ	7			5						2	2
	TS	3, 4									2	2
RO	RX											1*
	NOR											1*
SRO-I	I/C											4*
SRO-U	MAJ											2
	TS											2
RO	RX											1*
	NOR											1*
SRO-I	I/C											4*
SRO-U	MAJ											2
	TS											2

Instructions:

- Circle 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 must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 1-for-1 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 requirement.

Author: Ronald Keith Walters 6/5/2007

NRC Reviewer: Michael E. Bully Jr. 6/5/07

Facility: Quad Cities Units 1 & 2		Date of Exam: June 2007		Operating Test No.: 2007-301								
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
		4			1			2				
		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		
RO	RX							1			1	1*
	NOR			2	1, 2						3	1*
SRO-I	I/C			5	3, 4			2, 6			5	4*
SRO-U	MAJ			7	5			5			3	2
	TS				3, 4						2	2
RO	RX					1					1	1*
	NOR	1, 2						1			3	1*
SRO-I	I/C	4, 5, 6			3, 4			2, 4, 6			8	4*
SRO-U	MAJ	7			5			5			3	2
	TS	3, 4						2, 3, 4			5	2
RO	RX		1								1	1*
	NOR						2				1	1*
SRO-I	I/C		4, 6						4, 6		4	4*
SRO-U	MAJ		7			5			5		3	2
	TS										0	2
RO	RX											1*
	NOR											1*
SRO-I	I/C											4*
SRO-U	MAJ											2
	TS											2

Instructions:

- Circle 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 must do one scenario, including at least two instrument or component (I/C) malfunctions and one major transient, in 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 1-for-1 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 requirement.

Author: Randy Keith Walter 6/5/2007

NRC Reviewer: Michael E. Bully Sr. 6/5/07

Facility: Quad Cities Units 2 & 3 <sup>dm</sup> Date of Examination: June 2007 Operating Test No.: 2007-301									
Competencies	APPLICANTS								
	RO			SRO-I			SRO-I		
	SCENARIO			SCENARIO			SCENARIO		
	1	2	3	1	2	3	1	2	3
	B O P	B O P	A T C	S R O	A T C	S R O	A T C	S R O	B O P
Interpret/Diagnose Events and Conditions	4,5,7 8	4,7,8	4,6,7	3,4,5 6,7,8	3,5,7 8	4,5,6	3,6,7 8	3,4,5 7,8	5,6,7
Comply With and Use Procedures (1)	2,4,5 7,8	1,4 7,8	2,4,6 7	1-8	2,3,5 7,8	1-7	1,3,6 7,8	1-8	1,5 6,7
Operate Control Boards (2)	2,4,5 7,8	1,4 7,8	2,4,6 7	N/A	2,3,5 7,8	N/A	1,3,6 7,8	N/A	1,5 6,7
Communicate and Interact	2,4,5 7,8	1,4 7,8	2,4,6 7	1-8	2,3,5 7,8	1-7	1,3,6 7,8	1-8	1,5 6,7
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	1-6	N/A	1,2 4-7	N/A	1,5 7,8	N/A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	4,6	N/A	3,5	N/A	3,6	N/A

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

Instructions:

Circle the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: Paul Moore 4/13/07  
 NRC Reviewer: Raymond Walter 4/13/2007



Facility: Quad Cities Units 2 & 3										Date of Examination: June 2007			Operating Test No.: 2007-301		
Competencies	APPLICANTS														
	SRO-I			SRO-I			SRO-I								
	SCENARIO			SCENARIO			SCENARIO								
	1	2	3	1	2	3	1	2	3						
	S R O	B O P	A T C	B O P	A T C	S R O	A T C	S R O	B O P						
Interpret/Diagnose Events and Conditions	3,4,5 6,7,8	4,7,8	4,6,7	4,5,7 8	3,5 7,8	4,5,6 7	3,6,7 8	3,4,5 7,8	5,6,7						
Comply With and Use Procedures (1)	1-8	1,4 7,8	2,4,6 7	2,4,5 7,8	2,3,5 7,8	1-7	1,3,6 7,8	1-8	1,5,6 7						
Operate Control Boards (2)	N/A	1,4 7,8	2,4,6 7	2,4,5 7,8	2,3,5 7,8	N/A	1,3,6 7,8	N/A	1,5,6 7						
Communicate and Interact	1-8	1,4 7,8	2,4,6 7	2,4,5 7,8	2,3,5 7,8	1-7	1,3,6 7,8	1-8	1,5,6 7						
Demonstrate Supervisory Ability (3)	1-6	N/A	N/A	N/A	N/A	1,2 4-7	N/A	1-5, 7,8	N/A						
Comply With and Use Tech. Specs. (3)	4,6	N/A	N/A	N/A	N/A	3,5	N/A	3,6	N/A						
Notes:															
(1) Includes Technical Specification compliance for an RO.															
(2) Optional for an SRO-U.															
(3) Only applicable to SROs.															

Instructions:

Circle the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author:

Carl Moore 4/13/07

NRC Reviewer:

Ray L Walter 4/13/2007

Facility: Quad Cities Units 2 & 3									
Date of Examination: June 2007									
Operating Test No.: 2007-301									
Competencies	APPLICANTS								
	RO			SRO-I			SRO-I		
	SCENARIO			SCENARIO			SCENARIO		
	1	2	4	1	2	4	1	2	4
	B O P	B O P	A T C	A T C	S R O	S R O	S R O	A T C	B O P
Interpret/Diagnose Events and Conditions	5	4, 6	4, 6, 7	3, 4, 5	2 - 6	3-7	2-5	2, 5, 6	5, 7
Comply With and Use Procedures (1)	2, 5	4-6	1, 4, 6, 7	1, 3, 4, 5	1 - 6	1-7	1-5	1, 2, 5, 6	2, 5, 7
Operate Control Boards (2)	2, 5	4-6	1, 4, 6, 7	1, 3, 4, 5	N/A	N/A	N/A	1, 2, 5, 6	2, 5, 7
Communicate and Interact	2, 5	4-6	1, 4, 6, 7	1, 3, 4, 5	1 - 6	1-7	1-5	1, 2, 5, 6	2, 5, 7
Demonstrate Supervisory Ability (3)	N/A	N/A	N/A	N/A	1 - 6	1-7	1-5	N/A	N/A
Comply With and Use Tech. Specs. (3)	N/A	N/A	N/A	N/A	2, 3, 4	3, 4	3, 4	N/A	N/A
Notes:									
(1) Includes Technical Specification compliance for an RO.									
(2) Optional for an SRO-U.									
(3) Only applicable to SROs.									

Instructions:

Circle the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: Russel Kent Walter 6/5/2007

NRC Reviewer: Michael P. Bully 6/5/07

Facility: Quad Cities Units 2 & 3		Date of Examination: June 2007		Operating Test No.: 2007-301	
Competencies	APPLICANTS				
	SRO-I		SRO-I		
	SCENARIO		SCENARIO		
	4	2	4	2	
	S R O	A T C	A T C	S R O	
Interpret/Diagnose Events and Conditions	3-7	2, 5, 6	4, 6, 7	2-6	
Comply With and Use Procedures (1)	1-7	1, 2, 5, 6	1, 4, 6, 7	1-6	
Operate Control Boards (2)	N/A	1, 2, 5, 6	1, 4, 6, 7	N/A	
Communicate and Interact	1-7	1, 2, 5, 6	1, 4, 6, 7	1-6	
Demonstrate Supervisory Ability (3)	1-7	N/A	N/A	1-6	
Comply With and Use Tech. Specs. (3)	3, 4	N/A	N/A	2, 3, 4	
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.					

Instructions:

Circle the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Author: Russell Keith Walter 6/5/2007  
 NRC Reviewer: Michael E. Bellis 6/5/07

Facility: Quad Cities Units 1 & 2		Date of Exam: June 2007		Exam Level: RO/SRO			
Item Description				Initial			
				a	b*	c*	
1. Questions and answers are technically accurate and applicable to the facility.				AM	SM	RW	
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.				AM	SM	RW	
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401				AM	SM	RW	
4. If more than four RO and two SRO questions are repeated from the last two NRC licensing exams, the facility licensee's sampling process was random and systematic.						RW	
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input type="checkbox"/> the audit exam was systematically and randomly developed <input type="checkbox"/> the audit exam was completed before the license exam was started <input checked="" type="checkbox"/> the examinations were developed independently <input type="checkbox"/> the licensee certifies that there is no duplication <input type="checkbox"/> other (explain)				AM	SM	RW	
6. Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.		Bank	Modified	New	AM	SM	RW
		6 / 1	8 / 3	61 / 21			
7. Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.		Memory	C/A		AM	SM	RW
		31 / 4	44 / 21				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.				AM	SM	RW	
9. Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				AM	SM	RW	
10. Question psychometric quality and format meet the guidelines in ES Appendix B.				AM	SM	RW	
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.				AM	SM	RW	
a. Author		Printed Name / Signature			Date		
b. Facility Reviewer (*) (NRC)		CARL MOORE / Carl Moore			4/13/07		
c. NRC Chief Examiner (#)		N/A, Dell McNeil / Derek McNeil			4/13/07		
d. NRC Regional Supervisor		R Keith Johnston / Raymond R. Johnston			4/13/07		
		HP Mironov Petersen / Mironov Petersen			4/13/07		
Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.							