

RII NRC

2006 Exam Writers Work Shop

"Communicating Expectations - Achieving a Common Goal"



Examination Expectations

- Follow the Process, you **can't** go wrong!
- Call your Chief examiner, keep an open line of communications.
- If a test item (KA, JPM topic etc.) needs to be changed provide the basis/reasoning for the requested change. Present all available information for the chief examiner review.

Examination Expectations

- Reference material should fully support **all** distractors. This would include the plausibility of the correct, as well as, the incorrect distractors. (if possible)
- Remember we are **not** operators, we need more information concerning plant specifics and the logic why.

Examination Expectations

- At times we will evaluate distractors as inappropriate because we may have a basic misunderstanding concerning the information provided in the stem.
- Validate the written examination using the suggestions provided earlier today

Examination Expectations

- Deliverables, What QA forms are required for the initial submittal?
- When are they required?

Facility: _____ Date of Examination: _____

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

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	
-120	3. Facility contact briefed on security and other requirements (C.2.c)	
-120	4. Corporate notification letter sent (C.2.d)	
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	
{-45}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204)	
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	

* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.
 [Applies only] (Does not apply) to examinations prepared by the NRC.

Facility: _____

Date of Examination: _____

Examination Level: RO ☐ SRO ☐

Operating Test Number: _____

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations		
Conduct of Operations		
Equipment Control		
Radiation Control		
Emergency Plan		

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
 (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
 (N)ew or (M)odified from bank (≥ 1)
 (P)revious 2 exams (≤ 1 ; randomly selected)

Facility: _____
 Exam Level: RO ☐ SRO-I ☐ SRO-U ☐

Date of Examination: _____
 Operating Test No.: _____

Control Room Systems® (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
a.		
b.		
c.		
d.		
e.		
f.		
g.		
h.		

In-Plant Systems® (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

i.		
j.		
k.		

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	$\leq 9 / \leq 8 / \leq 4$
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$
(L)ow-Power / Shutdown	$\geq 1 / \geq 1 / \geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)
(R)CA	$\geq 1 / \geq 1 / \geq 1$
(S)imulator	

Facility:		Date of Examination:		Operating Test Number:	
1. General Criteria		Initials			
		a	b*	c#	
a.	The operating test conforms with the previously approved outline; changes are consistent with sampling requirements (e.g., 10 CFR 55.45, operational importance, safety function distribution).				
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.				
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)				
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.				
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.				
2. Walk-Through Criteria		--	--	--	
a.	Each JPM includes the following, as applicable: <ul style="list-style-type: none"> • initial conditions • initiating cues • references and tools, including associated procedures • reasonable and validated time limits (average time allowed for completion) and specific designation if deemed to be time-critical by the facility licensee • 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 				
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.				
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.					
Printed Name / Signature		Date			
a.	Author _____	_____			
b.	Facility Reviewer(*) _____	_____			
c.	NRC Chief Examiner (#) _____	_____			
d.	NRC Supervisor _____	_____			
NOTE: * The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.					

Facility:		Date of Exam:		Scenario Numbers: / /		Operating Test No.:	
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 <ul style="list-style-type: none"> the point in the scenario when it is to be initiated the malfunction(s) that are entered to initiate the event the symptoms/cues that will be visible to the crew the expected operator actions (by shift position) the event termination point (if applicable) 						
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.						
5.	The events are valid with regard to physics and thermodynamics.						
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.						
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.						
8.	The simulator modeling is not altered.						
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.						
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.						
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).						
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.	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.	Total malfunctions (5–8)	/ /					
2.	Malfunctions after EOP entry (1–2)	/ /					
3.	Abnormal events (2–4)	/ /					
4.	Major transients (1–2)	/ /					
5.	EOPs entered/requiring substantive actions (1–2)	/ /					
6.	EOP contingencies requiring substantive actions (0–2)	/ /					
7.	Critical tasks (2–3)	/ /					

Facility:		Date of Exam:		Exam Level: RO <input type="checkbox"/> SRO <input type="checkbox"/>		
Item Description			Initial			
			a	b*	c#	
1.	Questions and answers are technically accurate and applicable to the facility.					
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.					
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401					
4.	The sampling process was random and systematic (If more than 4 RO or 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL program office).					
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: ___ the audit exam was systematically and randomly developed; or ___ the audit exam was completed before the license exam was started; or ___ the examinations were developed independently; or ___ the licensee certifies that there is no duplication; or ___ other (explain)					
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 /		
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 /			
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.					
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.					
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.					
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.					
			Printed Name / Signature		Date	
a. Author			_____		_____	
b. Facility Reviewer (*)			_____		_____	
c. NRC Chief Examiner (#)			_____		_____	
d. NRC Regional Supervisor			_____		_____	
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.						