

DUANE ARNOLD

APRIL 2001

**PROPOSED
OPERATING TEST**

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).	ST	KY	AMS		
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	ST	KY	AMS		
c.	The operating test shall not duplicate items from the applicant's audit test(s) (see Section D.1.a).	ST	KY	AMS		
d.	Overlap with the written examination and between operating test categories is within acceptable limits.	ST	KY	AMS		
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	ST	KY	AMS		
2. WALK-THROUGH (CATEGORY A & B) 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 • validated time limits (average time allowed for completion) and specific designation if deemed to be time critical by the facility licensee • specific performance criteria that include: <ul style="list-style-type: none"> - detailed expected actions with exact criteria and nomenclature - system response and other examiner cues - statements describing important observations to be made by the applicant - criteria for successful completion of the task - identification of critical steps and their associated performance standards - restrictions on the sequence of steps, if applicable 	ST	KY	AMS		
b.	The prescribed questions in Category A are predominantly open reference and meet the criteria in Attachment 1 of ES-301.	ST	KY	AMS		
c.	Repetition from operating tests used during the previous licensing examination is within acceptable limits (30% for the walk-through) and do not compromise test integrity.	ST	KY	AMS		
d.	At least 20 percent of the JPMs on each test are new or significantly modified.	ST	KY	AMS		
3. SIMULATOR (CATEGORY C) CRITERIA				-	-	-
a.	The associated simulator operating tests (scenario sets) have been reviewed in accordance with Form ES-301-4 and a copy is attached.	ST	KY	AMS		
		Printed Name / Signature		Date		
a.	Author	<u>G. Thullen / G. Thullen</u>		<u>2/13/01</u>		
b.	Facility Reviewer(*)	<u>Keith Young / Keith Young</u>		<u>2/14/01</u>		
c.	NRC Chief Examiner (*)	<u>Ann Marie Stone / Ann Marie Stone</u>		<u>4/6/01</u>		
d.	NRC Supervisor (*)	<u>David Hill / David Hill</u>		<u>4/6/01</u>		
(*) The facility signature is not applicable for NRC-developed tests; two independent NRC reviews are required.						

Facility: <u>Duane Arnold</u>		Date of Exam: <u>Apr 12 2001</u>	Scenario Numbers: <u>11/13/</u>	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.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
2.	The scenarios consist mostly of related events.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
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) 	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
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.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
5.	The events are valid with regard to physics and thermodynamics.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
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.	<u>NA</u>	<u>NA</u>	<u>NA</u>		
8.	The simulator modeling is not altered.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
9.	The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
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.4 of ES-301.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
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).	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	<u>RT</u>	<u>Ky</u>	<u>AMS</u>		
TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)		Actual Attributes				
1.	Total malfunctions (5-8)	<u>10</u>	<u>5</u>	<u>1</u>	<u>5</u>	<u>AMS</u>
2.	Malfunctions after EOP entry (1-2)	<u>3</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>AMS</u>
3.	Abnormal events (2-4)	<u>4</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>AMS</u>
4.	Major transients (1-2)	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>AMS</u>
5.	EOPs entered/requiring substantive actions (1-2)	<u>3</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>AMS</u>
6.	EOP contingencies requiring substantive actions (0-2)	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>AMS</u>
7.	Critical tasks (2-3)	<u>4</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>AMS</u>

OPERATING TEST NO:

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 ESG 12	2 ESG 13	3	4
RO-1	Reactivity	1	1			
	Normal	1		2		
	Instrument/ Component	4	5	3, 7, 8, 9		
	Major	1	7	6&10		

Applicant Type	Evolution Type	Minimum Number	Scenario Number			
			1 ESG 12	2 ESG 13	3	4
RO-2	Reactivity	1		1		
	Normal	1	2			
	Instrument/ Component	4	3 4 6 8 9	4, 5, 9		
	Major	1	7	6&10		

SRO- U- 1	Reactivity	0				
	Normal	1	2	2		
	Instrument/ Component	2	3 4 5	3, 4, 5, 9		
	Major	1	7	6&10		

Competencies	Applicant #1 RO/SRO-I/SRO-U				Applicant #2 RO/SRO-I/SRO-U				Applicant #3 RO/SRO-I/SRO-U			
	SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4
Understand and Interpret Annunciators and Alarms	5 7	3			3 6	5 6			3 5 6 7	4 5		
Diagnose Events and Conditions	5 7	7 8 9			3 4 5 8 9	5 9			3-9	4 5 6		
Understand Plant and System Response	5 7	7 8 9			4 7	4 9			4 5 7	4 5 6 10		
Comply With and Use Procedures (1)	1	2 3 7 8 9			2 3	1 4 6			3 7	6 10		
Operate Control Boards (2)	1	2 3			2	1 6						
Communicate and interact With the Crew	5 7	3 6			7	5 6			5 7	3 4 5 6 10		
Demonstrate Supervisory Ability (3)									5 7	3 4 5 10		
Comply With and Use Tech. Specs. (3)									3	X		
<p>Notes:</p> <p>(1) Includes Technical Specification compliance for an RO.</p> <p>(2) Optional for an SRO-U.</p> <p>(3) Only applicable to SROs.</p>												

Instructions:

Circle 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.

Author:

Chief Examiner:

[Signature]

[Signature]
