

2009 DUANE ARNOLD ENERGY CENTER

INITIAL EXAMINATION

PROPOSED EXAM FILES



July 16, 2009

NG-09-0526
NUREG 1021

U.S. Nuclear Regulatory Commission, Region III
Attention: David Reeser
2443 Warrenville Road
Suite 210
Lisle, IL 60532-4352

Duane Arnold Energy Center
Docket 50-331
License No. DPR-49

Examination Material for Duane Arnold Energy Center Initial License Examination
Week of September 21, 2009

In accordance with the guidelines of NUREG 1021, "Operating License Examination Standard for Power Reactors," Revision 9, we are sending you the written examination portion of the initial license examinations to be administered at our facility the week of September 21, 2009.

NUREG 1021 physical security requirements state that the enclosed examination materials shall be withheld from public disclosure until after the examination is complete.

You may direct any questions or comments regarding this material to Stanley Vick, Curtis Hansen or Wayne Render at 319-851-7268.

This letter contains no new commitments.

A handwritten signature in black ink that reads "Richard L. Anderson".

Richard L. Anderson
Vice President, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Enclosures

CC: Chief Operator License Branch, Region III
NRC Resident Inspector
NRC Document Control Desk

Facility: DUANE ARNOLD Date of Examination: 9/2009 Operating Test Number: 2009 NRC

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).	SD	H	R
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	SD	H	R
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).	SD	H	R
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	SD	H	R
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	SD	H	R
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 * operationally important 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	SD	H	R
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.	SD	H	R
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.		SD	H	R
	Printed Name / Signature	Date		
a.	Author STEVEN DENNIS <i>Steven Dennis</i>	7-2-09		
b.	Facility Reviewer (*) BRIAN L. HUPKE <i>Brian L. Hupke</i>	7-12-09		
c.	NRC Chief Examiner (#) David W. Reeser <i>David W. Reeser</i>	9/3/2009		
d.	NRC Supervisor <i>[Signature]</i> HARRISON PETERSON <i>Harrison Peterson</i>	9/14/09		
NOTE:	* The facility signature is not applicable for NRC-developed tests. # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.			

Facility: DUANE ARNOLD		Date of Exam: 9/2009		Scenario Numbers: 1 / 2 / 3		Operating Test No.: 2009 NRC		
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.	SD	H	R				
2.	The scenarios consist mostly of related events.	SD	H	R				
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) 	SD	H	R				
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.	SD	H	R				
5.	The events are valid with regard to physics and thermodynamics.	SD	H	R				
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	SD	H	R				
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.	SD	H	R				
8.	The simulator modeling is not altered.	SD	H	R				
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.	SD	H					
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.	SD	H	R				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	SD	H	R				
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).	SD	H	R				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	SD	H	R				
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		-	-	-		
		1 / 2 / 3						
1.	Total malfunctions (5-8)	6	6	6	SD	H	R	
2.	Malfunctions after EOP entry (1-2)	1	1	1	SD	H	R	
3.	Abnormal events (2-4)	3	3	3	SD	H	R	
4.	Major transients (1-2)	1	1	1	SD	H	R	
5.	EOPs entered/requiring substantive actions (1-2)	2	2	2	SD	H	R	
6.	EOP contingencies requiring substantive actions (0-2)	1	1	1	SD	H	R	
7.	Critical tasks (2-3)	2	3	2	SD	H	R	

Facility:	Duane Arnold	Date of Exam:	2/9/09	Exam Level:	RO & SRO		
Item Description				Initial			
				a	b*	c#	
1.	Questions and answers technically accurate and applicable to facility.			SD	H	SR	
2.	a. NRC K/As referenced for all questions. b. Facility learning objectives referenced as available.			SD	H	SR	
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401			SD	H	R	
4.	The sampling process was random and systematic. (If more than 4 RO and 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL Program Office)			SD	H	SR	
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed, or <input type="checkbox"/> the audit exam was completed before the license exam was started, or <input type="checkbox"/> the examinations were developed independently, or <input type="checkbox"/> the licensee certifies that there is no duplication, or <input type="checkbox"/> other (explain)			SD	H	SR	
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	SD	H	SR
		431 10	111	3114			
7.	Between 50 and 60 percent of the question 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		SD	H	SR
		31 15	44	20			
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.			SD	H	R	
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.			SD	H	R	
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.			SD	H	R	
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet.			SD	H	SR	
Printed Name / Signature						Date	
a.	Author	STEVEN DENNIS <i>Steven Dennis</i>			7-2-09		
b.	Facility Reviewer (*)	BRIAN L. HUPKE <i>Brian L. Hupke</i>			7-12-09		
c.	NRC Chief Examiner (#)	David Wilson <i>David W. Reeser</i>			8/20/2009		
d.	NRC Regional Supervisor	<i>Hironori Peterson</i> <i>James Johnson</i>			9/14/09		
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.						

Facility:	Duane Arnold	Date of Exam:	9/09	Exam Level:	RO & SRO	
				Initial		
Item Description				a	b*	c#
1. Questions and answers technically accurate and applicable to facility.				SD	H	R
2. a. NRC K/As referenced for all questions. b. Facility learning objectives referenced as available.				SD	H	R
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401				SD	H	R
4. The sampling process was random and systematic. (If more than 4 RO and 2 SRO questions were repeated from the last 2 NRC licensing exams, consult the NRR OL Program Office)				SD	H	R
5. Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: <input checked="" type="checkbox"/> the audit exam was systematically and randomly developed, or <input type="checkbox"/> the audit exam was completed before the license exam was started, or <input type="checkbox"/> the examinations were developed independently, or <input type="checkbox"/> the licensee certifies that there is no duplication, or <input type="checkbox"/> other (explain)				SD	H	R
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 39/12	Modified 3/1	New 33/12
7. Between 50 and 60 percent of the question 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 31/5	C/A 44/20	
8. References/handouts provided do not give away answers or aid in the elimination of distractors.				SD	H	R
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.				SD	H	R
10. Question psychometric quality and format meet the guidelines in ES Appendix B.				SD	H	R
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet.				SD	H	R
Printed Name / Signature					Date	
a.	Author	STEVEN DEJUNIS / <i>Steven DeJunis</i>			8-31-09	
b.	Facility Reviewer (*)	BRIAN L. HUPKE / <i>Brian L. Hupke</i>			9-11-09	
c.	NRC Chief Examiner (#)	David Weiser / <i>David Weiser</i>			9-14-09	
d.	NRC Regional Supervisor	<i>Thomas Peterson</i> / <i>Thomas Peterson</i>			9-14-09	
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.					