EXAMINATION OUTLINE SUBMITTAL FOR THE

DUANE ARNOLD RETAKE EXAMINATION – APRIL 2008

FPL Energy Duane Arnold, LLC
3277 DAEC Road
Palo, Iowa 52324

FPL Energy

Duane Arnold Energy Center

March 13, 2008

NG-08-0193
NUREG 1021

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

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

Re-Examination Material for Duane Arnold Energy Center

In accordance with the guidelines of NUREG 1021, "Operating License Examination Standard for Power Reactors", Revision 9, we are sending you the integrated examination outline for a Senior Reactor Operator candidate that will be re-examined during the week of April 21, 2008.

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 Curtis Hansen or Wayne Render at 319-851-7268.

This letter contains no new commitments.

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

Enclosures

CC: Chief Operator License Branch, Region III w/o
NRC Resident Inspector w/o

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BLIND CARBON COPY LIST FOR NG-08-0193
March 13, 2008

D. Curtland w/o
C. Hansen w/o
W. Render w/0
IRMS w/o
S. Catron w/o
J. Morris w/o
Licensing CTS Project w/o

SUBJECT: Re-Examination Material for Duane Arnold Energy Center

FILE CODES: A117a

Facility: Duane Arnold Energy Center	Date of Examination: April 22nd, 2008			
Item	Task Description	Initials a	b*	c#
1. WRITTEN	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	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 and whether all K/A categories are appropriately sampled.	N/A	N/A	N/A
	c. Assess whether the outline over-emphasizes 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	N/A
2. 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.	CDH	KJS	SM
	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.	CDH	KJS	SM
	c. To the extent possible, assess whether the outline(s) conform(s) with the qualitative and quantitative criteria specified on Form ES-301-4 and described in Appendix D.	CDH	KJS	SM
3. W/T	a. Verify that the systems walk-through outline meets the criteria specified on Form ES-301-2: (1) the outline(s) contain(s) 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 applicants' 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 RCA tasks meet the criteria on the form.	N/A	N/A	N/A
	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	N/A	N/A	N/A
	c. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on subsequent days.	N/A	N/A	N/A
4. GENERAL	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections.	CDH	KJS	SM
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	CDH	KJS	SM
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	N/A	N/A	N/A
	d. Check for duplication and overlap among exam sections.	CDH	KJS	SM
	e. Check the entire exam for balance of coverage.	N/A	N/A	N/A
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	CDH	KJS	SM

	Printed Name/Signature	Date
a. Author	Curtis Hansen /	3/14/08
b. Facility Reviewer (*)	Kevin Steimer /	3/14/08
c. NRC Chief Examiner (#)	Dell B. McNeil /	3/20/08
d. NRC Supervisor	Hironori Peterson /	3/20/08

Note: # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.
* Not applicable for NRC-prepared examination outlines

Facility: DUANE ARNOLD ENERGY CENTER Date of Examination: 21 April, 2008

Examination Level: RO ☐ SRO ☒ Operating Test Number: 2008-301

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations		**N/A - Waived**
Conduct of Operations		**N/A – Waived**
Equipment Control		**N/A – Waived**
Radiation Control		**N/A – Waived**
Emergency Procedures/Plan		**N/A – Waived**

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: **Duane Arnold Energy Center**	Date of Examination: **21 April, 2008**
Exam Level: RO ☐ SRO-I ☒ SRO-U ☐	Operating Test No.: **2008-301**

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. **N/A – Waived**		
b. **N/A – Waived**		
c. **N/A – Waived**		
d. **N/A – Waived**		
e. **N/A – Waived**		
f. **N/A – Waived**		
g. **N/A – Waived**		
h. **N/A – Waived**		
In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. **N/A – Waived**		
j. **N/A – Waived**		
k. **N/A - Waived**		

@ 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	≤ 9 / ≤ 8 / ≤ 4
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1
(EN)gineered safety feature	- / - / ≥1 (control room system)
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)
(R)CA	≥ 1 / ≥ 1 / ≥ 1
(S)imulator	

Facility: **Duane Arnold Energy Center** Date of Exam: **21st April, 2008** Operating Test No.: **2008-301**

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
RO ☐ SRO-I ☒ SRO-U ☐	RX		**1,5**		**0**									**2**	1	1	0
	NOR		**5**		**1**									**2**	1	1	1
	I/C		**2,3**		**2,3**									**4**	4	4	2
	MAJ		**4,7**		**5**									**3**	2	2	1
	TS		**0**		**2,4**									**2**	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. 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 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 Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for 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 requirements specified for the applicant's license level in the right-hand columns.

Rev. 1

Facility: **Duane Arnold Energy Center** Date of Exam: **21st April, 2008** Operating Test No.: **2008-301**

APPLICANT	EVENT TYPE	Scenarios 1 CREW POSITION SRO	1 ATC	1 BOP	2 CREW POSITION SRO	2 ATC	2 BOP	3 CREW POSITION SRO	3 ATC	3 BOP	4 CREW POSITION SRO	4 ATC	4 BOP	TOTAL	MINIMUM(*) R	I	U
RO ☐ SRO-I ☒ SRO-U ☐	RX		**1**		**1**									**2**	1	1	0
	NOR		**5**		**1**									**2**	1	1	1
	I/C		**2,3**		**3,7**									**4**	4	4	2
	MAJ		**4,7**		**5**									**3**	2	2	1
	TS		**0**		**2,4**									**2**	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. 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 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 Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for 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 requirements specified for the applicant's license level in the right-hand columns.

Facility: DAEC Scenario No.: 1 Op-Test No.: 2008-301

Examiners: N/A N/A Operators: N/A N/A

Initial Conditions: ~90% power, with a RR increase scheduled,

Turnover:
Saturday, Dayshift. Warm spring day. There are no extra operators today.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	Reactivity	Raise RR flow to increase reactor power to full power.
2	NM08	I/C	APRM Failure (Downscale).
3	FW16	I/C	Feed Regulating Valve locks up. The FRV lockup can be reset.
4	MC04A	Major AOP	Condenser Air In leakage starts (slowly, eventually will get bigger) (AOP entry)
5	N/A	Normal Rx AOP	Fast power reduction IAW IPOI-4. Above MELLA. AOP 255.2
6	N/A	EOP	Reactor Scram – Entry into EOP 1 and IPOI 5
7	MS08B MS20	Major EOP	Steam Leak in Steam Tunnel with failure of MSIV's to auto close – Entry into EOP 3. (Critical Task)

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: DAEC Scenario No.: 2 Op-Test No.: 2008-301

Examiners: N/A N/A Operators: N/A N/A

Initial Conditions: The plant is operating at 97% power and HPCI is tagged out due to failing the Quarterly Surveillance (did not come up to rated speed in time), LCO day 2 of 14.

Turnover:
Saturday, Dayshift. Warm spring day. I&C continues to work on HPCI ramp generator. No other activities are planned. RCIC, 1D1, 1D10, 1D14 and 1D120 are protected. There are no extra operators today. "A" Manual Scram surveillance is to be performed ("A" side is the only side needing to be performed.)

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	Normal	Perform STP 3.3.1.1-21, Manual Scram Functional Test on channel A3.
2	Panel Override	I/C TS	Perform STP 3.3.1.1-21, Manual Scram Functional Test on channel B3. The channel fails to insert the ½ scram. This leads to a Tech Spec entry.
3	SW01	I/C AOP	GSW pump trips. Auto start of the standby pump fails, but may be manually started.
4	N/A	TS	The CRS will receive a phone call stating that System Engineering has evaluated a vendor notification that the "B" SBDG contains a main circuit board in it's Voltage Regulator is faulty and cannot be counted on to work properly. This notification only effects the "B" SBDG.
5	RR15	Major	Loss of Coolant Accident in DW. Entry into EOP 1 and EOP 2
6	N/A	EOP	Spray DW due to High Temperature (Critical Task)
7	FW02	I/C	Loss of high pressure feed
8	N/A	Contingency EOP	Perform Alternate Level Control Emergency Depressurization (Critical Task)

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor