

**2008 D. C. COOK NUCLEAR POWER STATION**

**INITIAL EXAMINATION**

**PROPOSED EXAM FILES**



**INDIANA  
MICHIGAN  
POWER\***

*A unit of American Electric Power*

**Indiana Michigan Power**  
Cook Nuclear Plant  
One Cook Place  
Bridgman, MI 49106  
AEP.com

June 24, 2008

U. S. Nuclear Regulatory Commission  
Attn: Mr. Michael E. Bielby  
Region III Examiner  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

**Donald C. Cook Nuclear Plant Units 1 and 2  
2008 NRC EXAMINATION SUBMITTAL**

Enclosed you will find a copy of the Initial License Examination for the planned August 2008 Examination at Donald C. Cook Nuclear Plant (CNP).

The following items are enclosed in the sealed envelopes:

- 1) CNP 2008 NRC Operating Examination Overview
- 2) ES-201-3 Examination Security Agreement
- 3) ES-301-3 Operating Test Quality Checklist
- 4) Scenario Exams with Forms ES-D-1 & D-2
  - a) COOK08-01
  - b) COOK08-02
  - c) COOK08-03
- 5) ES-301-4, Simulator Checklist
- 6) ES-301-5, Transient and Event Checklist, Crews 1 and 2
- 7) ES-301-5, Transient and Event Checklist, Crew 3
- 8) ES-301-5, Transient and Event Checklist, Crew 4
- 9) ES-301-6, Competencies Checklist, Crews 1 and 2
- 10) ES-301-6, Competencies Checklist, Crew 3
- 11) ES-301-6, Competencies Checklist, Crew 4
- 12) ES-301-2, System JPM Outlines and Exams
  - a) ES-301-2, SRO (I) JPM Outline
  - b) ES-301-2, SRO (U) JPM Outline
  - c) ES-301-2, RO JPM Outline
  - d) NRC2008-SIM01
  - e) NRC2008-SIM02
  - f) NRC2008-SIM03
  - g) NRC2008-SIM04
  - h) NRC2008-SIM05

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- i) NRC2008-SIM06
- j) NRC2008-SIM07
- k) NRC2008-SIM08
- l) NRC2008-INP01
- m) NRC2008-INP02
- n) NRC2008-INP03
- 13) ES-301-1, Admin JPM Outlines & Exams
  - a) ES-301-1, SRO Admin Outline
  - b) ES-301-1, RO Admin Outline
  - c) NRC2008-A1a
  - d) NRC2008-A1b-R
  - e) NRC2008-A1b-S
  - f) NRC2008-A2
  - g) NRC2008-A3
  - h) NRC2008-A4-R
  - i) NRC2008-A4-S
- 14) ES-401-6, Written Examination Quality Checklist
- 15) CNP 2008 Written Examination Attachments
- 16) CNP 2008 NRC Written Examination (100 questions with references)

A hard copy of all the examination materials is provided for your review. An electronic copy of documents without initials or signatures or other handwritten notations for the Public Document Room (ADAMS) has also been provided.

None of these materials are to go to the Public Document Room (ADAMS) until after the examination has been completed.

If you have any questions, please contact Ted Conrad or Steve Pettinger at (269) 466-3387 or myself at (269) 466-3407.

Sincerely,



Ronald E. Harrah  
Operations Training Manager

JTC/jen

Enclosures

Facility: <u>DC Cook</u>		Date of Examination: <u>8-18-08</u>		Operating Test Number: <u>7-4</u> <sup>CRW</sup>	
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).	TR	MSB	MSB	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	TR	MSB	MSB	
c.	The operating test shall not duplicate items from the applicants' audit test(s). (see Section D.1.a.)	TR	MSB	MSB	*
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	TR	MSB	MSB	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	TR	MSB	MSB	
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>	TR	MSB	MSB	
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.	TR	MSB	MSB	
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.			TR	MSB	MSB
	Printed Name / Signature	Date			
a.	Author <u>SCHULTZ CONRAD / John T. Conrad</u>	<u>6/23/08</u>			
b.	Facility Reviewer(*) <u>PATRICK T. Glenn / Pat Glenn</u>	<u>6-23-08</u>			
c.	NRC Chief Examiner (#) <u>Michael E. Bielby / Michael E. Bielby</u>	<u>7/17/08</u>			
d.	NRC Supervisor <u>Bruce Palagi / Bruce Palagi</u> <u>For H Peterson</u>	<u>8/13/08</u>			
NOTE:	* The facility signature is not applicable for NRC-developed tests.				
	# Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.				

\* Verify during validation week

Facility: <u>D.C. Cook</u>		Date of Exam: <u>8/18/08</u>		Scenario Numbers: <u>1, 2, 3</u>		Operating Test No.: <u>Crew 1-4</u>	
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.	JR	PR	MSB			
2.	The scenarios consist mostly of related events.	JR	PR	MSB			
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>	JR	PR	MSB			
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.	JR	PR	MSB			
5.	The events are valid with regard to physics and thermodynamics.	JR	PR	MSB			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	JR	PR	MSB			
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.	JR	PR	MSB			
8.	The simulator modeling is not altered.	JR	PR	MSB			
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.	JR	PR	MSB			
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.	JR	PR	MSB			
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	JR	PR	MSB			
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).	JR	PR	MSB			
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	JR	PR	MSB			
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		-	-	-	
1.	Total malfunctions (5-8)	7	7	7	7	MSB	
2.	Malfunctions after EOP entry (1-2)	2	2	2	2	MSB	
3.	Abnormal events (2-4)	4	4	4	4	MSB	
4.	Major transients (1-2)	1	1	1	1	MSB	
5.	EOPs entered/requiring substantive actions (1-2)	1	1	1	1	MSB	
6.	EOP contingencies requiring substantive actions (0-2)	0	1	1	1	MSB	
7.	Critical tasks (2-3)	2	2	4	4	MSB	

Facility: <u>DC Cook</u> Date of Examination: 08/18/2008      Operating Test No.: Crew 1 & 2													
Competencies	APPLICANTS												
	RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			
	SCENARIO				SCENARIO				SCENARIO				SCENARIO
	SRO 1	ATC 2	SRO 3	ATC 1	SRO 2	BOP 3	BOP 1	BOP 2	ATC 3	1	2	3	4
Interpret/Diagnose Events and Conditions	3,4,5, 6,7	3,4,7	2,4,5, 6,7,8	3,5,7, 9	3,4,5 7,9	5,6,7, 8	4,6,7, 8	5,6,7, 8,9	2,4,7, 8				
Comply With and Use Procedures (1)	2,4,5, 7,8,9	2,3,4, 7	2,3,4, 7,8	2,3,5, 7	2,3,5, 7,9	1,7,8	1,4,7	1,5,6, 7,9	2,3,4, 7,8				
Operate Control Boards (2)		2,3,4, 7		2,3,5, 7,9		1,5,6, 7,8	1,4,6, 7,8	1,5,6, 7,9	2,3,4, 7,8				
Communicate and Interact	2,3,4, 5,6,7, 8,9	2,3,4, 7	2,3,4, 5,6,7, 8	2,3,5, 7,9	2,3,4, 5,6,7, 9	5,6,7, 8	1,4,6, 7,8	1,5,6, 7,9	2,3,4, 7,8				
Demonstrate Supervisory Ability (3)	2,3,4, 5,6,7, 8,9		2,3,4, 5,6,7, 8		2,3,4, 5,6,7, 8,9								
Comply With and Use Tech. Specs. (3)	4,5		2,4		3,5								
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.													

*Instructions:*

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

Facility: <u>DC Cook</u>		Date of Examination: 08/18/2008				Operating Test No.:Crew 3										
Competencies	APPLICANTS															
	RO <input type="checkbox"/>			RO <input checked="" type="checkbox"/>			RO <input checked="" type="checkbox"/>			RO <input type="checkbox"/>						
	SRO-I <input type="checkbox"/>			SRO-I <input type="checkbox"/>			SRO-I <input type="checkbox"/>			SRO-I <input type="checkbox"/>						
	SRO-U <input checked="" type="checkbox"/>			SRO-U <input type="checkbox"/>			SRO-U <input type="checkbox"/>			SRO-U <input type="checkbox"/>						
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
SRO 2	SRO 3			ATC 2	BOP 3			BOP 2	ATC 3			1	2	3	4	
Interpret/Diagnose Events and Conditions	3,4,5 7,9	2,4,5, 6,7,8			3,4,7	5,6,7, 8			5,6,7, 8,9	2,4,7, 8						
Comply With and Use Procedures (1)	2,3,5, 7,9	2,3,4, 7,8			2,3,4, 7	1,7,8			1,5,6, 7,9	2,3,4, 7,8						
Operate Control Boards (2)					2,3,4, 7	1,5,6, 7,8			1,5,6, 7,9	2,3,4, 7,8						
Communicate and Interact	2,3,4, 5,6,7, 9	2,3,4, 5,6,7, 8			2,3,4, 7	5,6,7, 8			1,5,6, 7,9	2,3,4, 7,8						
Demonstrate Supervisory Ability (3)	2,3,4, 5,6,7, 8,9	2,3,4, 5,6,7, 8														
Comply With and Use Tech. Specs. (3)	3,5	2,4														
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.																

*Instructions:*

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

Facility: <u>DC Cook</u> Date of Examination: 08/18/2008      Operating Test No.:Crew 4																
Competencies	APPLICANTS															
	RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>			RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>						
	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	BOP 1	ATC 2			ATC 1	BOP 2					1	2	3	4		
Interpret/Diagnose Events and Conditions	4,6,7,8	3,4,7			3,5,7,9	5,6,7,8,9										
Comply With and Use Procedures (1)	1,4,7	2,3,4,7			2,3,5,7	1,5,6,7,9										
Operate Control Boards (2)	1,4,6,7,8	2,3,4,7			2,3,5,7,9	1,5,6,7,9										
Communicate and Interact	1,4,6,7,8	2,3,4,7			2,3,5,7,9	1,5,6,7,9										
Demonstrate Supervisory Ability (3)																
Comply With and Use Tech. Specs. (3)																
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.																

*Instructions:*

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

Facility: <u>D.C. Cook</u>		Date of Exam: <u>8-18-08</u>		Exam Level: RO <input checked="" type="checkbox"/> SRO <input checked="" type="checkbox"/>		
Item Description	Initial					
	a	b*	c*			
1. Questions and answers are technically accurate and applicable to the facility.	JTC	PK	MSB			
2. a. NRC KIAs are referenced for all questions. b. Facility learning objectives are referenced as available.	JTC	PK	MSB			
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	JTC	PK	MSB			
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).			MSB			
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)		JTC	MSB *			
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	JTC	PK	MSB
	44115	1414	1716			
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 KIAs support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory	CIA		JTC	PK	MSB
	3614	39121				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	JTC	PK	MSB			
9. Question content conforms with specific KIA statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.	JTC	PK	MSB			
10. Question psychometric quality and format meet the guidelines in ES Appendix B.	JTC	PK	MSB			
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.	JTC	PK	MSB			
a. Author		Printed Name / Signature		Date		
b. Facility Reviewer (*)		<u>John T. Conrad / John T. Conrad</u>		<u>6/23/08</u>		
c. NRC Chief Examiner (#)		<u>Patrick R. Glenn / Patrick R. Glenn</u>		<u>4-23-08</u>		
d. NRC Regional Supervisor		<u>Michael E. Bielby / Michael E. Bielby</u>		<u>7/17/08</u>		
		<u>Bruce Perlag / Bruce Perlag</u>		<u>8/15/08</u>		
		<u>For H. Peterson</u>				
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.						

\* Will verify during validation week