

**2010 PALISADES NUCLEAR PLANT**

**INITIAL EXAMINATION**

**PROPOSED EXAM FILES**



Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043

Hugh Nixon  
Training Manager

June 16, 2010

NUREG-1021

Mr. Bruce Palagi  
U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road  
Suite 210  
Lisle, IL 60532-4352

Palisades Nuclear Plant  
Dockets 50-255 and 72-07  
License No. DPR-20

Initial License Examination Materials

Dear Mr. Palagi:

Entergy Nuclear Operations, Inc. is submitting the initial license examination for the Palisades Nuclear Plant, in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The initial license examination is scheduled for August 16 through August 27, 2010. The following materials are enclosed:

- ES 201-3, Examination Security Agreement (updated)
- ES 301-3, Operating Test Quality Checklist
- ES 301-4, Simulator Scenario Quality Checklist
- ES-301-5, Transient and Event Checklists (updated) (2)
- ES 301-6, Competencies Checklist
- System/Control Room Job Performance Measures (11)
- Administrative Job Performance Measures (9)
- Scenarios (4)
- Operating Test Schedule (updated)

Mr. Bruce Palagi  
Page 2

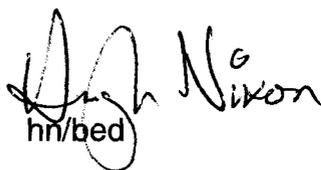
- ES 401-6, Written Examination Quality Checklist
- ES 401-7, RO Written Examination Coversheet
- RO Written Examination (ready to give with handouts)
- RO Written Examination Data Sheets with supporting references
- RO Written Examination Key
- ES-401-8, SRO Written Examination Coversheet
- SRO Written Examination (ready to give with handouts)
- SRO Written Examination Data Sheets with supporting references
- SRO Written Examination Key

In accordance with NUREG-1021, ES-201, Attachment 1, these materials shall be withheld from public disclosure until after the examinations are complete.

Please contact Jeffrey Iliff at (269) 764-2974 if you have any questions regarding this submittal.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

  
hn/bed

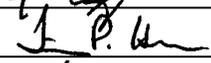
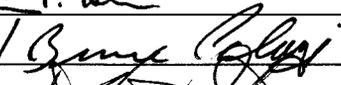
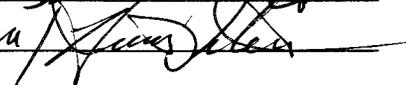
Enclosure (1)

CC Administrator, Region III, USNRC (w/o enclosure)  
Project Manager, Palisades, USNRC (w/o enclosure)  
Resident Inspector, Palisades, USNRC (w/o enclosure)  
Document Control Desk, USNRC (w/o enclosure)

**WITHHOLD ENCLOSURE FROM PUBLIC DISCLOSURE  
IN ACCORDANCE WITH NUREG-1021, REVISION 9, SUPPLEMENT 1**

**ENCLOSURE**

**PALISADES NUCLEAR PLANT  
INITIAL LICENSE EXAMINATION MATERIALS**

Facility: <u>Palisades</u>		Date of Examination: <u>August 2010</u>		Operating Test Number: <u>1</u>	
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).	A	TPH	BP	
b.	There is no day-to-day repetition between this and other operating tests to be administered during this examination.	A	TPH	BP	
c.	The operating test shall not duplicate items from the applicants' audit test(s) (see Section D.1.a).	A	TPH	BP	
d.	Overlap with the written examination and between different parts of the operating test is within acceptable limits.	A	TPH	BP	
e.	It appears that the operating test will differentiate between competent and less-than-competent applicants at the designated license level.	A	TPH	BP	
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>	A	TPH	BP	
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.	A	TPH	BP	
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.	A	TPH	BP	
a.	Author	Jeffrey Iliff / 	Printed Name / Signature		Date
b.	Facility Reviewer (*)	Timothy Horan / 			6/15/10
c.	NRC Chief Examiner (#)	Bruce Palagi / 			8/2/10
d.	NRC Supervisor	Hudson Peterson / 			5/12/10
NOTE: * The facility signature is not applicable for NRC-developed tests # Independent NRC reviewer initial items in Column "c"; chief examiner concurrence is required.					

Facility: Palisades		Date of Exam: August 2010		Scenario Numbers: 1 / 2 / 3		Operating Test Number: 1		
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.	A	TPH	BP				
2.	The scenarios consist mostly of related events.	A	TPH	BP				
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>	A	TPH	BP				
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.	A	TPH	BP				
5.	The events are valid with regard to physics and thermodynamics.	A						
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	A	TPH	BP				
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.	A	TPH	BP				
8.	The simulator modeling is not altered.	A	TPH	BP				
9.	The scenarios have been validated. Pursuant to 10CFR55.46(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.	A	TPH	BP				
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.	A	TPH	BP				
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	A	TPH	BP				
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).	A	TPH	BP				
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	A	TPH	BP				
Target Quantitative Attributes (Per Scenario; See Section D.5.d)		Actual Attributes		-	-	-	-	
1.	Total malfunctions (5-8)	6 / 5 / 6		A	TPH	BP		
2.	Malfunctions after EOP entry (1-2)	1 / 2 / 2		A	TPH	BP		
3.	Abnormal events (2-4)	4 / 3 / 4		A	TPH	BP		
4.	Major transients (1-2)	1 / 1 / 1		A	TPH	BP		
5.	EOPs entered/requiring substantive actions (1-2)	1 / 1 / 1		A	TPH	BP		
6.	EOP contingencies requiring substantive actions (0-2)	0 / 1 / 0		A	TPH	BP		
7.	Critical tasks (2-3)	2 / 2 / 3		A	TPH	BP		

Facility: Palisades	Date of Examination: August 2010				Operating Test No.: 1			
Competencies	APPLICANTS – CREW #1							
	RO <input type="checkbox"/>		RO <input checked="" type="checkbox"/>		RO <input type="checkbox"/>			
	SRO-I <input type="checkbox"/>		SRO-I <input type="checkbox"/>		SRO-I <input checked="" type="checkbox"/>			
	SRO-U <input checked="" type="checkbox"/>		SRO-U <input type="checkbox"/>		SRO-U <input type="checkbox"/>			
	SCENARIO		SCENARIO		SCENARIO			
	1	2	1	2	1	2		
	SRO	BOP	BOP	RO	RO	SRO		
Interpret/ Diagnose Events and Conditions	12345	56	125	23678	13456	3678		
Comply With and Use Procedures (1)	12345	256	125	123678	13456	1-8		
Operate Control Boards (2)	N/A	256	125	123678	13456	N/A		
Communicate and Interact	1-6	1-8	1-6	1-8	1-6	1-8		
Demonstrate Supervisory Ability (3)	12345	N/A	N/A	N/A	N/A	1-8		
Comply With and Use Tech Specs (3)	34	N/A	N/A	N/A	N/A	45		
<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:**

Check 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.

Facility: Palisades	Date of Examination: August 2010						Operating Test No.: 1					
Competencies	APPLICANTS – CREW #2 thru #4											
	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"/>					
	SCENARIO			SCENARIO			SCENARIO					
	1	2	3	1	2	3	1	2	3			
	SRO	SRO	RO	RO	BOP	SRO	BOP	RO	BOP			
Interpret/ Diagnose Events and Conditions	12345	3678	3568	13456	56	2345678	125	23678	267			
Comply With and Use Procedures (1)	12345	1-8	13568	13456	256	1-8	125	123678	1267			
Operate Control Boards (2)	N/A	N/A	13568	13456	256	N/A	125	123678	1267			
Communicate and Interact	1-6	1-8	1-8	1-6	1-8	1-8	1-6	1-8	1-8			
Demonstrate Supervisory Ability (3)	12345	1-8	N/A	N/A	N/A	1-8	N/A	N/A	N/A			
Comply With and Use Tech Specs (3)	34	45	N/A	N/A	N/A	24	N/A	N/A	N/A			
Notes: (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.												

**Instructions:**

*Check 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.*

Facility: Palisades	Date of Examination: August 2010						Operating Test No.: 1				
Competencies	APPLICANTS – CREW #2 thru #4										
	RO <input type="checkbox"/>				RO <input type="checkbox"/>				RO <input checked="" type="checkbox"/>		
	SRO-I <input checked="" type="checkbox"/>				SRO-I <input checked="" type="checkbox"/>				SRO-I <input type="checkbox"/>		
	SRO-U <input type="checkbox"/>				SRO-U <input type="checkbox"/>				SRO-U <input type="checkbox"/>		
	SCENARIO			SCENARIO			SCENARIO				
1	2	3	1	2	3	1	2	3			
SRO	SRO	RO	RO	BOP	SRO	BOP	RO	BOP			
Interpret/ Diagnose Events and Conditions	12345	456	3568	13456	24	2345678	125	1267	267		
Comply With and Use Procedures (1)	12345	1-7	13568	13456	245	1-8	125	12567	1267		
Operate Control Boards (2)	N/A	N/A	13568	13456	245	N/A	125	12567	1267		
Communicate and Interact	1-6	1-7	1-8	1-6	1-7	1-8	1-6	1-7	1-8		
Demonstrate Supervisory Ability (3)	12345	1-7	N/A	N/A	N/A	1-8	N/A	N/A	N/A		
Comply With and Use Tech Specs (3)	34	34	N/A	N/A	N/A	24	N/A	N/A	N/A		
<b>Notes:</b> (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.											

Rev after 01

**Instructions:**

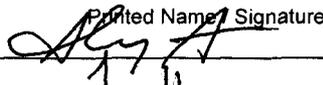
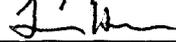
Check the applicant's license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Facility: Palisades	Date of Examination: August 2010				Operating Test No.: 1				
Competencies	APPLICANTS – CREW #1								
	RO <input type="checkbox"/>	SRO-I <input type="checkbox"/>	SRO-U <input checked="" 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		
	1		3	1		3			
	SRO		SRO	RO		BOP			
Interpret/ Diagnose Events and Conditions	12345		2345678	1267		267			
Comply With and Use Procedures (1)	12345		1-8	12567		1267			
Operate Control Boards (2)	N/A		N/A	12567		1267			
Communicate and Interact	1-6		1-8	1-7		1267			
Demonstrate Supervisory Ability (3)	12345		1-8	N/A		N/A			
Comply With and Use Tech Specs (3)	34		24	N/A		N/A			
<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>									

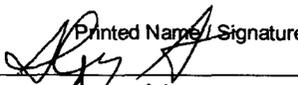
Rev after 01

**Instructions:**

Check 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.

Facility: Palisades		Date of Exam: August 2010		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.	A	TPH	EP			
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	A	TPH				
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	A	TPH				
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 exam, 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: <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)	A	TPH				
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	A	TPH	
	59 / 52	5 / 12	36 / 36			
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 KAs support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory	C/A		A	TPH	
	44 / 16	56 / 84				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	A	TPH				
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	A	TPH				
10. Question psychometric quality and format meet the guidelines in ES Appendix B.	A	TPH				
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet	A	TPH				
a. Author		Jeffrey Liff / 	Date	6-14-10		
b. Facility Reviewer (*)		Timothy Horan / 		6-15-10		
c. NRC Chief Examiner (#)		See Post NRC Comment				
d. NRC Supervisor		Version For Signatures				
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.						

*this is the pre NRC review version*

Facility: Palisades		Date of Exam: August 2010		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.	A	TH	BP			
2. a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.	A	TH	BP			
3. SRO questions are appropriate in accordance with Section D.2.d of ES-401	A	TH	BP			
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 exam, consult the NRR OL program office).			BP			
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)	A	TH	BP			
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	A	TH	BP
	59 / 52	5 / 12	36 / 36			
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 KAs support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory	C/A		A	TH	BP
	45 / 16	55 / 84				
8. References/handouts provided do not give away answers or aid in the elimination of distractors.	A	TH	BP			
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	A	TH	BP			
10. Question psychometric quality and format meet the guidelines in ES Appendix B.	A	TH	BP			
11. The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with value on cover sheet	A	TH	BP			
a. Author <u>Jeffrey Iliff /</u>  Printed Name / Signature				Date <u>7-28-10</u>		
b. Facility Reviewer (*) <u>Timothy Horan /</u> 				Date <u>7/28/10</u>		
c. NRC Chief Examiner (#) <u>Bruce Palagi /</u> 				Date <u>8/5/10</u>		
d. NRC Supervisor <u>Hironori Peterson /</u> 				Date <u>8/12/10</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.						