

**OUTLINE SUBMITTAL FOR THE
PALISADES INITIAL EXAMINATION - JULY 2008**



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

March 26, 2008

NUREG-1021

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

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Initial License Examination Outline

Dear Sir:

Entergy Nuclear Operations, Inc. is submitting the initial license examination outline, 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 July 7 through July 11, 2008. The following materials are enclosed:

- One Form ES-201-2, Examination Outline Quality Checklist
- One Form ES-201-3, Examination Security Agreement
- One Form ES-301-1, Administrative Topics Outline (SRO)
- One Form ES-301-1, Administrative Topics Outline (RO)
- One Form ES-301-2, Control Room/In-Plant Systems Outline (SRO)
- One Form ES-301-2, Control Room/In-Plant Systems Outline (RO)
- Three Forms, ES-D-1, Scenario Outline, one for each projected scenario and one spare scenario
- One Form ES-301-5, Transient and Event Checklist
- One Form ES-401-2, PWR Examination Outline (RO)

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- One Form ES-401-2, PWR Examination Outline (SRO)
- One Form ES-401-3, Generic Knowledge and Abilities Outline (RO)
- One Form ES-401-3, Generic Knowledge and Abilities Outline (SRO)
- One Form ES-401-4, Record of Rejected K/As
- Explanation of Random Generation Technique and K/A Suppression Report

Pursuant to NUREG-1021, 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.



Christopher J. Schwarz
Site Vice President
Palisades Nuclear Plant

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)

Facility: Palisades		Date of Examination: July 2008		
Item	Task Description	Initials		
		a	b*	c#
1. W R I T T E N	a. Verify that the outline(s) fit(s) the appropriate model, in accordance with ES-401.	A	M	SM
	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.	A	M	SM
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	A	M	SM
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	A	M	SM
2. S I M U L A T O R	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.	A	M	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 scenarios will not be repeated on subsequent days.	A	M	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.	A	M	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	A	M	SM
	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	A	M	SM
	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.	A	M	SM
4. G E N E R A L	a. Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam section.	A	M	SM
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	A	M	SM
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	A	M	SM
	d. Check for duplication and overlap among exam sections.	A	M	SM
	e. Check the entire exam for balance of coverage.	A	M	SM
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	A	M	SM
a. Author <u>Jeffrey C. Iliff</u> / <i>Jeffrey C. Iliff</i> b. Facility Reviewer (*) <u>Steven K. Martin</u> / <i>Steven K. Martin</i> c. NRC Chief Examiner (#) <u>Dell R. McNeil</u> / <i>Dell R. McNeil</i> d. NRC Supervisor <u>Hirawan Peterson</u> / <i>Hirawan Peterson</i>		Printed Name / Signature Date 3/27/2008 3/27/2008 3/31/2008 3/31/08		
NOTE: # Independent NRC Reviewer initial items in Column "c"; chief examiner concurrence required * Not applicable for NRC-prepared examinations				

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 7/7/08 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of _____. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1.	<u>JEFFREY ILIFF</u>	<u>EXAM DEVELOPMENT LEAD</u>	<u>[Signature]</u>	<u>1-9-08</u>			
2.	<u>STEPHEN M. COGSWELL</u>	<u>EXAM DEVELOPEMENT</u>	<u>[Signature]</u>	<u>1-31-08</u>			
3.	<u>Daniel J. Bell</u>	<u>Simulator Support</u>	<u>[Signature]</u>	<u>1-31-08</u>			
4.	<u>RALDH STARLAND</u>	<u>SIMULATOR SUPPORT</u>	<u>[Signature]</u>	<u>3/13/08</u>			
5.	<u>GEORGE MARLATT</u>	<u>Simulator Support</u>	<u>[Signature]</u>	<u>3/13/08</u>			
6.	<u>PAUL M. SCHMIDT</u>	<u>Supt. SIMULATOR & SUPPORT</u>	<u>[Signature]</u>	<u>3/13/08</u>			
7.	<u>Steven K. Martin</u>	<u>Supt Operations INT Facility</u>	<u>[Signature]</u>	<u>3/17/08</u>			
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

NOTES:

ES-401		PWR Examination Outline Plant Systems – Tier 2/Group 2 (SRO)			Form ES-401-2	
System # / Name	A2	G	K/A Topic(s)	IR	#	
001 Control Rod Drive	08		A2.08 - Ability to (a) predict the impacts of the following malfunction or operations on the CRDS- and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of CCW to CRDS	3.3	16	
002 Reactor Coolant	03		A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the RCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of forced circulation	4.3	17	
015 Nuclear Instrumentation		2.1.32	G2.1.32 - Ability to explain and apply system limits and precautions.	4.0	18	
K/A Category Point Totals:	2	1	Group Point Total:		3	

Facility: Palisades			Date of Exam: July 2008	
Category	K/A #	Topic	SRO-Only	
			IR	#
1. Conduct of Operations	2.1.14	Knowledge of criteria or conditions that require plant-wide announcements, such as pump starts, reactor trips, mode changes, etc.	3.1	19
	2.1.29	Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc.	4.0	20
	Subtotal			2
2. Equipment Control	2.2.38	Knowledge of conditions and limitations in the facility license.	4.5	21
	Subtotal			1
3. Radiation Control	2.3.12	Knowledge of radiological safety principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.	3.7	22
	2.3.14	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.	3.8	23
	Subtotal			2
4. Emergency Procedures / Plan	2.4.2	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.	4.6	24
	2.4.3	Ability to identify post-accident instrumentation.	3.9	25
	Subtotal			2
Tier 3 Point Total				7

Tier / Group	Randomly Selected K/A	Reason for Rejection
RO Exam		
1/1	015/017 AA2.03	IR <2.5, resampled and obtained AA2.07.
1/1	015/017 AA2.07	IR <2.5, resampled and obtained AA2.08.
1/1	022 G2.4.4	Unable to write an operationally valid exam question due to no credible relationship at this facility between a Loss of Rx Coolant Makeup and the Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures. Resampled and obtained G2.2.44.
1/1	026 AK2	There are no knowledge statements related to this category, resampled and obtained AK3.
1/1	CE/E05 G2.2.22	Unable to write an operationally valid exam question due to no credible relationship at this facility between the Steam Line Rupture - Excessive Heat Transfer event and Knowledge of limiting conditions for operations and safety limits. Resampled and obtained G2.4.2.
1/1	056 AK2	All knowledge statements related to the category have IR <2.5, resampled and obtained AK1.
1/1	065 G2.4.47	Unable to write an operationally valid exam question due to no credible relationship at this facility between a loss of Instrument Air event and being able to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material. Resampled and obtained G2.1.7.
1/2	037 AK2	All knowledge statements related to the category have IR <2.5, resampled and obtained AA2.
2/1	004 K3.03	IR <2.5, resampled and obtained K3.04.
2/1	007 K6	All knowledge statements related to the category have IR <2.5, resampled and obtained K5.
2/1	010 A3.01	Unable to write an operationally valid exam question due to oversampling of knowledge related to the Quench Tank. Resampled and obtained A3.02.
2/1	012 G2.4.11	Unable to write an operationally valid exam question due to no credible relationship at this facility between the RPS system and knowledge of abnormal condition procedures. Resampled and obtained G2.2.37.
2/1	059 K6	All knowledge statements related to the category have IR <2.5, resampled and obtained K4.
2/1	073 K2	All knowledge statements related to the category have IR <2.5, resampled and obtained A4.
2/1	103 K6	All knowledge statements related to the category have IR <2.5, resampled and obtained K1.
2/2	027 K6	Unable to write an operationally valid exam question due to no K/A statements applicable to this facility which have an IR >2.5. Resampled and obtained 041 K6.
2/2	055 A4	There are no knowledge statements related to this category, resampled and obtained K1.
3	G2.2.5	IR <2.5, resampled and obtained 2.2.23.
3	G2.3.6	IR <2.5, resampled and obtained 2.3.13.
SRO Exam		
1/1	029 EA2.06	Unable to write an operationally valid exam question due to no credible relationship at this facility between an ATWS and Main Turbine Trip Switch position indication. Resampled and obtained EA2.07.
1/1	CE/E06 G2.2.12	Unable to write an operationally valid exam question due to no credible relationship at this facility between a loss of MFW event and knowledge of surveillance procedures. Resampled and obtained G2.4.6.
1/2	037 AA2.02	Unable to write an operationally valid exam question due to no credible relationship at this facility between a S/G tube leak event and agreement/disagreement among redundant radiation monitors. Resampled and obtained AA2.10.
2/1	026 A2.07	Unable to write a valid discriminatory question due to similarities with RO Question #42. Resampled and obtained A2.04.
2/1	064 A2.16	Unable to write a valid discriminatory question due to similarities with RO Question #50. Resampled and obtained A2.02.
2/2	055 A2	All knowledge statements related to the category have IR <2.5, resampled and obtained 001 A2.08.

K/A Selection Methodology and Suppression Report

1. The systematic and random sampling of K/As for the Palisades Nuclear Plant July 2008 Written Exam was performed in accordance with the following:
 - a. NUREG-1021, Rev. 9 Supplement 1, ES-401, Attachment 1, "Example Systematic Sampling Methodology".
 - b. NUREG-1021, Rev. 9 Supplement 1, ES-401, D.1.b.
2. **K/A Suppression**

Suppression of any K/As was minimal and in accordance with the guidance mentioned in Step 1 of this methodology document. K/A suppression was as follows:

Fifteen Tier 1 and one Tier 2 K/A topics were suppressed. These K/A topics were vendor specific (with one exception) to a plant design other than Combustion Engineering. One topic, "025 Ice Condenser" was suppressed due to prior knowledge that Palisades design does not use an ice condenser.
3. Tier 1 and Tier 2 randomly selected generic category ("G") K/As were selected from the 41 generic K/As listed in ES-401, section D.1.b.
4. **SRO ONLY questions** - K/As were randomly selected from either the "A2" or "G" categories. This was done per ES-401, Attachment 1, Item 4.
5. Numbered tokens were used and were manually and randomly selected from a large cup. NO automatic generation software was used in the selection process.
6. After initial random selection a total of 25 K/As were rejected for various reasons, as documented on Form ES-401-4, "Record of Rejected K/As", as required.