

## **OUTLINE SUBMITTAL**

**FOR THE PALISADES EXAMINATION - DECEMBER 2001**

*Palisades Nuclear Plant*

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Mr. Mike Bielby  
Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, IL 60532-4351

June 28, 2001

Subject: Initial License Examination Outline Submittal

Dear Mr. Bielby

In accordance with NUREG-1021, Rev. 8, Supplement 1 enclosed please find the following materials for the December 2001 Initial License Examination Outline:

- One (1) Form ES-201-2, Examination Outline Quality Checklist
- Two (2) Forms ES-301-1, Administrative Topics Outline (RO and SRO)
- Two (2) Forms ES-301-2, Control Room Systems and Facility Walk-Through Test Outline (RO and SRO)
- One (1) Form ES-301-4, Simulator Scenario Quality Checklist
- Six (6) Forms ES-301-5, Transient and Event Checklist, one for each candidate
- Two (2) Forms ES-301-6, Competencies Checklist, three candidates per form
- Three (3) Forms ES-D-1, Simulator Scenario Outline, one for each of the two (2) projected scenarios, plus one spare
- One (1) Form ES-401-3, PWR SRO Examination Outline, and one (1) associated Form ES-401-5, General Knowledge and Abilities Outline (Tier 3)
- One (1) Form ES-401-4, PWR RO Examination Outline, and one (1) associated Form ES-401-5, General Knowledge and Abilities Outline (Tier 3)
- One (1) Form ES-401-10, Record of Rejected K/As (two pages)

Please contact the Exam Author, Darrell Hensley, or myself if you have any questions or concerns regarding this submittal.

Very respectfully



R. Massa  
Facility Reviewer  
Palisades Nuclear Plant

cc: Dave Rogers  
Licensing Dep't.

JUN 29 2001

Facility: <b>PALISADES</b>		Date of Examination: <b>DEC 2001</b>		
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 per ES-401.	RA	RM	MEB
	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.	RA	RM	MEB
	c. Assess whether the outline over-emphasizes any systems, evolutions, or generic topics.	RA	RM	MEB
	d. Assess whether the justifications for deselected or rejected K/A statements are appropriate.	RA	RM	MEB
2. S I M	a. Using Form ES-301-5, verify that the proposed scenario sets cover the required number of normal evolutions, instrument and component failures, and major transients.	RA	RM	MEB
	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; ensure 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 over successive days.	RA	RM	MEB
	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.	RA	RM	MEB
3. W / T	a. Verify that: (1) the outline(s) contain(s) the required number of control room and in-plant tasks, (2) no more than 30% of the test material is repeated from the last NRC examination, (3)* no tasks are duplicated from the applicants' audit test(s), and (4) no more than 80% of any operating test is taken directly from the licensee's exam banks.	RA	RM	MEB
	b. Verify that: (1) the tasks are distributed among the safety function groupings as specified in ES-301, (2) one task is conducted in a low-power or shutdown condition, (3) 40% of the tasks require the applicant to implement an alternate path procedure, (4) one in-plant task tests the applicant's response to an emergency or abnormal condition, and (5) the in-plant walk-through requires the applicant to enter the RCA.	RA	RM	MEB
	c. Verify that the required administrative topics are covered, with emphasis on performance-based activities.	RA	RM	MEB
	d. Determine if there are enough different outlines to test the projected number and mix of applicants and ensure that no items are duplicated on successive days.	RA	RM	MEB
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.	RA	RM	MEB
	b. Assess whether the 10 CFR 55.41/43 and 55.45 sampling is appropriate.	RA	RM	MEB
	c. Ensure that K/A importance ratings (except for plant-specific priorities) are at least 2.5.	RA	RM	MEB
	d. Check for duplication and overlap among exam sections.	RA	RM	MEB
	e. Check the entire exam for balance of coverage.	RA	RM	MEB
	f. Assess whether the exam fits the appropriate job level (RO or SRO).	RA	RM	MEB
a. Author		Printed Name / Signature		Date
b. Facility Reviewer (*)		RICHARD MASSA / [Signature]		6/27/01
c. NRC Chief Examiner (#)		MICHAEL R. BIELEY / [Signature]		06 28 01
d. NRC Supervisor		DANIEL A. BIELEY / [Signature]		7/6/01
Note: * Not applicable for NRC-developed examinations. # Independent NRC reviewer initial items in Column "c;" chief examiner concurrence required.				

Facility: <b>PALISADES</b>		Date of Examination: <b>DEC 2001</b>
Examination Level : <b>RO</b>		Operating Test Number: <b>1</b>
Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions	
A.1	CONDUCT OF OPERATIONS	Determine FW Reserve Inventory
		Perform a Heat Balance Calculation Using the PPC
A.2	EQUIPMENT CONTROL	Develop Caution Tags for Pump
A.3	RADIATION CONTROL	Question on ALARA calculation (stay time)
		Question on exposure limits
A.4	EMERGENCY PLAN	Obtain Met. Data for Emerg. Notification Form

Facility: **PALISADES**  
Examination Level : **SRO**

Date of Examination: **DEC 2001**  
Operating Test Number: **1**

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	CONDUCT OF OPERATIONS	Authorize a Key Checkout
		Perform a Heat Balance Using the PPC
A.2	EQUIPMENT CONTROL	Perform Administrative Review of a Temporary Mod
A.3	RADIATION CONTROL	Approve a batch release
A.4	EMERGENCY PLAN	Complete the Emergency Actions/Notifications Form

Facility: **PALISADES**  
Exam Level: **RO**

Date of Examination: **DEC 2001**  
Operating Test No.: **1**

### B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. Rotate Instrument Air Compressors	NSA	8
b. Synch to Grid	MSL	4
c. Emergency Borate	MSA	1
d. Alternate PZR Level Controllers	MSA	2
e. Raise RIA-0707 High Rad Trip Setpoint	DS	7
f. Open PZR PORV Isolation Valves	NS	3
g. Transfer Bus 1C from D/G to S/G Transformer	MS	6

### B.2 Facility Walk-Through

a. Manually Start P-9A	NLA	8
b. Secure from WGDT Release	NR	9
c. Restore Power to D-11A from Sta. Battery #1	DL	6

\* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: **PALISADES**Date of Examination: **DEC 2001**Exam Level: **SRO**Operating Test No.: **1****B.1 Control Room Systems**

System / JPM Title	Type Code*	Safety Function
a. Rotate Instrument Air Compressors	NSA	8
b. Synch to Grid	MSL	4
c. Recirc a BAST for Sample (IPE)	MSA	1
d. Raise SIT Pressure (IPE)	MSA	2
e. Raise RIA-0707 High Rad Trip Setpoint	DS	7
f. Open PZR PORV Isolation Valves	NS	3
g. Transfer Bus 1C from D/G to S/G Transformer	MS	6

**B.2 Facility Walk-Through**

a. Manually Start P-9A	NLA	8
b. Secure from WGDT Release	NR	9
c. Restore Power to D-11A from Sta. Battery #1	DL	6

\* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Facility: <b>PALISADES</b>		Date of Exam: <b>DEC 2001</b>		Scenario Numbers: <b>1 / 2</b>		Operating Test No.: <b>1</b>	
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.	RA	B	MEB			
2.	The scenarios consist mostly of related events.	RA	B	MEB			
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>	RA	B	MEB			
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.	RA	B	MEB			
5.	The events are valid with regard to physics and thermodynamics.	RA	B	MEB			
6.	Sequencing and timing of events is reasonable, and allows the examination team to obtain complete evaluation results commensurate with the scenario objectives.	RA	B	MEB			
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.	RA	B	MEB			
8.	The simulator modeling is not altered.	RA	B	MEB			
9.	The scenarios have been validated. Any open simulator performance deficiencies have been evaluated to ensure that functional fidelity is maintained while running the planned scenarios.	RA	B	MEB			
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.4 of ES-301.	RA	B	MEB			
11.	All individual operator competencies can be evaluated, as verified using Form ES-301-6 (submit the form along with the simulator scenarios).	RA	B	MEB			
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).	RA	B	MEB			
13.	The level of difficulty is appropriate to support licensing decisions for each crew position.	RA	B	MEB			
<b>TARGET QUANTITATIVE ATTRIBUTES (PER SCENARIO; SEE SECTION D.4.D)</b>		<b>Actual Attributes</b>		--	--	--	
1.	Total malfunctions (5-8)	7 / 7		RA	B	MEB	
2.	Malfunctions after EOP entry (1-2)	2 / 1		RA	B	MEB	
3.	Abnormal events (2-4)	4 / 4		RA	B	MEB	
4.	Major transients (1-2)	1 / 1		RA	B	MEB	
5.	EOPs entered/requiring substantive actions (1-2)	2 / 2		RA	B	MEB	
6.	EOP contingencies requiring substantive actions (0-2)	1 / 1		RA	B	MEB	
7.	Critical tasks (2-3)	3 / 4		RA	B	MEB	



Palisades

OPERATING TEST NO.:

Candidate: SRO - I 1

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1		
	Normal	1		
	Instrument / Component	4		
	Major	1		
As RO	Reactivity	1		1
	Normal	0		
	Instrument / Component	2		3,4,7
	Major	1		6
SRO-I	Reactivity	0		
	Normal	1	1	
	Instrument / Component	2	2,3,4,5,6,8	
	Major	1	7	
As SRO	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
SRO-U	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
  - (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 requirement.

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NRC Reviewer:

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Palisades

OPERATING TEST NO.:

Candidate: SRO - I 2

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1		
	Normal	1		
	Instrument / Component	4		
	Major	1		
As RO	Reactivity	1	1	
	Normal	0		
	Instrument / Component	2	2,4,6,8	
	Major	1	7	
SRO-I				
	Reactivity	0		
	Normal	1		1
	Instrument / Component	2		2,3,4,5,7
As SRO	Major	1		6
SRO-U	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
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OPERATING TEST NO.:

Candidate: RO - 1

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1		1
	Normal	1	1	
	Instrument / Component	4	3,5,6	3,4,7
	Major	1	7	6
As RO	Reactivity	1		
	Normal	0		
	Instrument / Component	2		
	Major	1		
SRO-I	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
As SRO	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
SRO-U	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
  - (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 requirement.

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OPERATING TEST NO.:

Candidate: RO - 2

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1	1	
	Normal	1		1
	Instrument / Component	4	2,4,6,8	2,5
	Major	1	7	6
As RO	Reactivity	1		
	Normal	0		
	Instrument / Component	2		
	Major	1		
SRO-I				
As SRO	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
SRO-U				
	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
  - (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 requirement.

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OPERATING TEST NO.:

Candidate: RO - 3

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1		1
	Normal	1	1	
	Instrument / Component	4	3,5,6	3,4,7
	Major	1	7	6
As RO	Reactivity	1		
	Normal	0		
	Instrument / Component	2		
	Major	1		
SRO-I	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
As SRO	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		
SRO-U	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
  - (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 requirement.

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OPERATING TEST NO.:

Candidate: RO - 4

Applicant Type	Evolution Type	Minimum Number	Scenario Number	
			1	2
RO	Reactivity	1	1	
	Normal	1		1
	Instrument / Component	4	2,4,6,8	2,5
	Major	1	7	6
As RO	Reactivity	1		
	Normal	0		
	Instrument / Component	2		
	Major	1		
SRO-I				
	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
As SRO	Major	1		
SRO-U	Reactivity	0		
	Normal	1		
	Instrument / Component	2		
	Major	1		

- Instructions:
- (1) Enter the operating test number and Form ES-D-1 event numbers for each evolution type.
  - (2) Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.4.d) but must be significant per Section C.2.a of Appendix D.
  - (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 requirement.

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Competencies	Applicant #1 SRO-I (1)		Applicant #2 SRO-I (2)		Applicant #3 RO - 1	
	SCENARIO		SCENARIO		SCENARIO	
	1	2	1	2	1	2
Understand and Interpret Annunciators and Alarms	2,3,4,5,6,7	3,4,6	2,4,6,	2,3,4,6	5,6,7	3,4,6
Diagnose Events and Conditions	2,3,4,5,6,7,8	3,4,6,7	2,4,6,7,8	2,3,4,5,6,7	3,5,6,7	3,4,6,7
Understand Plant and System Response	1,2,3,4,5,6,7	3,4,6	2,4,6,8	1,2,3,4,5,6	1,3,5,6,7	1,3,4,6
Comply With and Use Procedures (1)	All	All	All	All	All	All
Operate Control Boards (2)		1,3,6,7	1,2,4,6,7		1,3,5	1,3,4,6,7
Communicate and Interact With the Crew	All	All	All	All	All	All
Demonstrate Supervisory Ability (3)	All			All		
Comply With and Use Tech. Specs. (3)	4,6			3,4		
Notes:  (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.						

## Instructions:

Circle 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.

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**Palisades**

Competencies	Applicant #4 RO - 2		Applicant #5 RO - 3		Applicant #6 RO - 4	
	SCENARIO		SCENARIO		SCENARIO	
	1	2	1	2	1	2
Understand and Interpret Annunciators and Alarms	2,4,6,7	2	5	3,4,6	2,4,6,7	2
Diagnose Events and Conditions	2,4,6,7,8	2,5,7	3,5,6,7	3,4,6,7	2,4,6,7,8	2,5,7
Understand Plant and System Response	1,2,4,6,7,8	1,2,5,6,7	1,3,5,6,7	1,3,4,6,7	1,2,4,6,7,8	1,2,5,6,7
Comply With and Use Procedures (1)	All	All	All	All	All	All
Operate Control Boards (2)	1,2,4,7	1,5,7	1,3,5	1,3,4,6,7	1,2,4,7	1,5,7
Communicate and Interact With the Crew	All	All	All	All	All	All
Demonstrate Supervisory Ability (3)						
Comply With and Use Tech. Specs. (3)						
<b>Notes:</b>  (1) Includes Technical Specification compliance for an RO. (2) Optional for an SRO-U. (3) Only applicable to SROs.						

**Instructions:**

Circle 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.

Author:

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NRC Reviewer:

Michael E. Biello / Michael E. Biello



Facility: <b>PALISADES</b>	Scenario No.: <b>1</b>	Op-Test No.: _____
Examiners: _____		Operators: _____
_____		_____
_____		_____
<p>Initial Conditions:      Approx. 50% power BOL; equipment OOS is AFW Pump P-8C with Caution Tag hung on handswitch; two MFW pumps in operation.</p> <p>Turnover:                  Approx. 50% power BOL; AFW Pp. P-8C is out of service. Main Feedwater System is in operation with one MFW Pp. in CASCADE and the second in Manual on the governor. Boron concentration is 1451 ppm. ASI is -0.01. Shift orders are to continue a power escalation at 4% per hour to MODE 3.</p>		

Event No.	Malfunction No.	Event Type*	Event Description
1	NA	SRO (N) RO (R) BOP (N)	Power Escalation
2	CC02A	SRO (C) RO (C)	CCW Pp. Trip (Standby Fail to Start)
3	RX15B	SRO (I) BOP (I)	Main Steam Flow Transmitter FT-0704 Failure on Steam Generator "B" (lower than current - No trip)
4	CV03A	SRO (C) RO (C)	Charging Pump P-55A Trip
5	EG04	SRO (I) BOP (I)	Main Generator Automatic Voltage Regulator Failure
6	RC03	SRO (C) RO (C) BOP (C)	Primary Coolant System Leak into Containment at approx. 5 gpm. (IPE)
7	RC04	SRO (M) RO (M) BOP (M)	Primary Coolant System Leak into Containment at 200 gpm.
8	RD10	SRO (C) RO (C)	Two Stuck Control Rods (Rod 12 and 18)

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

Facility: <b>PALISADES</b>	Scenario No.: <b>2</b>	Op-Test No.: _____
Examiners: _____	Operators: _____	
<p>Initial Conditions:      Approx. 100% power EOL. Equipment OOS is Charging Pump P-55C with Caution Tag on handswitch.</p> <p>Turnover:                      Power is at 100%. Charging Pump P-55C is out of service for maintenance and will not be available for approximately 24 hours. Boron concentration is 46 ppm. ASI is 0.0. Shift orders are to reduce power at 12% per hour for the Refueling Outage.</p>		

Event No.	Malf. No.	Event Type*	Event Description
1	NA	SRO (N) RO (R) BOP (N)	Power Reduction
2	TC20	SRO (C) BOP (C)	Loss of Panel L21
3	RP26A	SRO (I) RO (I)	PZR Pressure Transmitter Fails High
4	RD16-35	SRO (C) RO (C)	Dropped Rod #35
5	RX11A	SRO (I) BOP (I)	Erratic Feedwater Regulating Valve Operation
6	SG01A	SRO (M) RO (M) BOP (M)	'A' Steam Generator Tube Rupture at 700 gpm
7	RP19 RP20	SRO (C) RO (C)	Failure of Automatic AND Manual Reactor Trip (ACTIVE on Setup)

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

Facility: <b>PALISADES</b>	Scenario No.: <b>Spare</b>	Op-Test No.: _____
Examiners: _____		Operators: _____
_____		_____
_____		_____
Initial Conditions:	Approx. 100% power MOL. Equipment OOS is Charging Pump P-55A with Caution Tag hung on handswitch. Charging System is aligned for Mode 1 operation with P-55B in MANUAL and P-55C in AUTO.	
Turnover:	Power is 100% at MOL. Charging Pump P-55A is out of service for repairs with the Charging System aligned for Mode 1 operation and CV-2004 closed. Boron concentration is 646 ppm. ASI is + 0.03.	
Shift orders are to lower power to 60% at 20% per hour to allow taking P-1B out of service due to elevated seal leakage conditions.		

  

Event No.	Malfunction No.	Event Type*	Event Description
1	RX07B	SRO (I) RO (I)	PZR Level Control Channel B Upscale Demand
2	RX12C	SRO (C) RO (C)	PZR Heater Group Fails Off (Backup Group #1) (IPE)
3	NA	SRO (N) RO (R) BOP (N)	Down Power Ramp
4	RX14A	SRO (I) BOP (I)	Feedwater Flow Transmitter FT-0701 Failure High
5	TC04C	SRO (C) BOP (C)	Turbine Governor Valve #3 Fails Shut
6	RP19	SRO (C) RO (C)	Failure of the Reactor to Automatically Trip
7	MS03A	SRO (M) RO (M) BOP (M)	Main Steamline Rupture Inside of Containment
8	CH05A CH05B	SRO (C) RO (C) BOP (C)	Initiation Failure of Containment Isolation, Safety Injection, and Containment Spray

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

Facility: <b>PALISADES</b>		Date of Exam: <b>Dec. 2001</b>										Exam Level: <b>SRO</b>	
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	4	4	5				2	3			6	24
	2	1	4	1				4	4			2	16
	3	0	0	2				1	0			0	3
	Tier Totals	5	8	8				7	7			8	43
2. Plant Systems	1	4	1	3	2	0	1	0	3	2	2	1	19
	2	2	2	1	2	1	1	2	1	1	2	2	17
	3	1	0	0	1	1	0	0	1	0	0	0	4
	Tier Totals	7	3	4	5	2	2	2	5	3	4	3	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					5		4		4		4		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by <math>\pm 1</math> from that specified in the table based on NRC revisions. The final exam must total 100 points.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>													

ES-401		PWR SRO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1						Form ES-401-3 (R8, S1)	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1						2.4.49		4.0	1
000003 Dropped Control Rod / 1				03			Rod control switches	3.3	1
000005 Inoperable/Stuck Control Rod / 1						2.1.33		4.0	1
			04				Tech Spec limits for inoperable rods	4.1	1
000011 Large Break LOCA / 3	01						Nat. circ/reflux boiling implications during large break LOCA	4.4	1
						2.4.1		4.6	1
000015/17 RCP Malfunctions / 4	01						Implications of natural circulation for PCP malfunctions	4.6	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4		01					Nat Circ control and safety sys components; functions/signals	3.4	1
000024 Emergency Boration / 1			02				EOP actions for Emergency Boration	4.4	1
000026 Loss of Component Cooling Water / 8 (PRA)						2.4.24		3.7	1
000029 Anticipated Transient w/o Scram / 1	03						Effects of boron on reactivity for an ATWS	3.8	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4						2.4.4		4.3	1
				04			Isolation of steam lines during steam line rupture	4.3	1
CE/A11; W/E08 RCS Overcooling - PTS / 4					02		Overcooling procedures and operation within limits of license	3.4	1
000051 Loss of Condenser Vacuum / 4			01				Loss of steam dump capability upon loss of condenser vacuum	3.1	1
000055 Station Blackout / 6 (PRA)	01						Effects of battery disch rates on capacity during Station Blackout	3.7	1
000057 Loss of Vital AC Elec. Inst. Bus / 6						2.1.28		3.3	1
000059 Accidental Liquid RadWaste Rel. / 9		01					Radiation monitors during an Accidental Liquid RadWaste release	2.8	1
000062 Loss of Nuclear Service Water / 4					02		Determine cause of possible SWS loss	3.6	1
000067 Plant Fire On-site / 9			04				EOP actions for plant fire on site	4.1	1
000068 (BW/A06) Control Room Evac. / 8					04		Determine S/G pressure during a Control Room evacuation	4.0	1
000069 (W/E14) Loss of CTMT Integrity / 5		03					Personnel and emergency access hatch and loss of cont. integrity	2.9	1
000074 (W/E06&E07) Inad. Core Cooling / 4			06				Confirm PORV cycling at setpoint during Inadequate Core Cooling	4.2	1
000076 High Reactor Coolant Activity / 9		01					High coolant activity relationship with process radiation monitors	3.0	1
K/A Category Totals:	4	4	5	2	3	6	Group Point Total:		24

ES-401

PWR SRO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

Form ES-401-3 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		02					Importance of proper op of heat removal sys for Reactor Trip	4.0	1
000008 Pressurizer Vapor Space Accident / 3				07			Monitor reseating of code safety and PORVs	4.2	1
000009 Small Break LOCA / 3					18		Interpret CCW temperature indication for PCP oil coolers	2.6	1
000022 Loss of Reactor Coolant Makeup / 2				03			Monitor PZR level trend during loss of reactor coolant makeup	3.2	1
000025 Loss of RHR System / 4				02			Monitor PCS inventory during loss of RHR system	3.9	1
000027 Pressurizer Pressure Control System Malfunction / 3		02					Sensors and detectors and PZR pressure control malf	2.6	1
000032 Loss of Source Range NI / 7		01					Power supplies/switches and loss of source range NI	3.1	1
000033 Loss of Intermediate Range NI / 7						2.2.30		3.3	1
000037 Steam Generator Tube Leak / 3					10		PCS leakage Tech Spec limits for a Steam Generator Tube Leak	4.1	1
000038 Steam Generator Tube Rupture / 3	02						Implications of leak rate vs. pressure drop during a SGTR	3.5	1
000054 (CE/E06) Loss of Main Feedwater / 4						2.1.2		4.0	1
000058 Loss of DC Power / 6			02				EOP actions for loss of DC power	4.2	1
000060 Accidental Gaseous Radwaste Rel. / 9		01					ARM system indications and operability	2.9	1
000061 ARM System Alarms / 7					05		ARM alarms and need for area evacuation; check against limits	4.2	1
000065 Loss of Instrument Air / 8					06		When to trip reactor if instrument air pressure is lowering	4.2	1
CE/E09 Functional Recovery				01			Systems and controls during Functional Recovery	4.0	1
K/A Category Point Totals:	1	4	1	4	4	2	Group Point Total:		16

ES-401

PWR SRO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 3

Form ES-401-3 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2			02				Pressure increase relation to makeup/letdown imbalance	3.2	1
000036 (BW/A08) Fuel Handling Accident / 8			01				Inputs that cause a reactor building evacuation	3.7	1
CE/A16 Excess RCS Leakage / 2				03			Desired results during excess PCS leakage situations	3.6	1
K/A Category Point Totals:	0	0	2	1	0	0	Group Point Total:		3

ES-401

PWR SRO Examination Outline  
Plant Systems - Tier 2/Group 1

Form ES-401-3 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive										06		Control rod drive disconnect/connect	3.2	1
003 Reactor Coolant Pump											2.1.32		3.8	1
004 Chemical and Volume Control		06										Power supplies to CVCS instrumentation	2.7	1
						13						Function of boration/dilution batch controller	3.3	1
013 Eng Safety Features Act								04				Loss of inst. bus effects on ESFAS initiation	4.2	1
014 Rod Position Indication			01									Effects of RPIS malfunction on CRDS	2.8	1
015 Nuclear Instrumentation				05								Design of and interlocks for reactor trip	4.5	1
017 In-core Temperature Monitor								02				Effects of core damage on operation of ITM	4.1	1
									01			Monitor ITM ops for PCS nat. circulation	3.8	1
022 Containment Cooling	02											CCS and SEC/remote monitoring systems	3.5	1
026 Containment Spray	02											Cause & effect between CSS & cooling water	4.1	1
056 Condensate								04				Loss of Cond. Pumps effects on system	2.8	1
059 Main Feedwater			03									Effects of MFW malfunction on S/Gs	3.7	1
061 Auxiliary/Emergency Feedwater	11											AFW turbine exhaust drains	2.8	1
									03			AFW S/G level control on automatic start	3.9	1
063 DC Electrical Distribution			02									Effects of loss of DC on components	3.7	1
068 Liquid Radwaste										03		Stoppage of release if limits are exceeded	3.8	1
071 Waste Gas Disposal				06								Sampling/monitoring waste gas release tanks	3.5	1
072 Area Radiation Monitoring	04											Relation of ARM and Control Room vent.	3.5	1
K/A Category Point Totals:	4	1	3	2	0	1	0	3	2	2	1	Group Point Total:		19



ES-401

PWR SRO Examination Outline  
Plant Systems - Tier 2/Group 2

Form ES-401-3 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant					15							Subcooling during natural circulation	4.6	1
006 Emergency Core Cooling									01			Monitor auto ops of ECCS accumulators	3.9	1
010 Pressurizer Pressure Control										01		Operate/monitor PZR spray valves	3.5	1
011 Pressurizer Level Control										01		Operate/monitor charging pump and flow	3.2	1
012 Reactor Protection			04									RPS malf. effects on ESFAS	4.1	1
027 Containment Iodine Removal		01										Power supplies to iodine removal fans	3.4	1
029 Containment Purge											2.3.9		3.4	1
033 Spent Fuel Pool Cooling	05											Relation between SFP and SIRWT (RWST)	2.8	1
034 Fuel Handling Equipment						02						RadMon malfunction effects on fuel handling	3.3	1
035 Steam Generator								06				Impact of SBLOCA on S/G system	4.6	1
039 Main and Reheat Steam				04								ADV's control program, including Tave limits	3.1	1
055 Condenser Air Removal											2.1.28		3.3	1
062 AC Electrical Distribution							01					Significance of D/G load limits	3.8	1
064 Emergency Diesel Generator				08								D/G fuel isolation valves interlocks	3.5	1
073 Process Radiation Monitoring	01											Systems served by PRM	3.9	1
075 Circulating Water		03										Power supply to essential SWS pumps	2.7	1
086 Fire Protection							03					Operation of fire doors to maintain limits	3.2	1
K/A Category Point Totals:	2	2	1	2	1	1	2	1	1	2	2	Group Point Total:		17

ES-401

PWR SRO Examination Outline  
Plant Systems - Tier 2/Group 3

Form ES-401-3 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal	12											Relation between SDC sys and SDC pumps	3.4	1
041 Steam Dump/Turbine Bypass Control					02							Use of steam tables for saturation	2.8	1
076 Service Water								02				Effects of service water header pressure	3.1	1
078 Instrument Air				02								Design to cross-over with other air systems	3.5	1
K/A Category Point Totals:	1	0	0	1	1	0	0	1	0	0	0	Group Point Total:		4

## Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points
Plant-Specific Priority Total: (limit 10)			

Facility: <b>PALISADES</b>		Date of Exam: <b>Dec. 2001</b>		Exam Level: <b>SRO</b>	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.10	Conditions/limitations in the facility license	3.9	1	
	2.1.23	Perform system and integrated procedures	4.0	1	
	2.1.11	Less than one hour Tech Spec actions	3.8	1	
	2.1.14	System status which requires notifications	3.3	1	
	2.1.33	Recognize parameters for Tech Spec entry	4.0	1	
	Total			<b>5</b>	
Equipment Control	2.2.27	Refueling process	3.5	1	
	2.2.1	Pre-startup procedures affecting reactivity	3.6	1	
	2.2.13	Tagging and clearance procedures	3.8	1	
	2.2.24	Effect of maintenance activities on LCO status	3.8	1	
Total			<b>4</b>		
Radiation Control	2.3.1	10CFR20 and facility radiation controls	3.0	1	
	2.3.10	Reduce radiation levels and exposure	3.3	1	
	2.3.11	Control radiation releases	3.2	1	
	2.3.2	Knowledge of facility ALARA program	2.9	1	
Total			<b>4</b>		
Emergency Procedures/ Plan	2.4.12	Crew responsibilities during emerg procedures	3.9	1	
	2.4.35	Local aux operator actions during emergencies	3.5	1	
	2.4.11	Abnormal condition procedures	3.6	1	
	2.4.46	Verify alarms consistent with plant conditions	3.6	1	
Total			<b>4</b>		
Tier 3 Point Total ( <b>SRO</b> )				<b>17</b>	

Facility: <b>PALISADES</b>													Date of Exam: <b>Dec. 2001</b>		Exam Level: <b>RO</b>	
Tier	Group	K/A Category Points											Point Total			
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *				
1. Emergency & Abnormal Plant Evolutions	1	1	3	5				1	3			3	16			
	2	2	4	2				2	3			4	17			
	3	0	0	1				0	1			1	3			
	Tier Totals	3	7	8				3	7			8	36			
2. Plant Systems	1	5	1	1	1	2	1	1	4	3	2	2	23			
	2	3	1	2	4	0	0	2	2	1	3	2	20			
	3	0	2	0	0	1	1	0	2	0	1	1	8			
	Tier Totals	8	4	3	5	3	2	3	8	4	6	5	51			
3. Generic Knowledge and Abilities						Cat 1	Cat 2	Cat 3	Cat 4							
						4	3	3	3	13						
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by <math>\pm 1</math> from that specified in the table based on NRC revisions. The final exam must total 100 points.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the RO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>																

ES-401

PWR RO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-4 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1			04				Tech Spec limits for inoperable rods	3.4	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4		01					Nat Circ control and safety systems components and functions/signals	3.0	1
000024 Emergency Boration / 1			02				EOP actions for Emergency Boration	4.2	1
000026 Loss of Component Cooling Water / 8						2.4.24		3.3	1
000027 Pressurizer Pressure Control System Malfunction / 3				01			Operate/monitor PZR heaters, sprays, and PORVs	4.0	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4						2.4.4		4.0	1
CE/A11; W/E08 RCS Overcooling - PTS / 4					02		Overcooling procedures and operation within limits of license	3.0	1
000051 Loss of Condenser Vacuum / 4			01				Loss of steam dump capability upon loss of condenser vacuum	2.8	1
000055 Station Blackout / 6	01						Effects of battery discharge rates on capacity during Station Blackout	3.3	1
000057 Loss of Vital AC Elec. Inst. Bus / 6						2.1.28		3.2	1
000062 Loss of Nuclear Service Water / 4					02		Determine cause of possible SWS loss	2.9	1
000067 Plant Fire On-site / 9			04				EOP actions for plant fire on site	3.3	1
000068 (BW/A06) Control Room Evac. / 8					04		Determine S/G pressure during a Control Room evacuation	3.7	1
000069 (W/E14) Loss of CTMT Integrity / 5		03					Personnel and emergency access hatch and loss of cont. integrity	2.8	1
000074 (W/E06&E07) Inad. Core Cooling / 4			06				Confirm PORV cycling at setpoint during Inadequate Core Cooling	3.9	1
000076 High Reactor Coolant Activity / 9		01					High coolant activity relationship with process radiation monitors	2.6	1
K/A Category Totals:	1	3	5	1	3	3	Group Point Total:		16

ES-401

PWR RO Examination Outline  
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

Form ES-401-4 (R8, S1)

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1						2.4.49		4.0	1
000003 Dropped Control Rod / 1			02				Reactor runback with a dropped control rod	3.3	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1		02					Proper operation of heat removal systems for Reactor Trip	3.5	1
000008 Pressurizer Vapor Space Accident / 3						2.4.4		4.0	1
000009 Small Break LOCA / 3					15		Interpret PCS parameters during a small break LOCA	3.3	1
000011 Large Break LOCA / 3	01						Nat. circ/reflux boiling implications during large break LOCA	4.1	1
000022 Loss of Reactor Coolant Makeup / 2				03			Monitor PZR level trend during loss of reactor coolant makeup	3.2	1
000025 Loss of RHR System / 4				02			Monitor PCS inventory during loss of RHR system	3.8	1
000029 Anticipated Transient w/o Scram / 1		06					Relation between ATWS and breakers, relays, and disconnects	2.9	1
000032 Loss of Source Range NI / 7		01					Power supplies/switches and loss of source range NI	2.7	1
000033 Loss of Intermediate Range NI / 7						2.2.30		3.5	1
000037 Steam Generator Tube Leak / 3					10		PCS leakage Tech Spec limits for a Steam Generator Tube Leak	3.2	1
000038 Steam Generator Tube Rupture / 3	02						Implications of leak rate vs. pressure drop during a SGTR	3.2	1
000054 (CE/E06) Loss of Main Feedwater / 4						2.1.2		3.0	1
000058 Loss of DC Power / 6			02				EOP actions for loss of DC power	4.0	1
000060 Accidental Gaseous Radwaste Rel. / 9		01					ARM system indications and operability	2.6	1
000061 ARM System Alarms / 7					05		ARM alarms and need for area evacuation; check against limits	3.5	1
K/A Category Point Totals:	2	4	2	2	3	4	Group Point Total:		17

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 3						Form ES-401-4 (R8, S1)	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2			02				Pressure increase relation to makeup/letdown imbalance	2.9	1
000056 Loss of Off-site Power / 6						2.4.48		3.5	1
000065 Loss of Instrument Air / 8					06		When to trip reactor if instrument air pressure is lowering	3.6	1
K/A Category Point Totals:	0	0	1	0	1	1	Group Point Total:		3

ES-401

PWR RO Examination Outline  
Plant Systems - Tier 2/Group 1

Form ES-401-4 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive					36							Minus sign of a calculated power defect	3.1	1
										06		Control rod drive disconnect/connect	2.9	1
003 Reactor Coolant Pump									05			Monitor PCP oil pumps automatic operation	2.7	1
004 Chemical and Volume Control		06										Power supplies to CVCS instrumentation	2.6	1
						13						Function of boration/dilution batch controller	3.1	1
013 Engineered Safety Features Actuation	01											Initiation signals for ESF circuit logic	4.2	1
								04				Loss of inst. bus effects on ESFAS initiation	3.6	1
015 Nuclear Instrumentation			03									Effect of NI malfunction on fuel handling sys	2.7	1
									03			Xenon oscillations effects on NIs	3.2	1
017 In-core Temperature Monitor								02				Effects of core damage on operation of ITM	3.6	1
										01		Monitor ITM ops for PCS nat. circulation	3.6	1
022 Containment Cooling	02											CCS and SEC/remote monitoring systems	3.7	1
056 Condensate	03											Relation between condensate and MFW	2.6	1
								04				Loss of Cond. Pumps effects on system	2.6	1
059 Main Feedwater											2.1.28		3.2	1
061 Auxiliary/Emergency Feedwater	11											AFW turbine exhaust drains	2.7	1
									03			AFW S/G level control on automatic start	3.9	1
068 Liquid Radwaste					03							Units of dose and dose rate for releases	2.6	1
										03		Stoppage of release if limits are exceeded	3.9	1
071 Waste Gas Disposal											2.3.11		2.7	1
				06								Sampling/monitoring waste gas release tanks	2.7	1
072 Area Radiation Monitoring	04											Relation of ARM and Control Room vent.	3.3	1
							01					Predict/monitor radiation levels for ARM ops	3.4	1
K/A Category Point Totals:	5	1	1	1	2	1	1	4	3	2	2	Group Point Total:		23



ES-401

PWR RO Examination Outline  
Plant Systems - Tier 2/Group 2

Form ES-401-4 (R8, S1)

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant								03				Loss of forced circ effects on PCS	4.1	1
006 Emergency Core Cooling									01			Monitor auto ops of ECCS accumulators	4.0	1
010 Pressurizer Pressure Control										01		Operate/monitor PZR spray valves	3.7	1
011 Pressurizer Level Control										01		Operate/monitor charging pump and flow	3.5	1
012 Reactor Protection			04									RPS malf. effects on ESFAS	3.8	1
014 Rod Position Indication				04								RPIS zone ref. lights features/interlocks	2.6	1
016 Non-nuclear Instrumentation										02		Operate/monitor Control Room recorders	2.7	1
026 Containment Spray	02											Cause & effect between CSS & cooling water	4.1	1
029 Containment Purge											2.3.9		2.5	1
033 Spent Fuel Pool Cooling	05											Relation between SFP and SIRWT (RWST)	2.7	1
035 Steam Generator								06				Impact of SBLOCA on S/G system	4.5	1
039 Main and Reheat Steam				04								ADV's control program, including Tave limits	2.9	1
055 Condenser Air Removal											2.1.28		3.2	1
062 AC Electrical Distribution							01					Significance of D/G load limits	3.4	1
063 DC Electrical Distribution			02									Effects of loss of DC on components	3.5	1
064 Emergency Diesel Generator				08								D/G fuel isolation valves interlocks	2.9	1
073 Process Radiation Monitoring	01											Cause/effect with systems served by PRMs	3.6	1
075 Circulating Water		03										Power supply to essential SWS pumps	2.6	1
079 Station Air				01								Design for cross-connect with IAS	2.9	1
086 Fire Protection							03					Operation of fire doors to maintain limits	2.7	1
K/A Category Point Totals:	3	1	2	4	0	0	2	2	1	3	2	Group Point Total:		20



Facility: <b>PALISADES</b>		Date of Exam: <b>Dec. 2001</b>		Exam Level: <b>RO</b>	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.10	Conditions/limitations in the facility license	2.7	1	
	2.1.31	Switches and controls in the Control Room	4.2	1	
	2.1.23	Perform system and integrated procedures	3.9	1	
	2.1.11	Less than one hour Tech Spec actions	3.0	1	
Total				4	
Equipment Control	2.2.27	Refueling process	2.6	1	
	2.2.1	Pre-startup procedures/controls affecting reactivity	3.7	1	
	2.2.13	Tagging and clearance procedures	3.6	1	
Total				3	
Radiation Control	2.3.1	10CFR20 and facility radiation controls	2.6	1	
	2.3.10	Reduce radiation levels and exposure	2.9	1	
	2.3.11	Control radiation releases	2.7	1	
Total				3	
Emergency Procedures/ Plan	2.4.12	Crew responsibilities during emerg procedures	3.4	1	
	2.4.35	Local aux operator actions during emergencies	3.3	1	
	2.4.11	Abnormal condition procedures	3.4	1	
Total				3	
Tier 3 Point Total (RO)				13	

## Page 1 of 2

Tier / Group	Randomly Selected K/A	Reason for Rejection	
1 / 1	000051 A1	Low importance ratings in A1 category. Resampled and obtained K3.	COMMON
1 / 1	000057 K1	There were no K1 topics available. Resampled and obtained G.	COMMON
1 / 2	000032 K1	Low importance ratings in K1 category. Resampled and obtained K2.	COMMON
1 / 2	000037 K2	Low importance ratings in K2 category. Resampled and obtained A2.	COMMON
1 / 2	000054 K2	Low importance ratings in K2 category. Resampled and obtained G.	COMMON
1 / 2	000058 K2	Low importance ratings in K2 category. Resampled and obtained K3.	COMMON
1 / 2	000065 K2	Low importance ratings in K2 category. Resampled and obtained A2.	COMMON
2 / 1	056 A4	Low importance ratings in A4 category. Resampled and obtained A2.	COMMON
2 / 1	068 K2	Low importance ratings in K2 category. Resampled and obtained A4.	COMMON
2 / 2	012 A1	Not a valid task for facility. Operators do not adjust RPS trip setpoints. Resampled and obtained K3.	COMMON
2 / 2	029 A4	Palisades does not employ a "Containment Evacuation Signal". Resampled and obtained G.	COMMON
2 / 2	039 K6	Low importance ratings in K6 category. Resampled and obtained K4.	COMMON
2 / 2	055 A4	Low importance ratings in A4 category. Resampled and obtained G.	COMMON
2 / 2	062 K5	Low importance ratings in K5 category. Resampled and obtained A1.	COMMON
2 / 2	063 A2	Low importance ratings in A2 category. Resampled and obtained K3.	COMMON
2 / 1	015 K3.05	Low importance rating. Resampled and obtained K3.03.	RO ONLY
2 / 1	056 K6	Low importance ratings in K6 category. Resampled and obtained K1.	RO ONLY
2 / 1	071 K2	Low importance ratings in K2 category. Resampled and obtained G 2.3.11.	RO ONLY
2 / 2	079 K3	Low importance ratings in K3 category. Resampled and obtained K4.	RO ONLY

