

Facility: Diablo Canyon Power Plant

Scenario No: 1

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_  
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Operators: \_\_\_\_\_  
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Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover:

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	Pressurizer Level Channel Failure
2 T=10		C	Letdown Isolation Valve Failure
3 T=15		N	Place Excess Letdown in Service
4 T=20		C/R	B RCP High Vibration Requiring Power Reduction
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	B RCP Trip
7		C	Automatic Reactor Trip Failure
8		M	A S/G Tube Rupture with Stuck Open Safety
9		C	C CCP Pump Trip on OC

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

Facility: Diablo Canyon Power Plant

Scenario No: 2

Op-Test No:     

Examiners:                     

Operators:                     

                    

                    

                    

                    

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover: DG 1-2 is OOS for Maintenance. Small leakage thru PORV 8800C—monitoring.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Shift from CCP 22 to CCP 21
2 T=5		R	Raise Reator Power
3		I	Feed Flow Channel Failure C S/G
4 T=20		I	B SG Level Channel Failure High
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	Seismic Event—Loss of Offsite power
7		C	4160V Bus F lockout
8		M	Aux Feedwater 52-HH-8 pump failure—causes Loss of D/G 1-1
9		C	Pressurizer PORV 8800C failure partially open
10		C	TDAFP Auto Start Failure—(Given back after reset of trip linkage)

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

Facility: Diablo Canyon Power Plant

Scenario No: 3

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: High Kelp seas w/ high swells

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Makeup to RWST
2 T=5		I	Tave Channel failure Low (loop 1)
3		C/R	Screen Wash System screen blkg causes loss of ASW pump; Reduce power to remove unit from service
4 T=20		I	VCT Level Channel Failure Hi
5 T=		M	Hotwell Instrumentation leakage–Loss of feedwater
6 T=		C	Turbine Auto Trip Failure
7		C	4160V Bus H lockout
8		M	TDAFP Trip on loss of steam supply

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

Facility: Diablo Canyon Power Plant

Scenario No: 4

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: B CCP OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Increase Ltdown flow from 75 to 120 GPM
2 T=5		I	Pressurizer Pressure Channel Failure
3		C	B Circ. Wtr Pump Trip on OC
4 T=20		I	VCT Level Channel Failure Hi
5 T=28		C	Loss of Condenser Vacuum due to in leakage
6 T=		R	Reduce Reactor Power due to Loss of Vacuum
7		M	RCS leak-LOCA (Small break ramping to Large break LOCA)
8		C	A Ch LOCA Sequencer Failure
9		C	CIAS A Ch Actuation Failure

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

Facility: Diablo Canyon Power Plant

Scenario No: 5

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

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Objectives:

Initial Conditions: 45% power, middle of cycle.

Turnover: Directed to increase power to 65%. B FWP is OOS and expected back next shift.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Place 3 <sup>Rd</sup> Cond. Pump in service to support power increase.
2 T=10		I	Channel C SG#2 Differential Pressure (RCS Flow) transmitter fails low.
3 T=15		N/R	Commence power increase through dilution.
4 T=20		I	RCS Loop 1 Th instrument fails high
5 T=30		C	Failure of power to SV-510B causes Feedwater Regulating FCV-510 to fail closed
6 T=40		M	Loss of Coolant Accident (LOCA) (Small break ramping to Large Break LOCA)
7		C/R	Three control rods stick partially out on reactor trip
8		C	A Train Containment Spray pump trips

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

Facility: Diablo Canyon Power Plant

Scenario No: 6

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: DG 1-1 OOS for maintenance. Crew directed to decrease power to 85% after adjusting SIT tank level into normal band.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Increase SIT A level
2 T=10		I	Selected Pressurizer Level Channel fails HI
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	RCS Loop 2 Tc instrument fails high
5 T=30		C	Lockout of 4160V bus G due to OC condition on bus
6 T=40		M	HELB outside containment
7		C	One ADV fails open after MSIVs close

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

Facility: Diablo Canyon Power Plant

Scenario No: 7

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: DG 1-1 OOS for maintenance. Main Feedwater Pump 1-1 OOS for maintenance.  
Crew directed to decrease power to take unit off line for planned outage. Grass fires  
flaring northeast of plant.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		C	Low Pressure Feedwater Heater ( ) inlet valve fails closed.
2 T=10		I	S/G 1-1 level instrument fails High
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	Turbine Impulse Pressure Xmtr input (PT- ) fails low
5 T=30		C	Main Feedwater Pump 1-2 trips.
6 T=40		M	Loss of Offsite power due to smoke from fires on high power lines
7		C	DG 1-2 fails to tie onto the bus due to brkr lockout.
8		C	TDAFW fails during startup.

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

Facility: Diablo Canyon Power Plant

Scenario No: 8

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: 10 gpd leak on S/G 1-3. D/G 1-1 is OOS.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Ramp power to 100% following turnover.
2 T=10		I	Tc Loop 3 fails high
3 T=15		C	2 Dropped rods when rods drive in due for failed high Tc
4 T=20		M/R	2 Stuck rods on Reactor Trip
5 T=30		C	SI Train B failure
6 T=40		I	IR NI 36 is undercompensated
7		M	PZR Steam space leak develops.

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



Facility: Diablo Canyon Power Plant

Scenario No: 9

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle, equilibrium xenon.

Turnover: .25 gpd leak on S/G 1-3. AFW pp 1-2 is OOS for 24 hrs. DG 1-2 is OOS for 8 hrs  
Severe Weather; high winds 30-40 mph

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	VCT Tank LT-114 fails High over 1 minute ramp.
2 T=10		C	Failed fuel RCS activity increases
3 T=15		C	SG 1-3 tube leak (0 to 20 gpm over 3 minutes)
4 T=20		N/R	S/D per T/S 3.4.6.2
5 T=30		I	PZR level Xmtr fails LT-459
6 T=40		M	MSL rupture on SG 1-2 inside Cont. over 4 min. ramp
7		C	Auto SI initiation failure Train A/B.
8		M	SG 1-3 Tube rupture 20 gpm to 400 gpm) (Insert when crew goes to EOP E-2.

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

Facility: <u>Diablo Canyon Power Plant</u>	Scenario No: <u>10</u>	Op-Test No: _____
Examiners: _____ _____ _____	Operators: _____ _____ _____	
<u>Objectives:</u>		
<u>Initial Conditions:</u> 75% power, middle of cycle, equilibrium xenon.		
<u>Turnover:</u> Decrease power to 50%, 10 GPD leak on SG 1-3, MFP 1-1 seal water system oscillations, CCW pump 1-2 is OOS.		
<u>Setup:</u>		

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Decrease power to 50%.
2 T=10		C	Governor valve #1 LVDT fails closed
3 T=15		I	RCS Boration Batch integrator fails during boration
4 T=20		C	CCP 1-2 trips on OC; causes 4kV Bus G differential
5 T=30		M	RCS leak develops (ramps to 7000 gpm in five minutes
6 T=30		C	Phase A Cont. Isol. Fails to auto actuate
7		C	Loss of remaining RHR

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

Facility: Diablo Canyon Power Plant

Scenario No: 11

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions:           75% power, middle of cycle, equilibrium xenon.

Turnover:               Ramp to 100%; 20 gpd leak on SG 1-1; AFWP 1-2 OOS; CCP 1-1 OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Increase power to 100%.
2 T=10		I	SG pressure PT 536A fails high
3 T=15		C	Htr Drn pump trips
4 T=20		I	LCP Halt Protection Set 1, Rack 1
5 T=30		M	Stm Brk outside Containment
6 T=30		C	4KV bus F Differential
7		C	AFWP 1-2 trips on OC 2 PORVs fail closed

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

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 010 / Depressurize the RCS using Normal Spray LJC-033	D,S,L	III
b. 062 / Transfer Bus G to Aux. Power from Dsl. Gen. 1-2 LJC-087	D,S	VI
c. 003 / Start A Reactor Coolant Pump LJC-120	D,S,L	IV
d. 026 / Align RHR to Containment Spray LJC-045	D,A,S	V
e. 013 / Manually Isolate Phase A Components Train A & B Failure LJC-026	D,A,S	II
f. 041 / Initiate a Natural Circulation Cooldown LJC-046 Modify - Fail MSIVs closed requires 10% dumps	M,A,S,L	IV
g. 004 / Establish Emergency Boration LJC-063	D,A,S,L	I
B.2 Facility Walk-Through		
a. 004 / Align Charging Pump Suction from RWST LJP-029	D,L,R	II
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A	VI
c. 033 / Add. of Hot Water to the Spent Fuel Pool from RCS New Task, OP AP SD-0 Appendix G step 4.2	N,L,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>2</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Est Steady State Conditions after a Rod Misalignment LJC-022	D,S	I
b. 006 / Respond to Low Accumulator Pressure LJC-077	D,S	II
c. 035 / Isolate Ruptured Steam Generator 12 LJC-011 Modify- fault TDAFW stm supply valve & LCV for SG	M,A,L,S	IV
d. 026 / Secure Containment Spray LJC-080	D,L,S	V
e. 010 / Depressurize the RCS using Normal Spray LJC-033 - Modify - Stick open Loop 1 Pressurizer spray valve	M,A,L,S	III
f. 012 / Respond to an ATWS LJC-041	D,A,S	VII
g. 008 / Respond to Loss of CCW to Letdown Heat Exchanger LJC-126	D,A,S	VIII
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 13 to Backup Power LJP-079	D,L	III
b. 068 / Isolate Ruptured LHUT New Task OP AP-14 Step 8f.	N,R	IX
c. 008 / Crosstie CCW system between Units LJPNRC-2 Repeat from January 1999 SRO Exam	D,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>3</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Restore Bank Alignment for a Misaligned Rod LJC-067	D,S	I
b. 062 / Restoration of Buses after Loss of Offsite Power LJC-210	D,S	VI
c. 035 / Respond to Steam Generator Tube Failure - AP-3 LJC-121	D,S	IV
d. 026 / Secure Containment Spray LJC-81	D,S,L	V
e. 017 / Calculate Subcooled Margin LJC-024	D,A,S,L	VII
f. 008 / Respond to High CCW system Temperature New Task - OP AP-11, Section A - only 1 ASW pp available	N,A,S	VIII
g. 006 / Transfer to Cold Leg Recirculation LJC-027 - Make faulted at step 6e RHR Pp 2 fails to start	M,A,S	II
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 1-2 to Backup Power LJP- 029	D	III
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A,L	VI
c. 035 / Close Steam Generator Isolation Valves Outside Containment LJP 096	D,A,L,R	IV
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.25 (2.8/3.1) Ability to obtain and interpret station reference materials such as graphs, monographs and tables which contain performance data. JPM - RO/SRO Determine if RIL has been exceeded (STP I-1A Step 14a)
	Fuel Handling	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Spent Fuel Pool Heat Load/Removal Parameters (OP B-8DS1 Att. 9.3)
A.2	Maintenance	G2.2.17 (2.3/3.5) Knowledge of the process for managing maintenance activities during power operations. JPM - SRO Online Risk assessment (AD7.DC6 ATT. 9.13)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Difference in requirements for entry into High Rad and High-High Rad areas.
	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Calculate stay time compared to TEDE
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Determine Event Reportability - SGTL - LJC-200
		G2.4.29 (2.6/4.0) Knowledge of the emergency plan. Question - RO Escort Requirement with an Alert G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan. Question - RO Who can communicate with NRC

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>2</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Ultimate Heat Sink temperature and determine action (STP I-1A step 39)
	Mode Changes	G2.1.30 (3.9/3.4) Ability to locate and operate components, including local controls. JPM -SRO/RO Perform Transfer Switch alignment for common equipment. (OP K10X27 Att. 9.1)
A.2	Maintenance	G2.2.26 (2.5/3.7) Knowledge of refueling administrative requirements. JPM - SRO/RO Perform Outage Safety checklist (AD8.DC55 Att. 7.12)
A.3	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Who can give Emergency Dose Authorization
	Overexposure	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Determine which individual has suffered an overexposure (RB-2)
A.4	Emergency Plan	G2.4.44 (2.1/4.0) Knowledge of emergency plan protective action recommendations. JPM - SRO Recommend PARS based on accident classification (LJC-192)
		G2.4.29 (2.6/4.0) Knowledge of emergency plan. Question - RO When USCG is notified of Emergency Events G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan implementation. Question - RO Activation of Site Emergency signal



Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>3</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.33 (3.4/4.0) Ability to recognize indications for system operating parameters which are entry-level conditions for Technical Specifications. JPM - SRO/RO Determine if AFD is within Tech Spec Limits (STP I-1C Step 1)
	Mode Change	G2.1.29 (3.4/3.3) Knowledge of how to conduct and verify valve lineups. JPM - SRO/RO Performance of sealed valve checklist (OP K10-A1)
A.2	Maintenance	G2.2.20 (2.2/3.3) Knowledge of process for managing troubleshooting activities. JPM - SRO Review AP-5 Bistable Trip Authorization form -Faulted - (AP-5 Att. 4.2)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Exposure Limits	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Perform Dose calculation based on dose history and expected stay time in High radiation area
	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Posting requirements when Radiological conditions change.
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Perform Off-site Dose Assessment - GDT rupture (LJC-151)
		G2.4.42 (2.3/3.7) Knowledge of emergency response facilities. Question - RO Lowest event classification for OSC activation G.2.4.29 (2.6/4.0) Knowledge of Emergency Plan Question - RO Time to notify the NRC of classification change

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 010 / Depressurize the RCS using Normal Spray LJC-033	D,S,L	III
b. 062 / Transfer Bus G to Aux. Power from Dsl. Gen. 1-2 LJC-087	D,S	VI
c. 003 / Start A Reactor Coolant Pump LJC-120	D,S,L	IV
d. 026 / Align RHR to Containment Spray LJC-045	D,A,S	V
e. 013 / Manually Isolate Phase A Components Train A & B Failure LJC-026	D,A,S	II
f. 041 / Initiate a Natural Circulation Cooldown LJC-046 Modify - Fail MSIVs closed requires 10% dumps	M,A,S,L	IV
g. 004 / Establish Emergency Boration LJC-063	D,A,S,L	I
B.2 Facility Walk-Through		
a. 004 / Align Charging Pump Suction from RWST LJP-029	D,L,R	II
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A	VI
c. 033 / Add. of Hot Water to the Spent Fuel Pool from RCS New Task, OP AP SD-0 Appendix G step 4.2	N,L,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>2</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Est Steady State Conditions after a Rod Misalignment LJC-022	D,S	I
b. 006 / Respond to Low Accumulator Pressure LJC-077	D,S	II
c. 035 / Isolate Ruptured Steam Generator 12 LJC-011 Modify- fault TDAFW stm supply valve & LCV for SG	M,A,L,S	IV
d. 026 / Secure Containment Spray LJC-080	D,L,S	V
e. 010 / Depressurize the RCS using Normal Spray LJC-033 - Modify - Stick open Loop 1 Pressurizer spray valve	M,A,L,S	III
f. 012 / Respond to an ATWS LJC-041	D,A,S	VII
g. 008 / Respond to Loss of CCW to Letdown Heat Exchanger LJC-126	D,A,S	VIII
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 13 to Backup Power LJP-079	D,L	III
b. 068 / Isolate Ruptured LHUT New Task OP AP-14 Step 8f.	N,R	IX
c. 008 / Crosstie CCW system between Units LJPNRC-2 Repeat from January 1999 SRO Exam	D,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>3</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Restore Bank Alignment for a Misaligned Rod LJC-067	D,S	I
b. 062 / Restoration of Buses after Loss of Offsite Power LJC-210	D,S	VI
c. 035 / Respond to Steam Generator Tube Failure - AP-3 LJC-121	D,S	IV
d. 026 / Secure Containment Spray LJC-81	D,S,L	V
e. 017 / Calculate Subcooled Margin LJC-024	D,A,S,L	VII
f. 008 / Respond to High CCW system Temperature New Task - OP AP-11, Section A - only 1 ASW pp available	N,A,S	VIII
g. 006 / Transfer to Cold Leg Recirculation LJC-027 - Make faulted at step 6e RHR Pp 2 fails to start	M,A,S	II
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 1-2 to Backup Power LJP- 029	D	III
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A,L	VI
c. 035 / Close Steam Generator Isolation Valves Outside Containment LJP 096	D,A,L,R	IV
* 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: Diablo Canyon Power Plant

Scenario No: 1

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_  
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Operators: \_\_\_\_\_  
 \_\_\_\_\_  
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Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover:

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	Pressurizer Level Channel Failure
2 T=10		C	Letdown Isolation Valve Failure
3 T=15		N	Place Excess Letdown in Service
4 T=20		C/R	B RCP High Vibration Requiring Power Reduction
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	B RCP Trip
7		C	Automatic Reactor Trip Failure
8		M	A S/G Tube Rupture with Stuck Open Safety
9		C	C CCP Pump Trip on OC

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

Facility: Diablo Canyon Power Plant

Scenario No: 2

Op-Test No:     

Examiners:                     

Operators:                     

                    

                    

                    

                    

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover: DG 1-2 is OOS for Maintenance. Small leakage thru PORV 8800C—monitoring.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Shift from CCP 22 to CCP 21
2 T=5		R	Raise Reator Power
3		I	Feed Flow Channel Failure C S/G
4 T=20		I	B SG Level Channel Failure High
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	Seismic Event—Loss of Offsite power
7		C	4160V Bus F lockout
8		M	Aux Feedwater 52-HH-8 pump failure—causes Loss of D/G 1-1
9		C	Pressurizer PORV 8800C failure partially open
10		C	TDAFP Auto Start Failure—(Given back after reset of trip linkage)

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

Facility: Diablo Canyon Power Plant

Scenario No: 3

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: High Kelp seas w/ high swells

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Makeup to RWST
2 T=5		I	Tave Channel failure Low (loop 1)
3		C/R	Screen Wash System screen blkg causes loss of ASW pump; Reduce power to remove unit from service
4 T=20		I	VCT Level Channel Failure Hi
5 T=		M	Hotwell Instrumentation leakage–Loss of feedwater
6 T=		C	Turbine Auto Trip Failure
7		C	4160V Bus H lockout
8		M	TDAFP Trip on loss of steam supply

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

Facility: Diablo Canyon Power Plant

Scenario No: 4

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: B CCP OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Increase Ltdown flow from 75 to 120 GPM
2 T=5		I	Pressurizer Pressure Channel Failure
3		C	B Circ. Wtr Pump Trip on OC
4 T=20		I	VCT Level Channel Failure Hi
5 T=28		C	Loss of Condenser Vacuum due to in leakage
6 T=		R	Reduce Reactor Power due to Loss of Vacuum
7		M	RCS leak-LOCA (Small break ramping to Large break LOCA)
8		C	A Ch LOCA Sequencer Failure
9		C	CIAS A Ch Actuation Failure

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



Facility: Diablo Canyon Power Plant

Scenario No: 5

Op-Test No:     

Examiners:                     

Operators:                     

                    

                    

                    

                    

Objectives:

Initial Conditions: 45% power, middle of cycle.

Turnover: Directed to increase power to 65%. B FWP is OOS and expected back next shift.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Place 3 <sup>Rd</sup> Cond. Pump in service to support power increase.
2 T=10		I	Channel C SG#2 Differential Pressure (RCS Flow) transmitter fails low.
3 T=15		N/R	Commence power increase through dilution.
4 T=20		I	RCS Loop 1 Th instrument fails high
5 T=30		C	Failure of power to SV-510B causes Feedwater Regulating FCV-510 to fail closed
6 T=40		M	Loss of Coolant Accident (LOCA) (Small break ramping to Large Break LOCA)
7		C/R	Three control rods stick partially out on reactor trip
8		C	A Train Containment Spray pump trips

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

Facility: Diablo Canyon Power Plant

Scenario No: 6

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: DG 1-1 OOS for maintenance. Crew directed to decrease power to 85% after adjusting SIT tank level into normal band.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Increase SIT A level
2 T=10		I	Selected Pressurizer Level Channel fails HI
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	RCS Loop 2 Tc instrument fails high
5 T=30		C	Lockout of 4160V bus G due to OC condition on bus
6 T=40		M	HELB outside containment
7		C	One ADV fails open after MSIVs close

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

Facility: Diablo Canyon Power Plant

Scenario No: 7

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: DG 1-1 OOS for maintenance. Main Feedwater Pump 1-1 OOS for maintenance.  
Crew directed to decrease power to take unit off line for planned outage. Grass fires  
flaring northeast of plant.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		C	Low Pressure Feedwater Heater ( ) inlet valve fails closed.
2 T=10		I	S/G 1-1 level instrument fails High
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	Turbine Impulse Pressure Xmtr input (PT- ) fails low
5 T=30		C	Main Feedwater Pump 1-2 trips.
6 T=40		M	Loss of Offsite power due to smoke from fires on high power lines
7		C	DG 1-2 fails to tie onto the bus due to brkr lockout.
8		C	TDAFW fails during startup.

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

Facility: Diablo Canyon Power Plant

Scenario No: 8

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: 10 gpd leak on S/G 1-3. D/G 1-1 is OOS.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Ramp power to 100% following turnover.
2 T=10		I	Tc Loop 3 fails high
3 T=15		C	2 Dropped rods when rods drive in due for failed high Tc
4 T=20		M/R	2 Stuck rods on Reactor Trip
5 T=30		C	SI Train B failure
6 T=40		I	IR NI 36 is undercompensated
7		M	PZR Steam space leak develops.

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

Facility: Diablo Canyon Power Plant

Scenario No: 9

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle, equilibrium xenon.

Turnover: .25 gpd leak on S/G 1-3. AFW pp 1-2 is OOS for 24 hrs. DG 1-2 is OOS for 8 hrs  
Severe Weather; high winds 30-40 mph

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	VCT Tank LT-114 fails High over 1 minute ramp.
2 T=10		C	Failed fuel RCS activity increases
3 T=15		C	SG 1-3 tube leak (0 to 20 gpm over 3 minutes)
4 T=20		N/R	S/D per T/S 3.4.6.2
5 T=30		I	PZR level Xmtr fails LT-459
6 T=40		M	MSL rupture on SG 1-2 inside Cont. over 4 min. ramp
7		C	Auto SI initiation failure Train A/B.
8		M	SG 1-3 Tube rupture 20 gpm to 400 gpm) (Insert when crew goes to EOP E-2.

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

Facility: <u>Diablo Canyon Power Plant</u>	Scenario No: <u>10</u>	Op-Test No: _____
Examiners: _____ _____ _____	Operators: _____ _____ _____	
<u>Objectives:</u>		
<u>Initial Conditions:</u> 75% power, middle of cycle, equilibrium xenon.		
<u>Turnover:</u> Decrease power to 50%, 10 GPD leak on SG 1-3, MFP 1-1 seal water system oscillations, CCW pump 1-2 is OOS.		
<u>Setup:</u>		

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Decrease power to 50%.
2 T=10		C	Governor valve #1 LVDT fails closed
3 T=15		I	RCS Boration Batch integrator fails during boration
4 T=20		C	CCP 1-2 trips on OC; causes 4kV Bus G differential
5 T=30		M	RCS leak develops (ramps to 7000 gpm in five minutes
6 T=30		C	Phase A Cont. Isol. Fails to auto actuate
7		C	Loss of remaining RHR

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

Facility: Diablo Canyon Power Plant

Scenario No: 11

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 75% power, middle of cycle, equilibrium xenon.

Turnover: Ramp to 100%; 20 gpd leak on SG 1-1; AFWP 1-2 OOS; CCP 1-1 OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Increase power to 100%.
2 T=10		I	SG pressure PT 536A fails high
3 T=15		C	Htr Drn pump trips
4 T=20		I	LCP Halt Protection Set 1, Rack 1
5 T=30		M	Stm Brk outside Containment
6 T=30		C	4KV bus F Differential
7		C	AFWP 1-2 trips on OC 2 PORVs fail closed

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

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.25 (2.8/3.1) Ability to obtain and interpret station reference materials such as graphs, monographs and tables which contain performance data. JPM - RO/SRO Determine if RIL has been exceeded (STP I-1A Step 14a)
	Fuel Handling	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Spent Fuel Pool Heat Load/Removal Parameters (OP B-8DS1 Att. 9.3)
A.2	Maintenance	G2.2.17 (2.3/3.5) Knowledge of the process for managing maintenance activities during power operations. JPM - SRO Online Risk assessment (AD7.DC6 ATT. 9.13)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Difference in requirements for entry into High Rad and High-High Rad areas.
	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Calculate stay time compared to TEDE
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Determine Event Reportability - SGTL - LJC-200
		G2.4.29 (2.6/4.0) Knowledge of the emergency plan. Question - RO Escort Requirement with an Alert G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan. Question - RO Who can communicate with NRC



Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>2</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Ultimate Heat Sink temperature and determine action (STP I-1A step 39)
	Mode Changes	G2.1.30 (3.9/3.4) Ability to locate and operate components, including local controls. JPM -SRO/RO Perform Transfer Switch alignment for common equipment. (OP K10X27 Att. 9.1)
A.2	Maintenance	G2.2.26 (2.5/3.7) Knowledge of refueling administrative requirements. JPM - SRO/RO Perform Outage Safety checklist (AD8.DC55 Att. 7.12)
A.3	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Who can give Emergency Dose Authorization
	Overexposure	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Determine which individual has suffered an overexposure (RB-2)
A.4	Emergency Plan	G2.4.44 (2.1/4.0) Knowledge of emergency plan protective action recommendations. JPM - SRO Recommend PARS based on accident classification (LJC-192)
		G2.4.29 (2.6/4.0) Knowledge of emergency plan. Question - RO When USCG is notified of Emergency Events G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan implementation. Question - RO Activation of Site Emergency signal

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>3</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.33 (3.4/4.0) Ability to recognize indications for system operating parameters which are entry-level conditions for Technical Specifications. JPM - SRO/RO Determine if AFD is within Tech Spec Limits (STP I-1C Step 1)
	Mode Change	G2.1.29 (3.4/3.3) Knowledge of how to conduct and verify valve lineups. JPM - SRO/RO Performance of sealed valve checklist (OP K10-A1)
A.2	Maintenance	G2.2.20 (2.2/3.3) Knowledge of process for managing troubleshooting activities. JPM - SRO Review AP-5 Bistable Trip Authorization form -Faulted - (AP-5 Att. 4.2)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Exposure Limits	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Perform Dose calculation based on dose history and expected stay time in High radiation area
	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Posting requirements when Radiological conditions change.
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Perform Off-site Dose Assessment - GDT rupture (LJC-151)
		G2.4.42 (2.3/3.7) Knowledge of emergency response facilities. Question - RO Lowest event classification for OSC activation G.2.4.29 (2.6/4.0) Knowledge of Emergency Plan Question - RO Time to notify the NRC of classification change

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 010 / Depressurize the RCS using Normal Spray LJC-033	D,S,L	III
b. 062 / Transfer Bus G to Aux. Power from Dsl. Gen. 1-2 LJC-087	D,S	VI
c. 003 / Start A Reactor Coolant Pump LJC-120	D,S,L	IV
d. 026 / Align RHR to Containment Spray LJC-045	D,A,S	V
e. 013 / Manually Isolate Phase A Components Train A & B Failure LJC-026	D,A,S	II
f. 041 / Initiate a Natural Circulation Cooldown LJC-046 Modify - Fail MSIVs closed requires 10% dumps	M,A,S,L	IV
g. 004 / Establish Emergency Boration LJC-063	D,A,S,L	I
B.2 Facility Walk-Through		
a. 004 / Align Charging Pump Suction from RWST LJP-029	D,L,R	II
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A	VI
c. 033 / Add. of Hot Water to the Spent Fuel Pool from RCS New Task, OP AP SD-0 Appendix G step 4.2	N,L,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>2</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Est Steady State Conditions after a Rod Misalignment LJC-022	D,S	I
b. 006 / Respond to Low Accumulator Pressure LJC-077	D,S	II
c. 035 / Isolate Ruptured Steam Generator 12 LJC-011 Modify- fault TDAFW stm supply valve & LCV for SG	M,A,L,S	IV
d. 026 / Secure Containment Spray LJC-080	D,L,S	V
e. 010 / Depressurize the RCS using Normal Spray LJC-033 - Modify - Stick open Loop 1 Pressurizer spray valve	M,A,L,S	III
f. 012 / Respond to an ATWS LJC-041	D,A,S	VII
g. 008 / Respond to Loss of CCW to Letdown Heat Exchanger LJC-126	D,A,S	VIII
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 13 to Backup Power LJP-079	D,L	III
b. 068 / Isolate Ruptured LHUT New Task OP AP-14 Step 8f.	N,R	IX
c. 008 / Crosstie CCW system between Units LJPNRC-2 Repeat from January 1999 SRO Exam	D,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>3</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Restore Bank Alignment for a Misaligned Rod LJC-067	D,S	I
b. 062 / Restoration of Buses after Loss of Offsite Power LJC-210	D,S	VI
c. 035 / Respond to Steam Generator Tube Failure - AP-3 LJC-121	D,S	IV
d. 026 / Secure Containment Spray LJC-81	D,S,L	V
e. 017 / Calculate Subcooled Margin LJC-024	D,A,S,L	VII
f. 008 / Respond to High CCW system Temperature New Task - OP AP-11, Section A - only 1 ASW pp available	N,A,S	VIII
g. 006 / Transfer to Cold Leg Recirculation LJC-027 - Make faulted at step 6e RHR Pp 2 fails to start	M,A,S	II
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 1-2 to Backup Power LJP- 029	D	III
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A,L	VI
c. 035 / Close Steam Generator Isolation Valves Outside Containment LJP 096	D,A,L,R	IV
* 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: Diablo Canyon Power Plant

Scenario No: 1

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover:

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	Pressurizer Level Channel Failure
2 T=10		C	Letdown Isolation Valve Failure
3 T=15		N	Place Excess Letdown in Service
4 T=20		C/R	B RCP High Vibration Requiring Power Reduction
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	B RCP Trip
7		C	Automatic Reactor Trip Failure
8		M	A S/G Tube Rupture with Stuck Open Safety
9		C	C CCP Pump Trip on OC

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

Facility: Diablo Canyon Power Plant

Scenario No: 2

Op-Test No:     

Examiners:                     

Operators:                     

                    

                    

                    

                    

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover: DG 1-2 is OOS for Maintenance. Small leakage thru PORV 8800C—monitoring.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Shift from CCP 22 to CCP 21
2 T=5		R	Raise Reator Power
3		I	Feed Flow Channel Failure C S/G
4 T=20		I	B SG Level Channel Failure High
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	Seismic Event—Loss of Offsite power
7		C	4160V Bus F lockout
8		M	Aux Feedwater 52-HH-8 pump failure—causes Loss of D/G 1-1
9		C	Pressurizer PORV 8800C failure partially open
10		C	TDAFP Auto Start Failure—(Given back after reset of trip linkage)

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

Facility: Diablo Canyon Power Plant

Scenario No: 3

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: High Kelp seas w/ high swells

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Makeup to RWST
2 T=5		I	Tave Channel failure Low (loop 1)
3		C/R	Screen Wash System screen blkg causes loss of ASW pump; Reduce power to remove unit from service
4 T=20		I	VCT Level Channel Failure Hi
5 T=		M	Hotwell Instrumentation leakage—Loss of feedwater
6 T=		C	Turbine Auto Trip Failure
7		C	4160V Bus H lockout
8		M	TDAFP Trip on loss of steam supply

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



Facility: Diablo Canyon Power Plant

Scenario No: 4

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: B CCP OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Increase Ltdown flow from 75 to 120 GPM
2 T=5		I	Pressurizer Pressure Channel Failure
3		C	B Circ. Wtr Pump Trip on OC
4 T=20		I	VCT Level Channel Failure Hi
5 T=28		C	Loss of Condenser Vacuum due to in leakage
6 T=		R	Reduce Reactor Power due to Loss of Vacuum
7		M	RCS leak-LOCA (Small break ramping to Large break LOCA)
8		C	A Ch LOCA Sequencer Failure
9		C	CIAS A Ch Actuation Failure

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

Facility: Diablo Canyon Power Plant

Scenario No: 5

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Objectives:

Initial Conditions: 45% power, middle of cycle.

Turnover: Directed to increase power to 65%. B FWP is OOS and expected back next shift.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Place 3 <sup>Rd</sup> Cond. Pump in service to support power increase.
2 T=10		I	Channel C SG#2 Differential Pressure (RCS Flow) transmitter fails low.
3 T=15		N/R	Commence power increase through dilution.
4 T=20		I	RCS Loop 1 Th instrument fails high
5 T=30		C	Failure of power to SV-510B causes Feedwater Regulating FCV-510 to fail closed
6 T=40		M	Loss of Coolant Accident (LOCA) (Small break ramping to Large Break LOCA)
7		C/R	Three control rods stick partially out on reactor trip
8		C	A Train Containment Spray pump trips

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

Facility: Diablo Canyon Power Plant

Scenario No: 6

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: DG 1-1 OOS for maintenance. Crew directed to decrease power to 85% after adjusting SIT tank level into normal band.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Increase SIT A level
2 T=10		I	Selected Pressurizer Level Channel fails HI
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	RCS Loop 2 Tc instrument fails high
5 T=30		C	Lockout of 4160V bus G due to OC condition on bus
6 T=40		M	HELB outside containment
7		C	One ADV fails open after MSIVs close

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

Facility: Diablo Canyon Power Plant

Scenario No: 7

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: DG 1-1 OOS for maintenance. Main Feedwater Pump 1-1 OOS for maintenance.  
Crew directed to decrease power to take unit off line for planned outage. Grass fires  
flaring northeast of plant.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		C	Low Pressure Feedwater Heater ( ) inlet valve fails closed.
2 T=10		I	S/G 1-1 level instrument fails High
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	Turbine Impulse Pressure Xmtr input (PT- ) fails low
5 T=30		C	Main Feedwater Pump 1-2 trips.
6 T=40		M	Loss of Offsite power due to smoke from fires on high power lines
7		C	DG 1-2 fails to tie onto the bus due to brkr lockout.
8		C	TDAFW fails during startup.

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

Facility: Diablo Canyon Power Plant

Scenario No: 8

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: 10 gpd leak on S/G 1-3. D/G 1-1 is OOS.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Ramp power to 100% following turnover.
2 T=10		I	Tc Loop 3 fails high
3 T=15		C	2 Dropped rods when rods drive in due for failed high Tc
4 T=20		M/R	2 Stuck rods on Reactor Trip
5 T=30		C	SI Train B failure
6 T=40		I	IR NI 36 is undercompensated
7		M	PZR Steam space leak develops.

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

Facility: Diablo Canyon Power Plant

Scenario No: 9

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle, equilibrium xenon.

Turnover: .25 gpd leak on S/G 1-3. AFW pp 1-2 is OOS for 24 hrs. DG 1-2 is OOS for 8 hrs  
Severe Weather; high winds 30-40 mph

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	VCT Tank LT-114 fails High over 1 minute ramp.
2 T=10		C	Failed fuel RCS activity increases
3 T=15		C	SG 1-3 tube leak (0 to 20 gpm over 3 minutes)
4 T=20		N/R	S/D per T/S 3.4.6.2
5 T=30		I	PZR level Xmtr fails LT-459
6 T=40		M	MSL rupture on SG 1-2 inside Cont. over 4 min. ramp
7		C	Auto SI initiation failure Train A/B.
8		M	SG 1-3 Tube rupture 20 gpm to 400 gpm) (Insert when crew goes to EOP E-2.

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

Facility: <u>Diablo Canyon Power Plant</u>	Scenario No: <u>10</u>	Op-Test No: _____
Examiners: _____ _____ _____	Operators: _____ _____ _____	
<u>Objectives:</u>		
<u>Initial Conditions:</u> 75% power, middle of cycle, equilibrium xenon.		
<u>Turnover:</u> Decrease power to 50%, 10 GPD leak on SG 1-3, MFP 1-1 seal water system oscillations, CCW pump 1-2 is OOS.		
<u>Setup:</u>		

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Decrease power to 50%.
2 T=10		C	Governor valve #1 LVDT fails closed
3 T=15		I	RCS Boration Batch integrator fails during boration
4 T=20		C	CCP 1-2 trips on OC; causes 4kV Bus G differential
5 T=30		M	RCS leak develops (ramps to 7000 gpm in five minutes
6 T=30		C	Phase A Cont. Isol. Fails to auto actuate
7		C	Loss of remaining RHR

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

Facility: Diablo Canyon Power Plant

Scenario No: 11

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 75% power, middle of cycle, equilibrium xenon.

Turnover: Ramp to 100%; 20 gpd leak on SG 1-1; AFWP 1-2 OOS; CCP 1-1 OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Increase power to 100%.
2 T=10		I	SG pressure PT 536A fails high
3 T=15		C	Htr Drn pump trips
4 T=20		I	LCP Halt Protection Set 1, Rack 1
5 T=30		M	Stm Brk outside Containment
6 T=30		C	4KV bus F Differential
7		C	AFWP 1-2 trips on OC 2 PORVs fail closed

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



Facility: Diablo Canyon Power Plant

Scenario No: 1

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover:

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	Pressurizer Level Channel Failure
2 T=10		C	Letdown Isolation Valve Failure
3 T=15		N	Place Excess Letdown in Service
4 T=20		C/R	B RCP High Vibration Requiring Power Reduction
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	B RCP Trip
7		C	Automatic Reactor Trip Failure
8		M	A S/G Tube Rupture with Stuck Open Safety
9		C	C CCP Pump Trip on OC

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

Facility: Diablo Canyon Power Plant

Scenario No: 2

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover: DG 1-2 is OOS for Maintenance. Small leakage thru PORV 8800C—monitoring.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Shift from CCP 22 to CCP 21
2 T=5		R	Raise Reator Power
3		I	Feed Flow Channel Failure C S/G
4 T=20		I	B SG Level Channel Failure High
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	Seismic Event—Loss of Offsite power
7		C	4160V Bus F lockout
8		M	Aux Feedwater 52-HH-8 pump failure—causes Loss of D/G 1-1
9		C	Pressurizer PORV 8800C failure partially open
10		C	TDAFP Auto Start Failure—(Given back after reset of trip linkage)

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

Facility: Diablo Canyon Power Plant

Scenario No: 3

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: High Kelp seas w/ high swells

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Makeup to RWST
2 T=5		I	Tave Channel failure Low (loop 1)
3		C/R	Screen Wash System screen blkg causes loss of ASW pump; Reduce power to remove unit from service
4 T=20		I	VCT Level Channel Failure Hi
5 T=		M	Hotwell Instrumentation leakage—Loss of feedwater
6 T=		C	Turbine Auto Trip Failure
7		C	4160V Bus H lockout
8		M	TDAFP Trip on loss of steam supply

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

Facility: Diablo Canyon Power Plant

Scenario No: 4

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: B CCP OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Increase Ltdown flow from 75 to 120 GPM
2 T=5		I	Pressurizer Pressure Channel Failure
3		C	B Circ. Wtr Pump Trip on OC
4 T=20		I	VCT Level Channel Failure Hi
5 T=28		C	Loss of Condenser Vacuum due to in leakage
6 T=		R	Reduce Reactor Power due to Loss of Vacuum
7		M	RCS leak-LOCA (Small break ramping to Large break LOCA)
8		C	A Ch LOCA Sequencer Failure
9		C	CIAS A Ch Actuation Failure

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

Facility: Diablo Canyon Power Plant

Scenario No: 5

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 45% power, middle of cycle.

Turnover: Directed to increase power to 65%. B FWP is OOS and expected back next shift.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Place 3 <sup>Rd</sup> Cond. Pump in service to support power increase.
2 T=10		I	Channel C SG#2 Differential Pressure (RCS Flow) transmitter fails low.
3 T=15		N/R	Commence power increase through dilution.
4 T=20		I	RCS Loop 1 Th instrument fails high
5 T=30		C	Failure of power to SV-510B causes Feedwater Regulating FCV-510 to fail closed
6 T=40		M	Loss of Coolant Accident (LOCA) (Small break ramping to Large Break LOCA)
7		C/R	Three control rods stick partially out on reactor trip
8		C	A Train Containment Spray pump trips

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

Facility: Diablo Canyon Power Plant

Scenario No: 6

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: DG 1-1 OOS for maintenance. Crew directed to decrease power to 85% after adjusting SIT tank level into normal band.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Increase SIT A level
2 T=10		I	Selected Pressurizer Level Channel fails HI
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	RCS Loop 2 Tc instrument fails high
5 T=30		C	Lockout of 4160V bus G due to OC condition on bus
6 T=40		M	HELB outside containment
7		C	One ADV fails open after MSIVs close

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

Facility: Diablo Canyon Power Plant

Scenario No: 7

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: DG 1-1 OOS for maintenance. Main Feedwater Pump 1-1 OOS for maintenance.  
Crew directed to decrease power to take unit off line for planned outage. Grass fires  
flaring northeast of plant.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		C	Low Pressure Feedwater Heater ( ) inlet valve fails closed.
2 T=10		I	S/G 1-1 level instrument fails High
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	Turbine Impulse Pressure Xmtr input (PT- ) fails low
5 T=30		C	Main Feedwater Pump 1-2 trips.
6 T=40		M	Loss of Offsite power due to smoke from fires on high power lines
7		C	DG 1-2 fails to tie onto the bus due to brkr lockout.
8		C	TDAFW fails during startup.

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

Facility: Diablo Canyon Power Plant

Scenario No: 8

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions:           50% power, middle of cycle, equilibrium xenon.

Turnover:           10 gpd leak on S/G 1-3. D/G 1-1 is OOS.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Ramp power to 100% following turnover.
2 T=10		I	Tc Loop 3 fails high
3 T=15		C	2 Dropped rods when rods drive in due for failed high Tc
4 T=20		M/R	2 Stuck rods on Reactor Trip
5 T=30		C	SI Train B failure
6 T=40		I	IR NI 36 is undercompensated
7		M	PZR Steam space leak develops.

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



Facility: Diablo Canyon Power Plant

Scenario No: 9

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle, equilibrium xenon.

Turnover: .25 gpd leak on S/G 1-3. AFW pp 1-2 is OOS for 24 hrs. DG 1-2 is OOS for 8 hrs  
Severe Weather; high winds 30-40 mph

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	VCT Tank LT-114 fails High over 1 minute ramp.
2 T=10		C	Failed fuel RCS activity increases
3 T=15		C	SG 1-3 tube leak (0 to 20 gpm over 3 minutes)
4 T=20		N/R	S/D per T/S 3.4.6.2
5 T=30		I	PZR level Xmtr fails LT-459
6 T=40		M	MSL rupture on SG 1-2 inside Cont. over 4 min. ramp
7		C	Auto SI initiation failure Train A/B.
8		M	SG 1-3 Tube rupture 20 gpm to 400 gpm) (Insert when crew goes to EOP E-2.

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

Facility: <u>Diablo Canyon Power Plant</u>	Scenario No: <u>10</u>	Op-Test No: _____
Examiners: _____ _____ _____	Operators: _____ _____ _____	
<u>Objectives:</u>		
<u>Initial Conditions:</u> 75% power, middle of cycle, equilibrium xenon.		
<u>Turnover:</u> Decrease power to 50%, 10 GPD leak on SG 1-3, MFP 1-1 seal water system oscillations, CCW pump 1-2 is OOS.		
<u>Setup:</u>		

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Decrease power to 50%.
2 T=10		C	Governor valve #1 LVDT fails closed
3 T=15		I	RCS Boration Batch integrator fails during boration
4 T=20		C	CCP 1-2 trips on OC; causes 4kV Bus G differential
5 T=30		M	RCS leak develops (ramps to 7000 gpm in five minutes
6 T=30		C	Phase A Cont. Isol. Fails to auto actuate
7		C	Loss of remaining RHR

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

Facility: Diablo Canyon Power Plant

Scenario No: 11

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 75% power, middle of cycle, equilibrium xenon.

Turnover: Ramp to 100%; 20 gpd leak on SG 1-1; AFWP 1-2 OOS; CCP 1-1 OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Increase power to 100%.
2 T=10		I	SG pressure PT 536A fails high
3 T=15		C	Htr Drn pump trips
4 T=20		I	LCP Halt Protection Set 1, Rack 1
5 T=30		M	Stm Brk outside Containment
6 T=30		C	4KV bus F Differential
7		C	AFWP 1-2 trips on OC 2 PORVs fail closed

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

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.25 (2.8/3.1) Ability to obtain and interpret station reference materials such as graphs, monographs and tables which contain performance data. JPM - RO/SRO Determine if RIL has been exceeded (STP I-1A Step 14a)
	Fuel Handling	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Spent Fuel Pool Heat Load/Removal Parameters (OP B-8DS1 Att. 9.3)
A.2	Maintenance	G2.2.17 (2.3/3.5) Knowledge of the process for managing maintenance activities during power operations. JPM - SRO Online Risk assessment (AD7.DC6 ATT. 9.13)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Difference in requirements for entry into High Rad and High-High Rad areas.
	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Calculate stay time compared to TEDE
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Determine Event Reportability - SGTL - LJC-200
		G2.4.29 (2.6/4.0) Knowledge of the emergency plan. Question - RO Escort Requirement with an Alert G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan. Question - RO Who can communicate with NRC

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>2</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.23 (3.9/4.0) Ability to perform specific system and integrated plant procedures during all modes of plant operation. JPM - SRO/RO Determine Ultimate Heat Sink temperature and determine action (STP I-1A step 39)
	Mode Changes	G2.1.30 (3.9/3.4) Ability to locate and operate components, including local controls. JPM -SRO/RO Perform Transfer Switch alignment for common equipment. (OP K10X27 Att. 9.1)
A.2	Maintenance	G2.2.26 (2.5/3.7) Knowledge of refueling administrative requirements. JPM - SRO/RO Perform Outage Safety checklist (AD8.DC55 Att. 7.12)
A.3	Exposure Limits	G2.3.1 (2.6/3.0) Knowledge of 10CFR20 and related facility control requirements. Question - RO/SRO Who can give Emergency Dose Authorization
	Overexposure	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Determine which individual has suffered an overexposure (RB-2)
A.4	Emergency Plan	G2.4.44 (2.1/4.0) Knowledge of emergency plan protective action recommendations. JPM - SRO Recommend PARS based on accident classification (LJC-192)
		G2.4.29 (2.6/4.0) Knowledge of emergency plan. Question - RO When USCG is notified of Emergency Events G2.4.39 (3.3/3.1) Knowledge of RO's responsibilities in emergency plan implementation. Question - RO Activation of Site Emergency signal

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>3</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	G2.1.33 (3.4/4.0) Ability to recognize indications for system operating parameters which are entry-level conditions for Technical Specifications. JPM - SRO/RO Determine if AFD is within Tech Spec Limits (STP I-1C Step 1)
	Mode Change	G2.1.29 (3.4/3.3) Knowledge of how to conduct and verify valve lineups. JPM - SRO/RO Performance of sealed valve checklist (OP K10-A1)
A.2	Maintenance	G2.2.20 (2.2/3.3) Knowledge of process for managing troubleshooting activities. JPM - SRO Review AP-5 Bistable Trip Authorization form -Faulted - (AP-5 Att. 4.2)
	Tagging & Clearances	G2.2.13 (3.6/3.8) Knowledge of tagging and clearance procedures. JPM - RO Review completed clearance.
A.3	Exposure Limits	G2.3.4 (2.5/3.1) Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. Question - RO/SRO Perform Dose calculation based on dose history and expected stay time in High radiation area
	Radiation Control	G2.3.2 (2.5/2.9) Knowledge of facility ALARA program. Question - RO/SRO Posting requirements when Radiological conditions change.
A.4	Emergency Plan	G2.4.41 (2.3/4.1) Knowledge of emergency action thresholds and classifications. JPM - SRO Perform Off-site Dose Assessment - GDT rupture (LJC-151)
		G2.4.42 (2.3/3.7) Knowledge of emergency response facilities. Question - RO Lowest event classification for OSC activation G.2.4.29 (2.6/4.0) Knowledge of Emergency Plan Question - RO Time to notify the NRC of classification change

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 010 / Depressurize the RCS using Normal Spray LJC-033	D,S,L	III
b. 062 / Transfer Bus G to Aux. Power from Dsl. Gen. 1-2 LJC-087	D,S	VI
c. 003 / Start A Reactor Coolant Pump LJC-120	D,S,L	IV
d. 026 / Align RHR to Containment Spray LJC-045	D,A,S	V
e. 013 / Manually Isolate Phase A Components Train A & B Failure LJC-026	D,A,S	II
f. 041 / Initiate a Natural Circulation Cooldown LJC-046 Modify - Fail MSIVs closed requires 10% dumps	M,A,S,L	IV
g. 004 / Establish Emergency Boration LJC-063	D,A,S,L	I
B.2 Facility Walk-Through		
a. 004 / Align Charging Pump Suction from RWST LJP-029	D,L,R	II
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A	VI
c. 033 / Add. of Hot Water to the Spent Fuel Pool from RCS New Task, OP AP SD-0 Appendix G step 4.2	N,L,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>2</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Est Steady State Conditions after a Rod Misalignment LJC-022	D,S	I
b. 006 / Respond to Low Accumulator Pressure LJC-077	D,S	II
c. 035 / Isolate Ruptured Steam Generator 12 LJC-011 Modify- fault TDAFW stm supply valve & LCV for SG	M,A,L,S	IV
d. 026 / Secure Containment Spray LJC-080	D,L,S	V
e. 010 / Depressurize the RCS using Normal Spray LJC-033 - Modify - Stick open Loop 1 Pressurizer spray valve	M,A,L,S	III
f. 012 / Respond to an ATWS LJC-041	D,A,S	VII
g. 008 / Respond to Loss of CCW to Letdown Heat Exchanger LJC-126	D,A,S	VIII
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 13 to Backup Power LJP-079	D,L	III
b. 068 / Isolate Ruptured LHUT New Task OP AP-14 Step 8f.	N,R	IX
c. 008 / Crosstie CCW system between Units LJPNRC-2 Repeat from January 1999 SRO Exam	D,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>3</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Restore Bank Alignment for a Misaligned Rod LJC-067	D,S	I
b. 062 / Restoration of Buses after Loss of Offsite Power LJC-210	D,S	VI
c. 035 / Respond to Steam Generator Tube Failure - AP-3 LJC-121	D,S	IV
d. 026 / Secure Containment Spray LJC-81	D,S,L	V
e. 017 / Calculate Subcooled Margin LJC-024	D,A,S,L	VII
f. 008 / Respond to High CCW system Temperature New Task - OP AP-11, Section A - only 1 ASW pp available	N,A,S	VIII
g. 006 / Transfer to Cold Leg Recirculation LJC-027 - Make faulted at step 6e RHR Pp 2 fails to start	M,A,S	II
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 1-2 to Backup Power LJP- 029	D	III
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A,L	VI
c. 035 / Close Steam Generator Isolation Valves Outside Containment LJP 096	D,A,L,R	IV
* 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: Diablo Canyon Power Plant

Scenario No: 1

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover:

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	Pressurizer Level Channel Failure
2 T=10		C	Letdown Isolation Valve Failure
3 T=15		N	Place Excess Letdown in Service
4 T=20		C/R	B RCP High Vibration Requiring Power Reduction
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	B RCP Trip
7		C	Automatic Reactor Trip Failure
8		M	A S/G Tube Rupture with Stuck Open Safety
9		C	C CCP Pump Trip on OC

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

Facility: Diablo Canyon Power Plant

Scenario No: 2

Op-Test No:     

Examiners:                     

Operators:                     

                    

                    

                    

                    

Objectives:

Initial Conditions: 80% power, middle of cycle.

Turnover: DG 1-2 is OOS for Maintenance. Small leakage thru PORV 8800C—monitoring.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Shift from CCP 22 to CCP 21
2 T=5		R	Raise Reator Power
3		I	Feed Flow Channel Failure C S/G
4 T=20		I	B SG Level Channel Failure High
5 T=30		I	A S/G PORV Controller Failure
6 T=40		M	Seismic Event—Loss of Offsite power
7		C	4160V Bus F lockout
8		M	Aux Feedwater 52-HH-8 pump failure—causes Loss of D/G 1-1
9		C	Pressurizer PORV 8800C failure partially open
10		C	TDAFP Auto Start Failure—(Given back after reset of trip linkage)

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

Facility: Diablo Canyon Power Plant

Scenario No: 3

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: High Kelp seas w/ high swells

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Makeup to RWST
2 T=5		I	Tave Channel failure Low (loop 1)
3		C/R	Screen Wash System screen blkg causes loss of ASW pump; Reduce power to remove unit from service
4 T=20		I	VCT Level Channel Failure Hi
5 T=		M	Hotwell Instrumentation leakage–Loss of feedwater
6 T=		C	Turbine Auto Trip Failure
7		C	4160V Bus H lockout
8		M	TDAFP Trip on loss of steam supply

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

Facility: Diablo Canyon Power Plant

Scenario No: 4

Op-Test No:     

Examiners:                     

Operators:                     

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: B CCP OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=0		N	Increase Ltdown flow from 75 to 120 GPM
2 T=5		I	Pressurizer Pressure Channel Failure
3		C	B Circ. Wtr Pump Trip on OC
4 T=20		I	VCT Level Channel Failure Hi
5 T=28		C	Loss of Condenser Vacuum due to in leakage
6 T=		R	Reduce Reactor Power due to Loss of Vacuum
7		M	RCS leak-LOCA (Small break ramping to Large break LOCA)
8		C	A Ch LOCA Sequencer Failure
9		C	CIAS A Ch Actuation Failure

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

Facility: Diablo Canyon Power Plant

Scenario No: 5

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 45% power, middle of cycle.

Turnover: Directed to increase power to 65%. B FWP is OOS and expected back next shift.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Place 3 <sup>Rd</sup> Cond. Pump in service to support power increase.
2 T=10		I	Channel C SG#2 Differential Pressure (RCS Flow) transmitter fails low.
3 T=15		N/R	Commence power increase through dilution.
4 T=20		I	RCS Loop 1 Th instrument fails high
5 T=30		C	Failure of power to SV-510B causes Feedwater Regulating FCV-510 to fail closed
6 T=40		M	Loss of Coolant Accident (LOCA) (Small break ramping to Large Break LOCA)
7		C/R	Three control rods stick partially out on reactor trip
8		C	A Train Containment Spray pump trips

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

Facility: Diablo Canyon Power Plant

Scenario No: 6

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle.

Turnover: DG 1-1 OOS for maintenance. Crew directed to decrease power to 85% after adjusting SIT tank level into normal band.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N	Increase SIT A level
2 T=10		I	Selected Pressurizer Level Channel fails HI
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	RCS Loop 2 Tc instrument fails high
5 T=30		C	Lockout of 4160V bus G due to OC condition on bus
6 T=40		M	HELB outside containment
7		C	One ADV fails open after MSIVs close

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

Facility: Diablo Canyon Power Plant

Scenario No: 7

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: DG 1-1 OOS for maintenance. Main Feedwater Pump 1-1 OOS for maintenance.  
Crew directed to decrease power to take unit off line for planned outage. Grass fires  
flaring northeast of plant.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		C	Low Pressure Feedwater Heater ( ) inlet valve fails closed.
2 T=10		I	S/G 1-1 level instrument fails High
3 T=15		N/R	Commence power decrease through boration
4 T=20		I	Turbine Impulse Pressure Xmtr input (PT- ) fails low
5 T=30		C	Main Feedwater Pump 1-2 trips.
6 T=40		M	Loss of Offsite power due to smoke from fires on high power lines
7		C	DG 1-2 fails to tie onto the bus due to brkr lockout.
8		C	TDAFW fails during startup.

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



Facility: Diablo Canyon Power Plant

Scenario No: 8

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 50% power, middle of cycle, equilibrium xenon.

Turnover: 10 gpd leak on S/G 1-3. D/G 1-1 is OOS.

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Ramp power to 100% following turnover.
2 T=10		I	Tc Loop 3 fails high
3 T=15		C	2 Dropped rods when rods drive in due for failed high Tc
4 T=20		M/R	2 Stuck rods on Reactor Trip
5 T=30		C	SI Train B failure
6 T=40		I	IR NI 36 is undercompensated
7		M	PZR Steam space leak develops.

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

Facility: Diablo Canyon Power Plant

Scenario No: 9

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 100% power, middle of cycle, equilibrium xenon.

Turnover: .25 gpd leak on S/G 1-3. AFW pp 1-2 is OOS for 24 hrs. DG 1-2 is OOS for 8 hrs  
Severe Weather; high winds 30-40 mph

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		I	VCT Tank LT-114 fails High over 1 minute ramp.
2 T=10		C	Failed fuel RCS activity increases
3 T=15		C	SG 1-3 tube leak (0 to 20 gpm over 3 minutes)
4 T=20		N/R	S/D per T/S 3.4.6.2
5 T=30		I	PZR level Xmtr fails LT-459
6 T=40		M	MSL rupture on SG 1-2 inside Cont. over 4 min. ramp
7		C	Auto SI initiation failure Train A/B.
8		M	SG 1-3 Tube rupture 20 gpm to 400 gpm) (Insert when crew goes to EOP E-2.

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

Facility: <u>Diablo Canyon Power Plant</u>	Scenario No: <u>10</u>	Op-Test No: _____
Examiners: _____ _____ _____	Operators: _____ _____ _____	
<u>Objectives:</u>		
<u>Initial Conditions:</u> 75% power, middle of cycle, equilibrium xenon.		
<u>Turnover:</u> Decrease power to 50%, 10 GPD leak on SG 1-3, MFP 1-1 seal water system oscillations, CCW pump 1-2 is OOS.		
<u>Setup:</u>		

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Decrease power to 50%.
2 T=10		C	Governor valve #1 LVDT fails closed
3 T=15		I	RCS Boration Batch integrator fails during boration
4 T=20		C	CCP 1-2 trips on OC; causes 4kV Bus G differential
5 T=30		M	RCS leak develops (ramps to 7000 gpm in five minutes
6 T=30		C	Phase A Cont. Isol. Fails to auto actuate
7		C	Loss of remaining RHR

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

Facility: Diablo Canyon Power Plant

Scenario No: 11

Op-Test No: \_\_\_\_\_

Examiners: \_\_\_\_\_

Operators: \_\_\_\_\_

Objectives:

Initial Conditions: 75% power, middle of cycle, equilibrium xenon.

Turnover: Ramp to 100%; 20 gpd leak on SG 1-1; AFWP 1-2 OOS; CCP 1-1 OOS

Setup:

Event No.	Malf. No.	Event Type*	Event Description
1 T=3		N/R	Increase power to 100%.
2 T=10		I	SG pressure PT 536A fails high
3 T=15		C	Htr Drn pump trips
4 T=20		I	LCP Halt Protection Set 1, Rack 1
5 T=30		M	Stm Brk outside Containment
6 T=30		C	4KV bus F Differential
7		C	AFWP 1-2 trips on OC 2 PORVs fail closed

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

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>1</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	ADMNRC-1RO, Determine if RIL has been exceeded (JPM)  ADMNRC-1SRO, Determine if RIL has been exceeded (JPM)
	Fuel Handling	ADMNRC-2RO, Determine SFP Heat Load/Removal Parameters (JPM)  ADMNRC-2SRO, Verification of Determination of SFP Heat Load/Removal Parameters (JPM)
A.2	Maintenance	ADMNRC-3SRO, Perform online Risk Assessment (JPM)
	Tagging & Clearances	ADMNRC-4RO, Re-verify Active Master Clearance - GDT on Hold (JPM)
A.3	Radiation Control	ADMNRC-5, Entry into a locked High Radiation Area (JPM) RO/SRO
A.4	Emergency Plan	ADMNRC-6SRO, Determine event classification and complete notification form. (JPM)
		Escort Requirement with an Alert. Question - RO
		Who can communicate with NRC. Question - RO

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>2</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	ADMNRC-7RO, Determine Ultimate Heat Sink temperature. (JPM)  ADMNRC-7SRO, Verify a determination of Ultimate Heat Sink temperature. (JPM)
	Mode Changes	ADMNRC-8, Perform Transfer Switch alignment for common equipment. (JPM) RO/SRO
A.2	Maintenance	ADMNRC-9RO, Perform Outage Safety Checklist. (JPM)  ADMNRC-9SRO, Verify Outage Safety Checklist. (JPM)
A.3	Radiation Control	ADMNRC-10RO, Perform personnel frisk upon exiting SCA
	Exposure Limits	Determine individuals TEDE for current year. Question - SRO  Determine type of radiation permit for given task. Question - SRO
A.4	Emergency Plan	ADMNRC-11SRO, Classify and Recommend PARS based on accident classification (JPM)
		When USCG is notified of Emergency Events. Question - RO  Activation of Site Emergency signal. Question - RO

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Examination Level (circle one): RO / SRO		Operating Test Number: <u>3</u>
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification	ADMNRC-12RO, Determine if AFD is within Tech Spec Limits (JPM)  ADMNRC-12SRO, Verify AFD is within Tech Spec Limits (JPM)
	Mode Change	ADMNRC-13, Performance of sealed valve checklist (JPM) - SRO/RO
A.2	Maintenance	ADMNRC-14SRO, Review AP-5 Bistable Trip Authorization form. (JPM)
	Tagging & Clearances	ADMNRC-15RO, Review a clearance for technical accuracy. (JPM)
A.3	Radiation Control	ADMNRC-16RO, Termination of a Liquid Radwaste Release. (JPM)
	Exposure Limits	Perform Dose calculation based on dose history and expected stay time in High High radiation area. Question - SRO  Who can authorize an emergency exposure. Question - SRO
A.4	Emergency Plan	ADMNRC-17SRO, Perform Off-site Dose Assessment - GDT rupture (JPM)
		Lowest event classification for TSC activation. Question - RO  Time to notify the NRC of classification change. Question - RO

Facility: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>1</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 010 / Depressurize the RCS using Normal Spray LJC-033	D,S,L	III
b. 062 / Transfer Bus G to Aux. Power from Dsl. Gen. 1-2 LJC-087	D,S	VI
c. 003 / Start A Reactor Coolant Pump LJC-120	D,S,L	IV
d. 026 / Align RHR to Containment Spray LJC-045	D,A,S	V
e. 013 / Manually Isolate Phase A Components Train A & B Failure LJC-026	D,A,S	II
f. 041 / Initiate a Natural Circulation Cooldown LJC-046 Modify - Fail MSIVs closed requires 10% dumps	M,A,S,L	IV
g. 004 / Establish Emergency Boration LJC-063	D,A,S,L	I
B.2 Facility Walk-Through		
a. 004 / Align Charging Pump Suction from RWST LJP-029	D,L,R	II
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A	VI
c. 033 / Add. of Hot Water to the Spent Fuel Pool from RCS New Task, OP AP SD-0 Appendix G step 4.2	N,L,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>2</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Est Steady State Conditions after a Rod Misalignment LJC-022	D,S	I
b. 006 / Respond to Low Accumulator Pressure LJC-077	D,S	II
c. 035 / Isolate Ruptured Steam Generator 12 LJC-011 Modify- fault TDAFW stm supply valve & LCV for SG	M,A,L,S	IV
d. 026 / Secure Containment Spray LJC-080	D,L,S	V
e. 010 / Depressurize the RCS using Normal Spray LJC-033 - Modify - Stick open Loop 1 Pressurizer spray valve	M,A,L,S	III
f. 012 / Respond to an ATWS LJC-041	D,A,S	VII
g. 008 / Respond to Loss of CCW to Letdown Heat Exchanger LJC-126	D,A,S	VIII
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 13 to Backup Power LJP-079	D,L	III
b. 068 / Isolate Ruptured LHUT New Task OP AP-14 Step 8f.	N,R	IX
c. 008 / Crosstie CCW system between Units LJPNRC-2 Repeat from January 1999 SRO Exam	D,R	VIII
* 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: <u>DCPP</u>		Date of Examination: <u>4/10/2000</u>
Exam Level (circle one): RO / SRO(I) / SRO(U)		Operating Test No.: <u>3</u>
B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. 001 / Restore Bank Alignment for a Misaligned Rod LJC-067	D,S	I
b. 062 / Restoration of Buses after Loss of Offsite Power LJC-210	D,S	VI
c. 035 / Respond to Steam Generator Tube Failure - AP-3 LJC-121	D,S	IV
d. 026 / Secure Containment Spray LJC-81	D,S,L	V
e. 017 / Calculate Subcooled Margin LJC-024	D,A,S,L	VII
f. 008 / Respond to High CCW system Temperature New Task - OP AP-11, Section A - only 1 ASW pp available	N,A,S	VIII
g. 006 / Transfer to Cold Leg Recirculation LJC-027 - Make faulted at step 6e RHR Pp 2 fails to start	M,A,S	II
B.2 Facility Walk-Through		
a. 010 / Transfer PZR Heater Group 1-2 to Backup Power LJP- 029	D	III
b. 064 / Perform Local Start of Diesel Generator LJP-003 - Modify so local alarm "active in test only" after start forces shutdown	M,A,L	VI
c. 035 / Close Steam Generator Isolation Valves Outside Containment LJP 096	D,A,L,R	IV
* 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: DCPD      Date of Exam: 4/10/00      Exam Level: RO													
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	2	2	6				2	3			1	16
	2	4	3	1				3	5			1	17
	3	0	0	1				1	1			0	3
	Tier Totals	6	5	8				6	9			2	36
2. Plant Systems	1	4	1	2	3	1	1	2	2	2	2	3	23
	2	4	0	3	1	1	1	1	2	3	2	2	20
	3	0	1	1	0	1	0	2	1	0	2	0	8
	Tier Totals	8	2	6	4	3	2	5	5	5	6	5	51
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		13
					3		4		2		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. Actual point totals must match those specified in the table.</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	
E/APE # / Name / Safety Function		K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1	2			1				AK3.02 basis of rod insertion limit	3.6	1
000015/17 RCP Malfunctions / 4	5				1			AA1.22 RCP seal failure	4.0	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4	9			1				EK3.1 steam flow effect on natural circulation flow	3.3	1
000024 Emergency Boration / 1	12					1		AA2.05 emergency boration for stuck control rods	3.3	1
000026 Loss of Component Cooling Water / 8	16			1				AK3.02 manual phase A impact	3.6	1
000027 Pressurizer Pressure Control System Malfunction / 3	19		1					AK2.03 backup transmitter failure effects	2.6	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4	23	1						AK1.06 pressurizer level indication vs actual	3.7	1
CE/A11; W/E08 RCS Overcooling - PTS / 4	27		1					EK2.2 feed flow/level SG uncontrolled depressurization	3.6	1
000051 Loss of Condenser Vacuum / 4	30					1		AA2.02 turbine trip conditions	3.9	1
000055 Station Blackout / 6	34			1				EK3.02 EOP transition	4.3	1
000057 Loss of Vital AC Elec. Inst. Bus / 6	37					1		AA2.19 loss of instrumentation vital bus	4.0	1
000062 Loss of Nuclear Service Water / 4										
000067 Plant Fire On-site / 9	57	1						AK1.02 Halon extinguish mechanism	3.1	1
000068 (BW/A06) Control Room Evac. / 8	42						1	G2.4.49 actions on evacuation	4.0	1
000069 (W/E14) Loss of CTMT Integrity / 5	46				1			EA1.3 CS/CFCU impact on containment pressure	3.3	1
000074 (W/E06&E07) Inad. Core Cooling / 4	51			1				EK3.08 RCP operation	4.1	1
BW/E03 Inadequate Subcooling Margin / 4										
000076 High Reactor Coolant Activity / 9	63			1				AK3.05 bases for cooldown on high RCS activity	2.9	1
BW/A02&A03 Loss of NNI-X/Y / 7										
K/A Category Totals:		2	2	6	2	3	1	Group Point Total:		16

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2							Form ES-401-4	
E/APE # / Name / Safety Function		K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1	3	1						AK1.05 reactor / turbine mismatch	3.5	1
000003 Dropped Control Rod / 1	6		1					AK2.05 rod control urgent failure alarm status	3.1	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1	10					1		EA2.02 pressurizer heater realignment	4.3	1
BW/A01 Plant Runback / 1										
BW/A04 Turbine Trip / 4										
000008 Pressurizer Vapor Space Accident / 3	13				1			AA1.08 tail pipe temperature	3.8	1
000009 Small Break LOCA / 3	17					1		EA2.02 cold leg break vs hot leg break	3.5	1
000011 Large Break LOCA / 3	20				1			EA1.15 RCS temperature vs RVLIS	4.2	1
W/E04 LOCA Outside Containment / 3										
BW/E08; W/E03 LOCA Cooledown/Depress. / 4										
W/E11 Loss of Emergency Coolant Recirc. / 4	24	1						EK1.3 RHR pump restart	3.6	1
W/E01 & E02 Rediagnosis & SI Termination / 3	28		1					EK2.1 feedwater isolation reset	3.4	1
000022 Loss of Reactor Coolant Makeup / 2	31					1		AA2.01 charging line break	3.2	1
000025 Loss of RHR System / 4	35				1			AA1.02 high steam velocity in surge line	3.8	1
000029 Anticipated Transient w/o Scram / 1	38						1	EA2.09 AMSAC condition indication	3.7	1
000032 Loss of Source Range NI / 7										
000033 Loss of Intermediate Range NI / 7	43	1						AK1.01 overcompensated detectors	2.7	1
000037 Steam Generator Tube Leak / 3										
000038 Steam Generator Tube Rupture / 3	48			1				EK3.08 RCP trip criteria	4.1	1
000054 (CE/E06) Loss of Main Feedwater / 4	52					1		AA2.05 feedwater control valves after reator trip and safety injection	3.5	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4										
000058 Loss of DC Power / 6	58					1		AA2.03 breaker operation without DC control power	3.5	1
000059 Accidental Liquid RadWaste Rel. / 9	65		1					AK2.01 system response to radiation alarm	2.7	1
000060 Accidental Gaseous Radwaste Rel. / 9										
000061 ARM System Alarms / 7										
W/E16 High Containment Radiation / 9	69	1						EK1.3 purge radiation monitor and CVI bypassed	3.0	1
CE/E09 Functional Recovery										
K/A Category Point Totals:		4	3	1	3	5	1	Group Point Total:		17

ES-401		PWR RO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 3							Form ES-401-4	
E/APE # / Name / Safety Function		K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2	74				1			AA1.01 pressurizer level channel (RPS) high	3.8	1
000036 (BW/A08) Fuel Handling Accident / 8										
000056 Loss of Off-site Power / 6	87			1				AK3.02 monitoring void growth	4.4	1
000065 Loss of Instrument Air / 8	94					1		AA2.08 equipment control	2.9	1
BW/E13&E14 EOP Rules and Enclosures										
BW/A05 Emergency Diesel Actuation / 6										
BW/A07 Flooding / 8										
CE/A16 Excess RCS Leakage / 2										
W/E13 Steam Generator Over-pressure / 4										
W/E15 Containment Flooding / 5										
K/A Category Point Totals:		0	0	1	1	1	0	Group Point Total:		3

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 1											Form ES-401-4		
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive	1		1										K2.05 power supply	3.1	1
003 Reactor Coolant Pump	8					1							K5.02 RCP coastdown	2.8	1
003 Reactor Coolant Pump	2											1	2.1.12 RCP technical specification	2.9	1
004 Chemical and Volume Control	11	1											K1.18 excessive CCW to LDHX	2.9	1
004 Chemical and Volume Control	15									1			A3.01 dilute mode	3.5	1
013 Engineered Safety Features Actuation	18								1				A2.04 response to instrument bus failure	3.6	1
013 Engineered Safety Features Actuation	22				1								K4.01 safety injection reset	3.9	1
013 Engineered Safety Features Actuation	26							1					A1.01 restart ECCS	4.0	1
015 Nuclear Instrumentation	29						1						K6.02 degraded compensating voltage	2.6	1
015 Nuclear Instrumentation	33										1		A4.02 comparator circuit	3.9	1
015 Nuclear Instrumentation	99											1	2.1.7 heat balance error effect	3.7	1
017 In-core Temperature Monitor	36	1											K1.02 valid CET alarms	3.3	1
022 Containment Cooling	40										1		A4.01 monitor RCS leakage	3.6	1
022 Containment Cooling	45							1					A1.04 standby automatic start	3.2	1
056 Condensate	50								1				A2.04 condensate pump trip effects	2.6	1
059 Main Feedwater	55				1								K4.05 digital speed control	2.5	1
059 Main Feedwater	60									1			A3.06 P-14 automatic operation	3.2	1
061 Auxiliary/Emergency Feedwater	66											1	2.1.10 CST technical specification basis	2.7	1
061 Auxiliary/Emergency Feedwater	72	1											K1.03 motive steam	3.5	1
061 Auxiliary/Emergency Feedwater	76			1									K3.02 level response to break	4.2	1
068 Liquid Radwaste	80	1											K1.07 radwaste sources	2.7	1
071 Waste Gas Disposal	90			1									K3.05 waste gas rupture	3.2	1
072 Area Radiation Monitoring	85				1								A4.03 RM instrument operation	3.1	1
K/A Category Point Totals:		4	1	2	3	1	1	2	2	2	2	3	Group Point Total:		23

ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 2											Form ES-401-4		
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant	41					1							K5.11 RCP effects on SG level	4.0	1
002 Reactor Coolant	93											1	G2.1.28 technical specification bases	4.1	1
006 Emergency Core Cooling	44				1								K4.16 RHR interlocks	3.4	1
006 Emergency Core Cooling	97						1						K6.03 pressure > shutoff head	3.6	1
010 Pressurizer Pressure Control	91	1											K1.09 channel failure impact	3.9	1
011 Pressurizer Level Control	47			1									K3.01 level control effect on CVCS	3.2	1
012 Reactor Protection	53									1			A3.04 manual reset switches	3.3	1
012 Reactor Protection	81	1											K1.03 OT? T rod stop / runback	3.7	1
014 Rod Position Indication	49								1				A2.02 loss of power impact	3.1	1
016 Non-nuclear Instrumentation	67	1											k1.01 reactor vessel level	3.4	1
026 Containment Spray	79									1			A3.01 monitor pump / valve	4.3	1
029 Containment Purge	64											1	2.1.12 technical specification application	2.9	1
033 Spent Fuel Pool Cooling	71								1				A2.03 loss of water impact on SFP	3.1	1
035 Steam Generator	56			1									K3.03 steam flow from pipe break	3.0	1
039 Main and Reheat Steam	75										1		A4.01 manual operations	2.9	1
039 Main and Reheat Steam	89										1		A4.01 power effects on MSIV	2.9	1
055 Condenser Air Removal															
062 AC Electrical Distribution	62	1											K1.02 DG / AC interface	4.1	1
063 DC Electrical Distribution	84			1									K3.02 loss of vital DC	3.5	1
064 Emergency Diesel Generator	59							1					A1.03 DG parameter control	3.2	1
073 Process Radiation Monitoring	95									1			A3.02 release termination	4.0	1
079 Station Air															
086 Fire Protection															
K/A Category Point Totals:		4	0	3	1	1	1	1	2	3	2	2	Group Point Total:		20



ES-401		PWR RO Examination Outline Plant Systems - Tier 2/Group 3											Form ES-401-4		
System # / Name		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal	82		1										K2.03 response to PT failure	2.7	1
005 Residual Heat Removal	100										1		A4.01 RHR indication	3.6	1
007 Pressurizer Relief/Quench Tank	73								1				A2.01 PORV failure effects	3.9	1
008 Component Cooling Water	98							1					A1.04 CCW leak indications	3.1	1
027 Containment Iodine Removal	86					1							K5.01 charcoal filter use	3.1	1
028 Hydrogen Recombiner and Purge Control	92										1		A4.01 recombinder controls	4.0	1
034 Fuel Handling Equipment															
041 Steam Dump/Turbine Bypass Control	73							1					A1.01 steam dump operations	2.9	1
045 Main Turbine Generator	68			1									K3.01 loss of main turbine generator	2.9	1
076 Service Water															
078 Instrument Air															
K/A Category Point Totals:		0	1	1	0	1	0	2	1	0	2	0	Group Point Total:		8
Plant-Specific Priorities															
System / Topic							Recommended Replacement for...					Reason			Points
Plant-Specific Priority Total: (limit 10)															

Facility: DCPD Units 1/2		Date of Exam: April 10, 2000		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.7	Pant performance & operational judgement 7	3.7	1	
	2.1.25	Interpret performance data 25	2.8	1	
	2.1.10	Facility license condition and limitation 88	2.7	1	
	2.1.				
	2.1.				
	2.1.				
	Total				3
Equipment Control	2.2.22	Limiting condition for operation 21	3.4	1	
	2.2.25	Technical specification bases 54	2.5	1	
	2.2.2	Manipulate controls (pressurizer heater 70	4.0	1	
	2.2.2	Manipulate controls (control room vent.) 32	4.0	1	
	2.2.				
	2.2.				
	Total				4
Radiation Control	2.3.10	Reduce personnel exposure 39	2.9	1	
	2.3.11	Control radiation release 78	2.7	1	
	2.3.				
	2.3.				
	2.3.				
	2.3.				
	Total				2
Emergency Procedures/ Plan	2.4.6	EOP mitigation strategy 14	3.1	1	
	2.4.25	Fire classification 83	2.9	1	
	2.4.4	System operating parameters for EOPs 61	4.0	1	
	2.4.8	EOP usage in mode 4 96	3.0	1	
	2.4.				
	2.4.				
	Total				4
Tier 3 Point Total (RO/SRO)				13/17	

Facility: DCPD      Date of Exam: 4/10/00      Exam Level: SRO													
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	2	0	11				3	5			3	24
	2	1	2	5				1	4			2	16
	3	0	0	0				1	2			0	3
	Tier Totals	3	2	16				5	11			5	43
2. Plant Systems	1	1	1	1	3	4	2	2	3	1	1	0	19
	2	1	1	1	1	2	0	2	5	0	2	2	17
	3	0	0	0	0	0	0	1	2	1	0	0	4
	Tier Totals	2	2	2	5	6	2	7	10	2	3	2	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. Actual point totals must match those specified in the table.</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 SRO Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1						Form ES-401-3	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1 #99					05		AA2.05 Plt effects from uncntrl'd Rod W/D	4.6	1
000003 Dropped Control Rod / 1 #43				06			AA1.06 Ability to monitor effect on Tave due to Dropped Rod	4.1	1
000005 Inoperable/Stuck Control Rod / 1 #6			06				AK306 Action in EOPs for Stuck Rod	4.2	1
000011 Large Break LOCA / 3 #42						1	G2.4.22 K/O prioritizing safety functions during Emerg. 55.43(5)	4.0	1
W/E04 LOCA Outside Containment / 3 #73	.2						EK1.2 K/O EOPs assoc'd with LOCA outside containment	4.2	1
W/E01 & E02 Rediagnosis & SI Termination / 3#12/74			.3		.1		EK3.3 Manipulation of controls during Emerg. Restart of RCPs EA2.1 Ability to determine the appropriate procedure	3.9 4.2	2
000015/17 RCP Malfunctions / 4 #71			07				AK3.07 K/O reasons for responses to ensure S/G level during Nat. Circ.	4.2	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4 #15/#41	.1			.3			EK1.1 K/O operational impacts of NC & void inRVLIS EA1.3 Desired Opr'g results during abnormal conditions	3.4 3.7	2
000024 Emergency Boration / 1 #7			02				AK 3.02 Actions contained in EOPs	4.4	1
000026 Loss of Component Cooling Water / 8 #9						1	G2.12 Ability to apply TS for a system	4.0	1
000029 Anticipated Transient w/o Scram / 1 #5			12				EK 3.12 Actions in EOPs for ATWAS	4.7	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4 #10			.1				EK3.1 K/O facility operating characteristics and effects on reactivity	3.9	1
CE/A11; W/E08 RCS Overcooling - PTS / 4 #11				.2			EA1.2 Ability to monitor oper'g behavior as related to PTS	3.9	1
000051 Loss of Condenser Vacuum / 4 #14					02		AAS 2.02 Ability to dtermine/interpret conditions for Reactor trip	4.1	1
000055 Station Blackout / 6 #8			02				EK3.02 K/O actions in EOPs for SBO; Why stop depressurizing	4.6	1
000057 Loss of Vital AC Elec. Inst. Bus / 6									
000059 Accidental Liquid RadWaste Rel. / 9 #87						1	2.3.11 Ability to control releases	3.2	1
000067 Plant Fire On-site / 9 #72					15		AA2.15 Reqts for establishing fire watch	3.9	1
000068 (BW/A06) Control Room Evac. / 8 #13			18				AK3.18 Actions in EOPs for CR Evacuation	4.5	1
000069 (W/E14) Loss of CTMT Integrity / 5 #2					.1		EA2.1 Facility conditions and selection of appropriate procedures	3.8	1
000074 (W/E06&E07) Inad. Core Cooling / 4 #1/88			11 08				AK3.11 Guidance contained in EOP for ICC EK3.08 Securing the RCPs	4.4 4.2	2
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9 #98			05				AK3.05 K/O corrective actions as a result of High fission products	3.1	1
K/A Category Totals:	2	0	11	3	5	3	Group Point Total:		24

<div> <div>ES-401</div> <div> PWR SRO Examination Outline  Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 </div> <div>Form ES-401-3</div> </div>									
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 #37		.1					EK2.1 K/O interrelations between reactor trip/SI and Auto functions	3.5	1
BW/A01 Plant Runback / 1									
BW/A04 Turbine Trip / 4 #38		.2					EK2.2 K/O Interrelations between reactor trip and proper oper. Of Ht RS.	3.8	1
000008 Pressurizer Vapor Space Accident / 3 #56			02				AK3.02 Exit temperature w/ Open PORV	4.1	1
000009 Small Break LOCA / 3 #3					01		EA2.01 Actions to be taken based upon RCS Pressure	4.8	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4									
W/E11 Loss of Emergency Coolant Recirc. / 4 #4			12				EK3.12 Actions in EOPs for Large Brk LOCA	4.6	1
000022 Loss of Reactor Coolant Makeup / 2 #54			02				AK3.02 K/O of responses to Loss of Makeup	3.8	1
000025 Loss of RHR System / 4									
000027 Pressurizer Pressure Control System #51 Malfunction / 3					04		AA2.04 Ability to determine & interpret a PPCS malf. Related to TS limits for RCS pressure 55.43(2)	3.9	1
000032 Loss of Source Range NI / 7 #55			01				AK3.01 K/O reason for SU termination on loss of SR 55.43(2)	3.6	1
000033 Loss of Intermediate Range NI / 7									
000037 Steam Generator Tube Leak / 3 #52					05		AA2.05 Ability to determine & Interp. Past leakage W/ current	3.3	1
000038 Steam Generator Tube Rupture / 3 #53			06				EK3.06 Actions contained in EOPs	4.5	1
000054 (CE/E06) Loss of Main Feedwater / 4 #50				01			AA1.01 Ability to monitor & predict effects of loss of MFW 55.43(5)	4.4	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4 #57	2						EK1.2 K/O basis of EOPs in Loss of Secondary HS	4.5	1
000058 Loss of DC Power / 6									
000060 Accidental Gaseous Radwaste Rel. / 9 #47							G2.3.1 K/O 10CFR20 and facility rad control reqts 55.43(4)	3.0	1
000061 ARM System Alarms / 7									
W/E16 High Containment Radiation / 9 #100	.3						EK1.3 K/Oannunciators & signals	3.6	1
000065 Loss of Instrument Air / 8 #49					08		AA 2.08 Ability to determine failure mode of air operated equipment	3.3	1
CE/E09 Functional Recovery #60						1	G2.4.4 Ability to recognize abnormal conditions which are entry conds to EOP 55.43(2)	4.3	1
K/A Category Point Totals:	2	2	5	1	4	2	Group Point Total:		16

<div>ES-401</div> <div>PWR SRO Examination Outline</div> <div>Emergency and Abnormal Plant Evolutions - Tier 1/Group 3</div> <div>Form ES-401-3</div>									
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000028 Pressurizer Level Malfunction / 2 #62					09		AA2.09 Ability to determine/interpret chg'g & Ltdwn flow as a result of PLCS malfunction	3.2	1
000036 (BW/A08) Fuel Handling Accident / 8 #58				04			AA1.04 Ability to handle fuel handling equipment during an incident 55.54(7)	3.7	1
000056 Loss of Off-site Power / 6 #61					48		AA2.48 Ability to determine/interpret RCS temperature/pressure/ Pzr lvl	4.4	1
BW/E13&E14 EOP Rules and Enclosures									
BW/A05 Emergency Diesel Actuation / 6									
BW/A07 Flooding / 8									
CE/A16 Excess RCS Leakage / 2									
W/E13 Steam Generator Over-pressure / 4									
W/E15 Containment Flooding / 5									
K/A Category Point Totals:				1	2		Group Point Total:		3

ES-401		PWR SRO Examination Outline Plant Systems - Tier 2/Group 1										Form ES-401-3		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive #39					10							K5.10 K/O Opr impact of rod motion on pwr distrib. & temperature	4.1	1
003 Reactor Coolant Pump #22					05							K505 K/O oper impact of RCPs on RCS flow	3.0	1
004 Chemical and Volume Control #21/#65						10 20						K6.10 K/O BIT Recirc K6.20 K/O Malf. & Demin Temp.	3.1 3.1	2
013 Engineered Safety Features Actuation#20/92					02						02	K5.02K/O safety system logic & reliability A4.02 Ability to reset ESFAS Ch	3.3 4.4	2
014 Rod Position Indication #34								04				A2.04 Ability to predict impact of misaligned rod on RPIS	3.9	1
015 Nuclear Instrumentation #35/ #91					11		01					K5.11 K/O Oper. Aspects of NIS & Flux A1.01 Ability to predict heat balance	3.7 3.8	2
017 In-core Temperature Monitor #64				03								K4.03 K/O Range of Temp Indication	3.3	1
022 Containment Cooling #16		01										K2.01 K/O pwr supplies to CFCUs	3.1	1
026 Containment Spray #23/#93				08				08				K4.08 Swapover to sump A2.08 Ability to secure CS pmps when safe	4.3 3.7	2
056 Condensate #17	13											K1.13 K/O cause/effect between Cond & AFW	2.6	1
059 Main Feedwater #19							07					A1.07 Ability to Mon./make chgs to MFP speed	2.6	1
061 Auxiliary/Emergency Feedwater #18								04				A2.04 Ability to predict & respond to improper operation	3.8	1
063 DC Electrical Distribution #95			02									K3.02 K/O Components using DC pwr	3.7	1
068 Liquid Radwaste #63									02			A3.02 Ability mon. auto isolation during liq. Rad waste discharge	3.6	1
061 Aux Feedwater				04								K404 K/O prevention of AFW runout	3.4	1
K/A Category Point Totals:	1	1	1	3	4	2	2	3	1	1	1	Group Point Total:		19

ES-401		PWR SRO Examination Outline Plant Systems - Tier 2/Group 2										Form ES-401-3		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant #36/#77					14						1	K5.14 K/O Opr Impact for loss of forced circulation G2.1.28 K/O purpose and function of major system comp.	4.2 3.3	2
006 Emergency Core Cooling #24		02										K2.02 K/O pwr supply to Accum valves	2.9	1
010 Pressurizer Pressure Control #27			01									K3.01 K/O effect of malf in PLCS will have on the RCS	3.9	1
011 Pressurizer Level Control #28								10				A2.10 Ability to predict impact of lvl instr fails HI	3.6	1
012 Reactor Protection #25								06				A206 Ability to predict effect of a loss of trip signal	4.7	1
016 Non-nuclear Instrumentation														
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control #90									03			A2.03 Oper. Of HRPS w/ H2/Air Conc. In excess of limit 55.43(5)	4.0	1
029 Containment Purge #44							02					A102 Ability to predict impact on sys due to Hi Radiation	3.4	1
033 Spent Fuel Pool Cooling #96							01					A1.01 Ability to mon. spent fuel pool level	3.3	1
034 Fuel Handling Equipment #70				02								K4.02 K/O design interlocks	3.3	1
035 Steam Generator #29					03							K5.03 K/O Oper impact of shrink & swell	3.1	1
039 Main and Reheat Steam #69	07											K1.07 K/O connections to AFW	3.4	1
055 Condenser Air Removal														
062 AC Electrical Distribution #30								04				A2.04 Ability to predict impact of deenergizing a bus	3.4	1
064 Emergency Diesel Generator #26											1	G2.1.7 Ability to eval plt performance & interpret instruments	4.4	1
073 Process Radiation Monitoring #89										01		A4.01 Ability to monitor in CR effluent release	3.9	1
075 Circulating Water #45								02				A2.02 Ability to predict impact of a los CWS pmp	2.7	1
079 Station Air														
086 Fire Protection														
103 Containment #68										01		A4.01 Ability to monitor in CR flow control	3.3	1
K/A Category Point Totals:	1	1	1	1	2	0	2	5	0	2	2	Group Point Total:		17



ES-401		PWR SRO Examination Outline Plant Systems - Tier 2/Group 3											Form ES-401-3	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal #31								01				A2.01 Ability to predict impact of and miti. CCW Surge Tnk Hi Level	2.9	1
007 Pressurizer Relief/Quench Tank #97								05				A2.05 Ability to predict PRT exceeding press. Limits	3.6	1
008 Component Cooling Water #33									08			A3.08 Ability to mon. auto actions upon a SIS	3.7	1
041 Steam Dump/Turbine Bypass Control #32							02					A1.02 Ability to predict chg in SDS based on chgs in strn press	3.2	1
045 Main Turbine Generator														
076 Service Water														
078 Instrument Air														
K/A Category Point Totals:	-	-	-	-	-	-	1	2	1	-	-	Group Point Total:		4
Plant-Specific Priorities														
System / Topic							Recommended Replacement for...				Reason			Points
Plant-Specific Priority Total: (limit 10)														

Facility: DCPD		Date of Exam: 4/10/2000		Exam Level: S	
Category	K/A #	Topic	Imp.	Points	
#82 #75  Conduct of Operations #67 #76	2.1.2	K/O Oper. Responsibilities	4.0	1	
	2.1.4	K/O Shift Staffing Reqts	3.4	1	
	2.1.7	Ability to evaluate Plt perf. & make Oper. Judgements 55.43(5) #59	4.4	1	
	2.1.28	K/O purpose of Major system Components	3.3	1	
	2.1.32	Ability to apply system limits 55.43(1,2)	3.8	1	
	Total			5	
#83  #84  Equipment Control  #79 #66	2.2.8	K/O process of chg/test is a USQ 55.43(3)	3.3	1	
	2.2.18	k/o MANAGING MAINT. ACTIVITIES DURING S/D 55.43(5)	3.6	1	
	2.2.19	K/O Maint. Work order rqts 55.43(5)	3.1	1	
	2.2.25	K/O basis in TS for LCOs/Safety Limits 55.43(2)	3.7	1	
	Total			4	
#78/#85 #40  Radiation Control	2.3.1	K/O 10CFR20 & facility radiation control limits	3.0	2	
	2.3.6	K/O rad release permits 55.43(4)	3.1	1	
	2.3.11	Ability to control radiation releases	3.2	1	
	Total			4	
#46  #48 Emergency Procedures/ Plan #80	2.4.5	K/O Organization of Oper'g proc. For Emerg Conditions	3.6	1	
	2.4.8	K/O Events Based EOPs used w/ symptom based EOPs 55.43(5)	3.7	1	
	2.4.26	K/O facility prot. Reqts including Fire Prot. #81	3.3	1	
	2.4.40	K/O SRO respons. In E-Plan 55.43(5)	4.0	1	
	Total			4	
Tier 3 Point Total (SRO)				17	

## Comments on DC Exam Outlines

1. Scenarios; not all malfunctions applicable to DC. Licensee will revise and submit with proposed exam package.
2. Op test 1, Section A.1; there should be two JPMs which discriminate at the RO/SRO levels.
3. OP test 1, Section A.3, Need to have either 2 questions for the RO & SRO that discriminate between the two or a JPM both are required to perform in the RCA.
4. OP test 1, Section A.4: Should have the SRO perform a task in the JPM such as determine the EAL and fill out the notification form. (Distinction between a question and a task at the SRO level). Since, the RO applicants don't have much responsibility in the EP area; they should have 2 questions instead.