

CURRENT  
EMERGENCY PLAN  
IMPLEMENTING PROCEDURES  
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Volume 3A

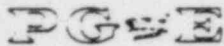
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**Pacific Gas and Electric Company**

NUMBER EP G-2S1

REVISION 3

DATE 10/14/85

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DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

TITLE: NOTIFICATION OF THE ON-SITE EMERGENCY ORGANIZATION

**IMPORTANT  
TO  
SAFETY**

APPROVED:

*R. L. Thibault*  
PLANT MANAGER

10-16-85  
DATE

SCOPE

This procedure supplement provides the call sequence for the notification of the on-site emergency organization, and indicates the preferred candidates to fill each position as required by Administrative Procedure NPAP A-5.

This procedure and changes thereto require PSRC review.

PROCEDURE

Notification of required personnel in an emergency is made using the Rapid Alert Notification System (RANS) or call sequence of this supplement, Form 69-10297, "Emergency Organization Call List." RANS is not intended for Unusual Event notification.

GROUP CALL paging shall be initiated for the Emergency Organization Pager System immediately upon activating RANS or the Emergency Organization Call List. During normal working hours, transmit the all call signal [REDACTED] over both the Health Physics repeater and local radio followed by a voice message [REDACTED]. During off normal working hours, transmit the all call signal [REDACTED] on all three off site Health Physics frequency transmitters (DAVIS, TASSAJARA, TEPESQUET) and the MET building radio. These transmissions must be done separately to ensure complete area coverage.

When using Form 69-10297, the preferred position holders should be contacted when possible. An "On-Call" rotation for essential positions in the emergency organization is maintained in accordance with NPAP A-3, Supplement 1. The on-call person may be called if the preferred position holder is not immediately available or whenever judged necessary by the Shift Foreman. The primary means of notification during "off hours" or when the site emergency signal is

TITLE: EMERGENCY ORGANIZATION CALL LIST FORM 69-10297

not sounded during normal working hours is the telephone. A backup means of notification is the pager for those individuals designated "ON CALL". Key plant managers have UHF radio equipped cars which can be used for initial contact and two way communications while enroute to the plant. Because these persons are essentially on-call at all times, use of these vehicles is warranted in off hours to ensure rapid communication and response.

SUPPORTING PROCEDURES

NPAP A-5, "Organizational Control Of Emergencies"

NPAP A-3, Supplement 1, "On Call System & Personnel Availability"

ATTACHMENTS

1. Description and Activation of the Rapid Alert Notification System.
2. Form 69-10297, "Emergency Organization Call List"

## ATTACHMENT 1

TITLE: DESCRIPTION AND ACTIVATION OF THE RAPID ALERT NOTIFICATION SYSTEM (RANS)

The RANS will begin the onsite emergency organization call-out when activated and deliver a pre-selected message. The person called should respond with an acknowledgement code. The RANS has the capacity to contact up to 512 individual people. There are eight lists and up to 64 groups in each list. The RANS dials numbers sequentially by list and within each list, sequentially by group. When a call is made, it is either logged acknowledged or not acknowledged. If the call is logged not acknowledged, RANS will continue to call the remaining numbers in that group until an acknowledgement or the programmed number of notification attempts is reached. Once a call is acknowledged, the system will no longer attempt to call anyone else in that group. The system can deliver up to eight different messages. For Diablo Canyon these messages are:

- 1.
2. Alert - Diablo Canyon has declared an Alert. Dial acknowledgement code.
3. Site Area - Emergency. - Diablo Canyon has declared a Site Area Emergency. Dial acknowledgement code.
4. General Emergency - Diablo Canyon has declared a General Emergency. Dial acknowledgement code.
5. Test - This is the Diablo Canyon call-out system test. Dial acknowledgement code. No response is required.
6. This is a Drill - Alert - Diablo Canyon is simulating an Alert. Dial acknowledgement code.
7. This is a Drill - Site Area Emergency - Diablo Canyon is simulating a Site Area Emergency. Dial acknowledgement code.
8. This is a Drill - General Emergency - Diablo Canyon is simulating a General Emergency. Dial acknowledgement code.

TITLE: DESCRIPTION AND ACTIVATION OF THE RAPID ALERT NOTIFICATION SYSTEM (RANS)

## ACTIVATION OF THE RANS SYSTEM:

There are two parts to the RANS, the data terminal and the front panel. The system is located in the Control Room Shift Foreman's Office.

There are two ways that the RANS system can be activated:

1. Through the Data Terminal
2. Through the Front Panel Keyboard

Before the system is activated, the user should know the access code, which lists to be called, and what message is to be delivered. The access code can be obtained by contacting the Shift Foreman. The message to be delivered is determined by the emergency classification.

EMERGENCY CLASSIFICATION	LISTS TO BE SELECTED	MESSAGE TO BE DELIVERED
ALERT	1, 2, 3	2
SITE AREA EMERGENCY	1, 2, 3	3
GENERAL EMERGENCY	1, 2, 3	4

NOTE: THE RANS IS NOT INTENDED FOR UNUSUAL EVENT NOTIFICATIONS.

TITLE: DESCRIPTION AND ACTIVATION OF THE RAPID ALERT NOTIFICATION SYSTEM (RANS)

To Activate From The Data Terminal:

1. Verify that power is available to the printer.  
The green light at the bottom right corner should be on. If this light is not on;
  - a. Check to make sure printer is on. The switch on the top of the printer should be in the on position. You should see a red dot.
  - b. Check to make sure the printer is on-line. The switch next to the green light is the on-line switch. It should be pushed down on the side that has the red dot.
2. Enter the Access Code and press the "return" key.
3. The system will proceed through a "self-test." It will print the number of operative phone lines and the time.
4. To start the notification process, type "S."
5. The terminal will then request which lists are to be called. Enter the correct lists and press the "return" key.
6. The terminal will request which message is to be delivered. Enter the appropriate message number and press the "return" key.

The system is activated and will begin the call-out sequence.

NOTE: If, during the activation, you need help, type "shift ?" and the system will respond with more information.

To STOP the system at any time, press the BREAK key. The RANS will automatically reset. The user must again enter the access code to activate the system.



TITLE: DESCRIPTION AND ACTIVATION OF THE RAPID ALERT NOTIFICATION SYSTEM (RANS)

## To Activate From the Panel Keyboard:

The Automatic Notification Mode can be activated by entering the access code into the front panel keyboard. Be sure to use slow, deliberate strokes. If the access code was accepted, the "Wait" light should start blinking. If this light is not on, depress the BREAK key on the Data Terminal and try entering the access code again.

1. When the "Ready" light appears, the system is ready to accept commands.
2. To select the phone lists to be called, type the \* and then the appropriate list.
3. Repeat this for each list to be called.
4. To select the message to be delivered, type the number key "#" and then the message number.
5. The phone lists and the message number should light up on the front panel. If they are not correct, type the "##" key twice and reenter the phone lists and message.
6. If the lights are correct, type the \*\* key twice to start the call-out process.

NOTE: To STOP the system at any time, press the BREAK key. The RANS will automatically reset. The user must again enter the access code to activate the system.

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EMERGENCY ORGANIZATION CALL LIST

DATE: \_\_\_\_\_

TIME EVENT CLASSIFIED: \_\_\_\_\_

EVENT CLASSIFICATION: \_\_\_\_\_

EVENT DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


CALL OUT INSTRUCTIONS

1. Contact one person for each position.
2. First name on list is preferred position holder; if unavailable contact next available person.
3. Persons with a \* are designated for "on-call" rotation.
4. Give emergency classification and describe event if requested.

NOTE: Personnel to report to assigned location for Alert classification or higher; optional for Unusual Event.

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Site Emergency Coordinator	_____	_____	*1. R.C. Thornberry Plant Manager			_____	_____
Assigned - TSC	_____	_____	*2. J. M. Giscion Tech Services Mgr			_____	_____
	_____	_____	*3. W. B. McLane Materials & Project Coordination Manager			_____	_____
	_____	_____	*4. J. A. Sexton Operations Manager			_____	_____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will receive the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Emergency Operations Coordinator	_____	_____	*1. R. Patterson Plant Superintendent			_____	_____
Assigned - Control Room	_____	_____	*2. S. R. Fridley Gen Operating Foreman			_____	_____
	_____	_____	*3. J. R. Tinlin Sr Trng Instructor			_____	_____
	_____	_____	*4. R. L. Fisher Sr Power Prod Eng (Operations)			_____	_____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Emergency Evaluation & Recovery Coordinator	_____	_____	1. J. M. Gisclon Tech Services Manager			_____	_____
	_____	_____	*2. L. F. Womack Engineering Manager			_____	_____
	_____	_____	*3. V. R. Foster Sr Power Prod Eng			_____	_____
Assigned - TSC	_____	_____	*4. M. J. Angus Power Prod Eng			_____	_____


## CONTROL ROOM ASSISTANT:

1. Insert date per. is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)



## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Emergency Radiological Advisor	_____	_____	*1. J. V. Boots Chem & Rad Prot Mgr			_____	_____
Assigned - TSC	_____	_____	*2. R. P. Powers Sr Chem & Rad Prot Engr			_____	_____
	_____	_____	*3. H. W. C. Fong Chem & Rad Prot Eng			_____	_____


## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

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EMERGENCY ORGANIZATION CALL LIST

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EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Emergency Liaison Coordinator	_____	_____	*1. T. J. Martin Training Manager			_____	_____
Assigned - TSC	_____	_____	*2. J. E. Molden Ops Trng Supervisor			_____	_____
	_____	_____	*3. W. F. Steinke Sr Trng Instructor			_____	_____


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CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE



EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Advisor to the County Emerg. Organization	_____	_____	*1. W. B. Kaefer Support Services Mgr			_____	_____
Assigned - EOF	_____	_____	*2. W. J. Keyworth Sr Power Prod Engr (Emergency Planning)			_____	_____
	_____	_____	*3. W. S. Joiner Coordinator (Emergency Planning)			_____	_____
	_____	_____	*4. Tom Brake Sr Power Prod Engr (PIMS)				

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Emergency Operations Advisor	_____	None	1. J. A. Sexton Operations Manager			_____	____
Assigned - TSC	_____		2. S. R. Fridley Gen Operating Foreman			_____	____
	_____		3. J. R. Tinlin Sr Trng Instructor			_____	____
	_____		4. R. L. Fisher Sr Power Prod Eng (Operations)			_____	____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Emergency Main- tenance Coord- inator	_____	_____	*1. D. B. Miklush Maintenance Manager			_____	_____
Assigned - OSC	_____	_____	*2. W. G. Crockett I&C Maintenance Mgr			_____	_____
	_____	_____	*3. R. Nanninga Sr Pow Prod Eng (Maint)			_____	_____
	_____	_____	*4. D. L. Bauer Sr Power Prod Eng (Maint)			_____	_____


## CONTROL ROOM ASSISTANT:

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(Person on call will possess the pager for this position)



## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Media Information Specialist	_____	None	1. Ron Weinberg News Services Diablo Canyon			_____	____
	_____		2. David Monfried News Services Manager San Francisco, G.O.		(Home) (PG&E)	_____	____
	_____		3. Don Hanes News Services Director San Francisco, G.O.		(Home) (PG&E)	_____	____
	_____		4. Jim Kilpatrick News Services Director San Francisco, G.O.		(Home) (PG&E)	_____	____

STOP CALL-OUT AT THIS POINT FOR THE  
UNUSUAL EVENT CLASSIFICATION - CONTINUE  
FOR HIGHER CLASSIFICATION.

DETERMINE IF THE SITE EMERGENCY  
COORDINATOR REQUIRES ADDITIONAL PERSONNEL.

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Operational Support Center Supervisor	_____	None	1. S. J. Foat Electrical Engineer			_____	____
Assigned - OSC	_____		2. R. B. Willis Mechanical Engineer			_____	____
	_____		3. R. T. Hanson Electrical Engineer			_____	____
	_____		4. D. R. Stupi Welding Engineer			_____	____
	_____		5. R. P. Warren Maintenance Engineer			_____	____

## CONTROL ROOM ASSISTANT-

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(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Site Chemistry & Radiation Protection Coordinator	_____	_____	*1. H. A. Ferguson Chem & Rad Prot Foreman			_____	____
	_____	_____	*2. L. T. Moretti Chem & Rad Prot Foreman			_____	____
Assigned - Access Control	_____	_____	*3. R. L. Johnson Chem & Rad Prot Foreman			_____	____
	_____	_____	*4. F. A. Guerra Chem & Rad Prot Foreman			_____	____
	_____	_____	*5. J. A. Robbins Chem & Rad Prot Foreman			_____	____
	_____	_____	*6. L. Vulchev Chem & Rad Prot Foreman			_____	____

NOTE: The person assigned this position also assures that adequate Chemistry and Radiation Protection Technicians are available. As a minimum this includes:

Six C&RP technicians for on-and-off site monitoring teams.  
Six C&RP technicians for in-plant monitoring and chemistry.

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2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

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EMERGENCY ORGANIZATION CALL LIST

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<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
TSC/EOF Clerical Assistance	_____	None	1. C. D. Lampert Office Supervisor			_____	____
	_____		2. E. G. St. John Asst Office Supervisor			_____	____
	_____		3. D. W. Swearingen Asst Office Supervisor			_____	____

NOTE: Request supervisor to dispatch three (3) clerks to the TSC and two (2) clerks to the EOF.

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CONTROL ROOM ASSISTANT:

1. Insert date per \_\_\_\_\_ is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

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EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Interim Radiological Emergency Recovery Manager	_____	None	1. S. J. Fahey-Benson Chem & Rad Prot Eng			_____	_____
	_____		2. D. Chen Chem & Rad Prot Eng			_____	_____
Assigned - EOF							

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CONTROL ROOM ASSISTANT:

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(Person on call will possess the pager for this position)

69-10297 10/85 (100)

EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Interim EOF-EARS Operator	_____	None	1. M. W. Mak Computer Specialist			_____	____
Assigned - EOF	_____		2. D. R. Clifton Maint Trng Supervisor			_____	____

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CONTROL ROOM ASSISTANT:

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EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Interim Operations and Analytical Recovery Manager	_____	None	1. W. T. Rapp Sr Nuclear Gen Engr			_____	_____
	_____		2. K. C. Doss Sr Nuclear Gen Engr			_____	_____
Assigned - EOF	_____		3. D. D. Christensen Nuclear Gen Engr			_____	_____

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CONTROL ROOM ASSISTANT:

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EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Mobil Environmental Monitoring Laboratory Operator	_____	_____	1. Roland Richardson Dept of Engr Research			_____	_____
	_____	_____	2. Mike Kunde Dept of Engr Research			_____	_____

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
EARS Operator TSC Assigned - TSC	_____	_____	*1. R. H. Garacci Sr C&RP Analyst			_____	_____
	_____	_____	*2. E. R. Psoter C&RP Analyst			_____	_____
	_____	_____	*3. J. N. Johnson C&RP Analyst			_____	_____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Emergency Liaison Assistant #1	_____	_____	1. J. E. Molden Training Supervisor			_____	_____
	_____	_____	*2. B. E. Terrell Training Instructor			_____	_____
	_____	_____	*3. W. E. Weems Training Instructor			_____	_____
	_____	_____	*4. G. W. Hamann Training Instructor			_____	_____
	_____	_____	*5. J. M. Welsch Training Instructor			_____	_____

NOTE: Contact TWO people from this list.


Only one "on-call" person for this position.

1. Insert date person not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

69-10297 10/85 (100)

EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Emergency Liaison Assistant #2	_____	_____	*1. R. L. Graham Sr Trng Instructor			_____	____
Assigned - TSC	_____	_____	*2. B. A. Lewis Asst Trng Coordinator			_____	____
	_____	_____	*3. L. R. Sawyer Asst Trng Coordinator			_____	____
	_____	_____	*4. J. M. Becerra Training Instructor			_____	____
	_____	_____	*5. C. J. Leach Training Instructor			_____	____
	_____	_____	*6. N. M. Bennett Training Instructor			_____	____

NOTE: Contact THREE people from this list.

Only one "on-call" person for this position.

DC0234  
25VII

CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)



## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Data Processor No. 1	_____	_____	*1. T. M. Black Power Prod Engr (Computer)			_____	_____
Assigned - TSC	_____	_____	*2. G. V. Johnson Power Prod Engr (Computer)			_____	_____
	_____	_____	*3. J. K. Bigelow Power Prod Engr (Computer)			_____	_____
	_____	_____	*4. J. D. Lodge Power Prod Engr (Computer)			_____	_____
	_____	_____	*5. D. A. Remington Power Prod Engr (Computer)			_____	_____
	_____	_____	*6. G. R. Wescom Applications Analyst			_____	_____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Data Processor No. 2 & No. 3	_____	_____	*1. P. W. Baum			_____	_____
Assigned - TSC	_____	_____	*2. W. A. Ginter			_____	_____
	_____	_____	*3. P. E. Rigney			_____	_____
	_____	_____	*4. R. D. Thurston			_____	_____
	_____	_____	*5. K. W. Wallace			_____	_____
	_____	_____	*6. W. H. Yip			_____	_____
	_____	_____	*7. C. N. Pendleton			_____	_____
	_____	_____	*8. J. I. Hjalmarson			_____	_____
	_____	_____	*9. P. G. Sarafian			_____	_____
	_____	_____	*10. D. L. Efron			_____	_____
	_____	_____	*11. C. H. Beall			_____	_____
	_____	_____	*12. J. C. Nolan			_____	_____

NOTE: Contact TWO people from this list.

Only one "on-call" person for this position.


## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)



## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE


<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME, NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Electrical Maintenance Coordinator	_____	_____	*1. G. M. Zocher Gen Elec Foreman			_____	_____
Assigned - OSC	_____	_____	*2. J. M. Rappa Elec Foreman			_____	_____
	_____	_____	*3. Clay R. Beck Electrical Foreman			_____	_____
	_____	_____	*4. Larry D. Cobbs Electrical Foreman			_____	_____

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Mechanical Maintenance Coordinator	_____	_____	*1. W. R. Ryan Gen Maint Foreman			_____	_____
Assigned - OSC	_____	_____	*2. J. D. Albers Mech Foreman			_____	_____
	_____	_____	*3. J. E. Strahl Mech Foreman			_____	_____
	_____	_____	*4. G. H. Brodnick Mech Foreman			_____	_____
	_____	_____	*5. J. D. Askins Mech Foreman			_____	_____
	_____	_____	*6. R. J. Gilman Mech Foreman			_____	_____

69-10297 10/85 (100)

EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Radiological Data Processor	_____	None	1. A. O. Taylor C&RP Engineer			_____	____
Assigned - TSC	_____		2. R. S. Snyder C&RP Foreman			_____	____
	_____		3. D. R. Unger C&RP Engineer			_____	____

DC0234  
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CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)



69-10297 10/85 (100)

EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Radiological Data Processor	_____	None	1. K. R. Bieze Sr Trng Instructor			_____	____
Assigned - EOF	_____		2. G. P. Monk Trng Instructor			_____	____
	_____		3. C. J. Hansen Trng Instructor			_____	____

NOTE: Contact TWO people from this list.

DC0234  
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CONTROL ROOM ASSISTANT:

1. Insert date person not available.
2. Insert Date person assumes "on-call" responsibility.  
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TITLE: POST ACCIDENT SAMPLING SYSTEM

## c. Remote Containment Hydrogen Analysis

This general procedure is made up of several specific procedures detailing Sentry access/egress, the steps to obtain the required samples for the initial sample exercise following an accident and disposal or storage of samples. This procedure may be used again for subsequent sample exercises if the same information is required at a later time. For any other type of a sample, procedure EP RB-16 will give full details on the types of sample and the various analyses that can be performed as well as the specified procedures for obtaining samples.

This procedure and the procedure listed below, and changes thereto, require PSRC review.

PROCEDURE

## 1. Specific Procedures

The detailed instructions for performing the sampling outlined in the Scope of this procedure are covered in the following sub-procedures:

EP RB-15:A -- Initial Actions

This procedure details necessary steps for accessing and egressing the lab, Gas Chromatograph startup, initial system lineup, and annunciator testing.

EP RB-15:B -- Reactor Coolant Sampling

This procedure details the steps required for sampling any one of 5 different sample sources and obtaining a stripped gas sample and making available for gas chromatographic analysis.

EP RB-15:C -- Containment Air Sampling

This procedure details the steps required to make containment air available for gas chromatographic analysis and to dilute containment air for isotopic analysis.



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

TITLE EMERGENCY OPERATING PROCEDURE  
POST ACCIDENT SAMPLING SYSTEM

NUMBER EP RB-15

REVISION 2

DATE 8/26/85

PAGE 1 OF 4

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## SCOPE

Nureg 0737 requires samples to be taken and analyzed within 3 hours after the decision is made to take a sample. This procedure is designed to ensure safe and reliable methods to meet this requirement. The samples that will be collected and analyzed from this procedure are as follows:

1. For RC (Reactor Coolant) Samples:
  - a. In-line pressurized flask with off-gassing for:
    - 1) Gas Chromatograph Analysis
    - 2) Diluted stripped gas samples for isotopic analysis
  - b. Diluted RC samples:
    - 1) Boron analysis
    - 2) Isotopic Analysis
  - c. In-Line analyses:
    - 1) Ion chromatographic analyses for chloride
    - 2) pH/conductivity/dissolved oxygen
2. For CA (Containment Air) Samples:
  - a. Diluted CA samples for isotopic analysis
  - b. Gas Chromatograph Analysis

TITLE: EMERGENCY ENVIRONMENTAL MONITORING FIELD DATA SHEET

9. LIQUID SAMPLES	TIME OF SURVEY		IMMERSION DATA	
	VOLUME OF		GROSS CPM - BCKG(60) =	NET CPM
SAMPLE DESCRIPTION	SAMPLE COUNTED			
_____	_____		_____	_____
_____	_____		_____	_____

## 10. MISCELLANEOUS REMARKS

- \* - If 240/270 probe is used, cpm BCKG equals 60    ++ - If R0-2 is used BCKG = 0  
\*\* - If 240/270 probe is used,  $\epsilon_2$  equals 0.0003  
† - If 240/270 probe is used,  $\epsilon_3$  equals 0.08

## TITLE: EMERGENCY ENVIRONMENTAL MONITORING FIELD DATA SHEET

## 3. PARTICULATE DETERMINATION

TYPE OF PROBE	cpm (WINDOW OPEN)			$\epsilon_{3+}$ (0.10)	$E_{\beta}$ (0.99)	(2) VOLUME (ft <sup>3</sup> )	(uCi/cc) (1) X 1.59 X 10 <sup>-11</sup> (0.10) X (0.99) X (2)
	GROSS	BCKG*(50)	NET(1)				

## 4. IODINE DETERMINATION

TYPE OF PROBE	cpm (WINDOW OPEN)			$\epsilon_{2+}$ (0.003)	$E_{\beta}$ (0.94)	(2) VOLUME (ft <sup>3</sup> )	(uCi/cc) (1) X 1.59 X 10 <sup>-11</sup> (0.003) X (0.94) X (2)
	GROSS	BCKG(50)	NET(1)				

5. PIC READING CAL DUE \_\_\_\_\_

DOSE RATE ( $\mu$ R/hr) \_\_\_\_\_

## 6. GROUND SURVEYS

TIME \_\_\_\_\_

DESCRIPTION OF LOCATION	mR/hr (At meter)		NET 1	(uCi/m <sup>2</sup> ) (1) x (238)
	GROSS	BCKG+ (.015)		

## 7. VEGETATION SAMPLES TIME OF SURVEY \_\_\_\_\_

SAMPLE DESCRIPTION	cpm (WINDOW OPEN)		(uCi/kg) 1 x (2.5 X 10 <sup>-1</sup> )
	GROSS	BCKG(60) = NET (1)	

8. SMEAR SAMPLES  
TIME OF SAMPLE \_\_\_\_\_

SAMPLE DESCRIPTION	cpm (SHIELD OFF)		$\epsilon_{3+}$ (0.10)	(dpm/dm <sup>2</sup> ) (1) (0.10)
	GROSS	BCKG*(50) = NET (1)		

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: EMERGENCY ENVIRONMENTAL MONITORING FIELD DATA SHEET

DATE \_\_\_\_\_ TEAM \_\_\_\_\_ LEADER \_\_\_\_\_ MEMBER \_\_\_\_\_

MONITORING LOCATION(S) \_\_\_\_\_

Count Rate Cal. Due \_\_\_\_\_ Serial # \_\_\_\_\_  
Dose Rate Cal. Due \_\_\_\_\_ Serial # \_\_\_\_\_

NOTE: Performance Test all portable monitoring equipment prior to entering field.

1. BETA/GAMMA RADIATION FIELD MEASUREMENTS

a. COUNT RATE

TYPE OF PROBE	TIME	cpm (WINDOW DOWN)			cpm (WINDOW UP)		
		GROSS	BCKG*(50)	NET	GROSS	BCKG*(50)	NET
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

b. DOSE RATE

INSTRUMENT	TIME	mR/hr (WINDOW OPEN)		mR/hr (WINDOW CLOSED)	
		GROSS	BCKG+ (.015) = NET	GROSS	BCKG+ (.015) = NET
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

c. INTEGRAL DOSE

INSTRUMENT	(1) TIME STARTED	(2) TIME COMPLETED	(3) DURATION (HOURS) (2) - (1)	(4) TOTAL DOSE (mR)	(5) DOSE RATE (mR/h-) (4) ÷ (3)
	_____	_____	_____	_____	_____

2. AIR SAMPLE

SAMPLER	TIME STARTED	TIME COMPLETED	(1) DURATION (MINUTES)	(2) FLOW RATE (CFM)	(1) x (2) SAMPLE VOL (FT <sup>3</sup> )
			_____	_____	_____
_____	_____	_____	_____	_____	_____



DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-8

REVISION 5

DATE 8/2/85

PAGE 37 OF 37

TITLE

EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORINGTABLE 4PIC LOCATIONSLOCATIONDESCRIPTION

Site 1	DCPP North Gate Guard Post
Site 2	SSW Corner of Target Range
Site 3	715 Harbor Street, Morro Bay. Small fenced yard on NE corner of Harbor Street and Piney Street intersection.
Site 4	Montana de Oro State Park. At the Park Ranger's residence, adjacent to the emergency siren.
Site 5	Los Osos Fire Department
Site 6	Outside rear entrance to (South side of Building) EOF
Site 7	SLO Police Department. Intersection of Santa Rosa Street and Walnut Street. Behind fence SW of Walnut Street driveway.
Site 8	SLO Service Center
Site 9	PGandE Energy Information Center
Site 10	DCPP Front Gate
Site 11	Pismo Beach. From Bellow Street go N.E., turn between Veterans's Memorial and St. Paul's Church and proceed up dirt road. PIC is on top of hill north of pump house and west of water storage tank inside a locked chain link fence. Combination available from MEML personnel or RERM in the EOF.
Site 12	SLO County Building. Grover City. Exit Hwy. 101 at 4th street. Take 4th to Longbranch and proceed NE on Longbranch. County Social Services Building is on corner of 16th and Longbranch.

DC0182 371X

TITLE EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORING

TABLE 3

LOCATIONS OF SELECTED DAIRIES

<u>DAIRY HERD</u>	<u>LOCATION RELATIVE TO DCPD</u>
L.F. Domenghini (500 cows)	NNE, 12.5 miles
Roemer and Jones (200 cows)	NNE, 11 miles
Dutch Maid Farm (100 cows)	NE, 8 miles
Don Warden (200 cows)	NE, 8 miles
Jim Spreafico (150 cows)	E, 9.5 miles
SLO Cal Poly Farm	ENE, 10 miles
Albertoni Farm	SE, 23.5 miles (Guadalupe)

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP RB-8  
 REVISION 5  
 DATE 8/2/85  
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TITLE EMERGENCY OFFSITE RADIOLOGICAL  
 ENVIRONMENTAL MONITORING

TABLE 2 (Continued)

<u>Code</u>	<u>Description</u>	<u>Radial Direction 0°</u>	<u>Radial Distance (Miles)</u>
8S2	Southwest Site Boundary (Station 7).....	128	1.1
9S1	South Cove (Station 37).....	167	0.4
DCC	Diablo Creek at Diablo Cove (Station 21).....	270	0.1
DCM	Diablo Cove (Station 19).....	270	0.2
ICO	Iodine Cartridge Composite.....	0	0.0
LO	Lompoc (at City Hall).....	154	44.6
MT1	Meteorological Tower (Station 1).....	185	0.2
SM	Santa Maria (at Health Dept.).....	127	29.7
SV	Solvang (at Sheriff's Substation).....	144	56.7
WN1	Northwest Guard Shack (Station 2).....	290	0.2

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-8

REVISION 5

DATE 8/2/85

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TITLE EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORING

TABLE 2

DER ENVIRONMENTAL SAMPLING LOCATIONS

<u>Code</u>	<u>Description</u>	<u>Radial Direction 0°</u>	<u>Radial Distance (Miles)</u>
0B1	Point Buchon (Station 18).....	325	3.6
0S1	Exclusion Fence-Northwest Corner (Station 3).....	320	0.1
0S2	North Gate (Station 31).....	320	0.5
1A1	Crowbar Canyon (Station 13).....	327	1.6
1C1	Montana de Oro Campground (Station 38).....	336	4.7
1S1	Wastewater Pond (Station 32).....	330	0.4
2D1	Sunnyside School (Station 10).....	10	6.9
2F1	Morro Bay (Station 26).....	0	10.9
2F2	Morro Bay Power Plant (Station 9).....	358	11.2
2S1	Back Road-300 m North of Plant (Station 33).....	0	0.2
3D1	Clark Valley (Station 40).....	24	6.2
3S1	Road NW of 230 kv Switchyard (Station 34).....	23	0.4
4C1	Clark Valley - Gravel Pit.....	45	5.8
4D1	Los Osos School (Station 11).....	36	7.6
4S1	Back Road Between Switchyards (Station 35).....	43	0.5
5C1	Junction Perfumo/See Canyon Roads (Station 39)...	64	4.7
5F1	SLO Zone 1 Substation (Station 12).....	68	11.2
5F2	Cal Poly Farm (Station 25).....	60	12.6
5F3	SLO County Health Department (Station 29).....	70	12.7
5S1	400 kv Switchyard (Station 4).....	58	0.4
5S2	Diablo Creek Weir (Station 20).....	65	0.6
5S3	Microwave Tower Road (Station 8).....	70	0.7
6D1	Junction See/Davis Canyon Roads (Station 41).....	89	7.5
6S1	Microwave Tower (Station 5).....	94	0.5
7C1	Pecho Creek Ruins (Station 16).....	118	4.1
7D1	Avila Gate (Station 27).....	120	6.6
7D2	Avila Beach (Station 14).....	110	7.6
7F1	Shell Beach (Station 17).....	110	10.8
7F2	Pismo Beach (Station 22).....	115	12.6
7G1	Arroyo Grande (Station 23).....	115	16.8
7G2	Oceano Substation (Station 15).....	118	17.3
7G3	Woodland Dairy (Station 30).....	122	17.9
7S1	Overlook Road (Station 36).....	112	0.3
7S2	Diablo Peak (Station 28).....	103	1.1
8S1	Target Range (Station 6).....	125	0.5

DIABLO CANYON POWER PLANT UNIT NO(S)      1 AND 2		NUMBER      EP RB-8
		REVISION      5
		DATE      8/2/85
		PAGE      33 OF 37
TITLE	EMERGENCY OFFSITE RADIOLOGICAL ENVIRONMENTAL MONITORING	

TABLE 1 (Continued)

<u>Coordinate</u>	<u>Straight Line Distance From Plant (KM)</u>	<u>Description</u>	<u>AC Power Available</u>
NNW,8,A	5.8	Parking lot near end of road at southern park boundary (near gate to Fields' property). Good radio.	No, during daylight hours.
NNW,8,B	7.6	Ranger station overlooking Spooner's Cove. Good radio on road south of Ranger Station at "Locked Gate Ahead" sign (near parking overlook of Spooner's Cove). Public phone at Ranger Station. Power available below phone booth.	Yes

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-8  
REVISION 5  
DATE 8/2/85  
PAGE 32 OF 37

TITLE

EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORING

TABLE 1 (Continued)

<u>Coordinate</u>	<u>Straight Line Distance From Plant (KM)</u>	<u>Description</u>	<u>AC Power Available</u>
ESE,20,A	15.3	Pismo Beach Fire Dept. on Shell Beach Road 1/4 mile South of Shell Beach Freeway (101) Exit. Phone available.	Yes
ESE,20,B	19.2	0.5 miles northwest of the Shorecliff Inn on Shell Beach Road. Inter- section of Cliff Street and Shell Beach Road in field. Phone available at nearby residences.	Yes, Available at nearby residences.
SE,2,A	1.3	Turnout on access road, 0.8 miles from Security Building near meteorological Tower A. Marked with red/ white fence post. Between mile markers 6.5 - 6.6. Phone in tower building. Good radio.	Yes
NW,2,A	1.6	0.6 miles north from Field's property gate (1 mile north from plant, just ENE of Lion Rock).	No
NW,4,A	3.5	Fields' road near large watering pond.	No
NW,8,A	6.1	Near residence by park gate. Phone available at nearby residence.	Yes, Available at nearby residence.
NNW,4,A	2.7	Near wood paneled house. Phone available at nerby residences.	Yes, Available at nearby residence.



DIABLO CANYON POWER PLANT UNIT NO(S)	1 AND 2	NUMBER	EP RB-6
		REVISION	5
		DATE	8/2/85
		PAGE	31 OF 37
TITLE	EMERGENCY OFFSITE RADIOLOGICAL ENVIRONMENTAL MONITORING		

TABLE 1 (Continued)

<u>Coordinate</u>	<u>Straight Line Distance From Plant (KM)</u>	<u>Description</u>	<u>AC Power Available</u>
ESE,4,A	2.6	Turnout on access road, 1.6 miles from Security Building. Marked with red/white fence post. (at mile marker 5.8). Radio near plant or near location ESE,10,A.	No
ESE,6,A	4.5	Turnout on access road 2.8 miles from Security Building. Marked with red/white fence post. (between mile markers 4.5 - 4.6). Radio near plant or near location ESE,10,A.	No
ESE,8,A	6.9	Gate next to shack at road to ruins, 4.3 miles from Security Building along access road. Marked with red/white fence post. (between mile markers 3.0 - 3.1) Radio near plant or near location ESE,10,A	No
ESE,10,A	9.6	Access Road at Gate, 6.2 miles from the Security Building. (between mile markers 1.4 - 1.5) Marked with red/white fence post.	
ESE,10,B	10.0	Port San Luis Gate. Radio on road to Pirates Cove. (Phone at guardhouse).	Yes
ESE,15,A	11.6	Parking lot behind Avila Beach Post Office. Radio on road to Pirates Cove. Public phone on side of post office.	Yes

TITLE: EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORING

TABLE 1 (Continued)

<u>Coordinate</u>	<u>Straight Line Distance From Plant (KM)</u>	<u>Description</u>	<u>AC Power Available</u>
ENE,20,E	15.8	The Spirit Nightclub parking lot (formerly Yancy McFadden's). Los Osos Valley Road South on Calle Joaquin past Howard Johnson, End of Road. Good Radio. Phone available during restaurant working hours.	Yes
E,15,A	14.5	PG&E Information Center. Good radio.	Yes
E,15,B	13.4	Bellevue-Sante Fe School. Fair Radio. Phone available during school hours.	Yes, during school hours.
E,15,C	11.3	See Canyon Road, 1.7 miles up from San Luis Bay Drive intersection. Survey at intersection of See Canyon Road and Davis Canyon Road. Good radio. Phone available at nearby residences.	Yes, Available at nearby residences.
E,25,A	20.2	SLO County Airport. The field on the right of the road to the parking lot. Good radio. Phone in airport terminal.	Yes
E,25,B	21.5	SLO Country Club. East side of parking lot in the fairway. Good radio. Phone available during working hours otherwise at nearby residences.	Yes, during working hours, otherwise at nearby residences.

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TABLE 1 (Continued)

<u>Coordinate</u>	<u>Straight Line Distance From Plant (km)</u>	<u>Description</u>	<u>AC Power Available</u>
ENE,8,A	9.0	See Canyon Road, 4.2 miles up from San Luis Bay Drive intersection. (Intersection of See Canyon Road and Black Walnut Road) Good radio. Telephone available. Rattlesnake hazard.	Yes, Available at nearby residences.
ENE,20,A	14.8	Laguna Jr. High School at intersection of Los Osos Road and Perfumo Canyon Road. Good radio. Phone available during school hours, otherwise nearby residences.	Yes, during school hours otherwise at nearby residences.
ENE,20,B	16.0	Fire station at intersection of Los Usos Valley and Madonna Roads. Good radio. Phone available. (Public phone across the street at the gas station).	Yes
ENE,20,C	18.6	PG&E Information Zone 1 substation at corner of Walker and Higuera Streets. Public phone across the street at Ben Franklins. Good radio.	Yes
ENE,20,D	15.6	Corner of Foothill Boulevard and O'Conner Way. Good radio. Phone available at nearby residences.	Yes, Available at nearby residences.

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TABLE 1 (Continued)

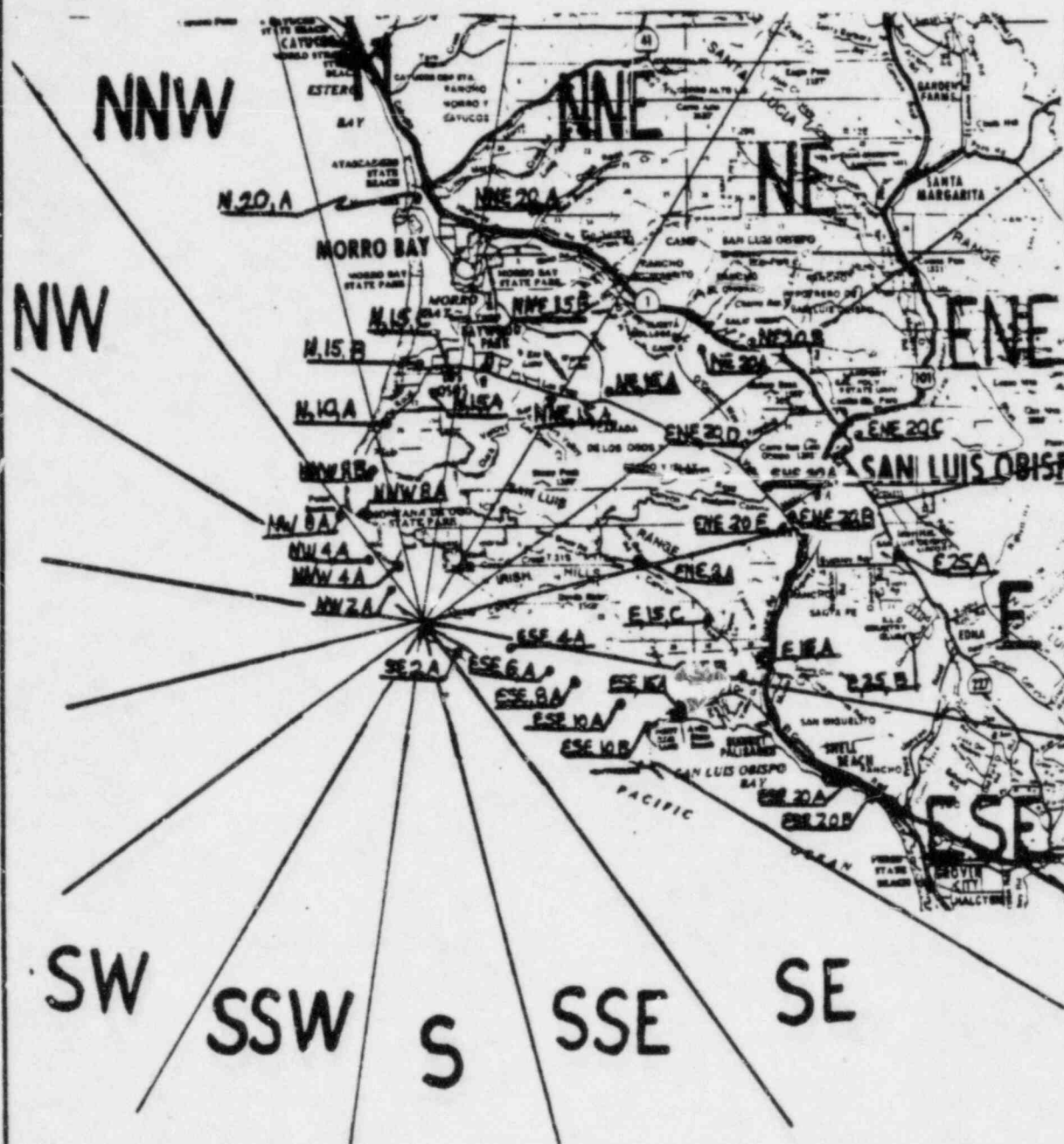
<u>Coordinate</u>	<u>Straight Line Distance From Plant (KM)</u>	<u>Description</u>	<u>AC Power Available</u>
NNE,15,A	11.3	Intersection of Los Osos Valley Road and Clark Valley Road (under PG&E transmission lines). Good radio away from transmission lines. Phone and power available at residence 1/4 mile West.	No
NNE,15,B	12.9	Los Osos Jr. High School on South Bay Boulevard at end of Access Road. Good radio. Phone available during school hours.	Yes, during school hours.
NNE,20,A	17.6	0.3 miles north along San Bernardo Creek Road on the northeast side of Highway 1. Good radio. Phone available at nearby residences.	Yes, Available at nearby residences.
NE,15,A	10.6	Intersection of Los Osos Valley Road and Turri Road. Good radio at intersection. Phone available at nearby residences.	Yes, Available at nearby residences.
NE,20,A	17.4	Sheriff's headquarters. (EOF) Turn south on Highway 1 at sign indicating Sheriff's Operational Center. Good Radio. Phone available.	Yes
NE,20,B	19.2	PG&E substation near Men's Colony, adjacent to northeast side of Highway 1. Good Radio. Phone available.	Yes

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**FIGURE 1**  
**EMERGENCY OFFSITE MONITORING LOCATIONS**



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TABLES

1. Description of Emergency Offsite Monitoring Locations.
2. DER Environmental Sampling Locations.
3. Locations of Selected Dairies.
4. PIC Locations.

ATTACHMENTS

1. Form 69-9259, "Emergency Environmental Monitoring Field Data Sheet", 7/85.

SUPPORTING PROCEDURES

EP G-1 Accident Classification and Emergency Plan Activation  
EP EF-4 Activation of the Mobile Environmental Monitoring Laboratory  
EP RB-7 Emergency On-Site Environmental Monitoring



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- 4) Place the probe (beta window open using the HP-240/270 probe, face down using the HP-210 probe) within one-half inch of the used side of the smear pad (in the same manner as when counting particulate filters) and wait for the meter reading to stabilize (about 20 seconds). Record the reading obtained in section 8 of the Field Data Sheet in the Gross column.

- 5) Calculate the net count rate by subtracting the background value from the gross count.

<u>GM probe</u>	<u>Background Count Rate (window open)</u>
HP-240/270	60 cpm
HP-260	50 cpm
HP-210	50 cpm

- 6) Put the smear pad into a labeled holder and save it for later analysis in the MEML.
- 7) Calculate the smearable contamination as follows:

$$\text{dpm/dm}^2 = \frac{(\text{CR}_{\text{net}})}{(\epsilon_3)}$$

where:

$\text{CR}_{\text{net}}$  = net cpm on smear pad

$\epsilon_3$  = probe efficiency factor  
(see gross particulate procedure)

- 8) Report the type of surface smeared, instrument used, and the smearable contamination level to the EOF or TSC as is appropriate.

#### FIGURES

1. Emergency Offsite Monitoring Locations.
2. Locations of DER Offsite Environmental Sampling and Monitoring Locations.

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4) Calculate the net dose rate value by subtracting the background value given on the data sheet.

5) Estimate the ground deposition from the following equation:

$$\text{Ground deposition } (\mu\text{Ci}/\text{m}^2) = 238 \times \text{ERnet}$$

where:

238 = Cs-137 ground deposition conversion factor  
( $\mu\text{Ci}/\text{m}^2/\text{mR}/\text{hr}$ )

ERnet = Net dose rate obtained at the 1 meter  
level (mR/hr)

6) Report location of measurement, ground deposition, and the type of instrument used to the Emergency Evaluations and Recovery Coordinator or Radiological Monitoring Director.

8. Determination of Smearable Contamination

a. Equipment Required

- 1) Smear Pads with holders.
- 2) Eberline E-140/N survey meter equipped with an HP-240/270 Standard Probe, an HP-260 pancake probe, or an HP-210 shielded pancake GM probe. (HP-210 probe preferred).

b. Procedure

- 1) Select a representative smooth horizontal surface to smear-test. Examples are tops of cars, store windows or sills, and walls of buildings.
- 2) Wipe the area with a smear pad using a uniform, moderate fingertip pressure. Cover approximately  $1 \text{ dm}^2$  ( $100 \text{ cm}^2$ ). This is an area  $4" \times 4"$  or a  $10"$  S motion with a smear pad.
- 3) Identify the type of probe used and enter the data in section 8 of the Field Data Sheet. Include the time of the survey and the calibration due date of the instrument.

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- 2) GM Survey Meter
 

E-140/N equipped with either an

  - a) HP-240 probe
  - b) HP-270 probe

b. Procedure

- 1) Hold the gamma survey instrument or HP-240/270 GM probe (window closed) approximately 1 meter (3 feet) above the ground and measure the exposure rate.
- 2) The following precautions should be followed when making these measurements.
  - a) This section should only be performed after plume passage, since plume contributions to external exposure rates may invalidate the ground survey.
  - b) Make the measurement over short grass on undisturbed land (common grazing, permanent pasture).
  - c) Make the measurement at least 20 yards from any building, road, railway, bridge, or heaps of material such as gravel, rubble, or road-cut. These all contain varying amounts of naturally occurring radionuclides.
  - d) Haystacks or silos should be avoided because they may contain in an concentrated form the total deposition on grass which originally covered a large area. Trees and hedges also act as collectors of fallout which is washed out to a variable extent by rain.
  - e) Care must be taken to avoid any contamination of the instrument. If necessary, wrap the instrument (including probe) in a plastic bag prior to starting survey.
- 3) Enter the instrument type used and record the readings in Section 6 of the Field Data Sheet. Include the time the survey was started and the calibration due date of the instrument.

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<ol style="list-style-type: none"> <li>4) Sheet plastic or plastic bag.</li> <li>5) Protective clothing as determined by surveys</li> </ol> <p>b. Procedure</p> <ol style="list-style-type: none"> <li>1) Wrap the GM probe and cord (window open) in thin plastic to protect it against liquid damage and contamination.</li> <li>2) Immerse the probe in as large a body of liquid as is available (reservoir, cattle trough, 10-gallon milk can, etc.) to obtain the gross open window reading. Enter the reading in Section 9 of the Field Data Sheet along with the time of survey and calibration due date of the instrument.</li> <li>3) Use 60 cpm as a background count rate to determine the net count rate.</li> <li>4) Report the type of sample, volume of sample counted, and net count rate to the Emergency Evaluations and Recovery Coordinator or Radiological Monitoring Director.</li> <li>5) Collect and label a 1-liter sample and retain for later analysis. If readings &gt;200 cpm were obtained during probe immersion, place the 1-liter sample in a plastic bag and then tape the opening. Survey the exterior of the bag. If contamination is found, place the sample bag inside another bag over it. Note the contamination levels on the sample label.</li> <li>6) Survey the probe after it has been removed from it's plastic bag. Decontaminate if practical. Otherwise treat it as radioactive material.</li> </ol> <p>7. Ground Surveys</p> <p>a. Equipment Required</p> <ol style="list-style-type: none"> <li>1) Gamma Survey Meter           <ol style="list-style-type: none"> <li>a) HPI-1010</li> <li>b) RO-2/RO-2A</li> </ol> </li> </ol>		
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g) The activity level in  $\mu\text{Ci/kg}$  can be estimated using the following expression:

$$\mu\text{Ci/kg} = 2.5 \times 10^{-1} \times \text{CR}_{\text{net}}$$

where:

$\text{CR}_{\text{net}}$  = net cpm on a standard GM tube (HP-240/270) only.

h) Survey the exterior of the bag. If contamination is found, place the sample bag inside another bag. Note the contamination levels on the label.

i) Report the type of vegetation samples and the activity level to the EOF or TSC as appropriate.

2) Soil Sampling

a) Sample the soil from a  $1\text{m}^2$  area. Remove only the top surface (to a depth of  $\approx \frac{1}{2}$ " or less) using the trowel. Stay upwind and wear appropriate protective clothing when scraping.

b) Place the sample in a bag, seal, and label.

c) No field counting of soil samples is required. The samples are taken for follow-up analysis only. Scan the bag to determine if there is a high count rate ( $>1,000$  cpm). Survey the exterior of the bag. If contamination is found, place the sample bag inside another bag. Record any high count rates on Section 10 of the Field Data Sheet.

6. Liquid Sampling and Counting

a. Equipment Required

- 1) Sample bottle (1 liter)
- 2) Labels.
- 3) Eberline E-140/N survey meter equipped with HP-240/270 standard GM probe.

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6) Eberline E-140/N survey meter with HP-240/270 standard GM probe.

7) Protective clothing as determined by surveys.

b. Procedure

1) Vegetation Sampling and Counting

- a) Cut the vegetation cover from at least a 1 m<sup>2</sup> area of ground; the aim being to collect approximately one pound. Cut the vegetation at a height of 1-2 cm from base of vegetation to approximate what a grazing animal would consume. Avoid contaminating the sample with dirt.
- b) Place the vegetation in the plastic bag, top end first. Slowly compress the air out of the bag and seal it with tape. One pound of material will normally fill the bag about half full.

WARNING: DO NOT PLACE BODY OVER BAG OPENING WHILE COMpressing IT'S CONTENTS.

- c) Label the bag with the following information
  - 1) Location of sample
  - 2) Date and time of sample. The time is expressed using the military (24 hour period) standard.
  - 3) Name of person who took sample
- d) Using Table 5, pick the standard background for the HP-240/270 probe and record it on Section 7 of the Field Data Sheet.
- e) Flatten the bag and lay the probe (window open) on the center of the bag.
- f) Fold the bag over the probe and note the reading. Record the reading on the field data sheet along with time of survey and instrument calibration due data.



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- 9) If it is necessary to calculate the activity of the sample in the field, use steps 10 and 11 below.
- 10) Calculate gross iodine concentration from the following expression:

$$\mu\text{Ci/cc} = \frac{(1.59 \times 10^{-11}) (CR_{\text{net}})}{(\epsilon_2) (E_c) (V)}$$

where:

$CR_{\text{net}}$  = net cpm on cartridge

$\epsilon_2$  = probe efficiency:

HP-240/270 0.0003 counts/dis

HP-260 0.003

HP-210 0.003

$E_c$  = cartridge collection efficiency, assumed to be 0.94

$V$  = volume of airborne sample ( $\text{ft}^3$ )

- 11) Record the calculated data in section 4 of the Field Data Sheet.

## 5. Soil and Vegetation Sampling

### a. Equipment Required

- 1) Trowel.
- 2) Grass cutters or knife.
- 3) 18" x 24" plastic bags.
- 4) Masking tape.
- 5) Labels.

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b. Procedure

- 1) Ensure the main valve on the air cylinder is shut. Open the flow control valve and back off the regulator control. Then shut the flow control valve.
- 2) Open the main valve on the air cylinder. The cylinder pressure should read about 1800 psi. Replace the cylinder if it reads <300 psi.
- 3) Slowly adjust the regulator until the delivery pressure gauge reads 5 psi. Open the flow control valve to ensure 5 psi is maintained. Then shut the flow control valve.
- 4) Insert the remaining half of the sample head containing the halogen cartridge into the adapter. Ensure that the particulate filter has already been removed.
- 5) Open the flow control valve and allow air to blow through the cartridge in the reverse direction until the cylinder pressure gauge drops 200 psi. Shut the flow control valve. This technique removes noble gases from the halogen cartridge.
- 6) Remove the cartridge from the sample head and place the probe within one-half inch of the upstream side of the cartridge. Wait for the meter to stabilize (about 20 seconds) and then record the type of probe and the gross counts in Section 4 of the Field Data Sheet.
- 7) Report the sample time, flow rate, volume, type of probe used, and the initial gross sample counts to the EOF or TSC as appropriate.
- 8) Place the cartridge in a plastic ziploc bag. Label the bag with the necessary information and then place this bag along with the particulate filter coin envelope in another bag. The outside of this package should be verified to be uncontaminated by either direct survey or smear survey (if the contamination level on the sample inside the package is too high). This package will be taken to the MEML in accordance with instructions from the EOF.

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- 8) Determine the net count rate and calculate the gross particulate activity from the expression:

$$\mu\text{Ci/cc} = \frac{(1.59 \times 10^{-11}) (CR_{\text{net}})}{(\epsilon_3) (E_f) (V)}$$

where:

$CR_{\text{net}}$  = net cpm on filter

$\epsilon_3$  = probe efficiency:

HP-240/270 0.08  $\frac{\text{counts}(\text{window})}{\text{dis open}}$  0.06 (closed)

HP-260 0.10

HP-210 0.10

$E_f$  = cartridge collection efficiency, assumed to be 0.99

$V$  = volume of airborne sample ( $\text{ft}^3$ )

- 9) Record the calculated data in Section 3 of the Field Data Sheet.

#### 4. Determination of Gross Iodine (Field Technique)

##### a. Equipment Required

- 1) Eberline E-140/N survey meter equipped with either an HP-240/270 standard GM probe, an HP-260 pancake GM probe, or an HP-210 shielded pancake GM probe. The HP-210 probe is preferred.

**NOTE:** Field measurements should be performed in a low background location, if possible, outside contaminated areas or plume (<100 cpm).

- 2) Cylinder of dry air equipped with regulator.  
3) Plastic bags.  
4) Forceps or tweezers

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## 3. Determination of Gross Particulate (Field Technique)

## a. Equipment Required

- 1) Eberline E-140/N survey meter equipped with either an HP-240/270 standard GM probe, an HP-260 pancake GM probe, or an HP-210 shielded pancake GM probe. HP-210 probe is preferred.

NOTE: Field measurements should be performed in a low background location if possible, outside contaminated areas or plume (<100 cpm).

- 2) Coin envelope.
- 3) Forceps or tweezers.

## b. Procedure

- 1) Find an area shielded from the wind or rain. The rear of the vehicle may be used if absolutely necessary. Label the coin envelope to be used for storage of the filter with the necessary information.
- 2) Remove the filter from the air sample head.
- 3) Place the probe (beta window open if using the HP-240/270 probe, face down using HP-210/260 probe) within one-half inch to the upstream side of the filter. Filters should be handled with forceps (or tweezers) and the probe should not touch the filter, in order to avoid contamination of the probe.
- 4) Wait for the meter reading to stabilize (about 20 seconds). Record the type of probe and the gross count rate in section 3 of the Field Data Sheet.
- 5) Place the filter in the labeled coin envelope.
- 6) Report the sample time, flow rate, volume, type of probe used, and the initial gross sample counts to the EOF or TSC, as appropriate.
- 7) If it is necessary to calculate the activity of the sample in the field use steps 8) and 9) below.

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- 3) For an HD-28B, proceed as follows:
  - a) Plug in the sampler, turn on the power, and simultaneously start a stopwatch (or reset the timer on the sampler itself, if a sampling time of several hours is contemplated).
- 4) For an H-809C, proceed as follows:
  - a) Attach the sampler to the car battery by attaching the red cable to the positive battery terminal and the black cable to a chassis ground.

NOTE: Try to position the air-sampler away from the vehicles cooling fan, if possible.
  - b) Turn the vehicle engine on. Start the sampler. Note the airflow. Do not attempt to adjust the airflow by turning the setscrew on the top of the flowmeter.
- 5) Periodically check the flow indicator to verify that the flow rate is being maintained. If the flow rate changes significantly during sample collection, note the value at the end of the sample period and determine the average value of the flow rate. This average value should be used to determine the size of the sample collected.
- 6) Allow the sampler to run until at least 10 ft<sup>3</sup> (but preferably 30-50 ft<sup>3</sup>) is collected. The greater the volume sampled, the better.
- 7) Stop the sampler and remove the filter head. If using a vehicle as the power source, stop the vehicle's engine.
- 8) Make the halogen and particulate measurements discussed in steps 3 and 4 below, if desired.
- 9) If excessive dose rates make it necessary to leave the area prior to making the measurements in steps 3 and 4 below place the filter head in a plastic ziploc bag and label the bag.
- 10) Enter the collection data in Section 2 of the Field Data Sheet.



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data can be entered in Section 1.c. of the Field Data Sheet. Report the integral dose and the time period over which it was collected to the EOF or TSC, as is appropriate.

## 2. Collection of Air Samples

### a. Equipment Required

- 1) One of the following air samplers, equipped with sample head for two-inch filters:
  - a) RADECO Model HD-28B (120V AC-powered).
  - b) RADECO Model H-809C (12V DC-powered, without battery).
- 2) Two-inch diameter particulate filter paper.
- 3) Coin envelope for retention of filter.
- 4) HI-Q 2- $\frac{1}{2}$ "-diameter charcoal cartridge or AgZ (Silver Zeolite) cartridge.
- 5) Plastic ziploc bag with label for retention of cartridge.
- 6) Wristwatch or stopwatch.

### b. Procedure

- 1) Assemble the filter and halogen cartridge in the sampling head. The particulate filter is mounted on the holder such that the side with the woven cloth or grid is upstream of the flow, i.e. the collection side.
- 2) Place the filter head on the sampler.



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NOTE: When using the HP-210 probe, take both GM window up and GM window down readings. These readings may be required later to account for sky shine. Be sure to note the correct reading under the correct headings on the Data Sheet - cpm [window up] or cpm [window down].

- b) Record the type of instrument (or probe) used, time survey was started, highest value obtained during the survey, instrument R.P.# and calibration due date of the instrument on Section 1 of the Field Data Sheet.
- c) Report to the EOF or TSC:
  - 1) Time of survey
  - 2) Beta and Gamma dose/count rates
  - 3) Instrument used

2) Pressurized Ion Chamber (PIC)

- a) The PICs may be read directly by pressing the "READ" pushbutton installed on the front panel face of the equipment.
- b) Dose rate trending may be performed by reviewing the strip chart. One trace on it (usually a straight line) matches one of the markings immediately below the chart. This indicates the range. The second trace will normally fluctuate. This trace indicates the actual dose rate. It should correspond with that shown on the digital display.
- c) Record data in section 5 of the Field Data Sheet. Report the reading to the EOF or TSC as is appropriate.

3) Integral Dose

The HPI-1010 has the capability for dose integration if desired. If an integrated measurement is made, the

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External dose rate measurement should be performed and an air sample collected at each offsite monitoring location unless otherwise directed by the Radiological Monitoring Director.

If the Pressurized Ion Chambers (PICs) are located in an affected sector, they should be read. PIC locations are described in Table 4, and may be remotely interrogated using the EARS terminals.

Collection of any other types of samples (i.e., ground deposition measurements, vegetation, soil, water or milk samples) will be at the direction of the Emergency Evaluations and Recovery Coordinator or the Radiological Monitoring Director, and are usually considered followup actions.

## 1. External Dose Rate and/or Count Rate Measurements

## a. Equipment Required

- 1) Any of the following instruments can be used for external dose rate measurements:
  - a) HPI-1010
  - b) RO-2/RO-2A
- 2) For measuring an external count rate, use an Eberline E-140/N survey meter equipped with either an HP-240 standard GM probe, HP-250 pancake GM probe, or an HP-210 shielded GM probe. (The HP-210 probe is preferred).

## b. Procedure

- 1) Dose or Count Rate Measurements
  - a) Make a dose rate and/or count rate measurement with the detector held about three feet off the ground (i.e., approximately at waist level). If the detector is so equipped, take the data with the beta window open and closed.

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## c. Field Data Sheets

- 1) Field data should be recorded on the Emergency Environmental Monitoring Field Data Sheets (Form 69-9259). Each monitoring team shall maintain a notebook with the data sheets and other pertinent instructions.

## 5. Monitoring Instrumentation Performance Testing

All portable monitoring instrumentation should be checked prior to entering the field. This check should include at least the following.

## a. General Appearance

The instrument should have no visible signs of damage.

## b. Calibration

The instrument should be in calibration as verified by the calibration sticker attached to the instrument.

## c. Battery

The batteries should be good as verified by turning the instrument to the Battery Check position and ensuring proper meter indication.

## d. Response

If the meter has an attached source, the meter should be response checked by holding the probe to the source and monitoring for a response.

## e. Zero Adjust

If the meter is equipped with a zero adjust, it should be adjusted to read zero when the selector switch is in the zero adjust position.

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## b. Dairies

Because the milk pathway is often the limiting pathway, it may be necessary to collect milk samples if directed to do so by the Radiological Monitoring Director. The locations of dairies in the DCPD area are described in Table 3, "Locations of Selected Dairies".

## 4. Sample Identification and Data Sheets

## a. Identification and Retention of Samples

Samples or filters which are collected in the field should be placed in a sealed plastic bag, envelope, or bottle, as appropriate, and identified with a firmly attached label which states the following information:

- 1) Date and time of start and end of sample collection. The time is expressed using military time (24 hour clock).
- 2) Sampler flow rate (air samples only).
- 3) Location of sample.
- 4) Name of person who collected the sample. The exterior of the bag should be surveyed. If contamination is found, place the bag inside another bag and note contamination levels on the outside of the second bag.

## b. Recordkeeping

All records generated by the utilization of this procedure for an exercise or emergency should be forwarded the next working day to the Assistant Plant Manager/Support Services for review and retention.

- 1) Records generated from exercises will be categorized as non permanent and retained for a minimum of five years.
- 2) Records generated from actual emergency events will be categorized as lifetime and placed into lifetime storage in accordance with procedure "Requirements for Retention and Extended Storage of Operation Phase Activity Records, (AP-E-1-S1)."

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- b. Respirators should be donned if loose surface contamination levels exceed 100,000 dpm/100 cm<sup>2</sup> (>10,000 cpm above background using the equipment in 2.a.1) or an airborne particulate sample indicates  $>3 \times 10^{-9}$   $\mu\text{Ci/cc}$  (>15 cpm/ft<sup>3</sup> using the equipment and procedure in 3.b under Monitoring Program).
- c. Team members should survey themselves, their equipment, and the exterior package of their samples if loose surface contamination is found during their surveys.
- d. Field monitoring personnel should read their pocket dosimeters at intervals not to exceed 30 minutes outside the plume and 15 minutes while in the plume. Report the highest team member's dosimeter reading to the ERA or Radiological Monitoring Director (RMD) when requested to do so.
- e. Immediately evacuate the area you are in, without orders from the EOF, if the dose rate increases to a point that exceeds the upper limit of the instrument you are using, i.e., 1000 mr/hr when using the HPI-1010 or 5000 mr/hr when using the RO-2. Report your actions to the EOF as soon as practicable.

3. Environmental Sampling Stations

- a. There are a number of environmental monitoring and sampling stations which are part of the continuing program conducted by the Department of Engineering Research. For reference, these stations are shown in Figure 2, "Location of Departments of Engineering Research Environmental Monitoring and Sampling Stations", and described in Table 2, "DER Environmental Monitoring Locations."

NOTE 1: Field monitoring teams will not collect data from DER monitors unless expressly directed by the Radiological Monitoring Director (located at the EOF).

NOTE 2: The TLD's are located in a grey plastic container. Opening the container requires an 1/8-inch Allen wrench which is in the emergency kits.

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ENVIRONMENTAL MONITORING

## c. Identification of Emergency Monitoring Locations

- 1) Monitoring locations used in this procedure are identified in Figure 1, "Emergency Offsite Monitoring Locations". Table 1, "Description of Emergency Offsite Monitoring Locations" is included for reference.

- 2) Coordinate System

Each monitoring location is identified by three coordinates as follows (e.g., NNE, 8, A):

- a. Sector designation
- b. Radial distance in kilometers to the farthest sector element boundary (not true radial distance to plant).
- c. Letter designations to distinguish between different sample locations contained in the same sector elements.

In cases where samples are taken at locations other than those previously labeled, some other identification means must be used. Thus, the following might be typical sample location designations:

(ESE, 15, Avila Post Office)  
(ENE, 20, Corner of Marsh and Broad Streets, SLO)  
(NNW, 8, Campground at mouth of Islay Creek)

## 2. Radiological Precautions

- a. Protective clothing should be donned if loose surface contamination levels exceed the following criteria:

- 1) Hand and foot protection should be donned if contamination surveys indicate  $>1000$  dpm/100 cm<sup>2</sup> but  $<10,000$  dpm/100 cm<sup>2</sup>. This would result in a direct frisk of the surface within 1 cm or a smear covering 100 cm<sup>2</sup> (4" x 4" or 10" S motion) reading  $>100$  cpm but  $<1000$  cpm above background on an E140/E140N equipped with an HP 210/260 probe.
- 2) A full set of protective clothing should be donned if contamination surveys indicate  $>10,000$  dpm/100 cm<sup>2</sup>. This would result in  $>1000$  cpm above background using the same equipment as in 2.a.1) above.



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2. Day Shift (Week Days)
  - a. PGandE personnel will be dispatched from DCP.
  - b. One team should obtain a hand-held radio and an emergency kit from the Training Building and initiate monitoring in accordance with procedure RB-7. The other teams will obtain equipment at the MEML Garage (PG&E Service Center).
  - c. Mobilization and dispatch on the day shift is expected to take approximately 45 minutes.
3. Back Shifts and Weekends
  - a. Teams notified on a call-out basis may be directed to assemble at the Training Building (on-site team) or the San Luis Obispo Service Center MEML Garage (offsite teams).
  - b. Mobilization and dispatch on a backshift or weekend is expected to take approximately one hour.

GENERAL INSTRUCTIONS

1. Locations to Monitor
  - a. Affected Sectors
 

The 360° of the compass have been divided into sixteen 22.5° sectors which are identified by the compass point of their centerline: i.e., N, NNE, NE, ENE, E, etc. In this procedure, all directions are referenced to true (not magnetic) north.
  - b. Distance Downwind
 

The areas to be surveyed will depend on such factors as the quantity of radioactivity released, wind speed, steadiness of wind direction, and the time elapsed since the release started. For initial positioning of the field teams, the EARS computer, manual overlays (as described in EP RB-11) or meteorological information may be used to estimate the distance the plume has traveled downwind.

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ENVIRONMENTAL MONITORING

- d. At least once per hour to verify continued radio operability (if contact has not been made during that period).

#### MONITORING TEAMS

##### 1. Composition

- a. Equipment for a minimum of four teams plus the MEML is available for offsite environmental monitoring. Three emergency kits are located at the PGandE Service Center on South Higuera in San Luis Obispo (MEML garage) and two emergency kits are located at the plant off the entrance foyer to the Training Building, Room 126. One of the kits in the Training Building is reserved for the on-site monitoring team. Access to the MEML Garage requires a Cypher Pad Code to open the door. If the field monitoring team members require the code, it is available from either the ERA in the TSC or the RERM in the EOF.

NOTE: If the MEML garage burglar alarm defeat key is not available (see Emergency Procedure EF-4), notify plant security to expect an alarm, and to dispatch someone to clear it.

- b. Each team should have at least two members.
- c. Teams should be comprised of 1 (one) PGandE C&RP Technician as the team leader and 1 (one) additional person trained in the use of this procedure. This additional person should be a PGandE C&RP technician but may be a SLO County (SLOCO) Environmental Sanitarian.
- d. MEML personnel will assist in organizing and dispatching the field teams from the MEML garage.
- e. SLO County and/or PGandE field teams should wait for the other team members to arrive before departing the MEML garage (unless directed otherwise by the Emergency Radiological Advisor (TSC) or Radiological Monitoring Director (EOF)).
- f. If personnel and vehicle/equipment availability permits, a "runner" may be used to transport samples from field monitoring locations back to the MEML for analysis.

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NOTE: Offsite field teams should obtain hand-held radios from the MEML garage. Other locations should be used as a back-up only.

a. For ease of communication with the radios, the offsite field monitoring teams will be given call names using the International (ICAO) Phonetic Alphabet:


A - Alpha	E - Echo	I - India
B - Bravo	F - Foxtrot	J - Juliett
C - Charlie	G - Golf	K - Kilo
D - Delta	H - Hotel	L - Lima

b. Radio Technique


NOTE: The "T" switch is set on "1", "F" set on 5 (normal position) for repeater, 6 (only if directed) for local.

- 1) Hold the radio upright, directly in front of the mouth.
- 2) Before transmitting, make certain that someone else is not already transmitting on the frequency.
- 3) After pushing transmit button, wait two seconds to allow automatic radio encoding to occur.

2. Communications back-up would be by telephone:

TSC or Control Room: 

UDAC: Rad. Monitoring  
                 RERM

MEML: 

3. Each monitoring team leader and the MEML should contact the EOF or TSC under the following conditions:

- a. After obtaining hand held radios to verify radio operability and obtain initial instructions from the EOF or TSC.
- b. Upon arriving at a monitoring location, to report initial radiological conditions (dose rate, count rate).
- c. After completion of sampling at a monitoring location to report results or obtain additional instructions.

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TITLE: EMERGENCY OFFSITE RADIOLOGICAL  
ENVIRONMENTAL MONITORINGTABLE OF CONTENTS

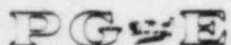
<u>SUBJECT</u>	<u>PAGE</u>
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Monitoring Teams	4
General Instructions	5
External Dose Rate/Count Rate	10
Air Sample Collection	12
Gross Particulate Determination	14
Gross Iodine Determination	15
Soil and Vegetation Sampling	17
Liquid Sampling and Counting	19
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COMMUNICATIONS

1. The primary communication links between the TSC, EOF, MEML, and field monitoring teams will be by radio communications on the Health Physics frequency. The field monitoring teams will use hand-held radios. The location and numbers of available radios are listed below:

<u>Location</u>	<u>Radio Type</u>	<u>Number</u>
Training Building	H	3
PGandE Service Center (MEML Garage)	H	4
EOF	H	2
	P	1
MEML	P	1
DER Vehicle	P	1

H=Hand-held. P=Permanent.



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DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

EMERGENCY OFFSITE RADIOLOGICAL

TITLE ENVIRONMENTAL MONITORING

IMPORTANT  
TO  
SAFETY

APPROVED

*R. E. Thompson*  
PLANT MANAGEMENT

10-16-85  
DATE

### SCOPE

This procedure describes the emergency offsite radiological environmental monitoring program which would be undertaken in the event of an airborne release of radioactive materials from the Diablo Canyon Power Plant. The procedure provides instruction for implementation of the program. Also provided are instructions to monitoring teams for locating sample points, collecting samples, and performing field analyses of samples.

This procedure and changes thereto require PSRC review.

### INITIATING CONDITIONS

The Site Emergency Coordinator declares a Site Area or General Emergency in accordance with EP G-1, "Accident Classification and Emergency Plan Activation". Offsite environmental monitoring teams may be dispatched for an Alert classification if judged appropriate by the Site Emergency Coordinator.

### DIRECTION AND CONTROL

1. Offsite teams may be initially dispatched by the Emergency Evaluations and Recovery Coordinator (EERC) either in the TSC or Control Room.
2. Upon activation of the EOF, teams will receive operating instructions from the Emergency Radiological Advisor (ERA).
3. On-site or near-site monitoring activities are continuously coordinated by the TSC.



PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: KI INVENTORY

DATE: \_\_\_\_\_

PERFORMED BY: \_\_\_\_\_

<u>ON-SITE</u>	<u>VENDOR</u>	<u>EXPIRATION DATE</u>	<u>QUANTITY (100 Bottles/Box)</u> (Minimum) (Actual)
TSC			
a. Office Area North end, in cabinet			1 box
b. Computation Center cabinet located on north wall			1 box
SECURITY BUILDING			
Triple S office			14 bottles
TRAINING BUILDING			
Storage Room Kits 4 & 5			2 bottles
ACCESS CONTROL			
a. Chem Lab Storage Room			4 boxes
b. First Aid Room			2 boxes
CONTROL ROOM			
Cabinet located on east wall			2 bottles
OFF-SITE			
MEML Garage			
a. Kits 1,2 & 3			3 bottles
b. Van			2 bottles
EOF			
RERM Office			5 boxes
PGandE ENERGY INFO CENTER			
Decon Facility storage cabinet			4 bottles

\*When recording KI, obtain a certificate from the vendor, 1 copy for Emergency Planning, 1 copy for C&RP files.

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.





PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: ISOTOPIC MEASUREMENT EQUIPMENT CHECKLIST

DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

ISOTOPIC MEASUREMENT EQUIPMENT

1. \_\_\_\_\_ Gamma Spectrometer  
(located in the Cal Poly Physics Building, Room #E12B)
2. \_\_\_\_\_ ROLM Phones: (verify by calling)



NOTE ANY PROBLEMS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.



PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2TITLE: ASSEMBLY AREA CHECKLIST

---

DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BULLHORNS (Change Batteries Quarterly)

\_\_\_\_\_ Communications Coordinator  
\_\_\_\_\_ Security Shift Supervisor  
\_\_\_\_\_ Emergency Planning Group

ASSEMBLY AREA PACKETS (Update Monthly in Each Area)

\_\_\_\_\_ Radiological Access Control  
\_\_\_\_\_ Cold Machine Shop  
\_\_\_\_\_ Technical Support Center (TSC)  
\_\_\_\_\_ Security Building  
\_\_\_\_\_ Training Building, Room 107  
\_\_\_\_\_ Training Building, Room 109  
\_\_\_\_\_ Training Building, Room 121  
\_\_\_\_\_ Training Building, Room 122  
\_\_\_\_\_ Training Building, Room 123  
\_\_\_\_\_ Training Building, Room 222

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.



TITLE: MEDIA CENTER PHONE CHECKLIST

RUMOR CONTROL CENTER/PHONE ASST. CENTER  
(Women's dressing room, cont'd):

TYPE

NUMBER

DIAL TONE

COMMENTS

PT&amp;T

YELLOW NET

Station 06

PUBLIC INFORMATION REPRESENTATIVES OFFICE  
(Lobby):

TYPE

NUMBER

DIAL TONE

### COMMENTS

PT&amp;T

YELLOW NET

Station 03

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.



TITLE: MEDIA CENTER PHONE CHECKLISTSOUTH END

TYPE  
BLUE  
PT&T

NUMBERDIAL TONECOMMENT

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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WHITEPT&T

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AUDITORIUM:

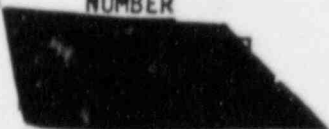
Public Information Center  
(Men's dressing room):

TYPENUMBERDIAL TONECOMMENTSPT&T

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

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

RUMOR CONTROL CENTER/PHONE ASST. CENTER  
(Women's dressing room):

TYPENUMBERDIAL TONECOMMENTSPT&T

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

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



PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2TITLE: DECONTAMINATION FACILITY CHECKLIST

DATE \_\_\_\_\_ PERFORMED BY: \_\_\_\_\_

CONTAMINATED SOLID WASTE DISPOSAL SUPPLIES

- \_\_\_\_\_ 2 (33 gal.) Plastic Garbage Cans
- \_\_\_\_\_ 2 Boxes Plastic Trash Bags with Ties - Min. 3 Mil Thick

PERSONAL DECONTAMINATION SUPPLIES

- \_\_\_\_\_ 20 Bars of Soap
- \_\_\_\_\_ 8 12 oz/Containers of Shampoo
- \_\_\_\_\_ 10 Bars Lava Soap
- \_\_\_\_\_ 4 Scissors
- \_\_\_\_\_ 6 Brushes (for Scrubbing Skin and Nails)
- \_\_\_\_\_ 4 Boxes of Q-tips (100/box)
- \_\_\_\_\_ 10 Rolls Paper Towels
- \_\_\_\_\_ Lanolin (Hand Cream)

REPLACEMENT CLOTHING, TOWELS

- \_\_\_\_\_ 4 doz. Terrycloth Towels
- \_\_\_\_\_ 4 doz. Disposable Coveralls (Assorted Sizes)
- \_\_\_\_\_ 4 doz. Zorries (Assorted Sizes)
- \_\_\_\_\_ 4 doz. Washcloths

MISCELLANEOUS EQUIPMENT

- \_\_\_\_\_ 2 Rolls of Magenta and Yellow Barricade Tape 100'/roll
- \_\_\_\_\_ 4 Radiation Caution Tags
- \_\_\_\_\_ 4 Radiological Contamination Caution Signs
- \_\_\_\_\_ 1 Roll Perforated Radioactive Material Warning Tape
- \_\_\_\_\_ 5 Boxes Surgical Gloves
- \_\_\_\_\_ 4 Bottles KI Tablets (14 Tablets/Bottle)
- \_\_\_\_\_ 1 First Aid Kit
- \_\_\_\_\_ 4 Blankets
- \_\_\_\_\_ 10 Rolls Masking Tape
- \_\_\_\_\_ 10 Rolls Duct Tape
- \_\_\_\_\_ Absorbent Paper

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

## TITLE: EMERGENCY FACILITY FORMS FILE LIST

CURRENT FORM DATE	NUMBER	TITLE	(APPROXIMATE QUANTITY)				
			T-1	T-2	T-3	E-1	E-2
_____	69-10861	Population Dose Calculation	5		5	5	5
_____	69-11105	Release Rate Determination for a Steam Generator Type Rupture	5		5	5	5
_____	69-11510	Radiation and Contamination Survey Record	10		10	10	10
_____	69-11512	Controlled Area and Airborne Area Entry Log	10	10	20	5	5
_____	69-11590	Special Work Permit Request	10	10	20	5	5
_____	None	Personnel List Diablo Canyon Power Plant Department of Nuclear Plant Operations					1 1
_____	R-2	Appendix 2 - Instructions for Estimating Noble Gas Release Rate Using Plant Vent Monitors RE-14 or RE-29	5	5	5	5	5
_____	R-2	Appendix 3 - Instructions for Estimating Iodine Release Rate Using Plant Vent Monitor RE-24	5	5	5	5	5
_____	R-2	Appendix 4 - Use of Containment Air Sample Data % Estimate Release Rate	5	5	5	5	5
_____	R-2	Appendix 5 - Use of RCS Coolant Sample During S/G Tube Rupture Accident	5	5	5	5	5
_____	RB-14	Attachments-Water Entrained Inventory Worksheet, Airborne Inventory Worksheet, Calculations of Power Corrected Source Inventories for Constant Power Levels, Source Inventory Power Correction for Variable History, Comparison of Expected and Actual Source Inventories, Qualitative Assessment	2	2	2	2	2

## File Locations:

T-1 = TSC-1 = Office Area File  
 T-2 = TSC-2 = Operations Area File  
 T-3 = TSC-3 = Computation Area File  
 E-1 = EOF-1 = ELRM Office File  
 E-2 = EOF-2 = EARS Office File

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: EMERGENCY FACILITY FORMS FILE LIST

CURRENT FORM DATE	NUMBER	TITLE	(APPROXIMATE QUANTITY)				
			T-1	T-2	T-3	E-1	E-2
_____	69-9221	Emergency Notification Record	20	20	20	20	20
_____	69-9248	Post-Earthquake Evaluation Summary	5				
_____	69-9249	Post-Earthquake Level Indication Checklist	5				
_____	69-9250	Post-Earthquake Area Inspection	5				
_____	69-9251	Post-Earthquake Surveillance Test Check List	5				
_____	69-9252	Electrical Power Check List	5				
_____	69-9259	Emergency Environmental Monitoring Field Data Sheet	20	10	10	20	20
_____	69-9260	Work Sheet for Determination of Release Rate or Total Release from Plant Vent Monitoring	5	5	20	5	10
_____	69-9283	Data Sheet for T-G Peak Recording Accelograph	5				
_____	69-9284	Work Sheet for Estimation of Curie Release	5	5	20	5	20
_____	69-9310	Post-Evacuation Vehicle Monitoring Data	10		10	10	5
_____	69-9311	Evacuee Monitoring Data	10		10	10	5
_____	69-9320	High Radiation Area Entry Log	10			5	5
_____	69-9321	Containment Entry Log	5			5	5
_____	69-9370	Site Emergency Organization Assignment	10			5	5
_____	69-9371	Environmental Monitoring Data Summary	5		5	5	5
_____	69-9392	Skin and Clothing Decontamination	10			10	5
_____	69-9395	Record of Distribution of Potassium Iodine	10		10	10	10
_____	69-10059	Individual Accountability Record	20				
_____	69-10060	Summary of Personnel Accountability	10				
_____	69-10262	Radiological Emergency Status Form	20	5	20	20	20
_____	69-10295	Plant Status Emergency Form	20	20	5	20	20
_____	69-10296	Onsite/Offsite Rad. Field Monitoring and PIC Status Form	20	5	20	20	20
_____	69-10297	Emergency Organization Call List (On-site)	5			5	5
_____	69-10298	Emergency Organization Call List (Off-Site)	5			5	5
_____	69-10554	Emergency Exposure Permit	10			10	10
_____	69-10555	Work Sheet for Release Rate Estimation from Containment High Range Area Monitors	5	5	20	5	10
_____	69-10556	Release Rate Summary	5	5	20	5	10
_____	69-10566	Worksheet for Manual Off-Site Dose Calculations	5		5	5	5
_____	69-10581	Initial Emergency Notification Form	5			5	5

TITLE: EMERGENCY OPERATIONS FACILITY INVENTORY CHECKLISTLUNCH ROOM (Continued)

\_\_\_\_ 1 Kitchenette  
\_\_\_\_ 1 Clock  
\_\_\_\_ 2 100-cup Coffee Pots  
\_\_\_\_ Misc. Supplies (Coffee, Cups, etc.)  
\_\_\_\_ 2 Folding Tables  
\_\_\_\_ 2 Pictures

STATE/FEMA

\_\_\_\_ 5 Chairs  
\_\_\_\_ 4 Desks  
\_\_\_\_ 1 Table  
\_\_\_\_ 4 Multi-line Phones  
\_\_\_\_ 1 Single-line Phone  
\_\_\_\_ 2 Yellow-Net Phones  
\_\_\_\_ 2 Status Boards (STATE, FEMA)  
\_\_\_\_ 1 50 Mile Map  
\_\_\_\_ 1 BEPZ Map  
\_\_\_\_ 1 Easel

NRC

\_\_\_\_ 13 Chairs  
\_\_\_\_ 2 Desks  
\_\_\_\_ 3 Tables  
\_\_\_\_ 1 10' Table  
\_\_\_\_ 4 Multi-line Phones  
\_\_\_\_ 1 Red Phone  
\_\_\_\_ 1 Blue Phone  
\_\_\_\_ 1 Black-Net Phone  
\_\_\_\_ 1 Yellow-Net Phone  
\_\_\_\_ 2 White Boards  
\_\_\_\_ 1 50 Mile Map  
\_\_\_\_ 1 BEPZ Map  
\_\_\_\_ 1 Clock



TITLE: EMERGENCY OPERATIONS FACILITY INVENTORY CHECKLISTRADIOLOGICAL MONITORING DIRECTOR (Continued)

\_\_\_\_ 1 Speedcall Motorola 434 Display  
\_\_\_\_ 4 Clipboards (White)  
\_\_\_\_ 1 Count Rate Meter  
\_\_\_\_ 1 Multi-line Phone  
\_\_\_\_ 1 Cork Bulletin Board

UNIFIED DOSE ASSESSMENT CENTER

\_\_\_\_ 19 Chairs  
\_\_\_\_ 6 Desks  
\_\_\_\_ 7 Tables  
\_\_\_\_ 10 Multi-line Phones  
\_\_\_\_ 6 50 Mile Maps  
\_\_\_\_ 6 BEPZ Maps  
\_\_\_\_ 5 Modular Shelves with Lights  
\_\_\_\_ 1 Overlay Base Map with 7 Overlays (Stability Classes A-G)  
\_\_\_\_ 1 Coat Rack  
\_\_\_\_ 2 Clocks  
\_\_\_\_ 1 Savin 5040 Copier  
\_\_\_\_ 1 IBM Selectric III  
\_\_\_\_ 1 Aerovironmental Model 324 Telephone Line Receiver  
\_\_\_\_ 1 Stamp Clock  
\_\_\_\_ Correct Time and Day  
\_\_\_\_ 1 Hewlett-Packard 2621P Terminal  
\_\_\_\_ 1 Hewlett-Packard 9845C Desk-Top Computer  
\_\_\_\_ 1 Hewlett-Packard 98041 Disc Interface  
\_\_\_\_ 1 Hewlett-Packard 7906 Disc Drive  
\_\_\_\_ 1 Hewlett-Packard 13037C Disc Controller  
\_\_\_\_ 2 5-drawer files  
\_\_\_\_ Emergency Procedures Vol 3A & 3B (3 binders)  
\_\_\_\_ Emergency Plans Vol 11 (2 binders)  
\_\_\_\_ Nuclear Emergency Response Communications Directory (5)  
\_\_\_\_ Controlled Copy #517-520 and 527  
\_\_\_\_ 4 status boards (Significant Events, UDAC Duty Roster, Field Monitoring  
Data, Radiological Status)  
\_\_\_\_ 16 Clipboards  
\_\_\_\_ 1 First-Aid Kit  
\_\_\_\_ 1 Savin Copier Table  
\_\_\_\_ 3 Cork Bulletin Boards  
\_\_\_\_ 3 TI-30III Calculators  
\_\_\_\_ 2 Giltronix Selectro-Switch  
\_\_\_\_ 1 Data Circuit to PGandE Engergy Info Center  
\_\_\_\_ 1 Black Box  
\_\_\_\_ 1 Digital Decwriter IV  
\_\_\_\_ 1 HP 2624A Terminal

LUNCH ROOM

\_\_\_\_ 28 Chairs  
\_\_\_\_ 7 Tables

TITLE: EMERGENCY OPERATIONS FACILITY INVENTORY CHECKLISTPG&E LAW OFFICE

\_\_\_\_ 1 Chair  
\_\_\_\_ 1 Desk  
\_\_\_\_ 1 Multi-line Phone  
\_\_\_\_ 1 Clock  
\_\_\_\_ 3 Clipboards  
\_\_\_\_ 1 Nuclear Emergency Response Communications Directory-Controlled Copy #530  
\_\_\_\_ 1 Single-line Phone  
\_\_\_\_ 1 Folding Table

PG&E PUBLIC INFORMATION

\_\_\_\_ 4 Chairs  
\_\_\_\_ 2 Desks  
\_\_\_\_ 1 Table  
\_\_\_\_ 2 Multi-line Phones  
\_\_\_\_ 1 Single-line Phone  
\_\_\_\_ 1 Yellow-Net Phone  
\_\_\_\_ 1 50 Mile Map  
\_\_\_\_ 1 BEPZ Map  
\_\_\_\_ 1 IBM Selectric III  
\_\_\_\_ 1 Sanyo AM-FM Cassette Radio  
\_\_\_\_ 2 Typewriter Stands  
\_\_\_\_ 1 White Board  
\_\_\_\_ 5 Clipboards  
\_\_\_\_ Sony Television  
\_\_\_\_ Nuclear Emergency Response Communications Directory-Controlled Copy #528 & 529  
\_\_\_\_ 1 TI Silent 700 Portable Data Terminal  
\_\_\_\_ 1 IBM PC Keyboard  
\_\_\_\_ 1 IBM PC Disk Drive  
\_\_\_\_ 1 Clock  
\_\_\_\_ 1 Tool Box  
\_\_\_\_ 1 Sony Remote Commander RM-71  
\_\_\_\_ 1 Cork Bulletin Board  
\_\_\_\_ 1 Video 310A Monitor  
\_\_\_\_ 1 Epson Printer  
\_\_\_\_ 1 Coat Rack

RADIOLOGICAL MONITORING DIRECTOR

\_\_\_\_ 2 Chairs  
\_\_\_\_ 1 Desk  
\_\_\_\_ 1 Table  
\_\_\_\_ 1 Motorola Radio Set  
\_\_\_\_ 3 Motorola Handi-Talkies  
\_\_\_\_ 3 Motorola Handi-Talkie Chargers  
\_\_\_\_ 1 5-drawer File  
\_\_\_\_ 1 50 mile map  
\_\_\_\_ 1 BEPZ Map  
\_\_\_\_ 1 Radeco Particulate Air Sampler with Cartridges and Envelopes  
\_\_\_\_ 1 County Health Team Radio (Motorola Series 90)

# TITLE: EMERGENCY OPERATIONS FACILITY INVENTORY CHECKLIST

## ENGINEERING AND LOGISTICS RECOVERY MANAGER (Continued)

- \_\_\_ 1 5-drawer File
- \_\_\_ 2 Clocks
- \_\_\_ 3 Status Boards (Significant Events, Plant Status, Radiological Status)
- \_\_\_ Operating Procedures Vol 2 (10 binders)
- \_\_\_ Drawing 102037 -- Instrument Locations (1 Binder)
- \_\_\_ 2 Panafax Phones
- \_\_\_ 1 Harris Table
- \_\_\_ 1 Panafax Table
- \_\_\_ 2 SPDS Channel Selectors (A&B)
- \_\_\_ 1 SPDS Table
- \_\_\_ 1 Harris Terminal 0900-000
- \_\_\_ 2 SPDS Computers (A&B)
- \_\_\_ Drawing 102038 -- Instrument Reference (1 Binder)
- \_\_\_ Emergency Procedures Vol 3A & 3B (3 binders)
- \_\_\_ Licenses and Permits Vol 4
- \_\_\_ Radiation and Control Standards and Procedures Vol 7
- \_\_\_ Correct Time and Day on Rapidprint Time Clock
- \_\_\_ Chemical and Radiochemical Procedures Vol 8 (3 Binders)
- \_\_\_ Temporary Procedures and Instructions Vol 9 (2 Binders)
- \_\_\_ Emergency Plans Vol 11 (2 Binders)
- \_\_\_ Electrical Drawings Units 1 & 2 (4 Binders, blue)
- \_\_\_ Operating Valve Identification Diagrams Units 1 & 2 (2 Binders, black)
- \_\_\_ Piping Schematics Units 1 & 2 (2 Binders, orange)
- \_\_\_ Instrument Schematics Units 1 & 2 (2 Binders, green)
- \_\_\_ Hosgri Seismic Evaluation (7 Binders)
- \_\_\_ Nuclear Emergency Response Communications Directory (6) Controlled Copy #501-506
- \_\_\_ Corporate Emergency Response Plan (1) Controlled Copy #277
- \_\_\_ 3 Clipboards

## RECOVERY MANAGER'S OFFICE

- \_\_\_ 11 Chairs
- \_\_\_ 1 Desk
- \_\_\_ 1 8' Table
- \_\_\_ 1 White Board
- \_\_\_ 1 50 Mile Map
- \_\_\_ 1 BEPZ Map
- \_\_\_ 1 Multi-line Speaker Phone
- \_\_\_ 1 Black-Net Phone
- \_\_\_ 1 Yellow-Net Phone
- \_\_\_ 1 Bookcase
- \_\_\_ 1 5-drawer File
- \_\_\_ 1 Coat Rack
- \_\_\_ 1 Clock
- \_\_\_ Emergency Procedures Vol 3A & 3B (3 Binders)
- \_\_\_ Emergency Plans Vol 11 (2 Binders)
- \_\_\_ Corporate Emergency Response Plan (2) Controlled Copy #278 and #279
- \_\_\_ Nuclear Emergency Response Communications Directory (1) Controlled Copy #507
- \_\_\_ 4 Clipboards

PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2TITLE: EMERGENCY OPERATIONS FACILITY INVENTORY CHECKLISTOFFICE SUPPLIES

- \_\_\_\_\_ Check contents of all desks and file cabinets for ample quantities of stationary supplies, such as: ball point pens, erasers, felt pens (various colors), rubber bands, paper clips, pencils, scissors, rulers, ruled note paper, stapler removers, scotch tape, carbon paper, assorted plain paper, etc.

OPERATIONS AND ANALYSIS RECOVERY MANAGER

- \_\_\_\_\_ 1 Chair
- \_\_\_\_\_ 1 Desk
- \_\_\_\_\_ 1 50 Mile Map
- \_\_\_\_\_ 1 BEPZ Map
- \_\_\_\_\_ 2 Motorola Radio Sets with Encoder
- \_\_\_\_\_ 1 Multi-line Phone
- \_\_\_\_\_ Emergency Procedures Vol 3A & 3B (3 Binders)
- \_\_\_\_\_ Emergency Plans Vol 11 (2 Binders)
- \_\_\_\_\_ Corporate Emergency Response Plan (1) Controlled Copy #299
- \_\_\_\_\_ Nuclear Emergency Response Communications Directory (1) Controlled Copy #500
- \_\_\_\_\_ 3 Clipboards
- \_\_\_\_\_ 1 Key Box
- \_\_\_\_\_ 1 First-Aid Kit
- \_\_\_\_\_ 1 Bookcase
- \_\_\_\_\_ 1 Cork Bulletin Board
- \_\_\_\_\_ 1 Half Table
- \_\_\_\_\_ State of California Nuclear Power Plant Emergency Response Plan (7 binders)

ENGINEERING AND LOGISTICS RECOVERY MANAGER

- \_\_\_\_\_ 6 Chairs
- \_\_\_\_\_ 3 Desks
- \_\_\_\_\_ 1 Table
- \_\_\_\_\_ 3 Half Tables
- \_\_\_\_\_ 2 Motorola Radio Sets with Encoder
- \_\_\_\_\_ 4 Multi-line Phones
- \_\_\_\_\_ 1 IBM Selectric III
- \_\_\_\_\_ 2 Panafax Machines
- \_\_\_\_\_ 1 Savin 5040 Copier
- \_\_\_\_\_ 2 Bookcases
- \_\_\_\_\_ 2 SPDS Video Monitors with Display Generators (A&B)
- \_\_\_\_\_ 2 SPDS Giltronix Selector Switch (A&B)
- \_\_\_\_\_ 1 Tektronix 4631 Hard Copy Machine
- \_\_\_\_\_ 1 IT Intermediate Terminal ADM-31
- \_\_\_\_\_ 1 Tanberg TDC 3000 Digital Cartridge Recorder
- \_\_\_\_\_ 1 Tektronix 4006-1 Terminal
- \_\_\_\_\_ 1 Digital Decwriter III
- \_\_\_\_\_ 1 Recall Recorder (plus Giltronix Selectro Switch)
- \_\_\_\_\_ 1 Coat Rack
- \_\_\_\_\_ Tektronic Table


TITLE: EMERGENCY OPERATIONS FACILITY EQUIPMENT FUNCTION CHECKLIST

## ERFDS / SPDS

Verify the operability of the EOF ERFDS/SPDS.

- a. Look at the Video Monitors and observe that the time and date are correct and that the data is updated every 1-5 seconds. Toggle the switch on the VIDEO SWITCHER and observe the same.
- b. At the RECALL DISPLAY COMPUTER initialize the unit by pressing the AUTO LOAD button on the microcassette tape transport. Observe the red BUSY light blinking for 3-5 minutes as the program loads. Then observe on the ADM31 Terminal to the right of the computer the following message: "R)EAL TIME, D)ELOG OR Q)UIT." Press "R" and observe the data displayed on the screen. Observe that the data is updated every 3-5 seconds.

TITLE: EMERGENCY OPERATIONS FACILITY EQUIPMENT FUNCTION CHECKLIST

<u>PHONE LIST</u>			
<u>TITLE</u>	<u>PHONE #</u>	<u>GOOD</u>	<u>BAD</u>
SPDS		[ ]	[ ]
ESE		[ ]	[ ]
LAW		[ ]	[ ]
MET		[ ]	[ ]
RMD		[ ]	[ ]
UDAC		[ ]	[ ]
UDAC		[ ]	[ ]
UDAC		[ ]	[ ]
DCPP		[ ]	[ ]
LAW		[ ]	[ ]
MET		[ ]	[ ]
RMD		[ ]	[ ]
UDAC		[ ]	[ ]
ELRM		[ ]	[ ]
RM		[ ]	[ ]
OARM		[ ]	[ ]
RERM		[ ]	[ ]
EARS		[ ]	[ ]
PIRM		[ ]	[ ]
ELRM		[ ]	[ ]
RM		[ ]	[ ]
OARM		[ ]	[ ]
RERM		[ ]	[ ]
EARS		[ ]	[ ]
PIRM		[ ]	[ ]
SPOS		[ ]	[ ]
ESE		[ ]	[ ]
SEC		[ ]	[ ]

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.



TITLE: EMERGENCY OPERATIONS FACILITY EQUIPMENT FUNCTION CHECKLISTLIGHTS

Make sure that all lights turn on and off. (Second floor only)

Note any problems below:

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COPIERS

There are 2 Savin 5040 copy machines in the EOF. One is located in the ELRM office, the other is in the UDAC office. Turn on main power switch located at right side of machine. Then push "on" button on top of the machine. Wait for copier to warm-up. A beeping sound will call when machine is ready. Also, the word "READY" will appear on LED display. Set number of copies at 30. Place original in auto-feed. Lighted sign will verify that original is inserted. Press PRINT. Copier should accept original, print 30 copies, and return original. Turn copier off when finished. Check for supplies of copy paper (at least 6 packages). Check for copy machine dispersant and toner (at least 2 bottles of each).

Note any problems or comments below:

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PANAFAX

Turn on power. Call Admin. Operator [REDACTED] and ask Operator for someone to help test Panafax System. Transmit 1 message from EOF to office. Receive 1 message from office.

Note any problems or comments below:

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PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: EMERGENCY OPERATIONS FACILITY EQUIPMENT FUNCTION CHECKLIST

DATE \_\_\_\_\_ PERFORMED BY: \_\_\_\_\_

PHONES

Check only those phones that exist on the second floor of the building. Check by using the multi-line phone on the Engineering and Logistics Recovery Manager's desk. Lift the receiver, push each button, look for the button light and listen for the dial tone. Now push the button labeled [REDACTED]. Dial all of the 549-xxxx numbers. Then push the button labeled [REDACTED]. Dial all of the 69-xxxx numbers (dial just the last 4 digits). For each of the numbers dialed listen for a ringing tone in the earpiece. NOTE: Not all of the phones have an audible telephone bell so listen only for the ringing tone in the earpiece. Check that each phone can maintain two-way communications, using the phone checklist on page 3.

Check the phones in the NRC Office and in the State/FEMA Office following the same format as stated above.

Verify operability of the NRC Red Phone to Bethesda, Maryland. Notify the plant Shift Foreman [REDACTED] prior to performing this check. Lift the receiver and verify the phone rings, is answered by NRC in Bethesda and two-way communication can be maintained. Request the NRC person answering to ring back. Verify the telephone rings and establishes two-way communication.

Verify operability of the NRC Health Physics Phone (blue) by dialing extension 22 and establishing two-way communication with Bethesda, Maryland.

Note any problems or comments below:

RADIOS

Check the radios in the OARM Office, ELRM office, and in the Radiological Monitoring Director's Office. Check handie-talkies in RMD's Office. Exercise batteries at least quarterly. Call Diablo Canyon Unit 1 by phone [REDACTED] to let Control Operators know you are going to check the radios. Turn radio on. For the OARM and ELRM office radios with frequency selection, select F2. Pick up handset (radios in OARM Office). Use encoder to call Diablo Canyon Control Room: code 41, push button 4 and then button 1. Push transmit button on handset or desk top microphone. Transmit message, "Diablo Control, this is the EOF. Radio check." Release transmit button and wait for response. If there is no response within 20-30 seconds, repeat encode and message. Make sure power is turned off when finished. For handie-talkies select F5 and call the Radiological Monitoring Director's office, repeat using F6 to check the local receiver.

Note any problems or comments below:

[ ] Check if handie-talkie batteries are exercised.

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: OPERATIONAL SUPPORT CENTER CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

Operational Support Center (Access Control/Cold Machine Shop Area)

1. Check emergency CBX extension by calling Unit 1 Control Room.  
Verify the Control Room answers. [ ]  
  
    \_\_\_\_\_ General Maintenance Foreman's Office  
    \_\_\_\_\_ Access Control
2. Check ATL to CR/TSC by lifting receiver, verify Control Room answers. [ ]
3. Nuclear Emergency Response Communications Directory - Controlled  
Copy #521 and #522. [ ]
4. Status boards [ ]  
  
    \_\_\_\_\_ Emergency Team  
    \_\_\_\_\_ Radiological
5. Security Building Ready Room  
  
Check CBX extension by calling Unit 1 Control Room. Verify the  
Control Room answers. [ ]

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

TITLE: TECHNICAL SUPPORT CENTER EQUIPMENT QUANTITY CHECKLIST

## RECORDS OFFICE (CONTINUED)

\_\_\_\_\_ Teledyne Geo Tech Auto Met V Computer  
\_\_\_\_\_ IBM PC 3270 Terminals  
\_\_\_\_\_ Remote Display System  
\_\_\_\_\_ Construction DWG Index Books 1 and 2  
\_\_\_\_\_ 7 Phone Books  
\_\_\_\_\_ Panafax Document Transmitter - PX-100  
\_\_\_\_\_ Micro-fiche Printer/Viewer  
\_\_\_\_\_ Hewlett Packard Computer Terminal (1)  
\_\_\_\_\_ Instruction Manuals - Hard Copy in Cabinets  
\_\_\_\_\_ Plant Manuals

Volume 2	Operating Procedures A-8, C, D-F, G-J, K, L-O
Volume 3	Emergency Procedures, #66, 67, 79
Volume 3A	Emergency Procedures, #66, 67, 79
Volume 3B	Emergency Procedure, #66, 67, 79
Volume 4	Licenses & Permits, #67
Volume 7	Radiation Control Standards, #67
Volume 9	Temporary Procedures & Instructions, #67
Volume 11	Emergency Plans, #66, 67, 79
Volume 16	Annunciator Response, #67
Volume 1-11	Final Safety Analysis Report

RMS Handbook - TSC  
Equipment Record Number Index  
Corporate Emergency Response Plan, Control #271-273  
Nuclear Emergency Response Communications Directory (2 binders)  
Controlled Copy #271 and #531  
Emergency Resources Manual - INPO RP/EP-1 9/80  
Report on Small Break Accidents for Westinghouse NSSS System, Vol. I, II, III  
Reference Dwg. 102037, 102038 - Instrument Locations  
Reference Dwg. 101876-14 - Main Annunciator Input List  
101900 - List of Equipment Location Codes - Unit 1  
Operating Valve Identification Diagrams, Control Copy #31 - Unit 1 (Black  
Folders)  
Instrument Schematics, Control Copy #24 (Green Folders)  
Electrical Diagrams, Logic Diagrams & Electrical Arrangements, Control Copy  
#27 Unit 1 and 2 (Blue Folders)  
Piping Schematics, Control Copy #3 (Orange Folders)

NRC OFFICE

NRC "Red" "ENS" Phone  
NRC Blue HPN Phone

**NOTE:** Any discrepancies should be recorded on the Problem Tracking Form.

PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2TITLE: TECHNICAL SUPPORT CENTER EQUIPMENT QUANTITY CHECKLISTOFFICE

50 Mile Emergency Planning Zone Map  
Basic Emergency Planning Zone Map  
1 RoIm Telephone Console with Handset  
Status Boards (6)  
1 Telephone Number Board  
5 MSA SCBA's  
6 Calculators  
6 Extra Calculator Batteries  
Emergency Forms per Form 69-10582  
1 Emergency Equipment Cabinet (with following items inside):  
1 Headset  
Box of Office Supplies (Verify ample Stationary Supplies)  
Emergency Telephone (NERC) Directory (9) Controlled Copies #508-516  
15 Nameplates  
1 Case of KI  
10 Dosimeters  
1 Dosimeter Charger

OPERATIONS CENTER

Closed Circuit TV Monitors - 5 Color  
1 Black and White  
Portable Video Camera  
Tape Drive & Disc  
Harris Processor - Computer  
Harris Terminal  
Harris Key Stations - 2 (Terminals)  
Harris Line Printers (1)  
Emergency Forms per Form 69-10582  
SPDS and Related Equipment  
IBM PC 3270 Terminal

EARS OFFICE

EARS Computer and Operating Terminal - HP 9845C  
1 Status Board  
1 Set Dispersion Overlays and Map in Holder  
TI OMNI 800 Printer  
Dose Rate Meter  
Count Rate Meter  
Emergency Forms per Form 69-10582  
50 Mile Emergency Planning Zone Map  
Basic Emergency Planning Zone Map  
1 Case of KI

RECORDS OFFICE

Aperture Card Viewer  
Aperture Card Files with Cards  
Microfilm Printer/Viewer with Reels

DC0118 88XX

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TITLE: TECHNICAL SUPPORT CENTER CHECKLIST

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- b. Open the cabinet labeled RSPSC-12. Look on the front panel display of the Recall Recorder Computer for the message "B & W - RECALL RECORDER - OPERATING Dx-Ty" (where x indicates the tape drive and y indicates the track where the data is currently being recorded). Look at the drive that is currently being recorded on and observe that the tape moves approximately once every 3 seconds.
- c. Open cabinet labeled RSPSC-21. Look on the front panel displays of the Data Handler Computers for the message "B & W RECALL - Data Handler OPERATING".
- d. Open the cabinet labeled RSPSC-22. Look on the front panel display of the Recall Recorder Computer for the message "B & W - RECALL RECORDER - OPERATING Dx-Ty" (where x indicates the tape drive and y indicates the track where the data is currently being recorded). Look at the drive that is currently being recorded on and observe that the tape moves approximately once every 3 seconds.
- e. Look at the Video Monitors and observe that the time and date are correct and that the data is updated every 1-5 seconds. Toggle the switch on the VIDEO SWITCHER and observe the same.
- f. At the RECALL DISPLAY COMPUTER initialize the unit by pressing the AUTO LOAD button on the microcassette tape transport. Observe the red BUSY light blinking for 3-5 minutes as the program loads. Then observe on the ADM31 Terminal to the right of the computer the following message: "R)EAL TIME, D)ELOG or Q)UIT." Press "R" and observe the data displayed on the screen. Observe that the data is updated every 3-5 seconds.



TITLE: TECHNICAL SUPPORT CENTER CHECKLIST

Verify functioning of one SLO off premise extension by calling any plant extension using 8-69-ext. number.

Office [ ]

Operations Center [ ]

EARS Office [ ]

3. Verify functioning of the Black Net Telephone by calling any extension. [ ]

4. Verify functioning of the NRC Red Phone to Bethesda, Maryland. Notify the plant Shift Foreman [ ] prior to performing this check. Lift the receiver and verify the phone rings, is answered by NRC in Bethesda and two-way communication can be maintained. Request the NRC person answering to ring back. Verify the telephone rings and establishes two-way communication. [ ]

5. Check functioning of the Control Room Closed Circuit TV's as follows (Refer to operating instructions in the TV desk drawer):

Color monitors 1 - 5 receive pictures from cameras 1 - 7 [ ]

Black and White monitor #6 receives pictures from cameras 8 and 9. [ ]

Pan, zoom and focus controls on cameras 1 - 7 function [ ]

NOTE: Close the iris on cameras 1 - 7 following check.

6. Equipment Quantities - Check per Form 69-10752

Note discrepancies below:

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NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

7. Verify the functioning of the Emergency Response Data System / Safety Parameters Display System (ERFDS / SPDS) as follows:
- a. Open cabinet labeled RSPSC-11. Look on the front panel displays of the Data Handler Computers for the message "B & W RECALL - Data Handler OPERATING".

TI. : TECHNICAL SUPPORT CENTER CHECKLIST

3. Note any problems with the radio console:

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## 2. Telephones

NOTE: CBX Telephones not in routine use need to be checked.

Check functioning of the ROLM Console by turning on, calling the plant emergency number [REDACTED] from any phone and receiving the call at the console. Extend the call to any extension and verify connections between the originating phone and the ringing phone. [ ]

TURN OFF CONSOLE AFTER CHECKING

Verify the ATL to San Luis Obispo County Sheriff's Dispatch Center by verifying the phone is answered at that office and two-way communication can be maintained.

Verify the ATL to the State Office of Emergency Services by verifying the phone is answered at that office and two-way communications can be maintained. Check both extensions (Site Emergency Coordinator's desk and EARS office) [ ]

Check functioning of the following ATL's by verifying they ring when selected. Allow to ring long enough so someone in the vicinity can answer, if available: [ ]

	<u>OFFICE</u>	<u>OPERATIONS CENTER</u>	<u>EARS OFFICE</u>
CR-1	[ ]	[ ]	[ ]
CR-2	[ ]	[ ]	[ ]
OSC	[ ]	[ ]	
EOF	[ ]	[ ]	[ ]

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: TECHNICAL SUPPORT CENTER CHECKLIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

1. Radios

Check operability of the following: (Use Operating Procedure K-9  
"Instructions for Operation of DCPD Radio Systems")

Operations Modules

Check operability of the Repeater/Local, Backup and Remote Modules by selecting one and check module functioning by receiving available traffic or by calling the Information Center (encode 22 on F1) or Morro Bay (encode 33). [ ]

NOTE: Transmitter functioning is checked by operations using STP I-29

Security Modules

Check function of the Repeater/Local, Backup and Remote Modules by selecting one and check module functioning by receiving local traffic. [ ]

NOTE: Transmitter functioning is checked by Security.

Division Radio

Check module functioning of the Division Radio Modules by selecting each and receiving available Traffic.

NOTE: Transmitter functioning is checked by Operations using STP I-29.

NOTE: If no traffic is available note that below.

H/P Radio

Check functioning of the Repeaters, Local and HP Remote Modules by selecting one at a time and activating an Emergency Organization pager unit. [ ]

NOTE: Pager must be outside the TSC to receive the signal.

CDF Radio - Check that radio is located in Emergency Equipment Cabinet. [ ]

NOTE: Transmitter functioning is checked by Operations using STP I-29.

NOTE: Any discrepancies should be reported on the Problem Tracking Form.

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: CONTROL ROOM CHECKLIST

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DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTROL ROOM

1. Dose Projection Equipment

\_\_\_\_ (1) Base Map

\_\_\_\_ (7) Overlays (Stability Class A-G)

2. \_\_\_\_ (2) Nuclear Emergency Response Communications Directory -  
Controlled Copy #272 and #273

3. \_\_\_\_ (6) Microphone/Amplifier Units (Improves voice communications while  
wearing MSA breathing masks) Change 9V Alkaline Batteries Quarterly

OPERATOR READY ROOM

1. \_\_\_\_ (8) SCBA Units

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

## TITLE: EMERGENCY PLAN PHONE NUMBER VERIFICATION CHECKLIST

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

PROCEDURE NO.	PAGE NO.	AGENCY	COMMENTS (Note How Checked)
EP EF-1	p. 2, Attachments 1, 2, 4	Hot Shutdown Panel, Dedicated Shutdown Panel, Control Room, EOF, CIRC, Dosimetry Personnel	
EP EF-3	p. 1	EOP Checklist and Phone Numbers	
EP EF-4	Attachment 1 Attachment 4	PT&T and PGandE Cal Poly Police	
EP EF-5	Attachment 1	EOF, UDAC, TSC, DCPD	
EP EF-7	p. 10	CIRC Harris Computer Help	
EP EF-8	p. 1	Hewlett-Packard EARS Hardware	
EP RB-3	p. 2	Corporate Materials Coordinator	
EP RB-8	p. 3	UDAC, EOF, TSC	
EP G-2	Attachment 1 p. 1-31	Emergency Organization Call List	
EP G-3	Attachment 2 Attachment 3	Emergency Offsite Organization Call List Mobile Phone and Pager Instructions	
EP G-4	p. 5 p. 5 p. 8, 9 p. 10	Emergency Conference Line Emergency Conference Line Control Room, TSC, Cold Machine Shop, Access Control Security Building, Training Building, Biology Lab	

NOTE: Any discrepancies should be recorded on the Problem Tracking Form.

69-9043 2/85 (5)

## TITLE: EMERGENCY PLAN PHONE NUMBER VERIFICATION CHECKLIST

CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_

PROCEDURE NO.	PAGE NO.	AGENCY	COMMENTS (Note How Checked)
EP M-2	Appendix Z	Supervising Nuclear Generation Engr. Division Field Claims Investigator	
EP M-4	P. 5, 9, and Attachment	UC Berkeley Seismograph Station	
EP M-6	p. 3	Security Extensions	
	p. 9 Attachment 2	Fire Assistance Communications List Plant Phones (p. 1.2 - 37.2)	
EP M-7	p. 2	PGandE Law Department, Mr. David Williamson	
	p. 2	Organizations to be notified in the event of an oil spill	
	p. 2	California State Office of Emergency Service	
	p. 3	California State Land Commission	
	p. 3	State Executive Officer California Regional Water Quality Control Board Central Coast Region	
EP M-9	p. 5 Attachment	San Luis Ambulance and French Hospital Supervising Nuclear Generation Engr. PG&E Law Department	
EP OR-1	p. 2 Attachment 2	SLO Ambulance, French Hospital, Fire Assistance Table 1 - Offsite Emergency Support Organization	
EP OR-2	Attachment 1	Media Notification List	



PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT

TITLE: EMERGENCY PLAN PHONE NUMBER VERIFICATION CHECKLIST

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

PROCEDURE NO.	PAGE NO.	AGENCY	COMMENTS (Note How Checked)
EP OP-8	p. 8	TSC Operator, dedicated shutdown panel, 480V vital switchgear area, 4 KV vital switchgear area	
EP R-1	Attachment 7 p. 1 & 2	Safety, Health & Claims (Personnel Injuries)	
	p. 11	San Luis Ambulance and French Hospital	
	p. 16	Supervising Nuclear Generation Engr.	
EP R-3	p. 3	State Executive Officer, Calif. Regional Water Quality Control Board, Central Coast Region	
EP R-6	p. 10	Appendix 1 Appendix 2 (1.2R - 20.2R)	
EP R-7	p. 9	Supervising Nuclear Generation Engr.	
	p. 10	Los Padres District Manager	
EP M-1	Attachment 10	Supervising Nuclear Generation Engr.	
	Attachment 7	List of Physicians, Hospitals & Ambulances serving the immediate area of Diablo Canyon.	
	Attachment 8	List of Physicians, Hospitals, and Ambulances serving the immediate area of Diablo Canyon	
	Attachment 9	Safety, Health and Claims.    •	

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE POST LOCA ROOM(Continued)

<u>ITEM</u>	<u>QUANTITY</u>	<u>CHECKED DEFECTIVE OR MISSING</u>			<u>NORMAL REPLACEMENT LOCATION</u>
		<u>OK</u>	<u>REPLACED</u>		
12. Under Sink					
Boric Acid Standard - 200ppm	(50 ml)	[ ]	[ ]	[ ]	Prepared in Chem Lab
- 10 ppm	(50 ml)	[ ]	[ ]	[ ]	"
- 6 ppm	(50 ml)	[ ]	[ ]	[ ]	"
- 4 ppm	(50 ml)	[ ]	[ ]	[ ]	"
- 2 ppm	(50 ml)	[ ]	[ ]	[ ]	"
- 1 ppm	(50 ml)	[ ]	[ ]	[ ]	"
Concentrated HCl	100 ml	[ ]	[ ]	[ ]	Chem Lab
Concentrated H <sub>2</sub> SO <sub>4</sub>	100 ml	[ ]	[ ]	[ ]	Chem Lab
Carminic Acid Solution	100 ml	[ ]	[ ]	[ ]	Prepared in Chem Lab
Caustic Cleaning Solution	1/2 gal	[ ]	[ ]	[ ]	"
Acid Cleaning Solution	1/2 gal	[ ]	[ ]	[ ]	"
Squeeze bottle with demin water	1	[ ]	[ ]	[ ]	Chem Lab
Acetone	1/2 liter	[ ]	[ ]	[ ]	Chem Lab
10% Methanol	1/2 liter	[ ]	[ ]	[ ]	Prepared in Chem Lab
Dilute HNO <sub>3</sub> (acid wash)	1/2 liter	[ ]	[ ]	[ ]	"
NaHCO <sub>3</sub>	200 g	[ ]	[ ]	[ ]	Chem Lab
13. Near Sink					
Oxygen reagent	>100 psig	[ ]	[ ]	[ ]	G.C. Warehouse

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE POST LOCA ROOM(Continued)

<u>ITEM</u>	<u>QUANTITY</u>	<u>CHECKED</u> <u>DEFECTIVE</u> <u>OR</u> <u>MISSING</u>			<u>NORMAL</u> <u>REPLACEMENT</u> <u>LOCATION</u>
		<u>OK</u>	<u>MISSING</u>	<u>REPLACED</u>	
10. D4					
Sealing Tape (roll)	1	[ ]	[ ]	[ ]	Count Room
L&N recorder paper (rolls)	3	[ ]	[ ]	[ ]	Chem Lab
CCP printer paper (rolls)	3	[ ]	[ ]	[ ]	Chem Lab/Access Control
Radioactive Sample Tape (roll)	1	[ ]	[ ]	[ ]	Access Control
Allen wrenches (small set)	1	[ ]	[ ]	[ ]	-
Screwdrivers - one flathead	1	[ ]	[ ]	[ ]	-
- one phillips	1	[ ]	[ ]	[ ]	-
Dionex wrench (5/16)	1	[ ]	[ ]	[ ]	-
Septum adapter	1	[ ]	[ ]	[ ]	I & C Shop
Cap for septum port	1	[ ]	[ ]	[ ]	I & C Shop
11. Door next to drawers					
Pipets w/tips					
1) 5 ml	1	[ ]	[ ]	[ ]	Chem Lab
2) 1 ml/1000 µl	1	[ ]	[ ]	[ ]	"
3) 100µl	1	[ ]	[ ]	[ ]	"
4) 10µl	1	[ ]	[ ]	[ ]	"
5) 0-5 ml	1	[ ]	[ ]	[ ]	"
6) 2 ml volumetric pipet	1	[ ]	[ ]	[ ]	"
7) 5 ml volumetric pipet	1	[ ]	[ ]	[ ]	"
Pipet bulb	1	[ ]	[ ]	[ ]	"
50 ml erlenmeyer w/rubber stoppers	4	[ ]	[ ]	[ ]	"
Tongs	1	[ ]	[ ]	[ ]	-
100 ml volumetric flask	4	[ ]	[ ]	[ ]	Chem Lab
100 ml beakers	2	[ ]	[ ]	[ ]	"

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE POST LOCA ROOM(Continued)

PART 2, THE POST LOCA ROOM(Continued)		CHECKED DEFECTIVE OR MISSING			NORMAL REPLACEMENT LOCATION
ITEM	QUANTITY	OK	MISSING	REPLACED	
7. D1 (Top Drawer) (Continued)					
Ruler w/millimeter graduations	1	[ ]	[ ]	[ ]	-
Safety Glasses	2	[ ]	[ ]	[ ]	Chem Lab/Machine Shop
Single Edged Razor Blades	1	[ ]	[ ]	[ ]	Machine Shop
Scotch tape	1	[ ]	[ ]	[ ]	Office Supplies
8. D2					
Hand operated vacuum pump	1	[ ]	[ ]	[ ]	-
Prelabeled 60 ml sample bottle	5	[ ]	[ ]	[ ]	Cabinet - West Wall
Prelabeled 15 ml sample bottle	5	[ ]	[ ]	[ ]	Cabinet - West Wall
20 cc liquid scint vials	5	[ ]	[ ]	[ ]	Chem Lab
1 cm spec cells w/plugs	5	[ ]	[ ]	[ ]	Chem Lab
9. D3					
Loaded filter assembly	5	[ ]	[ ]	[ ]	-
Precut septums for CASP SF-5	5	[ ]	[ ]	[ ]	Chem Lab
Prelabeled 14cc gas sample vial	5	[ ]	[ ]	[ ]	Chem Lab
Keys for FCV's 696-700	1 ea	[ ]	[ ]	[ ]	Control Key Locker to Copy
Gas tight 5cc locking syringe	2	[ ]	[ ]	[ ]	Chem Lab
G.C. Chart recorder paper (rolls)	3	[ ]	[ ]	[ ]	Access Control
Needles for gas tight syringe	5	[ ]	[ ]	[ ]	Chem Lab
10. D4					
Wrenches	2	[ ]	[ ]	[ ]	-
Extra Ziploc bags	5	[ ]	[ ]	[ ]	Chem Lab
Small screwdriver	1	[ ]	[ ]	[ ]	-

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE POST LOCA ROOM (continued)

ITEM	QUANTITY	CHECKED DEFECTIVE OR MISSING			NORMAL REPLACEMENT LOCATION
		OK		REPLACED	
5. North Vestibule (between N. Submarine door and key card door)					
GE Post Accident Sampling Shipping Package	1	[ ]	[ ]	[ ]	-
6. Cabinet - in or near					
5 ton come-a-long w/extension strap	1	[ ]	[ ]	[ ]	Machine Shop
E-140N	1	[ ]	[ ]	[ ]	Access Control Storage
Issued for use procedures:					
EP RB-15	1	[ ]	[ ]	[ ]	Maintained by Chem & Rad Clerk
EP RB-16	1	[ ]	[ ]	[ ]	"
CAP G-3	1	[ ]	[ ]	[ ]	"
Extra 15 and 60 ml sample bottles	20 each	[ ]	[ ]	[ ]	-
Needle flush tool	1	[ ]	[ ]	[ ]	-
Wyp-Alls or Paper Towels (pkg)	2	[ ]	[ ]	[ ]	Chem Lab
Flashlight, extra batteries	1	[ ]	[ ]	[ ]	Access Control Desk
Kimwipes (boxes)	2	[ ]	[ ]	[ ]	Chem Lab
Large plastic bags	10	[ ]	[ ]	[ ]	Access Control
7. D1 (Top Drawer)					
Pens - Sanford	4	[ ]	[ ]	[ ]	Office Supplies
- Ball Point	4	[ ]	[ ]	[ ]	"
Labels (sheet)	1	[ ]	[ ]	[ ]	"
Gloves (pairs)	5	[ ]	[ ]	[ ]	Chem Lab
Scissors	1	[ ]	[ ]	[ ]	Office Supplies
Stopwatch/clock	1	[ ]	[ ]	[ ]	Radiation Foreman's Office
Calculator	1	[ ]	[ ]	[ ]	-

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE POST LOCA ROOM

PART 2, THE POST LOCA ROOM		CHECKED DEFECTIVE OR MISSING			NORMAL REPLACEMENT LOCATION
ITEM	QUANTITY	OK		REPLACED	
1. Motor Repair Shop					
Argon Gas	>1000 psig	{ }	{ }	{ }	G.C. Warehouse # 930679
2000 ppm Hydrogen Span Gas	>100 psig	{ }	{ }	{ }	G.C. Warehouse # 930677
10% Hydrogen Span Gas	>100 psig	{ }	{ }	{ }	G.C. Warehouse # 930678
2. Located around the room					
CASP cart/cask	1	{ }	{ }	{ }	-
PI-1109/PI-1116	1 each	{ }	{ }	{ }	-
Buffer: pH7, 4 or 10	>2 gallons	{ }	{ }	{ }	Chem Lab
Meter-long reach rod	1	{ }	{ }	{ }	-
LSP cart/cask	1	{ }	{ }	{ }	-
-60 ml bottle lift rod assembly	1	{ }	{ }	{ }	-
-15 ml bottle lift rod assembly	1	{ }	{ }	{ }	-
-auxiliary shield	1	{ }	{ }	{ }	-
SCBA air bottles	6	{ }	{ }	{ }	Aux. Bldg. or Access Control
3. Hot file					
Boron Calibration graph	1	{ }	{ }	{ }	Prepared by CARP Tech.
Chloride Calibration graph	1	{ }	{ }	{ }	"
Hydrogen Calibration graph - CA	1	{ }	{ }	{ }	"
Hydrogen Calibration graph - off gas	1	{ }	{ }	{ }	"
4. Hot Cell/Sink Area					
Fully operable hot cell	1	{ }	{ }	{ }	-
Shielded sample holder brick	1	{ }	{ }	{ }	-
Spectrophotometer	1	{ }	{ }	{ }	Chem Lab
Demineralized water in 5 gallon carboy	1	{ }	{ }	{ }	Chem Lab



PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

PART 1, THE 85' LOCKER

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED	NORMAL REPLACEMENT LOCATION
		OK	MISSING		
1. Instruction Binder					
a. Sanford Marking Pens	2	[ ]	[ ]	[ ]	Maintained by Chem and Rad Clerk
b. Red Marking Pens	2	[ ]	[ ]	[ ]	
c. Black Marking Pens	2	[ ]	[ ]	[ ]	
d. EP RB-15 "Sentry Post Accident Sampling System - Initial Sampling Exercise (Part A)	1	[ ]	[ ]	[ ]	"
e. EP RB-15 Data Sheets	5	[ ]	[ ]	[ ]	"
2. Monitoring Equipment					
a. Teletector (Eberline 6112)	2	[ ]	[ ]	[ ]	Access Control Storage Room
b. Dose Rate Meter (HPI-1010 or RO-2 or RO-2A)	2	[ ]	[ ]	[ ]	
c. Pocket Dosimeters (0-5R)	6	[ ]	[ ]	[ ]	Issued at Access Control
d. Pocket Dosimeters (0-200mR)	6	[ ]	[ ]	[ ]	
e. Dosimeter Charger	1	[ ]	[ ]	[ ]	Radiation Protection Foreman
f. Lapel air samplers					
1) Air Pumps	6	[ ]	[ ]	[ ]	Respirator Issue Room
2) Filter Holders	6	[ ]	[ ]	[ ]	
3) Filters	1 box	[ ]	[ ]	[ ]	Access Control Cabinet
4) Connecting tubing	6	[ ]	[ ]	[ ]	"

69-10507 6/85 (5)

## POST-LOCA SAMPLING KIT INVENTORY CHECK LIST

DATE \_\_\_\_\_

PERFORMED BY \_\_\_\_\_

CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 1, THE 85' LOCKER (Continued)

<u>ITEM</u>	<u>QUANTITY</u>	<u>CHECKED DEFECTIVE OR</u>			<u>NORMAL REPLACEMENT LOCATION</u>
		<u>OK</u>	<u>MISSING</u>	<u>REPLACED</u>	
4. Protective Clothing					
a. Coveralls	6	[ ]	[ ]	[ ]	Aux.Bldg.Dressout Stations
b. Hood	6	[ ]	[ ]	[ ]	"
c. Surgeon's Cap	6	[ ]	[ ]	[ ]	Access Control Cabinet WH# 56-5020
d. Plastic Booties	24	[ ]	[ ]	[ ]	Aux.Bldg.Dressout Stations
e. Rubber Shoe Covers					Rad. Waste Bldg. [REDACTED]
1) Giant	2 pair	[ ]	[ ]	[ ]	"
2) Extra Large	2 pair	[ ]	[ ]	[ ]	"
3) Large	4 pair	[ ]	[ ]	[ ]	"
4) Medium	2 pair	[ ]	[ ]	[ ]	"
5) Small	2 pair	[ ]	[ ]	[ ]	"
f. Cotton liners	12 pair	[ ]	[ ]	[ ]	"
g. Rubber gloves	12 pair	[ ]	[ ]	[ ]	Access Control Cabinet WH# 56-2230
h. Masking tape	3 rolls	[ ]	[ ]	[ ]	Access Control Cabinet WH# 56-9320
i. Small plastic bags (for matches, dosimeters, etc)	12	[ ]	[ ]	[ ]	
j. SCBA with full bottle	3	[ ]	[ ]	[ ]	Access Control Locker Room
5. Miscellaneous					
a. Large plastic bag	10	[ ]	[ ]	[ ]	Access Control WH# 70-1200
b. Flashlight with batteries	3	[ ]	[ ]	[ ]	Access Control WH# 20-1234
c. Extra batteries	6	[ ]	[ ]	[ ]	Access Control WH# 56-3001

## TITLE: HOSPITAL KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED
		OK	MISSING	
36. Forceps	1	[ ]	[ ]	[ ]
37. Smear Pads 8" x 8" Cotton (Pkg. of 10)	2	[ ]	[ ]	[ ]
38. Medical Referral Form (69-6015)	3	[ ]	[ ]	[ ]
39. Light Duty Letter	3	[ ]	[ ]	[ ]
40. Plastic Bag, 18" x 24"	12	[ ]	[ ]	[ ]
41. BDX-60 Air Sampler or equiv. RP# _____	1	[ ]	[ ]	[ ]

REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

## TITLE: HOSPITAL KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED
		OK	MISSING	
19. Spare Detector	1	[ ]	[ ]	[ ]
20. Allen Wrench, 1/16"	1	[ ]	[ ]	[ ]
21. HPI-1010 or equivalent RP# _____ CAL DATE _____	1	[ ]	[ ]	[ ]
22. 0-200 mR Pencil Dosimeters CAL DATE _____	2	[ ]	[ ]	[ ]
23. 0-5R Pencil Dosimeters CAL DATE _____	2	[ ]	[ ]	[ ]
24. Dosimeter Charger w/Battery RP# _____	1	[ ]	[ ]	[ ]
25. 2" Swabs w/packet	250	[ ]	[ ]	[ ]
26. 2" Air Sample Filter w/Envelopes	50	[ ]	[ ]	[ ]
27. 38mm Air Filter for Bendix BDX-60 (box)	1	[ ]	[ ]	[ ]
28. Plastic Envelopes, 3" x 5"	30	[ ]	[ ]	[ ]
29. Gummed Labels	40	[ ]	[ ]	[ ]
30. Plastic Bags, 38" x 65"	6	[ ]	[ ]	[ ]
31. Grease Pencil	2	[ ]	[ ]	[ ]
32. Ballpoint/Felt Tip Pens	3	[ ]	[ ]	[ ]
33. Waterproof Pen	2	[ ]	[ ]	[ ]
34. Personnel Decon. Records (69-9392)	6	[ ]	[ ]	[ ]
35. Radiation and Contamination Survey Sheet	12	[ ]	[ ]	[ ]

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: HOSPITAL KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED
		OK	MISSING	
1. Full Face Respirator w/Type H or Equivalent Filters	2	[ ]	[ ]	[ ]
2. Disposable Coveralls	4	[ ]	[ ]	[ ]
3. Hood	4	[ ]	[ ]	[ ]
4. Disposable Shoe Covers (pr.)	4	[ ]	[ ]	[ ]
5. Surgical Latex Gloves (box)	1	[ ]	[ ]	[ ]
6. Rubbers (pr.)	4	[ ]	[ ]	[ ]
7. Masking Tape, 2" width (roll)	2	[ ]	[ ]	[ ]
8. Duct Tape, 2" width (roll)	2	[ ]	[ ]	[ ]
9. "Radioactive Material Area" Sign	5	[ ]	[ ]	[ ]
10. "Surface Contamination Area" Sign	5	[ ]	[ ]	[ ]
11. "High Radiation Area" Sign	2	[ ]	[ ]	[ ]
12. "Radiation Area" Sign	5	[ ]	[ ]	[ ]
13. Barricade Tape, 100 yd. Roll	2	[ ]	[ ]	[ ]
14. Ty-wraps	30	[ ]	[ ]	[ ]
15. "Radioactive Material" Labels, 4"x6"	10	[ ]	[ ]	[ ]
16. "Radioactive Material" Labels, 1"x3" (roll)	1	[ ]	[ ]	[ ]
17. E-140/N w/HP-210T or equiv. RP# _____ CAL DATE _____	1	[ ]	[ ]	[ ]
18. HP-260 or equiv. RP# _____	1	[ ]	[ ]	[ ]

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2


TITLE: EVACUATION KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED
		OK	MISSING	
1. Binder Contents				
a. Emergency Procedures G-4, G-5	1 each	[ ]	[ ]	[ ]
b. Form 69-9310	50	[ ]	[ ]	[ ]
c. Form 69-9311	100	[ ]	[ ]	[ ]
d. Form 69-9369	5-10	[ ]	[ ]	[ ]
2. Ballpoint Pens	4	[ ]	[ ]	[ ]
3. Calculator (I.D. No. _____)	1	[ ]	[ ]	[ ]
Battery	1			[ ]
4. Flashlight	1	[ ]	[ ]	[ ]
Batteries	2			[ ]
5. Plastic Bags (14" x 24")	3	[ ]	[ ]	[ ]
6. Bullhorn (I.D. No. _____)	1			[ ]
Batteries	1	[ ]	[ ]	[ ]
7. Packages of 2" Filters (10 filters per package)	50	[ ]	[ ]	[ ]
8. Barricade Tape, 100 ft. rolls	2	[ ]	[ ]	[ ]
9. Dosimeter Chgr. (RP# _____)	1	[ ]	[ ]	[ ]
Battery				[ ]
10. Dosimeter Pencils, 0-200 mR	4	[ ]	[ ]	[ ]
CAL DATE _____				



## TITLE: EVACUATION KIT INVENTORY CHECK LIST

ITEM	QUANTITY	CHECKED DEFECTIVE OR		REPLACED
		OK	MISSING	
11. Rad Owl (Replacement Inst. RP# _____) CAL DATE _____	1	[ ]	[ ]	[ ]
12. Eberline E-140 Survey Meter or E140M or equivalent (Replacement Inst. RP# _____) CAK DATE _____	1	[ ]	[ ]	[ ]
13. HP-240 GM Probe or HP-210 or equivalent (RP# _____)	1	[ ]	[ ]	[ ]
14. Corporation Key 	1	[ ]	[ ]	[ ]
15. Information Center Emergency Room Key	1	[ ]	[ ]	[ ]

REMARKS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_  
QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_BOX CQUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
1. Monitoring Equipment				
a. Dose Rate Meter Rad Owl/RO-2 (or equiv.) RP# _____ CAL DATE _____	<u>*</u>	_____	_____	_____
b. Dose Rate Meter HPI-1010 (or equiv.) RP# _____ CAL DATE _____	<u>*</u>	_____	_____	<u>2</u>
c. Survey Meter (Eber. E-140 or E-140/N or equiv.) RP# _____ CAL DATE _____	<u>1</u>	_____	_____	_____
d. Standard G-M Probe (Eber. HP-240/HP-270 or equiv.) RP# _____	<u>1</u>	_____	_____	_____
e. Pancake G-M Probe (Eber. HP-210 or HP-260 or equiv.) RP# _____	<u>1</u>	_____	_____	_____
f. Dosimeter Charger RP# _____	<u>1</u>	_____	_____	_____

\*Check with appropriate inventory list located in information binder for kit requirements.

TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_

QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX 8QUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
5. Miscellaneous Equipment				
a. First Aid Kit (Size 10)	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
b. Masking Tape (2" wide rolls)	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
c. Battery Powered Lantern (w/6V Battery)	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
d. "Kwik-Kold" Packs	<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>
6. Signs + Barriers				
a. Radiation Signs (w/3 inserts)	<u>*</u>	<u>          </u>	<u>          </u>	<u>          </u>
b. Radiation Barricade Tape (100' Rolls)	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>

\*Check with appropriate inventory list located in information binder for kit requirements.

## TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_

QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX 8QUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
4. Protective Clothing/Decontamination				
a. Protective Clothing Sets (Coveralls, hood, booties, rubbers, gloves)	<u>2</u>	_____	_____	_____
b. Full Face Mask	<u>2</u>	_____	_____	_____
c. Type GMR-S Filters or GMI-H (or equiv.) for Face Masks (min.)	<u>2</u>	_____	_____	_____
d. Smear Pads 8" x 8" cotton (Pkg of 10)	<u>*</u>	_____	_____	_____
e. Paper Towels (pkg)	<u>*</u>	_____	_____	_____
f. Plastic Bags (38" x 65")	<u>3</u>	_____	_____	_____

\*Check with appropriate inventory list located in information binder for kit requirements.

## TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_  
 QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX 8

QUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
o. Emergency Environmental Monitoring Field Data Sheet (Form 69-9259)	<u>100</u>	<u>          </u>	<u>          </u>	<u>          </u>
p. Computation Paper (Packet)	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
q. Calculator S/N _____	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
2. Air Sampling Equipment				
a. Iodine Filter Cartridges 3 pkgs of 10 filters each:				
1 pkg-AgZ	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
2 pkg-TEDA	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
3. Sampling Equipment				
a. Plastic Bags Approx. (18" x 24")	<u>15</u>	<u>          </u>	<u>          </u>	<u>          </u>
b. Sample bottles (1 liter)	<u>*</u>	<u>          </u>	<u>          </u>	<u>          </u>

\*Check with appropriate inventory list located in information binder for kit requirements.

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_

QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX 8QUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
1. Instructions, Procedures, and Supplies				
a. Instruction Binder	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
b. Tables of Contents	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
c. Sanford Marking Pens	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
d. Red Marking Pens	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
e. Black Marking Pens	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
f. Ball Point Pens	<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>
g. SLO County Map	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
h. Equipment Location Drawings (Set) Unit 1	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
i. Corporation Key	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
j. Information Center Key	<u>*</u>	<u>          </u>	<u>          </u>	<u>          </u>
k. "Emergency Onsite Environment Montr. Prog.", RB-7	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
l. "Emergency Offsite Environment Montr. Prog.", RB-8	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
m. "Emergency Equip., Instr., and Supplies", EF-5	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>
n. Record of Potassium Iodide Distribution, Form #69-9395	<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>

\*Check with appropriate inventory list located in information binder for kit requirements.



## TITLE: EMERGENCY KIT INVENTORY CHECK LIST (continued)

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_  
 QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX AQUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
4. Monitoring Equipment				
a. Pocket Dosimeter (0-5R) CAL DATE _____	<u>2</u>	_____	_____	_____
b. Pocket Dosimeter (0-200MR) CAL DATE _____	<u>2</u>	_____	_____	_____
5. Miscellaneous				
a. Gummed Labels (sheet)	<u>5</u>	_____	_____	_____
b. Flashlight w/Batteries	<u>*</u>	_____	_____	_____
c. Extra Batteries	<u>*</u>	_____	_____	_____
d. Roll of Dimes	<u>1</u>	_____	_____	_____
e. Stopwatch	<u>1</u>	_____	_____	_____
f. Scissors	<u>1</u>	_____	_____	_____
g. Crescent Wrench (8")	<u>1</u>	_____	_____	_____
h. Screwdriver	<u>1</u>	_____	_____	_____
i. Grass Shears	<u>1</u>	_____	_____	_____
j. KI Tablets (bottle)	<u>1</u>	_____	_____	_____
Expiration Date _____				
k. Casio digital watch	<u>1</u>	_____	_____	_____
l. Bolt Cutter		Two are available on wall in storeroom of Training Building.		

\*Check with appropriate inventory list located in information binder for kit requirements.

## TITLE: EMERGENCY KIT INVENTORY CHECK LIST (continued)

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_  
 QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_

BOX AQUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
h. Paper Envelopes for Particulate Samples (Air Sample)	25	_____	_____	_____
i. Smear Packets (5 smear/pkt)	250	_____	_____	_____
j. Plastic Envelopes for Iodine Cartridges (Ziploc Baggies)	30	_____	_____	_____
k. Forceps	1	_____	_____	_____
3. Protective Clothing/Decontamination				
a. Radiacwash Decontamination Agent (1 Gal. or Equiv.)	1	_____	_____	_____
b. Skin Decontamination Soap (1 pt. or Equiv.)	1	_____	_____	_____
c. Hand Brush	1	_____	_____	_____
d. Floor Scrub Brush	*	_____	_____	_____
e. Bucket (10 qt)	*	_____	_____	_____

\*Check with appropriate inventory list located in information binder for kit requirements.

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

## TITLE: EMERGENCY KIT INVENTORY CHECK LIST

KIT NO. \_\_\_\_\_ KIT LOCATION \_\_\_\_\_  
 QUARTER \_\_\_\_\_ DATE \_\_\_\_\_ PERFORMED BY \_\_\_\_\_  
BOX A QUANTITY

	<u>REQUIRED</u>	<u>PRESENT</u>	<u>DEFECTIVE OR MISSING</u>	<u>REPLACED</u>
1. Sampling Equipment				
a. Trowel	<u>1</u>	_____	_____	_____
2. Air Sampling Equipment				
a. 12V Air Sampler + Sample Head (w/Battery, Radeco H-809B or equiv.) RP# _____ CAL DATE _____	<u>*</u>	_____	_____	_____
b. 12V Air Sampler + Sample Head (w/o Battery, Radeco H-809C or equiv.) RP# _____ CAL DATE _____	<u>*</u>	_____	_____	_____
c. 120V Air Sampler + Sample Head (Radeco HD-28B or equiv.) RP# _____ CAL DATE _____	<u>*</u>	_____	_____	_____
d. Air Cylinder Regulator	<u>1</u>	_____	_____	_____
e. Compressed Air Cylinders (at 1700 psi)	<u>2</u>	_____	_____	_____
f. Sample Head w/Adapter to fit Air Cylinder	<u>1</u>	_____	_____	_____
g. Air Sample Particulate Filters (pkg of 10)	<u>10</u>	_____	_____	_____

\* Check with appropriate inventory list located in information binder for kit requirements.

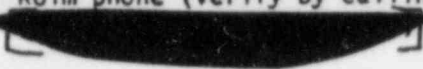
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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 17  
ISOTOPIC MEASUREMENT EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Gamma Spectrometer located at Cal. Poly Physics building room E12B	Surveillance by Emergency Planning/Quarterly
b. Rolm phone (verify by calling  )	Surveillance by Emergency Planning/Quarterly

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 16  
ASSEMBLY AREA EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Bullhorns	Battery change and operability checked by Emergency Planning/Quarterly <sup>1</sup>
b. Assembly Area Packets	Updated by Emergency Planning/Monthly <sup>1</sup>
c. Field Team Radios (2)	Operability check and battery exercise by C&RP/Quarterly

<sup>1</sup>Use form 69-10866

TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

TABLE 15  
MEDIA CENTER EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
Newsroom (Psychology Building)	
a. Black rotary phones (31)	Operability checked by Emergency Planning/Quarterly <sup>1</sup>
b. Phone directories	Replaced by Emergency Planning/annually
Public Information Center (Auditorium - Men's dressing room)	
a. Black rotary phones (5)	Operability checked by Emergency Planning/Quarterly <sup>1</sup>
b. Yellow net phone (1)	
Rumor Control Center (Auditorium - Women's dressing room)	
a. Black rotary phones (10)	Operability checked by Emergency Planning/Quarterly <sup>1</sup>
Public Information Representatives Office (Auditorium-Lobby)	
a. Black rotary phones (2)	Operability checked by Emergency Planning/Quarterly <sup>1</sup>
b. Yellow net phone (1)	

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<sup>1</sup>Use form 69-10865



TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

TABLE 14  
PG&E ENERGY INFORMATION CENTER DECONTAMINATION  
FACILITY EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Contaminated Solid Waste Disposal Supplies (for contaminated clothing)	Inventory by Emergency Planning/Quarterly <sup>1</sup>
1) Plastic garbage cans and bags.	
b. Personnel Decontamination Supplies	Inventory by Emergency Planning/Quarterly <sup>1</sup>
1) Soap	
2) Brushes	
c. Replacement Clothing Towels	Inventory by Emergency Planning/Quarterly <sup>1</sup>
1) Coveralls	
2) Towels	
d. Miscellaneous Equipment	Inventory by Emergency Planning/Quarterly <sup>1</sup>
1) Contamination caution signs	
2) First Aid Kit	
3) Blankets	
4) Tape	

<sup>1</sup>Use Form 69-10864

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TABLE 13 (Continued)  
EMERGENCY OPERATIONS FACILITY EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
Volume 2 - Operating Procedures	
Volume 3 - Emergency Procedures (3 copies)	
Volume 4 - Licenses & Permits	
Volume 7 - Radiation Control Standards and Procedures	
Volume 9 - Temporary Procedure (Curves & Misc Data)	
Volume 11 - Emergency Plans (3 copies)	
2) Piping Schematics	
3) Instrument Schematics	
4) Electrical Drawings	
5) Operating Valve Identification Diagrams	
6) Drawing 102037 - Instrument Locations	
7) Drawing 102038 - Instrument Reference	
8) Corporate Emergency Response Plan	
9) Nuclear Emergency Response Communications Directory	
10) Cypher Pad Code for San Luis Obispo Service Center Garage	

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 13  
EMERGENCY OPERATIONS FACILITY EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Emergency Assessment and Response System (EARS)	See GOAP W-302
1) 9845T Computer	
2) Chromatics Colorgraphics Display	
b. Manual Dose Projection Equipment	Inventory by Emergency Planning/Monthly <sup>2</sup>
1) Base Map	
2) Seven Overlays	
c. Communications	Operability Check by Emergency Planning/Monthly <sup>1</sup>
1) Radio	
2) Telephone	
d. Consumables	
1) Emergency Forms	Inventory by Emergency Planning/Monthly <sup>3</sup>
2) Office Supplies	Check by Emergency Planning/Monthly <sup>1</sup>
e. Documents	
1) Plant Manuals	Normal Document Control Practice, Inventory by Emergency Planning/Monthly <sup>2</sup>

<sup>1</sup> Use Form 69-10770

<sup>2</sup> Use Form 69-10771

<sup>3</sup> Use Form 69-10582

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 12  
OPERATIONAL SUPPORT CENTER EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
Operational Support Center (Access Control/Cold Machine Shop)	
Communications	
1) Telephone	
a) Direct line to TSC/CR	Operability Check by Emergency Planning/Quarterly <sup>1</sup>
b) Rolm phone	Operability Check by Emergency Planning/Quarterly <sup>1</sup>
<u>NOTE:</u> One set of phones located in General Maintenance Foreman's office and one set located in Access Control.	
2) Status Boards	Operability Check by Emergency Planning/Quarterly <sup>1</sup>
3) Portable Radios	In normal use, none required.

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<sup>1</sup> Use Form 69-10769

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 11 (Continued)  
TECHNICAL SUPPORT CENTER EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
2) Piping Schematics	
3) Instrument Schematics	
4) Electrical Diagrams, Logic Diagrams and Electrical Arrangements	
5) Operating Valve Diagrams	
6) Drawing 102037 - Instrument Locations	
7) Drawing 102038 - Instrument Reference	
8) Complete Set of Drawings	
9) Complete Set of Documents	
10) Cypher Pad Code for San Luis Obispo Service Center Garage	
11) Corporate Emergency Response Plan	
12) Nuclear Emergency Response Communications Directory	

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 11  
TECHNICAL SUPPORT CENTER EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Control Room Closed Circuit TV Monitors	Operability Check by Emergency Planning/Monthly <sup>1</sup>
b. Communications	Operability Check by Emergency Planning/Monthly <sup>1</sup>
1) Radio	
2) Telephone	
c. Emergency Assessment and Response System	See GOAP W-302
d. Manual Dose Projection Equipment	Inventory/Monthly <sup>2</sup>
1) Dose Map	
2) Seven Overlays	
e. Computerized Records Management System	Inventory Equipment by Emergency Planning/Monthly <sup>2</sup>
f. Documents	Normal Document Control Practices, Inventory by Emergency Planning/Monthly <sup>2</sup>
1) Plant Manuals	
Vol 2 - Operating Procedures	
Vol 3 - Emergency Procedure	
Vol 4 - Licenses & Permits	
Vol 7 - Radiation Control Standards & Procedures	
Vol 9 - Temporary Procedures (Curves & Misc Data)	
Vol 11- Emergency Plans	

<sup>1</sup> Use Form 69-10767

<sup>2</sup> Use Form 69-10768



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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 10  
CONTROL ROOM EMERGENCY PLAN EQUIPMENT

<u>ITEM</u>	<u>SURVEILLANCE TYPE/FREQUENCY</u>
a. Emergency Assessment and Response System	See GOAP W-302
1) 9845C Computer	
b. Manual Dose Projection Equipment	Inventory by Emergency Planning/Quarterly (Use form 69-10766)
1) Base Map	
2) Seven Overlays	
c. Closed Circuit TV Cameras	Refer to the Technical Support Center
d. Communications	See STP I-29
1) Radio	
2) Telephone	
3) Emergency Signal	
e. Radiological Display	See STP I-44
f. Radiation Monitoring Display	See STP I-18

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TABLE 9 (Continued)  
EWS SIREN LOCATIONSSIREN NO.LOCATION

56B

Off Highway 101, .3 miles off Highway  
on dirt road in front of Bob's Big Boy  
billboard sign.

57

On Valley Road (Highway 1) about 7000 ft.  
South of 53 and 1 mile south of Halcyon Road.

58

At end of Stanton Road South of Los  
Berros Road.

59

On Los Berros Rd between Stanton and  
Pomeroy.

60

On Pomeroy Road 1 mile south of Los  
Berros Road near Camino-Perrillo.

61

On Willow Road at Black Lake County  
Club.

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES		

TABLE 9 (Continued) EWS SIREN LOCATIONS	
<u>SIREN NO.</u>	<u>LOCATION</u>
52D	On Corbett Canyon Road at the intersection of Corbett Canyon Road and Royal Oak Place.
53	On Valley Road (Highway 1) about 7000 ft. south of 51A and just north of Halcyon Road.
54	On Corbett Canyon Road, .65 miles north of Tiffany Ranch Road.
54A	On Highway 227, .9 miles north of Noyes Road.
54B	On Verde Canyon Road, .45 miles off Corbett Canyon Road.
54C	On Highway 227, .85 miles south of Noyes Road.
54D	On Bee Canyon Road, right off of Corbett Canyon Road.
54E	At the intersection of Deer Canyon Road and Corbett Canyon Road.
55A	On Corralitos Canyon Road, 1 mile off Lopez Drive.
55B	On Lopez Drive next to Blue Sky Drive.
55C	On Corralitos Canyon Road, .55 miles off Lopez Drive.
55E	On School Road, .4 miles off of Huasna Road.
56	Near intersection of El Campo & Clark Way.
56A	On Highway 101, .4 miles south of El Campo Road.

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
44	In Pismo Beach on a water tank in subdivision above Pismo Beach.
45	In Pismo Beach on Bello Road near Veteran's Hall.
46	On Highway 1 in So. Pismo Beach 1/2 mile north of Grand Ave.
47	In Grover City - 4th and Manhattan.
48	In Oceano on Railroad Avenue.
49	In Grover City at Water Tower on Hillcrest Drive
49B	On Oak Park Blvd. in Arroyo Grande .3 miles from Noyes Road.
49C	In Arroyo Grande near intersection of Oak Park Blvd. and Vista Del Robles.
50	Near Oceano on The Pike between LaVista and So. Elm.
51	In Arroyo Grande near new Fire Station.
51A	At PGandE Oceano substation on Valley Road south of Arroyo Grande.
52	In Arroyo Grande Road on Huasna Rd east of Stagecoach Road
52A	On Printz Road north of Arroyo Grande.
52B	On Noyes Road north of Printz Road.
52C	On Highway 227, between Shannon Lane and Phillips Road

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 9 (Continued)  
FWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
36	Off Highway 101 Frontage Road near intersection of Shell Beach Road and Landing Road.
36A	Off Highway 101 Frontage Road near intersection of Ontario Road and Avila Road.
37A	At Shell Beach Fire Station.
38	On Mattie Road near McClintock's restaurant.
38A	On Shell Beach Road near Price Street intersection.
39	In San Luis Obispo on Santa Fe Road south of Tank Farm Road.
40	On private property south of San Luis Airport.
40A	On Orcutt Road, 1.75 miles south of the intersection of Orcutt and Johnson
41	On Biddle Ranch Road just east of Edna Road.
41A	On Orcutt Road, half a mile south of Briddle Ranch Road
41B	On Righetti Road, 1.1 miles off of Orcutt Road
42	On Price Canyon Road on Grace Oil property.
43	On Price Canyon Road about 1 mile north of Pismo Beach.

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
30	In San Luis Obispo on Prado Road.
31	In PG&E's Service Center yard on So. Higuera.
31A	On Jespersen Road, south of Buckley Road.
31B	On Highway 101 Frontage Road 1 mile south of Higuera off ramp.
31C	On Highway 101 Frontage Road, just off Higuera off-ramp, about 2000' north of 500KV right of way.
31D	Near end of private dirt road west of Higuera off-ramp.
31E	Near 12KV line off Castro Canyon Road 1/2 mile off Highway 101 Frontage Road.
32	On Squire Canyon Road east of Highway 101 near intersection of San Luis Bay Drive and Monte Rd.
33	Across street from Bellvue - Santa Fe Elementary School on See Canyon Road off San Luis Bay Drive.
34	In Avila Beach near DCPD security gate.
34A	Light house local coverage.
B34B	4 miles off See Canyon Road near 500 KV right of way, by John Niemier's house.
35	In downtown Avila Beach near San Antonio Street.



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TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
26	Near intersection of See Canyon Road and Davis Canyon Road about 3.6 miles off of San Luis Bay Drive.
26A	On See Canyon Road about 4.6 miles off of San Luis Bay Drive.
27	On See Canyon Road about 1.2 miles off of San Luis Bay Drive.
27A	On See Canyon Road about 2.4 miles off of San Luis Bay Drive.
27B	On See Canyon Road about 3 miles off of San Luis Bay Drive.
27C	On Davis Canyon Road about 1/2 mile off of See Canyon Road.
B27D	On Davis Canyon Road about 1.6 miles off of See Canyon Road.
27E	On Davis Canyon Road about 1 mile off of See Canyon Road.
27F	On Davis Canyon Road, 3.3 miles off See Canyon Road
29	On Los Osos Valley Road about 2000' south of Madonna Road by Pacific Beach Continuation School
29A	Off Los Osos Valley Road in Laguna Lake area by Descanso Drive.
29B	On Calle Joaquin next to Madonna shopping center parking lot in San Luis Obispo.

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TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
19C	Los Osos - near the end of Valley View Place.
19D	In Los Osos - on Nipomo Avenue East of South Bay Boulevard between Willow Dr and Andre Ave.
19E	In Los Osos near the Fire Station on Calle Cardonay.
20	On Los Osos Valley Road near the 500 kV right of way west of Turri Road.
21	On Los Osos Valley Road east of Turri Road.
22	On Los Osos Valley Road about 2 miles west of Foothill Blvd.
23	Near the intersection of O'Connor Way and Foothill Blvd.
23A	On O'Connor Way about 2 miles west of Foothill Blvd.
24	On Perfumo Canyon Road about 2 miles from Los Osos Valley Rd.
24A	At end of private dirt road about 2000' south from point that Perfumo Canyon Rd pavement ends.
24B	Near the end of Sycamore Canyon Road off Clark Valley Rd.
25	At the top of Perfumo Canyon Road.
25A	On Andres property along Coon Creek Road about 1-3/4 miles west of upper end of See Canyon Road.

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TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
14	On Highway 1 about 1/2 mile west of the California Division of Forestry.
14A	On Stenner Creek Road, 1.7 miles off of Highway 1.
15	In San Luis Obispo across the street from City Fire Station on No. Chorro Street.
15A	On Foothill Blvd. just outside San Luis Obispo, 3/10 mi southwest of Rosita St.
16	In San Luis Obispo near Grand Avenue and Slack Street.
16A	On Poly Canyon Road, .9 miles from the North Perimeter Road on the Cal Poly Campus.
16B	In San Luis Obispo, on Highway 101, .3 miles west of Reservoir Canyon Road.
16C	On Highway 101 at the bottom of Cuesta Grade.
17	In San Luis Obispo parking lot next to the Fire Station on Garden Street.
18	In San Luis Obispo on Augusta St. near Sinsheimer School.
18A	On Orcutt Road, 1 mile south of the intersection of Johnson and Orcutt.
19A	On Clark Valley Rd. off Los Osos Valley Rd. near PGandE 500kV right-of-way.

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TABLE 9 (Continued)  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
5F	On Little Morro Creek Road, 2.1 miles from Radcliff Street
5G	On Little Morro Creek Road, 3.7 miles from Radcliff Street
6	In Baywood Park near the intersection of Santa Ysabel and 2nd St.
6A	In Baywood Park near the intersection of El Morro Avenue and 8th Street.
7	In Los Osos on Pecho Valley Road several blocks west of Pine Avenue.
8A	Montana de Oro Park near the Ranger Station.
8B	Montana de Oro Park near the Ranger's residence.
8C	On the Field's property south of the gate.
8D	On the Field's property near the Field's residence.
9	Near Highway 1 on PG&E's Baywood substation yard.
9A	On San Bernardo Creek Road, 1.8 miles from Highway 1
10	Near Highway 1 west of San Luisito Creek Road.
12	On Highway 1 just north of Cuesta College.
13	On Highway 1 northwest of Animal Shelter.

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TABLE 9  
EWS SIREN LOCATIONS

<u>SIREN NO.</u>	<u>LOCATION</u>
1	North Morro Bay - near the intersection of Sequoia and Alder.
1A	Near intersection of So. Ocean and Chaney Ave. off Highway 1.
1B	Near the Cayucos Cemetary on Highway 1.
1C	Cayucos near the intersection of 4th & Park
2	On PG&E property at the Morro Bay Power Plant, near Highway 1
2A	On PG&E property at the Morro Bay Power Plant, near the Embarcadero
3	In Morro Bay, on Morro Avenue north of Olive.
3A	In Morro Bay, near the intersection of Ridgeway Street and Fairview Avenue.
5	Near the Cayucos Substation, off Cypress Mountain Road
5A	On Montecito Road, 1.1 miles off Cypress Mountain Road
5B	On Torro Creek Road, 2.8 miles from Highway 1
5C	On Torro Creek Road, 1.4 miles from Highway 1
5D	On Highway 41, 1.95 miles from Highway 1
5E	On Highway 41, .9 miles from Highway 1


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TABLE 8.a (Continued)  
EMERGENCY ORGANIZATION RADIO PAGERS

<u>Emergency Position</u>	<u>Pager Encode Number</u>	<u>Group Page Encode Number</u>
Mobil Environmental Monitoring Lab Operator		
Interim Public Information Recovery Manager		
Ron Weinberg Missie Hobson		

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 8.a  
EMERGENCY ORGANIZATION RADIO PAGERS

<u>Emergency Position</u>	<u>Pager Encode Number</u>	<u>Group Page Encode Number</u>
Site Emergency Coordinator		
Emergency Operations Coordinator (Plant Superintendent)		
Emergency Evaluation and Recovery Coordinator		
Emergency Radiological Advisor		
Emergency Liaison Coordinator		
Advisor to the County Emergency Organization		
Emergency Maintenance Coordinator		
Site Chemistry and Radiation Protection Coordinator		
Emergency Liaison Assistant #1		
Emergency Liaison Assistant #2		
Data Processor No. 1		
Data Processor No. 2		
Instrument Maintenance Coordinator		
Electrical Maintenance Coordinator		
Mechanical Maintenance Coordinator		
Fire Marshal		
EARS Operator - TSC		

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TABLE 8 (Continued)  
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PLANT VEHICLE LIST

8-7826	22-476	1985	FORD	1/2 TON P/U	MECH MAINT	STRAHL, J.	2G74627
8-7866	22-476	1984	FORD	PU/RANGER	GARAGE	SUMABAT, R.	2K67852
8-7926	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60606
8-7940	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60609
8-7956	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60717
8-7964	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60718
8-7971	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60719
8-7977	22-476	1984	FORD	PU/RANGER	SECURITY	RYAN, BILL	2K60610
8-8150	22-476	1984	PLYMOUTH	RELIANT	OFFICE SERVICES	POOL	1JPA699
8-8154	22-476	1984	PLYMOUTH	RELIANT	PLANT MANAGER	THORNBERRY	1JPA703
8-8166	22-476	1984	PLYMOUTH	RELIANT	SR. OPERATIONS	FRIDLEY, S.	1JPA702
8-8247	18-257	1984	PLYMOUTH	HORIZON	COMMUNICATIONS	JOHNSON, D.	1JEE206
8-8329	22-476	1984	FORD	PU/RANGER	CHEM & RAD	SNYDER, BOB	2H57993
8-8331	22-476	1984	FORD	PU/RANGER	SECURITY	HAYES, JOHN	2H57994
8-8332	22-476	1984	FORD	PU/RANGER	OPERATIONS	MCLARNEY, C	2H57999
8-8333	22-476	1984	FORD	PU/RANGER	ELEC MAINT	ZOCHER, G.	2H57998
8-8334	22-476	1984	FORD	PU/RANGER	CHEM & RAD	SNYDER, BOB	2H57996
8-8336	22-476	1984	FORD	PU/RANGER	CHEM & RAD	SNYDER, BOB	2H57994
8-8337	11-476	1984	FORD	PU/RANGER	MECH MAINT	STRAHL, J.	2H57995
8-9452	22-513	1985	FORD	VAN	GC/RMS BACKFIT	DRUM, DONNA	2H5733
8-9560	22-476	1985	FORD	PU/F-250	MATERIALS	TEWALT, D.	2H58053
8-9636	22-476	1985	FORD	BRONCO	SECURITY	HAYES, JOHN	2P37909
8-A258	22-476	1979	CHEVROLET	PU/4X4	OPERATIONS	MCLARNEY, C	1N20205
8-B113	22-476	1985	CHEVROLET	SIERRA P/U 1/2TON	SECURITY	HAYES, JOHN	2S21322
8-B210	22-476	1985	CHEVROLET	3/4 TON P/U	MECH MAINT	STRAHL, J.	2P61739
8-B211	22-476	1985	CHEVROLET	3/4 TON P/U	BUILDING SVCS.	JOHNSON, D.	2P61738
8-B212	22-476	1985	CHEVROLET	3/4 TON P/U	OPERATIONS	MCLARNEY, C	2P64139
8-B213	22-476	1985	CHEVROLET	3/4 TON P/U	CHEM & RAD	SNYDER, BOB	2P64140
8-B340	22-476	1985	FORD	VAN	OFFICE SERVICES	POOL	1LGE522
8-B668	22-476	1985	GMC	1/2 TON P/U	I/C DEPARTMENT	PETERSON, B	2R93339
8-D698	22476	1985	PLYMOUTH	RELIANT WAGON	OFFICE SERVICES	POOL	1M5J361
8-E319	22-476	1985	GMC	SAFARI MINIVAN	OFFICE SERVICES	POOL	2P39101

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 TABLE 8 (Continued)  
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 PLANT VEHICLE LIST

ID	AC	YEAR	MANUF	MODEL	LOCATION	ASSIGNED	LIC
4-0325	22-476	1975	CAT	FORKLIFT.ELEC	CHEM & RAD	SNYDER, BOB	NA
4-0811	22-476	1968	DODGE	FIRE PUMPER TRUCK	SAFETY SERVICES	JOHNSON, C.	
4-1173	22-476	1985	NORDSKAG	ELECTRIC CART	NPO WAREHOUSE-A	SMITH, BUD	
4-1180	22-476	1985	NORDSKAG	ELECTRIC CART	OFFICE SERVICES	POOL	
4-1181	22-476	1985	NORDSKAG	ELECTRIC CART	OFFICE SERVICES	POOL	
4-1256	22-476	1982	NORDSKAG	ELECTRIC.CART	OFFICE SERVICES	POOL	NA
4-1257	22-476	1982	NORDSKAG	ELECTRIC CART	NPO WAREHOUSE-A	SMITH, BUD	NA
4-1410	22-476	1982	WHITE	FORKLIFT,PROPANE	MATERIALS	TEWALT, D.	NA
4-3582	22-476	1975		FORKLIFT/ACDIESEL	MECH MAINT	STRAHL, J.	NA
4-4928	22-476	1985	YALE	FORKLIFT	OPERATIONS	MCLARNEY, C	N/A
4-4929	22-476	1985	YALE	FORKLIFT	OPERATIONS	MCLARNEY, C	N/A
4-4932	22-476	1985	YALE	FORKLIFT	MATERIALS	TEWALT, D.	N/A
4-4940	22-476	1985	GRADALL	LOED 542	MECH MAINT	STRAHL, J.	
4-8077	22-476	1965	FORD	TELELECT CRANE	ELEC MAINT	ZOCHER, G.	NA
4-9416	22-476	1974	PH	CRANE	MECH MAINT	STRAHL, J.	NA
7-0353	22-476	1975		FORKLIFT/PALLET	CHEM & RAD	SNYDER, BOB	NA
7-1093	22-476			HYDROLAZER	CHEM & RAD	SNYDER, BOB	NA
7-1784		1972	HOMEMADE	FIREBOX	SAFETY SERVICES	JOHNSON, C.	
8-0043	22-476	1984	FORD	PU/RANGER	SECURITY	HAYES, JOHN	2K60607
8-0056	22-476	1985	CHEVROLET	VAN/8 PASSENGER	SECURITY	RYAN, BILL	2M16589
8-0064	22-476	1985	FORD	VAN/12PASSENGER	SECURITY	RYAN, BILL	1LGA878
8-0388	22-476	1983	FORD	ESCORT	500 KV YARD	COOPER, BOB	1FTY538
8-0389	22-476	1983	FORD	ESCORT	OFFICE SERVICES	POOL	1FTY983
8-0391	22-476	1983	FORD	ESCORT	OFFICE SERVICES	POOL	1FTZ282
8-0401	22-476	1983	FORD	ESCORT	MATERIALS/MGR	MCLANE, W.	1FTZ283
8-0402	22-476	1983	FORD	ESCORT	APH/PLT SUPT	PATTERSON, R	1FTZ284
8-0408	22-476	1983	FORD	ESCORT	POOL	ST. JOHN	1FTZ285
8-0477	22-476	1985	CHEVROLET	CITATION	MAINTENANCE MGR	MIKLUSH, D.	1MMX814
8-0477	22-476	1985	CHEV	CITATION	MAINT MGR	MIKLUSH	1MMX814
8-0491	22-476	1985	CHEVROLET	CITATION	I&C MECH MAINT	CROCKETT, W	1MMX813
8-0754	18-255	1979	CHEVROLET	PU/LUV	COMMUNICATIONS	JOHNSON, D.	1T45110
8-0858	22-476	1985	CHEVROLET	CITATION	CHEM & RAD	BOOTS, J.V.	1MMX806
8-0947	22-476	1985	CHEVROLET	CITATION	OPERATIONS	SEXTON, J.A	1MMX858
8-1075	18-271	1977	CHEVROLET	P/U	500KV YARD	COOPER, BOB	1094780
8-2833	22-505	1985	PLYMOUTH	HORIZON	DCPP PUBLICITY	WEINBERG, R	1KYP246
8-2908	18-165	1984	CHEVROLET	SPORTVAN	COMMUNICATIONS	JOHNSON, D.	
8-3751	22-505	1984	DODGE	OMNI	500 KV YARD	COOPER, BOB	KN8834
8-5037	22-476	1984	PLYMOUTH	RELIANT/WAGON	ASST PLT SUPT	TOWNSEND, J	1JAB933
8-5424	22-476	1985	PLYMOUTH	RELIANT/WAGON	SUPPORT SVCS	KAEFER, WM.	1LGA877
8-5463	22-476	1985	PLYMOUTH	RELIANT/WAGON	TECHNICAL SVCS	GISCLON, J.M	1LGA815
8-5471	22-476	1985	PLYMOUTH	RELIANT/WAGON	OFFICE SERVICES	POOL	1LGA816
8-5497	22-513	1981	PLYMOUTH	SEDAN	MATERIALS	LEVITT, K.A	1BNN439
8-5916	22-476	1985	CHEVROLET	PU/S-10	OPERATIONS	MCLARNEY, C	2N31852
8-6145	22-476	1984	FORD	TEMPO	SECURITY	TODARO, RON	1HGN330
8-6187	22-476	1979	FORD	LTD	OFFICE SERVICES	POOL	67OWNF
8-6258	22-476	1984	FORD	BRONCO/4x4	SECURITY	HAYES, JOHN	1GF1998
8-6558	22-476	1984	CHEVROLET	PU/4x2	MECH MAINT	STRAHL, J.	2F74876
8-6560	22-476	1984	CHEVROLET	PU/4x2	MECH MAINT	STRAHL, J.	2H09471
8-7820	22-476	1984	FORD	ESCORT	TECHNICAL SVCS	WOMACK, L.F	1HON227
8-7821	22-476	1984	FORD	ESCORT	TRAINING	MARTIN, TIM	1HON226

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TABLE 8  
DIABLO CANYON POWER PLANT  
PLANT VEHICLE LIST

Primary position holders of certain emergency response positions are provided with VHF radio-equipped company vehicles. Because these persons are essentially on-call at all times, use of these vehicles is warranted in off hours to ensure rapid communication and response. These personnel are identified in EP G-2, "Establishment of the On-Site Emergency Organization."

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 7 (Continued)  
CONTENTS OF POST-ACCIDENT SAMPLE KIT

PART 2, THE SENTRY CABINETS AND LOCKER (Continued)

<u>ITEM</u>	<u>QUANTITY</u>
8. Procedure: Part I	
a. Printer paper at CCD	1
9. Procedure: Part J	
a. GE Post-Accident Sampling Shipping Package	1
10. Tools/Misc.	
a. Screwdriver - flathead, long shaft	1
b. Screwdriver - philips	1
c. Allen wrenches (small set)	1
d. Wrench (5/16")	1
e. Stopwatch/clock	1
f. Flashlight with batteries	1
g. Single sided razor blades	1
h. Scissors	1
i. Plastic ruler with millimeter graduations	1
j. Scotch tape	1
k. SCBA air bottles	6
l. Marks all pens	4
m. Razor Point/ball point pens	4
n. Safety glasses	2

TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 7 (Continued)  
 CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE SENTRY CABINETS AND LOCKER (Continued)

ITEM	QUANTITY
d. 50 ml erlenmeyer flasks w/stoppers	5
e. 1 cm spectrophotometer cells w/caps	5
f. Pipets w/tips	
1) 5 ml	1
2) 1 ml/1000 $\mu$ l	1
3) 100 $\mu$ l	1
4) 10 $\mu$ l	1
5) 0-5ml w/tip	1
6) 2 ml volumetric pipet	1
7) 5 ml volumetric pipet	1
g. Pipet bulb	1
h. 100ml volumetric flask	1
i. Tongs: 14-16" in length	1
j. Spectrophotometer	1
k. Boric Acid Standards	1
l. Demineralized water in 5 gallon carboy at least half full	1
m. Concentrated hydrochloric acid, HCL	100ml
n. Concentrated sulfuric acid, H <sub>2</sub> SO <sub>4</sub>	100ml
o. Carminic acid solution, prepared weekly	100ml
p. Calibration graph of absorbance vs ppm boron	1
q. Large plastic bags	5
r. Caustic cleaning solution (1/2 gallon)	1
s. Acid cleaning solution (1/2 gallon)	1
t. Acetone or alcohol (1/2 l)	1
7. Procedures: Part G - Ion Chromatograph	
a. L&N recorder paper (roll)	1
b. Calibration graph, chloride vs peak height	1



TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 7 (Continued)  
CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE SENTRY CABINETS AND LOCKER (Continued)

<u>ITEM</u>	<u>QUANTITY</u>
d. Surgeons gloves	5 parts
e. Prelabeled 60ml sample bottles with new septums	5
f. Prelabeled 15ml sample bottles with new septums	5
g. Prelabeled 14cc gas vials with new septums	10
h. Needle flush tool	1
i. Sample ziploc bags	5
j. Sealing tape	1 roll
k. Labels	1 sheet
l. Gas bottle grip tong	1
m. Squeeze bottle with demin water	1
n. 100 ml beakers	2
o. Paper towels or equivalent (box)	2
p. Kimwipes or equivalent (box)	2
4. Procedures: Part C - Containment Air Sampling	
a. Keys for FCV-698, 699, 700	1 set
b. Gas tight 5cc locking syringe	2
c. Needles for gas tight syringe	5
5. Procedures: Part D - Gas Chromatograph	
a. G.C. chart paper (rolls)	3
b. L&N Speedomax chart paper (rolls)	3
c. Calibration graph - CA	1
d. Calibration graph-offgass	1
6. Procedures: Part E - Sample Handling	
a. Fully operable hot cell	1
b. Shielded sample holder brick	1
c. 20cc liquid scintillation vial w/cap	5

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 7 (Continued)  
 CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 2, THE SENTRY CABINETS AND LOCKER

<u>ITEM</u>	<u>QUANTITY</u>
1. In Motor Repair Shop	
a. Argon gas	>1000 psig
b. 2000 ppm Hydrogen Span Gas	>100 psig
c. 10% Hydrogen Span Gas	
2. Procedures: Part A - Initial Startup General Sample Handling	
a. 5 ton come-a-long with extension strap	1
b. Crescent wrenches (8" or longer)	2
c. Zip lock bags - small size	5
d. CASP cart/cask	1
e. PI-1109 (MBIS 4 channel pressure monitor)	2
f. Septums, precut for CASP SF-5	5
g. Buffer - pH 7, 4 or 10	Cal Tank > half full
h. Small jewelers screwdriver	1
i. Chloride Calibration Standard	Cal Tank > half full
j. Dionex - I.C. Eluent	Bag > half full
1 N H <sub>2</sub> SO <sub>4</sub>	Bag > half full
Demin <sup>2</sup> water	Bag > half full
k. Filtrant packed U-tubes (sealed in plastic bags with dessicant)	5
l. Septum adapter	1
m. Cap for septum port	1
3. Procedures: Part B - Liquid/Offgas Sampling	
a. Meter-long reach rod	1
b. LSP cart/cask	1
- 60 ml bottle lift rod assembly	1
- 15 ml bottle lift rod assembly	1
- auxiliary shield	1
c. Hand operated vacuum pump	1

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

TABLE 7 (Continued)  
CONTENTS OF POST-ACCIDENT SAMPLE KIT

## PART 1, THE 85' LOCKER (Continued)

<u>ITEM</u>	<u>QUANTITY</u>
3. Protective Clothing	
a. Coveralls	6
b. Hood	6
c. Surgeon's cap	6
d. Plastic booties	24
e. Rubber shoe covers	
1) Giant	2 pair
2) Extra large	2 pair
3) Large	4 pair
4) Medium	2 pair
5) Small	2 pair
f. Cotton liners	12 pair
g. Rubber gloves	12 pair
h. Masking tape	3 rolls
i. Small plastic bags (for matches, dosimeters, etc.)	12
j. SCBA with full bottle	3
4. Miscellaneous	
a. Large plastic bag	10
b. Flashlight with batteries	3
c. Extra batteries	6

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 7  
CONTENTS OF POST-ACCIDENT SAMPLE KIT

PART 1, THE 85' LOCKER

<u>ITEM</u>	<u>QUANTITY</u>
1. Instruction Binder Labelled "Sentry"	
a. Sanford marking pens	2
b. Red marking pens	2
c. Black marking pens	2
d. EP RB-15 Sentry Post Accident Sampling System - Initial Sampling Exercise (Part A)	1
e. EP RB-15:F data sheets	5
2. Monitoring Equipment	
a. Teletector (Eberline 6112)	2
b. Dose rate meter (HPI-1010 or RO-2 or RO-2A)	2
c. Pocket dosimeters (0-5R)	6
d. Pocket dosimeters (0-200mR)	6
e. Dosimeter charger	1
f. Lapel air samplers	
1) Air pumps	6
2) Filter holders	6
3) Filters	1 box
4) Connecting tubing	6

TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 6  
 PORTABLE DOSE RATE INSTRUMENTS

<u>Instrument (Model No.)</u>	<u>Detector Type</u>	<u>Radiation Measured</u>	<u>Range</u>	<u>Primary Use</u>
HPI-1010 Gamma Ion Chamber	ion chamber	Gamma	Dose rate: 0-1000 mr/hr Intergrate 0-0.01, 0-0.1 0-1 mrad	Low dose rate measurements
Portable REM Counter (PNR-4)	BF <sub>3</sub>	Neutron, thermal to 10 MeV	0-5, 0-50 0-500, 0-5000 mrem/hr	Neutron dose rate
Teletector	Twin G-M tubes 30 mg/cm <sup>2</sup> beta window	Beta Gamma	0-2 mR/hr 0-50 mR/hr 0-2 R/hr 0-50 R/hr 0-1000 R/hr	Beta, Gamma dose rate
RO-2	ion chamber 3.5 mg/cm <sup>2</sup> beta window air fill gas	Beta Gamma	0-5, 0-50 0-500 mR/hr 0-5 R/hr	Dose rate
RO-2A	ion chamber 3.5 mg/cm <sup>2</sup> air fill gas	Beta Gamma	0-50, 0-500 mR/hr 0-5, 0-50 R/hr	Dose rate

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 5  
PORTABLE COUNT RATE METERS

<u>Instrument (Model No.)</u>	<u>Detector Type</u>	<u>Radiation Measured</u>	<u>Typical Range</u>	<u>Primary Use</u>
Beta-Gamma Survey Meter (E-14C), with the following detectors;			0-700, 0-7000 0-70,000 CPM	General contamination surveys
a) Hand probe (HP-260)	GM	Beta, Gamma		
b) Hand probe, end window, (HP-230A)	GM	Beta, Gamma		
c) Hand probe (HP-240)	GM	Beta, Gamma		
d) Shielded hand probe, (HP-210)	GM	Beta, Gamma		
Count rate meter (RM-15) for use with GM probes listed above, and:			0-500, 0-5K, 0-50K, 0-500K CPM	Personnel contamination surveys
a) alpha scintil- lation probe (AC-3B-7)	ZnS(Ag <sub>2</sub> ), 59 cm sensitive area	Alpha		
b) gamma scintil- lation probe (SPA-3)	NaI(Tl), 2" x 2"	Gamma		
Count rate meter (PRM-6) for use with GM probes listed above AC-3B-7 and SPA-3 probes	See above	See above	0-500, 0-5K, 0-50K, 0-500K CPM	General contamination surveys



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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 4 (Continued)  
CONTENTS OF HOSPITAL KITS

<u>ITEMS</u>	<u>QUANTITY</u>
Contamination Survey Sheet (69-9315)	6 each
Radiation Survey Sheet (69-9316)	6 each
Forceps	1 each
Smear pads 8" x 8" cotton (pkg of 10)	2 pkg
Medical referral form 62-6015	3 each
Light duty letter	3 each
Plastic bags 18"x24"	12 each

TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 4  
CONTENTS OF HOSPITAL KITS

Each of two hospital kits shall contain the following minimum items:

<u>ITEMS</u>	<u>QUANTITY</u>
Full face respirators w/Type H or equivalent filters	2 each
Disposable coveralls	4 each
Hood	4 each
Disposable shoe covers	4 pair
Surgical latex gloves	1 box
Rubbers	4 pair
Masking tape, 2" width	2 rolls
Duct tape, 2" width	2 rolls
"Radioactive Material Area" sign	5 each
"Surface Contamination Area" sign	5 each
"High Radiation Area" sign	2 each
"Radiation Area" sign	5 each
Barricade tape, 100 yd. roll	2 each
Ty raps	Minimum 30
"Radioactive Material" labels 4"x6"	10 each
"Radioactive Material" labels 1"x3"	1 roll
E140N/HP-210T or equivalent	1 each
HP-260 or equivalent	1 each
Spare detector	1 each
1 Allen wrench 1/16"	1 each
1 HPI-1010 or equivalent	1 each
0-200 mR pencil dosimeters	2 each
0-5R pencil dosimeters	2 each
dosimeter charger	1 each
2" smears w/packets	250 each
2" air sample filters w/envelopes	50 each
Plastic envelopes 3"x5"	30 each
Gummed labels	40 each
Plastic bags 38"x65"	6 each
Grease pencil	2 each
Ballpoint/felt tips pens	3 each
Waterproof pen	2 each
Personnel-Decon Record Sheet (69-9392)	6 each
Bendix BDX-60 Air Sampler	1 each
38mm air filters/holders for BDX-60	1 box

TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 3  
LOCATIONS OF FIRST AID SUPPLIES

<u>LOCATION</u>	<u>EQUIPMENT</u>
1. Administration Building	First Aid Station
2. Security Building	First Aid Station
3. Training Building	First Aid Station
4. Intake Structure	First Aid Kit, Basket Stretcher
5. Cold Machine Shop	First Aid Kit
6. Access Control (First Aid Room)	First Aid Locker, Stretcher, Gurney, Scoop Stretcher, Backboard, Oxygen, Splints
7. Turbine Building	
104' Elevator Landing	First Aid Station
119' Elevator Landing	First Aid Station
140' Elevator Landing	First Aid Station
8. Control Room	First Aid Kit, Burn Kit
9. Auxiliary Building	
85' Elevation	First Aid Station, Stretcher, Gurney
64' Elevator Landing	First Aid Station
100' Elevator Landing	First Aid Station
115' Elevator Landing	First Aid Station
10. Hot Machine Shop	First Aid Station
11. Containment Personnel Hatch	First Aid Kit, Basket Stretcher

DIABLO CANYON POWER PLANT UNIT NO(S)

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 2 (Continued)  
CONTENTS OF EVACUATION KITS

<u>ITEM</u>	<u>QUANTITY PER KIT</u>
d. Form 69-9369, "Evacuation Kit Inventory Checklist"	5-10
e. Emergency Procedure G-4, "Personnel Accountability and Assembly"	1
15. Information Center Decontamination Shower Key (A53)	1

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TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

TABLE 2  
CONTENTS OF EVACUATION KITS

ITEM	QUANTITY PER KIT
1. Eberline E-140/N Survey Meter with HP-240/HP-210 Standard G-M Probe or equivalent	1
2. Dose Rate Meter	1
3. Self-Reading Dosimeter Pencils, 0-200 mR Range	4
4. Dosimeter Charger w/extra battery	1
5. Barricade Tape, 100-Foot Rolls	2
6. Packages of 2-Inch Filters (10 filters/package)	50
7. Bullhorn w/extra battery	1
8. Plastic Bags (14' X 24")	3
9. Ballpoint Pens	4
10. Flashlight w/two extra batteries	1
11. Pocket Calculator w/extra battery	1
12. Corporation Key (3A90909)	1
13. Information Center Emergency Room Key	1
14. Instruction Binder:	
a. Emergency Procedure G-5, "Evacuation of Nonessential Site Personnel"	1
b. Form 69-9310, "Post-Evacuation Vehicle Monitoring Data"	50
c. Form 69-9311, "Evacuee Monitoring Data"	100

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## TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 1 (Continued)  
 CONTENTS OF RADIOLOGICAL EMERGENCY KITS

ITEM	QUANTITY				
	KIT #				
	1	2	3	4	5
5. Signs/Barriers					
a. Radiation Signs (w/3 inserts)	2	4	2	4	4
b. Radiation Barricade Tape (100' rolls)	2	2	2	2	2
6. Sampling Equipment					
a. Sample Bottles (1 liter)	2	6	2	4	4
b. Plastic Bags Approx. (18"x24")	15	15	15	15	15
c. Trowel	1	1	1	1	1
7. Miscellaneous Equipment					
a. First Aid Kit (size 10)	1	1	1	1	1
b. Screwdriver	1	1	1	1	1
c. Crescent Wrench (8")	1	1	1	1	1
d. Scissors	1	1	1	1	1
e. Stopwatch	1	1	1	1	1
f. Roll of Dimes	1	1	1	1	1
g. Masking Tape (2" wide rolls)	2	2	2	2	2
h. Flashlights w/Batteries	1	2	1	2	2
i. Extra Batteries	2	4	2	4	4
j. Battery-Powered Lantern w/6 V Battery	1	1	1	1	1
k. "Kwik-kold" Packs	4	4	4	4	4
l. Grass Shears	1	1	1	1	1
m. KI Tablets (bottle)	1	1	1	1	1
n. Gummed Labels (sheet)	5	5	5	5	5
o. Bolt Cutters					

Two are available on wall in storeroom of training building.



TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 1 (Continued)  
 CONTENTS OF RADIOLOGICAL EMERGENCY KITS

ITEM	QUANTITY				
	KIT #				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
i. Plastic Envelopes for Iodine Cartridges (Ziploc baggies)	30	30	30	30	30
j. Forceps	1	1	1	1	1
k. Compressed Air Cylinder, 1700 psi	2	2	2	2	2
l. Sample Head w/Adapter to fit Air Cylinder	1	1	1	1	1
m. Air Cylinder Regulator	1	1	1	1	1
4. Protective clothing/Decontamination					
a. Protective Clothing Sets (coveralls, hood, booties, rubbers, gloves)	2	2	2	2	2
b. Full Face Mask	2	2	2	2	2
c. Type GMR-S or GMI-H (or equivalent) Ultra Filters for Face Masks (min.)	2	2	2	2	2
d. Skin Decontamination Soap (pt. bottle)	1	1	1	1	1
e. Hand Brush	1	1	1	1	1
f. Floor Scrub Brush	0	1	0	1	1
g. Paper Towels (pkg.)	0	1	0	1	1
h. Smear Pads 8"x8" cotton (pkg of 10)	1	3	1	1	1
i. Plastic Bags (38"x 65")	3	3	3	3	3
j. Bucket (10 quart)	0	1	0	1	1
k. Decontamination Agent (gallon bottles)	1	1	1	1	1

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TITLE:

EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

TABLE 1 (Continued)  
 CONTENTS OF RADIOLOGICAL EMERGENCY KITS

ITEM	QUANTITY				
	KIT #				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
2. Monitoring Equipment*					
a. Dose Rate Meter	1	2	1	1	1
b. Survey Meter	1	1	1	1	1
c. Standard G-M Probe	1	1	1	1	1
d. Pancake G-M Probe	1	1	1	1	1
e. Pocket Dosimeters (0-5R)	2	2	2	2	2
f. Pocket Dosimeters (0-200mR)	2	2	2	2	2
g. Dosimeter Charger	1	1	1	1	1
3. Air Sampling Equipment					
a. 12 V Air Sampler and Sample Head (w/o Battery)	1	1	1	0	0
b. 12 V Air Sampler and Sample Head (w/Battery)	0	0	0	1	1
c. 120 V AC Air Sampler and Sample Head	0	1	1	0	0
d. Air Sample Particulate Filters (pkg. of 10)	10	10	10	10	10
e. Iodine Filter Cartridges (pkg. of 10) 2 pkg - TEDA, 3 1 pkg - AgZ		3	3	3	3
f. Smear Packets (5 smear/ Packet)	250	250	250	250	250
g. Paper Envelopes for AIR Particulate Samples	50	50	50	50	50
h. Casio digital watch	1	1	1	1	1

\* Equipment of equivalent function may be substituted.

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

 TABLE 1  
 CONTENTS OF RADIOLOGICAL EMERGENCY KITS

ITEM	QUANTITY				
	1	2	3	4	5
1. Instructions, Procedures and Supplies					
a. Instruction binder	1	1	1	1	1
b. Table of contents	1	1	1	1	1
c. Sanford Marking Pens	2	2	2	2	2
d. Red Marking Pens	2	2	2	2	2
e. Black Marking Pens	2	2	2	2	2
f. Ball Point Pens	2	2	2	2	2
g. San Luis Obispo County Map	1	1	1	1	1
h. Equipment Location Dwgs. (sets) Unit 1	1	1	1	1	1
i. Emergency Environmental Monitoring Field Data Sheet (Form 69-9259)	100	100	100	100	100
j. "Emergency Onsite Radiological Environmental Monitoring Program" EP RB-7	1	1	1	1	1
k. "Emergency Offsite Radiological Environmental Monitoring Program" EP RB-8	1	1	1	1	1
l. "Emergency Equipment, Instruments and Supplies" EP EF-5	1	1	1	1	1
m. Corporation Key (3A90909)	1	1	1	1	1
n. Information Center Key	0	1	0	1	1
o. Pocket Calculator	1	1	1	1	1
p. Record of Potassium Iodine Distribution, Form #69-9395	1	1	1	1	1
q. Computation paper (packet)	1	1	1	1	1

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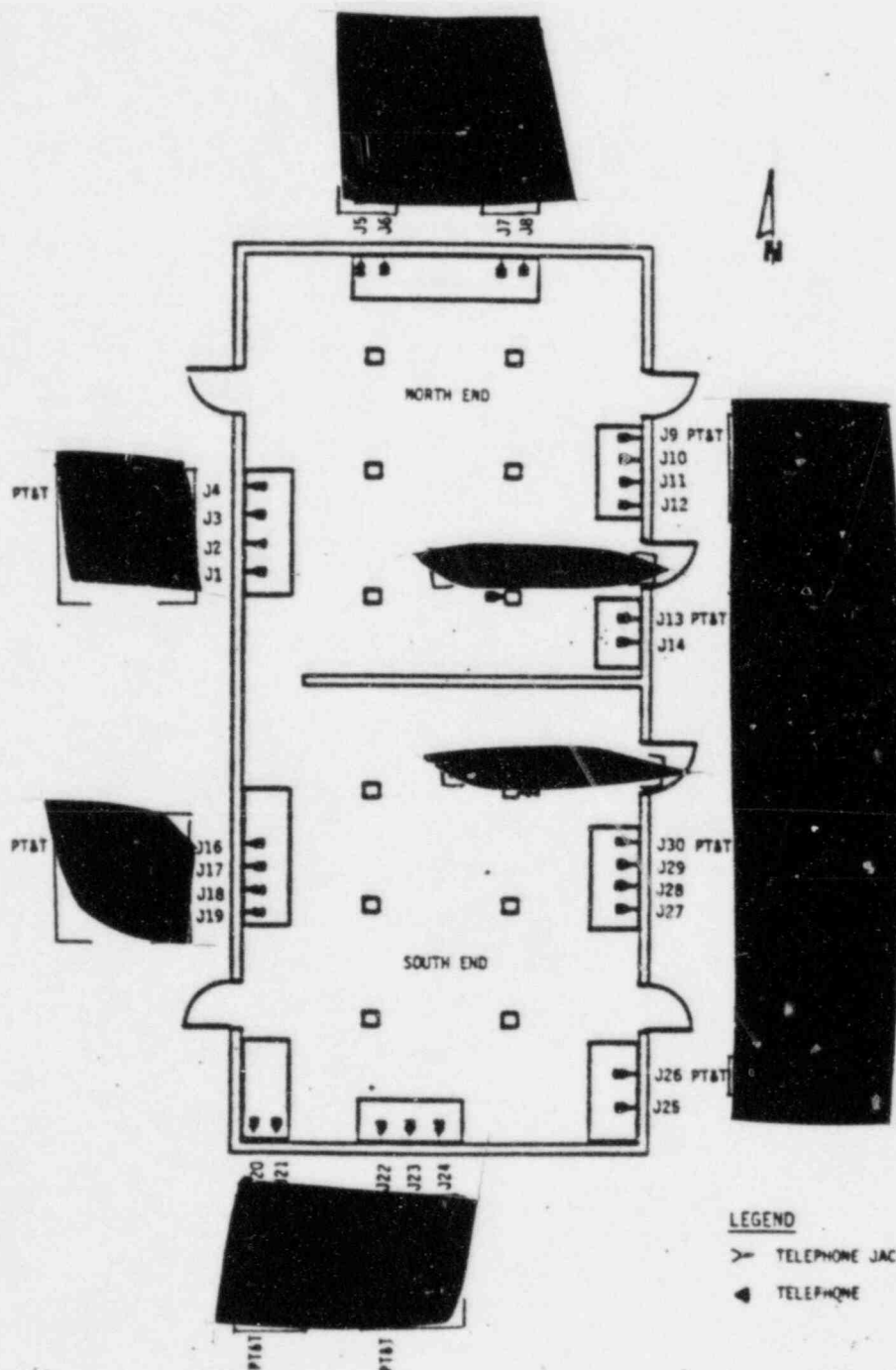
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FIGURE 3 MEDIA CENTER NEWSROOM (CUESTA COLLEGE)



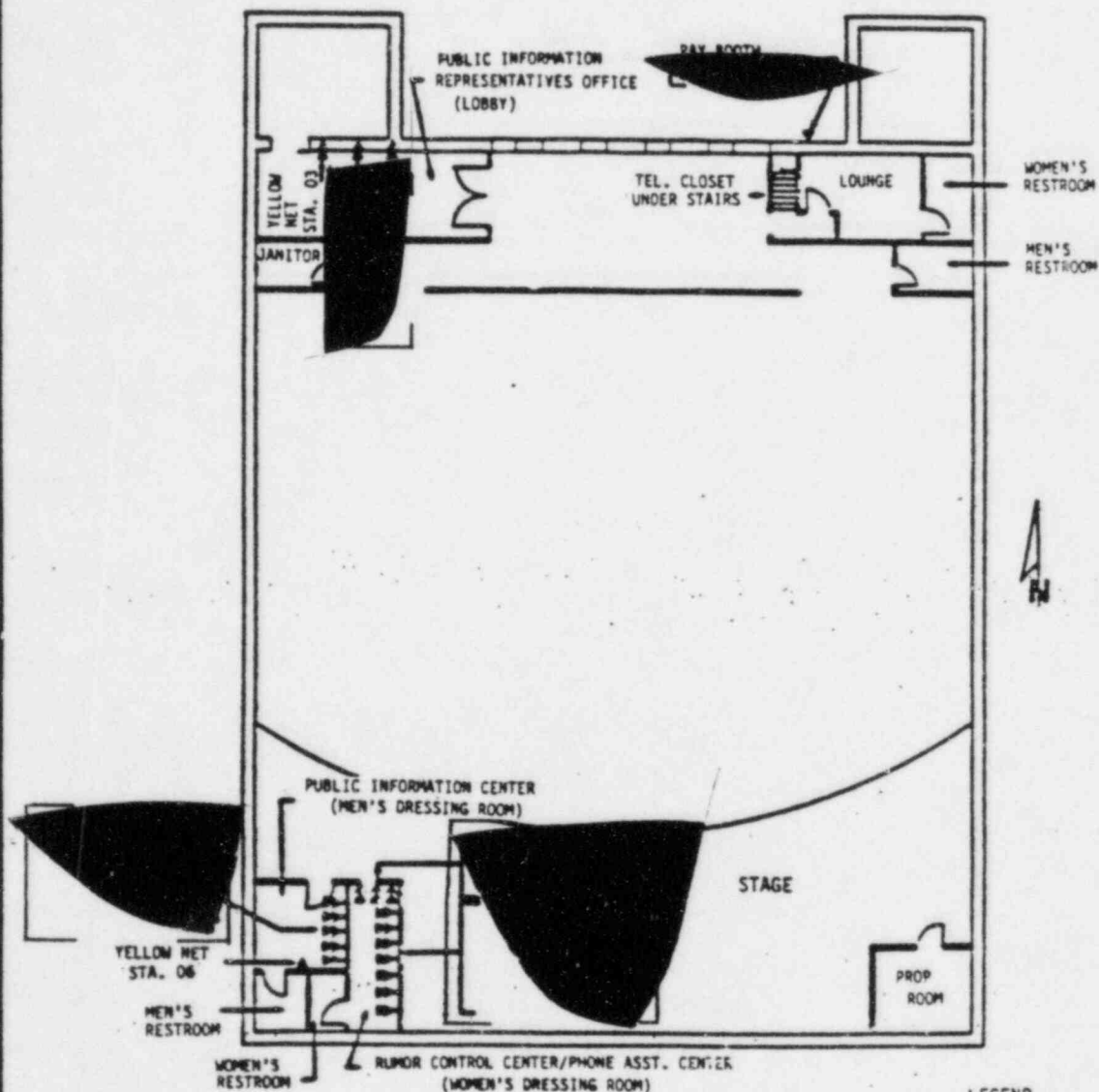
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FIGURE 2 MEDIA CENTER AUDITORIUM (CUESTA COLLEGE)



LEGEND.

- TELEPHONE JACK
- ◀ TELEPHONE

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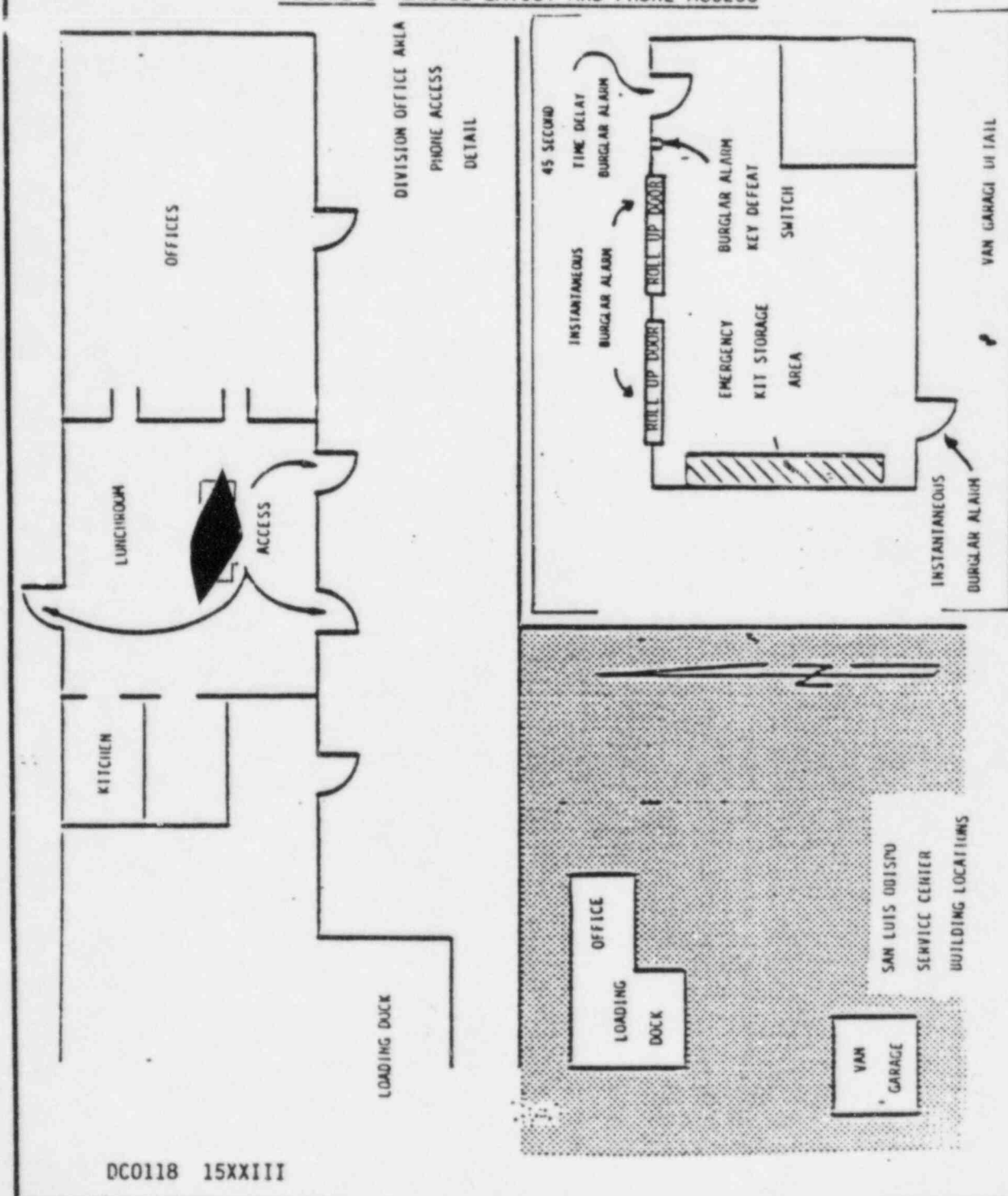
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FIGURE 1 GARAGE LAYOUT AND PHONE ACCESS



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17. 69-10866 Assembly Area Checklist

18. 69-11575 Isotopic Measurement Equipment Checklist

19. 69-11589 KI Inventory

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EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

13. Emergency Operations Facility Emergency Plan Equipment
14. PG&E Energy Information Center Decontamination Facility Equipment
15. Media Center Equipment
16. Assembly Area Equipment
17. Isotopic Measurement Equipment

ATTACHMENTS

1. 69-9823-1 Emergency Kit Inventory Checklist Box A
2. 69-9823-2 Emergency Kit Inventory Checklist Box B
3. 69-9823-3 Emergency Kit Inventory Checklist Box C
4. 69-9369 Evacuation Kit Inventory Checklist
5. 69-10598 Hospital Kit Inventory Checklist
6. 69-10507 Post-LOCA Sampling Kit Inventory Checklist
7. 69-9043 Emergency Plan Phone Number Verification Checklist
8. 69-10766 Control Room Checklist
9. 69-10767 Technical Support Center Checklist
10. 69-10768 Technical Support Center Equipment Quantity Checklist
11. 69-10769 Operational Support Center Checklist
12. 69-10770 Emergency Operations Facility Equipment Function Checklist
13. 69-10771 Emergency Operations Facility Inventory Checklist
14. 69-10582 Emergency Facility Forms File List
15. 69-10864 Decontamination Facility Checklist
16. 69-10865 Media Center Phone Checklist

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TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

EMERGENCY DOCUMENTS

1. Emergency Plan

The emergency plan is reviewed and updated annually in accordance with the requirements of Administrative Procedure AP E-4S10.

FIGURES

1. MEML Garage Layout and Access
2. Media Center Auditorium (Cuesta College)
3. Media Center Newsroom (Cuesta College)

TABLES

1. Contents of Radiological Emergency Kits
2. Contents of Evacuation Kits
3. Locations of First Aid Supplies
4. Contents of Hospital Kits
5. Portable Count Rate Meters
6. Portable Dose Rate Instruments
7. Contents of Post-Accident Sample Kit
8. Plant Vehicle List
  - a. Emergency Organization Radio Pagers
9. EWS Siren Locations
10. Control Room Emergency Plan Equipment
11. Technical Support Center Emergency Plan Equipment
12. Operational Support Center Emergency Plan Equipment



TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

FIXED EMERGENCY EQUIPMENT

## 1. Early Warning System

Testing and maintenance for the EWS Siren Units, listed in Table 9, shall be performed by Los Padres District personnel according to the following schedule:

- a. Bi-weekly: A test cancel signal will be initiated, counter readings will be taken and a visual inspection made.
- b. Quarterly: The inside of the compressor and the control and receiver cabinets will be inspected, and the sirens will be growl tested.
- c. Annually: A complete inspection of all major components, as well as lubrication and cleaning of the unit will be done.

EMERGENCY FACILITY EQUIPMENT

## 1. Control Room

Equipment available in the Control Room for radiological emergency assessment and communication and the surveillance performed on this equipment is listed in Table 10.

## 2. Technical Support Center (TSC)

Equipment available in the TSC for emergency assessment, communication and other emergency functions of the facility and the surveillance performed on this equipment is listed in Table 11.

## 3. Operational Support Center (OSC)

Equipment available in the OSC for emergency functions and communications and the surveillance performed on this equipment is listed in Table 12.

## 4. Emergency Operations Facility (EOF)

Equipment available in the EOF for emergency assessment, communication and other emergency functions of the facility and the surveillance performed on this equipment is listed in Table 13.

TITLE: EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

- b. IGe Detector
- c. HP 9845C Computer
- d. Multichannel Analyzer
- e. High-Volume Air Sampler
- f. Pressurized Ion Chamber (3)
- g. High-Pressure Gas Sampler
- h. TLD Reader
- i. Instrument-Grade Electric Generators

## 10. Plant Vehicles

Plant vehicles shall be inventoried by the General Services Department. The plant vehicle list shall be updated annually. The plant vehicle list can be found in Table 8.

## 11. Portable Radio and Pagers

Portable radios are available for emergency use. Radios are normally located at Radiological Access Control and the Control Room. Radios dedicated for emergency use are identified in the check lists for the facility where stored.

Radio pagers are assigned to selected positions of the emergency organization, as a convenience, for use when the on-call person for the position is not available at their normal telephone numbers. Normal pager assignments are given in Table 8.a. A group page and test message is given on the first of each month at about 8:00 p.m. to provide a check on pager operation.

## 12. KI

Potassium Iodide is inventoried quarterly by Emergency Planning. It is replaced when the shelf life is exhausted. When reordering KI obtain a certificate from the vendor, one copy for Emergency Planning and one copy for C&RP files. Inventory is documented on form 69-11589 "KI Inventory".



TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

- 2) The cabinets contain sample handling and analyzing equipment. Reagents are under the sink. Additional SCBA air supply is available in the Sentry Room.

- c. Surveillance Frequency

- 1) Both parts of the kit will be inventoried annually by C&RP Sentry personnel.
- 2) Each time a part of the kit is used, that part will be inventoried by the Chemistry and Radiation Protection Department without imposing the requirement that the other unused parts be inventoried.

8. Protective Clothing

Protective clothing for emergency use is located at Access Control. Other locations where clean protective clothing may be found are:

- a. Plant Warehouse
- b. PGandE Energy Information Center
- c. Technical Support Center (TSC)
- d. Training Building Storage Room 126
- e. Plant locations as specified by C&RP.

9. Mobile Environmental Monitoring Laboratory (MEML)

The following equipment is available in the MEML for use in routine and emergency environmental monitoring. Surveillance is performed during normal use.

- a. NaI Detector

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## 6. Portable Survey and Dose Rate Instruments

A variety of portable count rate and dose rate instruments are available at the plant for routine radiological monitoring, and also for use in emergencies, if necessary. The general types and approximate quantities of this equipment are summarized in Table 5 and 6. It should be noted that this list is intended only to be illustrative of the plant's capabilities; precise quantities and models of specific equipment may vary from time to time as conditions change, different products appear on the market, etc. The equipment listed in the table is normally located at Access Control when not in use.

## 7. Post-Accident Sample Kit

The kit consists of 2 parts, Pre-entry and Sentry, which are used in conjunction with each other when post accident sampling is performed. Contents are listed in Table 7.

## a. Part 1, the 85' Locker (Pre-entry)

- 1) Located in the Turbine Building elevator vestibule 85' elev., it is easily accessed from the Cold Machine Shop, which may be the emergency assembly area for Chemistry and Radiation Protection.
- 2) This locker provides initial equipment, primarily protective clothing, for personnel preparing to access the Sentry System.

## b. Part 2, Under Counter Cabinets and Locker (Sentry)

- 1) Cabinets are located under the counters in the Sentry room where analyses will be performed. The locker is next to the air conditioner.

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3) Dosimeter charger batteries will be replaced quarterly by the C&RP Department.

5. Respirators (Self-Contained Breathing Apparatus or SCBA)

a. Location - The SCBA units should be located in the following locations under normal conditions. The number shown is the minimum number of units required.

<u>LOCATION</u>	<u>SCBA QUANTITY</u>	<u>30-Minute Tanks QUANTITY</u>
1) Operator Ready Room	8	
2) 85' Fire brigade locker	16	
3) Technical Support Center	5	5
4) Intake Structure	6	
5) Access Control (or at filling station)	25	20
6) Auxiliary Building stairwell on the 90' elev.	7	
7) Unit 2 Auxiliary Operators Office	1	
8) 85' Turbine building vestibule (Post-Loca sample kit locker)	3	
9) Unit 1 Sentry room cabinet		6
10) Unit 2 Sentry room cabinet		6
	71	37

**NOTE:** Approximately 30 additional SCBA and 15 air bottles are available on-site, if required.

b. Surveillance

- 1) SCBA units will be inspected by the Chemistry and Radiation Protection Department monthly.
- 2) The thirty SCBA's stored in other locations should be inspected prior to use.
- 3) All SCBA units will be inventoried semiannually by the C&RP Department.

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## TITLE EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

## 3. First Aid Supplies

## a. Location

The location of first aid supplies are listed in Table 3.

## b. Surveillance

First aid supplies are inventoried monthly by the Emergency and Safety Services Organization.

## c. All other Department First Aid Kits are the responsibility of the department supervisor.

## d. First Aid Kits in company vehicles are the responsibility of the assigned driver or the General Services Department for "pool" vehicles.

## 4. Hospital Kits

Each kit consists of a box, clearly identified. The contents of each hospital kit are given on Table 4.

## a. Location

The two hospital kits are located at French Hospital.

## b. Use

The kits are available for use in the event an injured victim, involving radioactive contamination or overdose, is sent to an offsite location for treatment or decontamination.

## c. Obtaining a Hospital Kit

The kits can be obtained by going to French Hospital.

## d. Surveillance Frequency

1) Kit inventory will be performed by the Chemistry and Radiation Protection Department quarterly and after each use.

2) Survey meters and dose rate meters will be replaced or recalibrated in accordance with the normal practice established by the I&C Maintenance Department.

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<p>2. Emergency Evacuation Kits</p> <p>Each kit consists of a box, clearly identified. The contents of each emergency evacuation kit are given in Table 2. The contents of each box can be found on the inside cover of the box. In addition, two cases of protective clothing and two cases of shoe covers are stored near the evacuation kits for use in case personal effects are contaminated. Additional protective clothing is also available at the Energy Information Center.</p> <p>a. Location</p> <p>The two emergency evacuation kits are located in the Training Building, Storage Room 126.</p> <p>b. Use</p> <p>The kits are available for use in the event site evacuation is ordered by the Site Emergency Coordinator. The Evacuation Coordinator would then have the kits and clothing issued to the evacuation team leaders.</p> <p>c. Obtaining an Emergency Evacuation Kit</p> <p>The emergency evacuation kits can be obtained by going to the Training Building.</p> <p>d. Surveillance Frequency</p> <ol style="list-style-type: none"> <li>1) Kit inventory will be performed by the Chemistry and Radiation Protection Department quarterly and after each use. Form 69-9369 is used to document the inventory.</li> <li>2) Survey meters and dose rate meters will be replaced or recalibrated in accordance with the normal practice established by the C&amp;RP Department.</li> <li>3) Dosimeter charger, bullhorn, calculator, and flashlight batteries will be replaced quarterly, by the C&amp;RP Department.</li> </ol> <p>DC0118 4XXIII</p>	

TITLE

EMERGENCY EQUIPMENT, INSTRUMENTS &amp; SUPPLIES

NOTE: If the RERM cannot be reached at the EOF, then contact the Emergency Radiological Advisor (ERA) at the onsite Technical Support Center. The phone number is listed in Attachment 1.

If the RERM or the ERA require immediate deployment of the MEML and/or the field monitoring teams, and access to the garage is still not available, inform the RERM/ERA that access is not available and request the Cypher Pad Code that will open the door. Also, request the ERA to dispatch an individual from the plant to reset the alarm.

Call DCCP security to inform them the MEML garage will be entered, and that the alarm will be actuated. The phone number is listed in Attachment 1.

NOTE: When the alarm is actuated a loud electronic warbler will sound locally, until reset.

- 2) Kits No. 4 and 5 can be obtained by the designated monitoring teams from the Training Building, Storage Room 126.

d. Surveillance Frequency

- 1) Kit inventory will be performed by the Chemistry and Radiation Protection Department quarterly and after each use. Form 69-9823-1, 69-9823-2, and 69-9823-3 are used to document the inventory.
- 2) Kit radiological instruments will be replaced or recalibrated in accordance with the normal practice established by the I&C Maintenance Department.
- 3) Dosimeter charger and flashlight batteries will be replaced quarterly by the C&RP Department.
- 4) The kits have a Chemistry and Radiation Protection seal to prevent tampering and insure the completeness of their inventory.



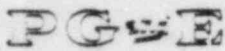
TITLE EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

c. Obtaining an Emergency Kit

- 1) Kits No. 1, 2 and 3 can be obtained by the designated monitoring teams from the PG&E San Luis Obispo Service Center, in the Mobile Environmental Monitoring Laboratory (MEML) Garage. The personnel dispatched to the MEML garage will generally consist of Chemistry and Radiation Protection Technicians (C&RP), the MEML Operators from PGandE Department of Engineering Research, and San Luis Obispo County Environmental Health Department Personnel.

NOTE: If the MEML garage is locked, personnel should not open the door without a burglar alarm defeat key available. The front door is the only access that has a 45 second time delay to permit use of the defeat key (see Figure 1). The defeat key is available from the plant if the DER personnel are not available. The DER personnel will be called out as part of the call-out list in Emergency Procedure EP G-2.

When PGandE personnel have reached the MEML garage, establish telephone contact with the Radiological Emergency Recovery Manager (RERM) at the Emergency Operations Facility (EOF). The phone number is posted on the MEML Garage door. If the MEML garage is locked and access cannot be obtained from the DER personnel assigned to the van, then use the telephone in the division office building.



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

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TITLE EMERGENCY PROCEDURE  
EMERGENCY EQUIPMENT, INSTRUMENTS & SUPPLIES

APPROVED

*R. L. Thornburg*

10-18-85

PLANT MANAGER

DATE

## SCOPE

This procedure provides an inventory of emergency equipment, instruments, and supplies (both portable and fixed) with inspection frequencies.

This procedure and changes thereto require PSRC review.

## PORTABLE EMERGENCY EQUIPMENT

### 1. Radiological Emergency Kits

The kits consist of three boxes each. Each box is clearly identified first by kit numbers, and second by box letter A, B or C. The contents of each emergency kit are given in Table 1. The contents of each box of an individual emergency kit can be found in the notebook of each box. In addition, protective clothing and shoe covers are located at the Energy Information Center and the DCCP Training Building for use in case personal effects are contaminated.

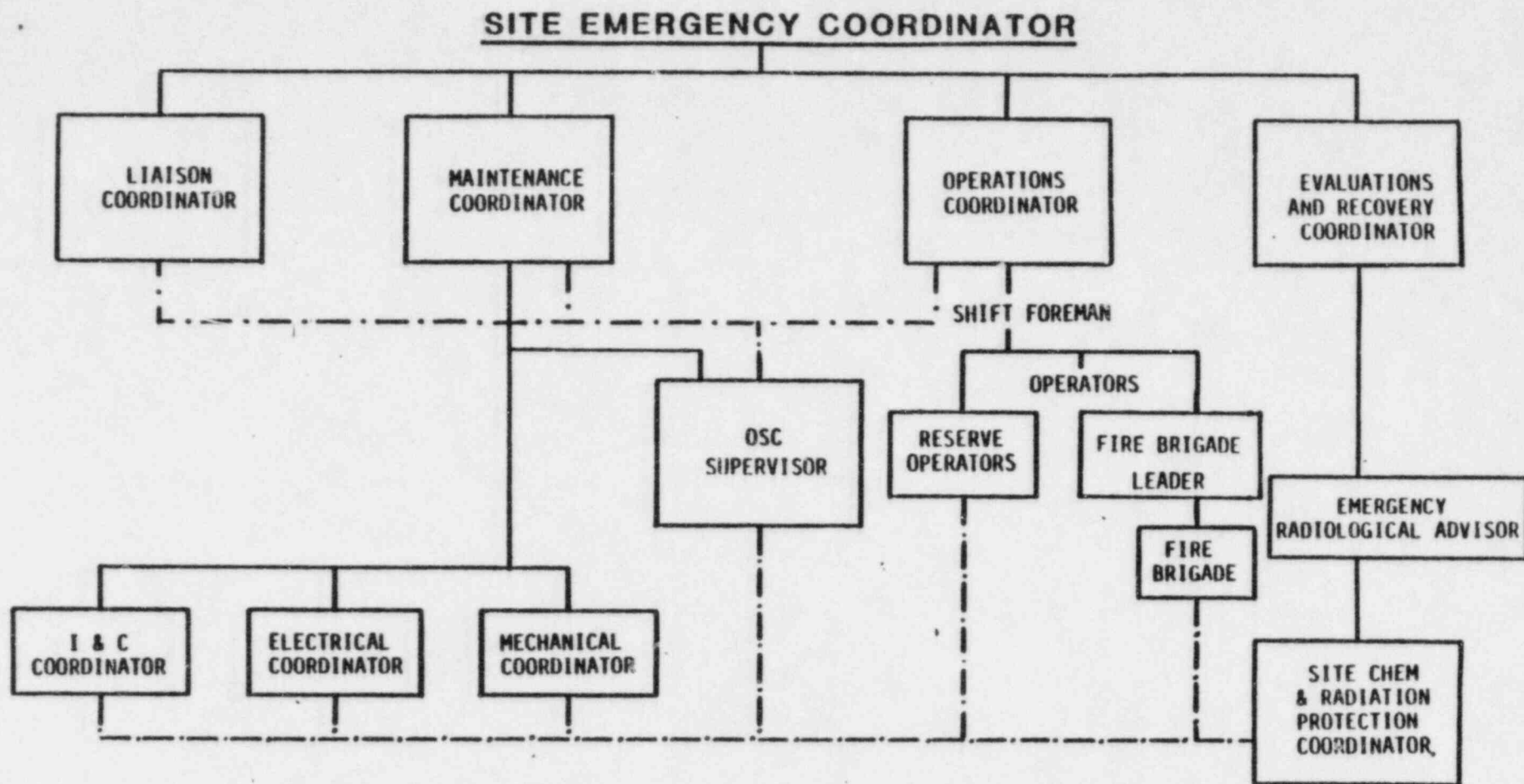
#### a. Location

Kit Nos. 1, 2 and 3 - PG&E San Luis Obispo Service Center  
Mobile Environmental Monitoring  
Laboratory (MEML) Garage

Kit Nos. 4 and 5 - Diablo Canyon Power Plant Training  
Building, First Floor Storeroom

#### b. Use

The kits are available for use by a designated monitoring team in case of a radiological emergency.



\_\_\_\_\_ LINE AUTHORITY  
 - - - - - COMMUNICATION

FIGURE 1  
 OSC FUNCTIONAL ORGANIZATION

DIABLO CANYON POWER PLANT UNIT NO(S)

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TITLE

ACTIVATION AND OPERATION OF THE  
OPERATIONAL SUPPORT CENTER

ATTACHMENT

A. OSC organization chart

SUPPORTING PROCEDURES

A. EP G-1, Accident Classification and Emergency Plan Activation

B. EP G-2, Establishment of the Onsite Emergency Organization

C. EP G-4, Personnel Accountability and Assembly

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

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TITLE: ACTIVATION AND OPERATION OF THE  
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D. Radiation Monitoring Equipment

C&RP will provide radiation monitoring equipment to teams and individuals as appropriate.

E. Protective Clothing

Protective clothing is immediately available at access control. MSA's (self contained breathing apparatus) are also available. Fire brigade members are equipped with protective clothing specifically designed for fire fighting activities.

F. First Aid Medical Supplies

First aid medical supplies are located at the access control first aid room.

G. Decontamination

Access control provides showers, soaps, shampoos, towels, waste disposal, extra clothing, friskers and technical expertise in the event personnel become contaminated while in the plant.

H. Sampling Equipment

Routine air and liquid sampling equipment is available at access control. Equipment for emergency sampling of the reactor coolant system and containment atmosphere is located in a marked cabinet in the hallway between access control and cold machines shop.

I. Maintenance Equipment

Maintenance equipment is located in the cold machine shop adjacent to the OSC. A large inventory of tools, parts and heavy equipment is located there. The cold machine shop has the capability to fabricate some parts which may not be readily available.

J. Fire Fighting Equipment

Fire fighting equipment for the fire brigades is stored at the north end of the Unit 1 turbine building on the 85' elevation, the auxiliary building stairwell landing approximately 90' elevation, and the control operator readyroom. A plant fire truck and two hose line trailers are located within the protected area ready for use. A fire brigade status board is located in the cold machine shop.



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### OSC Equipment Description

#### 1. Communications

The OSC has the capability to communicate with the control room, TSC, appropriate response teams and other plant extension via telephone. It is equipped with extensions of a dedicated telephone tie line to the control room and TSC and also has a CBX telephone extension with emergency facility priority access to telephone circuits, as well as normal in-plant telephone capability.

Both the Access Control Area and General Maintenance Foreman office are also equipped with extensions of the dedicated telephone tie line to the control room and TSC and also have a CBX telephone extension with emergency facility priority access to telephone circuits.

The telephone is the primary means of communicating with maintenance teams dispatched into the plant. During emergency response situations, maintenance teams will carry radios to provide back-up communications. Radios are available to the OSC and have OPS/SEC/HP frequency capability. These radios are maintained at access control. This ensures the radios are charged and immediately available for use. Operations and the fire brigade also have radios which can be utilized.

#### 2. Status Boards

An OSC status board is maintained whenever the OSC is activated and operational. It provides information on plant emergency status, radiological conditions, work assignments, team member names, team locations, radio call signs and phone extensions as appropriate. The OSC status board is in addition to those routinely used by C&RP.

#### C. Reference Materials

A current controlled copy of P&ID's is available in the cold machine shop adjacent the OSC. Maintenance plant manuals, Emergency Procedures, and other reference materials are available from the foremen office area of the cold machine shop. A set of Emergency Procedures is located in the office at access control. Plant layout drawings may be "marked-up" on the window glass using felt markers to identify team locations and to brief on the most expeditious, lowest radiation level, and safest routes to a response location.



TITLE: ACTIVATION AND OPERATION OF THE  
OPERATIONAL SUPPORT CENTER

3. The OSC Supervisor reports to the Emergency Maintenance Coordinator. In an emergency, the Emergency Maintenance Coordinator responds to requests from the control room (initially) or the Technical Support Center (TSC) for repairs, ascertains manpower needs, and makes assignments to maintenance groups as needed. To support him in this role, an OSC Supervisor is delegated the responsibility for assuring teams responding to emergency plant conditions are properly equipped and prepared. The OSC Supervisor maintains communications with the control room and TSC. He will brief response teams on plant status and other plant evolutions in progress that might affect them. He assures they receive briefings from Chemistry and Radiation Protection (C&RP) on job requirements and radiation protection provisions for the job. He will provide teams with radios for back-up communications and insure telephone communications are established so teams can be informed of significant changes in plant conditions (such as changes in emergency classification or radiological conditions in the vicinity). He will maintain an OSC log as a permanent record of activities.

The OSC Supervisor is responsible for information flow to the TSC and Emergency Maintenance Coordinator concerning recommended safety measures and status of response teams in the plant. In performing these duties he will communicate with the site C&RP coordinator, the emergency maintenance coordinator, the emergency operations coordinator and the emergency liaison coordinator as needed to exchange information and be aware of plant conditions. This relationship is shown in figure 1.

#### Record Keeping

All records generated by the utilization of the OSC for an exercise or emergency shall be forwarded the next working day to the Assistant Plant Manager/Support Services for review and retention.

1. Records generated from exercises will be categorized as non-permanent and retained for a minimum of five years.
2. Records generated from actual emergency events will be categorized as lifetime and placed into lifetime storage in accordance with procedure AP E-1 S1, "Requirements for Retention and Extended Storage of Operation Phase Activity Records."

TITLE ACTIVATION AND OPERATION OF THE  
OPERATIONAL SUPPORT CENTERImmediate Actions - Normal Hours

1. When the site emergency signal is sounded, all personnel not engaged in critical operations or emergency recovery actions will report to their assigned assembly locations in accordance with Emergency Procedure G-4 "Personnel Accountability and Assembly." Personnel designated for immediate emergency response will report to the Operational Support Center. This includes the Operational Support Center Supervisor, the Site Chemistry and Radiation Protection Coordinator, the Emergency Safety Supervisor support staffs and the Maintenance Fire Brigade.

Immediate Actions - Off Normal Hours

1. OSC personnel required for emergency response will be notified in accordance with Emergency Procedure G-2, "Establishment of the Onsite Emergency Organization."
2. The Security Shift Supervisor will be notified of the personnel responding to their emergency response roll and assure they are permitted access to the site.
3. Personnel notified to report to the OSC may proceed directly to the OSC and be immediately available for fire fighting, emergency maintenance, search and rescue or radiological monitoring, as appropriate.
4. Personnel notified, but not given a specific emergency response location should initially report to the security building lunch room (ready room) for further instructions.

Subsequent Actions

1. The Emergency Liaison Coordinator assigned to the TSC will dispatch a liaison assistant to the security building ready room as soon as man power permits. This liaison assistant will act as coordinator for individuals reporting to the plant, but not having a specific response location. Otherwise the senior person in the ready room will coordinate activities.
2. Following the initial response, personnel called from offsite or plant assembly areas will be directed by the Liaison Coordinator (or his assistant) to remain on stand-by at the security building ready room or report to the OSC.

TITLE: ACTIVATION AND OPERATION OF THE  
OPERATIONAL SUPPORT CENTER

3. Provides an assembly point for reserve licensed and non-licensed plant operators who may respond as directed to emergency mitigation efforts.

Minimum Staffing

The OSC should be considered operational at a minimum level when:

1. A Maintenance Coordinator has established contact with the Site Emergency Coordinator to determine requirements for immediate maintenance activities.
2. An OSC supervisor is available and stationed to brief the team or teams.
3. The manning requirements are met for the team or teams required to perform immediate maintenance.

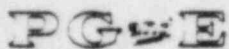
NOTE: The repair team may consist of members of the Maintenance Fire Brigade.

4. The Site Chemistry and Radiation Protection Coordinator has established contact with the Emergency Radiological Advisor and has sufficient Chemistry and Radiation Protection Technicians to support immediate requirements for maintenance, inplant sampling, surveys or onsite monitoring.

If no teams are immediately required, then the OSC should be declared operational when a Maintenance Coordinator, an OSC Supervisor and the Site Chemistry and Radiation Protection Coordinator are positioned and communications have been established with the Technical Support Center.

Initiating Conditions

The Shift Foreman declares that the plant is in an Alert, Site Area Emergency, or General Emergency status as defined in Emergency Procedure G-1, "Accident Classification and Emergency Plant Activation", or determines that activation of onsite emergency centers is warranted and sounds the Site Emergency Signal or orders call out of plant staff personnel in accordance with Emergency Procedure G-2 "Establishment of the Onsite Emergency Organization".



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE  
TITLE ACTIVATION AND OPERATION OF THE  
OPERATIONAL SUPPORT CENTER

NUMBER EP EF-2

REVISION 6

DATE 9/30/85

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APPROVED: \_\_\_\_\_

*R. C. Thompson*

10-16-85

PLANT MANAGER

DATE

## SCOPE

This procedure describes the actions taken in the event it becomes necessary to activate the Operational Support Center.

This procedure and changes thereto require PSRC review.

## GENERAL

The Operational Support Center (OSC) provides a place separate from the control room and Technical Support Center where designated support personnel assemble and await specific assignment during an emergency. The OSC is designated as the Chemistry and Radiation Protection access control entry hallway, locker room and break room located on the plant 85' elevation entrance to the auxiliary building, and adjacent radiological access control and cold machine shop areas. These areas contain a variety of emergency support equipment which is immediately available for emergency use. It is equipped with dedicated tie line telephone extensions to the control room and TSC and also has a CBX telephone emergency facility priority access to telephone circuits. An OSC supervisor will coordinate OSC activities and report directly to the Emergency Maintenance Coordinator.

## Functions of the OSC

1. Serves as an initial assembly location for plant staff responding to the site emergency signal.
2. Provides a location for the staging of trained manpower for assignment to relief and special emergency positions on an as-needed basis to facilitate the following functions:
  - emergency maintenance, repair and damage control
  - fire fighting, search and rescue and first aid
  - emergency sampling of plant fluids
  - a location for storage of selected emergency response equipment
  - provide facilities for personnel decontamination

	<u>TITLE</u>	<u>REV</u>
RB-15C	SPASS Containment Air Sampling	3
RB-15D	SPASS Gas Chromatographic Analysis	3
RB-15E	SPASS RCS Liquid and Gas Sample Handling	3
RB-15F	SPASS Data Analysis	2
RB-15G	SPASS Ion Chromatographic Chloride Analysis	2
RB-15H	SPASS pH/Conductivity/Dissolved Oxygen	2
RB-15I	SPASS Sample Storage and Disposal	1
RB-15J	SPASS Undiluted Liquid Sampling From Reactor Coolant	0
RB-15K	SPASS Diluted Liquid Sampling From Radwaste	0
RB-15L	SPASS Undiluted Liquid Sampling From Radwaste	0
RB-15M	SPASS Undiluted Containment Air Sampling	0



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EMERGENCY PLAN  
IMPLEMENTING PROCEDURES  
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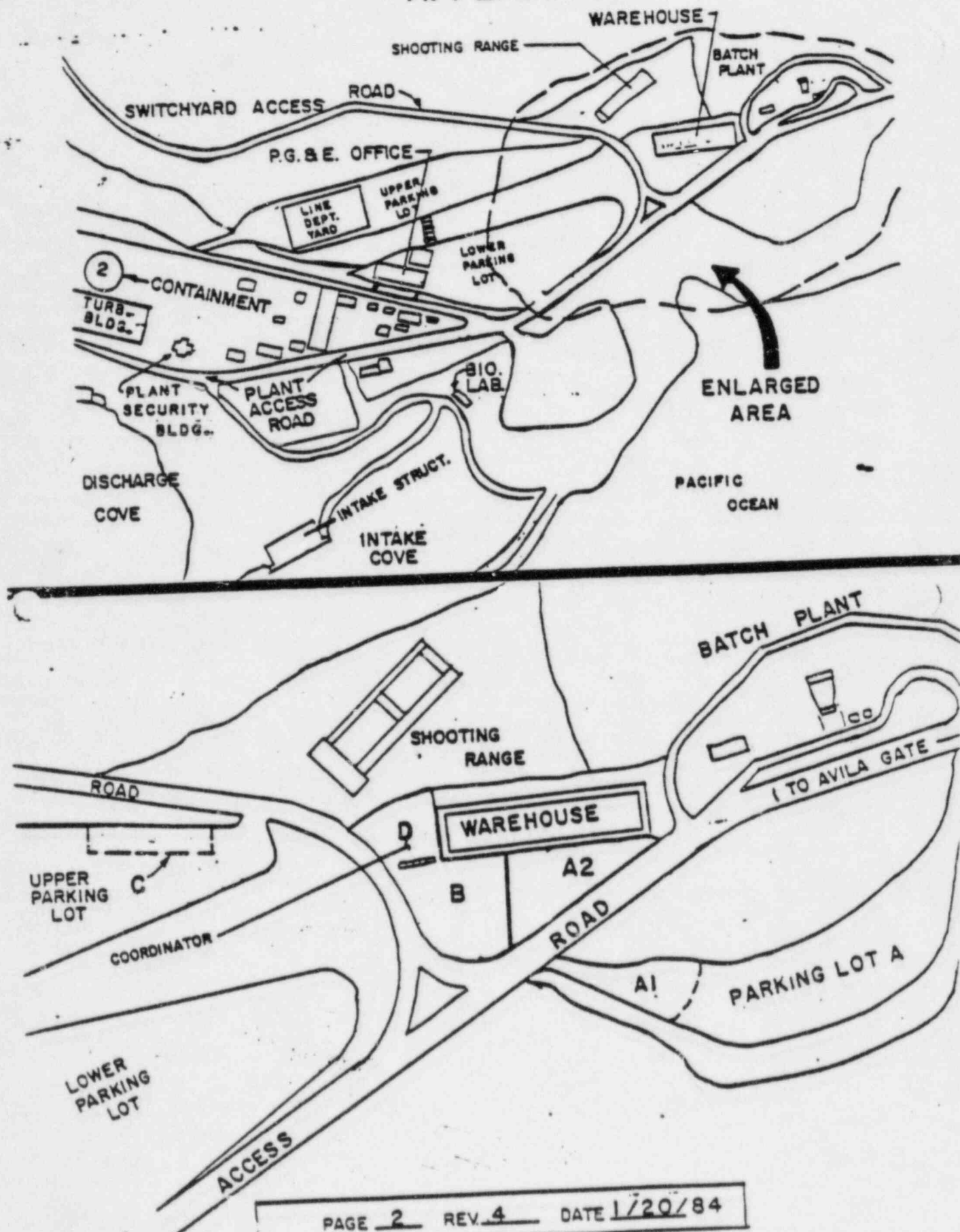
	<u>TITLE</u>	<u>REV</u>
OR-1	Offsite Support & Assistance	5
OR-2	Release of Information to the Public	3
EF-1	Activation and Operation of the Technical Support Center	6
EF-2	Activation and Operation of the Operational Support Center	6
EF-3	Activation and Operation of the Emergency Operations Facility	5
EF-4	Activation of the Mobile Environmental Monitoring Laboratory	6
EF-5	Emergency Equipment, Instruments & Supplies	8
EF-6	Operating Procedures For EARS 9845C Controlling Stations	5
EF-6S1	Transfer of EARAUT Control	1
EF-7	Activation of the Nuclear Data Communications System	2
EF-8	EARS Operating Procedures for TSC-CC HP-1000 Station	1
RB-1	Personnel Dosimetry	1
RB-2	Emergency Exposure Guides	1
RB-3	Stable Iodine Thyroid Blocking	1
RB-4	Access to & Establishment of Controlled Areas Under Emergency Conditions	2
RB-5	Personnel Decontamination	2
RB-6	Area & Equipment Decontamination	2
RB-7	Emergency On-Site Radiological Environmental Monitoring	4
RB-8	Emergency Off-Site Radiological Environmental Monitoring	5
RB-9	Calculation of Release Rate & Integrated Release	3
RB-10	Protective Action Guidelines	1
RB-11	Emergency Off-Site Dose Calculations	4
RB-12	Mid and High Range Plant Vent Radiation Monitors	1
RB-13	Improved In-Plant Air Sampling for Radioiodines	1
RB-14	Core Damage Assessment Procedure	2
RB-15	Sentry Post Accident Sampling System (SPASS) Initial Sampling Exercise After An Accident	2
RB-15A	SPASS Initial Actions During An Emergency	4
RB-15B	SPASS Reactor Coolant Sampling (Stripped-Gas and Diluted RCS)	3



<sup>1</sup> Multiply net cpm by 91 for HP-240 (window open), for HP-210 and HP-260, multiply by 25 in order to convert CPM to dpm/dm<sup>2</sup>.

DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 & 2  
POST-EVACUATION VEHICLE MONITORING DATA

# APPENDIX D



## APPENDIX D

### VISITOR INFORMATION

Welcome to Diablo Canyon —

As a visitor to this site, there are several rules and procedures which you should be aware of. They have been designed for your safety and must be strictly complied with.

1. If you have been issued a hard hat, wear it in all hard hat areas.
2. The visitor badge issued to you is to be worn in plain view at all times. (In certain areas on the site you may be asked to surrender this badge; however, you will be provided with another badge in exchange.)
3. Persons cleared to enter the operating areas of the plant will be provided with additional instructions governing their actions while in these locations, prior to entry.

### Emergencies

Should a situation arise which requires the evacuation of this site, the Plant Emergency Signal will be activated. The Signal is produced by electronic warblers placed at numerous locations throughout the plant. It has a characteristic sound which is a rapid rise in pitch followed by a slower drop. The sound cycle is repeated continuously for as long as the signal remains energized.

Flashing red lights have been provided in the Containment since the background noise level would not permit audible perception of the electronic warblers.

Under an emergency situation the alarm should sound for a minimum of one minute.

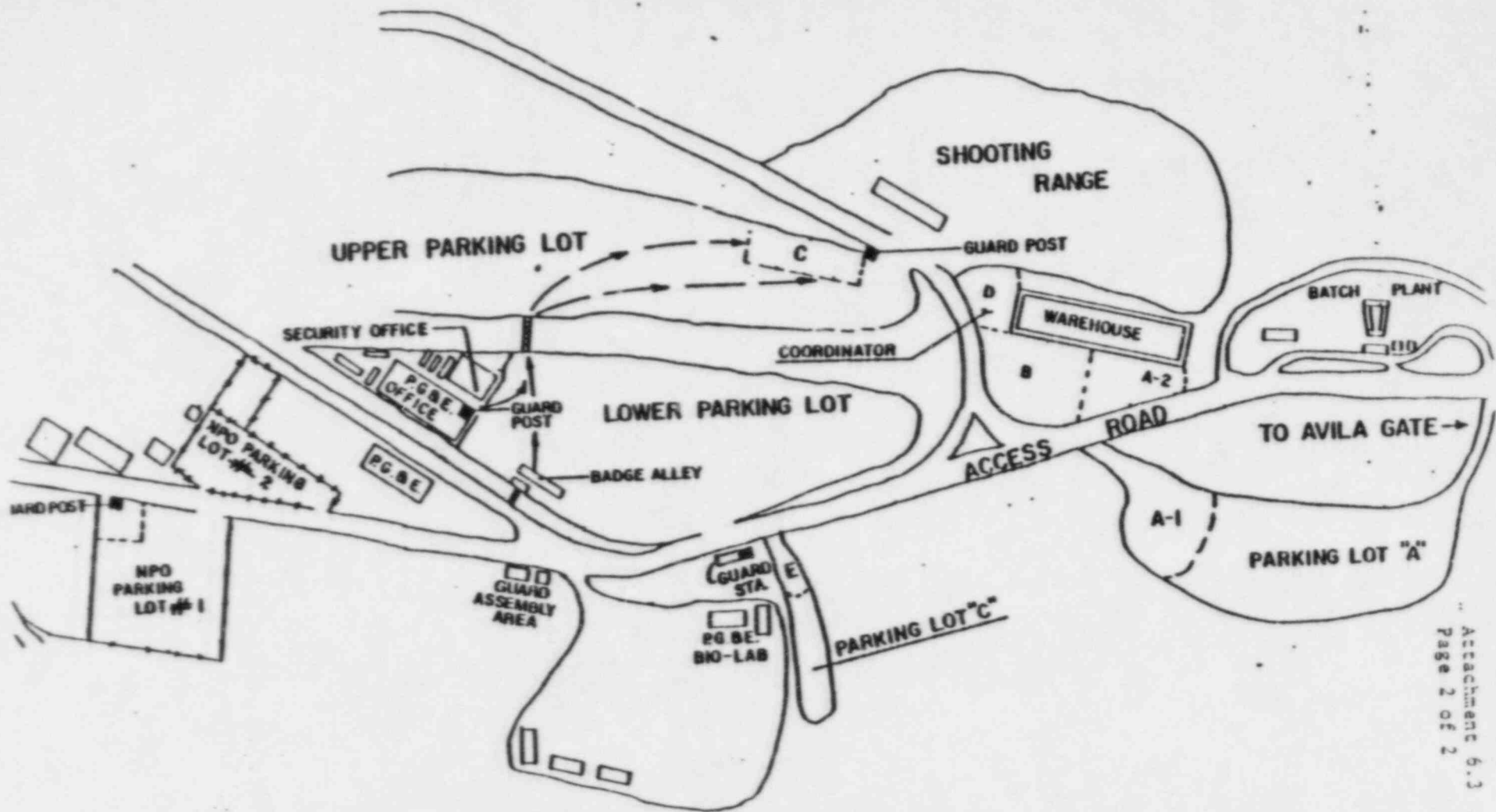
The Emergency Signal will be actuated for test purposes every Friday at 12:10 p.m. for a period of approximately ten (10) seconds.

Should the Signal be activated during your visit other than at the test time, proceed on foot to the area marked "D" on the map provided you and wait for further instructions.

Unescorted Visitors. If uncertain as to the location of Assembly Area "D" ask any Security Officer.

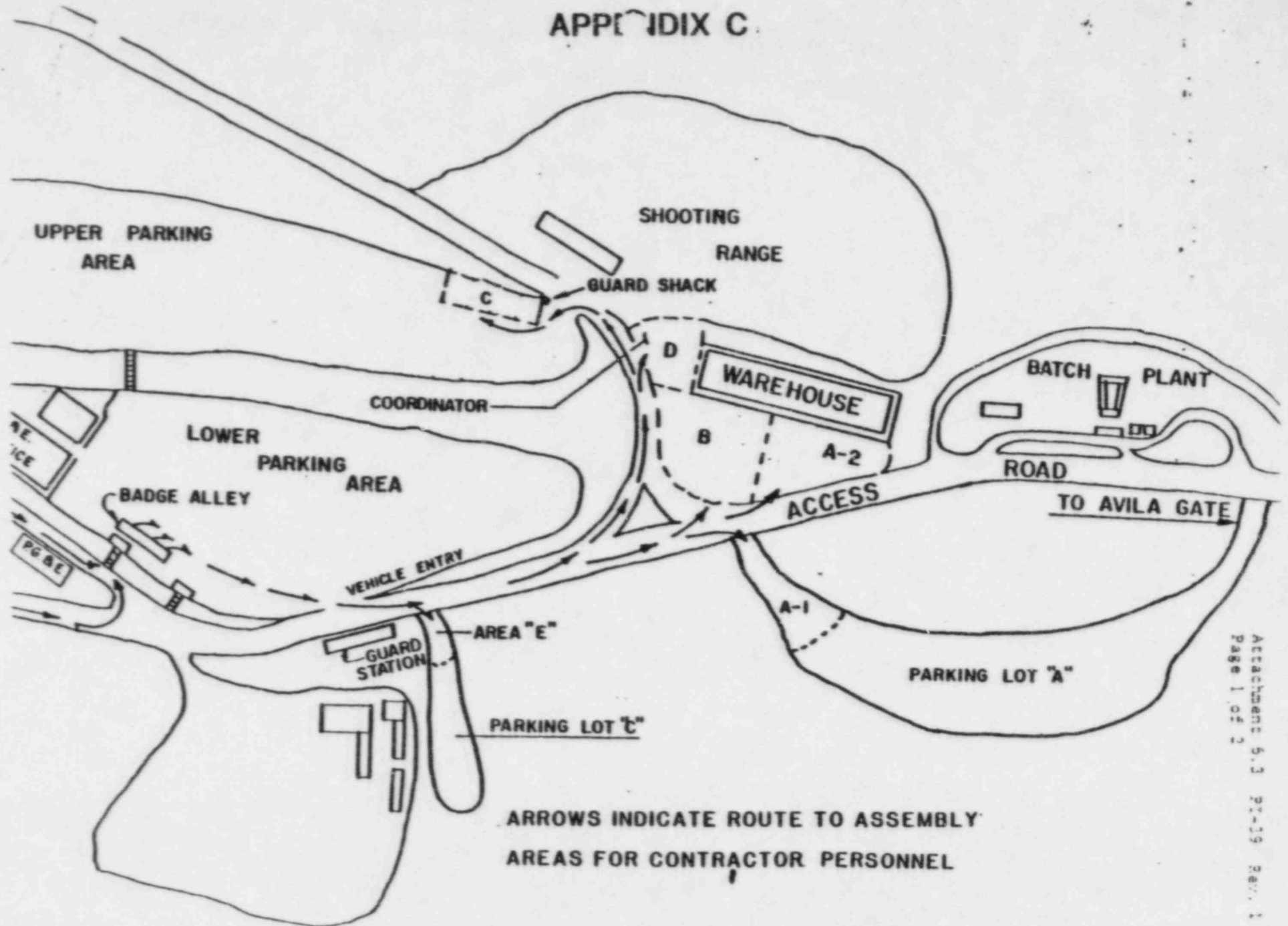
Escorted Visitors will be taken to Assembly Area "D" by their escort.

# APPENDIX C



ARROWS INDICATE ROUTE TO ASSEMBLY AREAS FOR P.T.G.C. ( ALL GROUPS ), O.P.E.G., CONTRACT PERSONNEL ( JOB SHOP PERSONNEL ) WORKING WITH PROJECT TEAM AND ALL OTHERS ASSIGNED TO AREA "C"

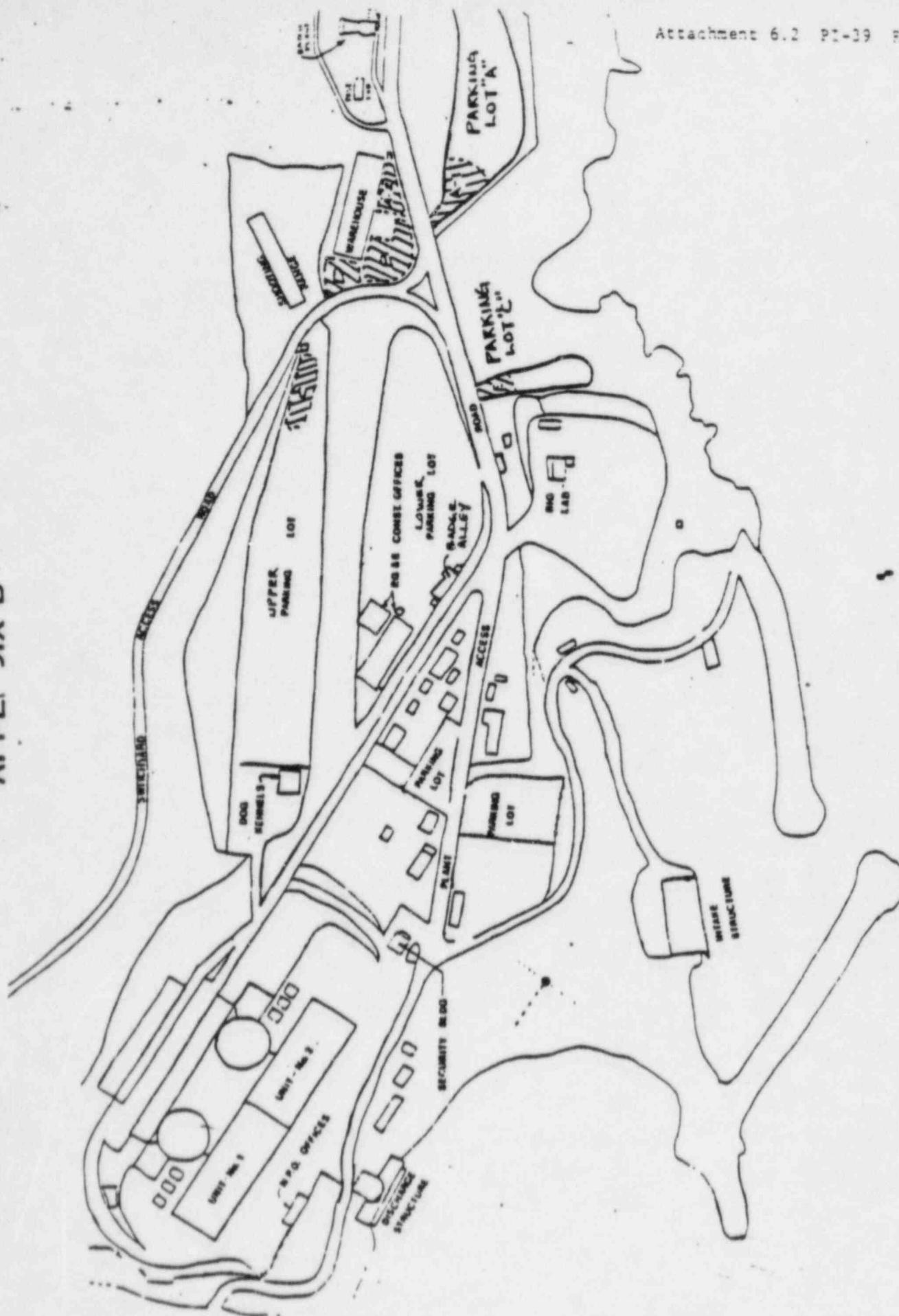
# APPENDIX C



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# APPENDIX B



ASSIGNED ASSEMBLY AREAS"A" AREAA1

Bechtel (G-Bec)  
Planthorpe

A2

Pullman Power Products and  
their subcontractors

"B" AREA

H. P. Foley and their  
subcontractors

"C" AREA

P&T: General Construction  
General Services (PT-GC)  
Quality Control Group (PT-GC)  
Mechanical Group (PT-GC)  
Startup Group (PT-GC)  
OnSite Engineering Group (OPEG)  
Instrumentation Group (PT-GC)  
Electrical Group ((PT-GC)  
Civil Group (PT-GC)  
Civil-Hydro Group (PT-GC)  
Administration Group (PT-GC)  
Station Construction/Line Dept.

"D" AREA

Construction Force Assembly  
Coordinator  
PT-GC Management  
PT-PC Management

"C" AREAContractors

Waltek  
Cataract  
Innova  
Wisco  
Code-3  
Pace  
Bisco  
Krystal Klean  
G. O. Personnel  
assigned to project

"D" AREA

Visitors (Escorted and Unescorted)  
Common Carriers  
Vendors and Service Companies

"E" AREA

Barnes Construction Co.

TITLE Personnel Accountability & Site Evacuation  
During A Site Emergency

4.5.6 In the event of an evacuation on foot, guards or P.G.&E. personnel with radios and first aid kits will be interspersed at appropriate intervals in the group to maintain communication and provide first aid, if necessary.

5.0 REFERENCES

- 5.1 Department of Nuclear Plant Operations Emergency Procedure G-4. "Personnel Accountability and Assembly".
- 5.2 Department of Nuclear Plant Operations Emergency Procedure G-5. "Evacuation of Nonessential Site Personnel".

6.0 ATTACHMENTS

- 6.1 Appendix-A: List of Assigned Assembly Areas
- 6.2 Appendix-B: Location Map of Assembly Areas
- 6.3 Appendix-C: Maps of Routes to Assembly Areas
- 6.4 Appendix-D: Visitor Information on Site Emergencies

4.4.3 Personnel Leaving the site will badge out and back in at the Guard Post where they normally enter the Project, except personnel (such as Station Construction, Line Dept., and Contractor road work crews) leaving the site in Company Vehicles for off site work who will leave their badges with the guards at the plantsite entrance to the lower parking lot, and retrieve them from there upon their return.

#### 4.5 Evacuation

4.5.1 Any evacuation of the Diablo Canyon Site will begin from the EMERGENCY ASSEMBLY AREAS as shown in the Diablo Canyon Power Plant Emergency Procedure G-4 "Personnel Accountability and Assembly". All personnel covered by this procedure are instructed to proceed to these areas on foot upon activation of the Emergency Signal and to wait there for further instructions.

4.5.2 The Construction Force Assembly Coordinator will implement the Site Emergency Coordinator's evacuation decision and see that various groups are accounted for and released sequentially and in an orderly manner so that traffic congestion is minimized and traffic flows smoothly away from the site.

4.5.3 G.C. Security personnel will assist by directing traffic out of the lots and controlling key intersections during the evacuation as directed by the Evacuation Coordinator.

4.5.4 All evacuations whether by vehicle or on foot, will be led by security personnel. Accompanying each assembly area group will be a person who will be in charge of personnel accountability and release at the off site assembly areas. Security personnel will be radio equipped and in contact with the Evacuation Coordinator and the Site Emergency Coordinator.

4.5.5 Once off the site, the evacuation will be led to the off site assembly area by a Sheriff's vehicle (if available). One of the lead guards will transfer to the vehicle with his portable radio and ride to the off site assembly area in the Sheriff's vehicle so that continuous communications are maintained.

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 During A Site Emergency

with Depts. of Administration, Electrical, Mechanical, Civil, Startup, Instrumentation, General Services, Quality Control, Communications, On-site Engineering, Project Control), Pullman (Magnaflux), Select H.P. Foley, assigned job shop personnel (Pace Eng., Code III, Cataract, Waltek, Wisco, Innova, Etc.), Krystal Klean personnel.

4.3.1.2 Lower Lot Badge Alley Gates: Alleys #1 thru #9 and #11 thru #14 assigned to personnel of H.P. Foley Co., Pullman Power Products Co., Plant Thorpe, Bechtel G.P.M.A.

4.3.1.3 Lower Lot Badge Alley Gate #10: Assigned to miscellaneous PTGC and Contractor personnel.

4.3.1.4 Upper Lot Road Station: P.G.&E. camp/warehouse personnel, Mechanic Services group.

4.3.1.5 Plantsite Guard Station: (Lower Lot Entrance)  
 Assigned management of: H.P. Foley, Pullman Power Plant Thorpe, Lundeen, Farnes Construction, and select employees of S.L.O. Garbage Co., Able Maintenance, Western Sanitation, Santa Maria Vending, Coperheat, P.T.&T. Co., Bechtel G-bec, Xerox, IBM, E.P. Richards, S & M Sprinkler, Bisco, Santa Cruz Research Group.

## 4.4 Badge Control

4.4.1 At the beginning of a shift personnel will pick up their photo badges at the appropriate Guard Station where they normally enter the Project. Immediately after shift change each of the guards at the controlling entry stations will determine the status of the employees covered by their posts.

4.4.2 On normal work days, the day shift guards will fill out a form listing the employees NOT ON SITE, by name & badge number, swing shift guards will do likewise for their shift. On other than normal work days, (holidays, weekends, other than normal work hours) guards will fill out a form listing the employees ON SITE, by name & badge number. These listings will be kept current at all times during the shifts by additions or deletions of those entering or leaving the Project, and will be supplied to the Field Construction Manager or his designate when required.



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4.2.7 Line Crews (off-site G.C. and District) Not Assigned To Diablo Canyon: Crews working on site or on tower line work East of the site who gained access to their work through the site) will check in and report their personnel and work location to the upper lot road guard station daily. These crews will stay in the area of their work.

4.2.8 Pinkerton G.C. Security Guards

In as much as possible G.C. Pinkerton Security personnel will remain at their posts. Mobile & Building Foot Patrols and the Sergeant, will report to the Sergeant's/Captain's Trailer which will serve as the G.C. Security command post. The G.C. Security Office will immediately, upon the initiation of the signal, contact the G.C. Force Captain and relay information to the Shift Security Supervisor on the specific location of the guards remaining on post to determine the necessity of immediate evacuation of these posts. Guards on post to be included in the evacuation will be notified by radio and ordered to their Sergeant's Trailer for reassignment. Parking lot guards remaining on post will limit access to personal vehicles until instructions for orderly evacuation are received. The Security Guard Captain is responsible for the accountability of all guards assigned to construction activities and will report directly to the Field Construction Manager or his designate.

4.2.9 Instructions On Emergency: Upon arrival at assigned assembly areas, all personnel will receive further instructions on the nature of the emergency. As soon as possible after the signal sounding, an accurate tally must be available to the Field Construction Manager or his designated alternate indicating missing personnel and their last known location on the Project.

4.3 PERSONNEL ACCOUNTABILITY

4.3.1 General

All personnel will be accounted for by the issuance and control of the individual's Project photo I.D. badge. I.D. badges will be issued and controlled at one of the following designated Project "Points of Entry":

4.3.1.1 Administration Building Guard Station: General Construction Project Team (All employees associated



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## 4.2.3 Escorted Visitors

Escorted visitors will respond to the signal and will proceed along with their escorts to their specified visitor assembly area. Accountability of visitors will be maintained by checking off those escorted visitors at the assembly areas against the visitor sign-in-log maintained at the security office. Escorts themselves will proceed to their assigned assembly areas after escorting their visitors to the visitor assembly area.

## 4.2.4 Unescorted Visitors, Salespersons, Vendor & Manufacturers' Representatives, Local Deliveries

The above persons will also report to their assigned assembly area. Upon arrival and check in at the Project, these persons will be provided with a map and written instructions explaining what they are to do and where they are to go in the event of a site evacuation (refer to Appendix D, Attachment 6.4). Accountability will be maintained by checking off unescorted visitors at the assembly areas against the visitor sign-in-log maintained at the security office. Persons with vehicles will leave them parked and proceed on foot to their designated assembly areas.

## 4.2.5 Common Carriers

Common carriers will be handled in the same manner as unescorted visitors with the exception that they will be logged in and out and provided with a map and instructions at the plantsite guard post rather than the security office. Drivers will leave their vehicles and proceed on foot to their designated assembly area.

## 4.2.6 Camp Personnel, Mechanic Services, Communications Personnel and Others

working in the switch yards, clarifier, camp & back project areas will report directly to their appropriate assembly area. Vehicles carrying persons from these outlying areas may be driven to the upper lot road area, via the camp road, and parked. These persons will check in at the upper lot guard station upon arrival. The number of vehicles used to move persons from outlying areas to the assembly areas should be kept at a minimum.

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During A Site Emergency

placed at numerous locations throughout the plant. It has a characteristic sound which is a rapid rise in pitch followed by a slower drop. The sound cycle is repeated continuously for as long as the signal remains energized.

4.1.1.2 Flashing Red Lights have been provided in the Containment and other high noise areas since the background noise level would not permit audible perception of the electronic warblers.

4.1.1.3 Under an emergency situation the alarm should sound for a minimum of one minute.

#### 4.1.2 Testing

The Emergency Signal will be actuated for test purposes every Friday at 12:10 p.m. for a period of approximately ten (10) seconds.

#### 4.2 RESPONSE

4.2.1 Project Team Personnel, Construction Contractors and Subcontractors, and other construction force related personnel will evacuate from the plant buildings and adjacent work areas, exit through their respective assigned badge alleys and proceed immediately to their assigned assembly areas, in response to the Emergency Signal. Assigned alleys are those entrances where the site photo badge is kept for each category of worker. A listing of all categories of personnel governed by this Instruction, and assigned assembly areas is found in Appendix A (Attachment 6.1). A map showing the location of assembly areas is shown on Appendix B (Attachment 6.2). Routes to be taken to assembly areas is shown on Appendix C (Attachment 6.3).

4.2.2 All Unit I construction personnel will exit through the plant security buildings leaving their Unit I badges but not their site photo I.D. badges. Employees will proceed to their assigned badge alley leaving their site photo I.D. badge, and then to their assigned assembly area. All personnel will be accounted for by issuance and control of the individual site photo I.D. badges. Each contractor will assign a staff member to report to the badge alley to assist in the accounting of their personnel and resolution of any discrepancies.

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During A site Emergency

2.1.5 Provide required traffic control measures.

2.1.6 The decision to evacuate, the type of evacuation (immediately, within 2 hours or within 5 hours), the evacuation route (North or South), the off site assembly area, and the method (by vehicle or foot) will be made by the Site Emergency Coordinator and conveyed to the Construction Force Assembly Coordinator.

2.2 Each Contractor is responsible for the accountability of all their employees working at the site. An accountability program must be implemented by each Contractor to enable the Field Construction Manager/Construction Force Assembly Coordinator to know how many construction personnel are on site at any given time, and their general location on the Project.

2.3 Subcontractors will be responsible for implementing their main Contractor's accountability program. Each Subcontractor will be responsible for the accountability of their employees.

2.4 Each Project Team Department Head is responsible for the accountability of all their subordinates. An accountability program must be implemented to enable each supervisor to know how many of their people are on site at any given time and their general location. Each employee must be indoctrinated on his/her required response to this procedure and details of what is done in the event the Emergency Signal is activated.

3.0 APPLICATION

3.1 This Instruction applies to all construction force-related personnel working in all areas and elevations of the Plant Site and Project.

4.0 PROCEDURE

4.1 EMERGENCY SIGNAL

4.1.1 Identification

4.1.1.1 The Signal is produced by electronic warblers

# DIABLO CANYON PROJECT



## PROJECT INSTRUCTION

NUMBER: PI-12  
REVISION: 1  
DATE: 2/24/84  
PAGE: 1 OF 5

TITLE: PERSONNEL ACCOUNTABILITY & SITE EVACUATION DURING A  
SITE EMERGENCY

APPROVED:

*R. R. Taylor*  
Field Construction Manager

3-3-84

Date

### 1.0 SCOPE

- 1.1 This Instruction describes the Plant Emergency Signal and the immediate action to be taken by P.G.&E. Construction and Service Personnel, Project Team and Contractor Personnel (including Job Shoppers and subcontractors) and their visitors and service representatives, for an orderly evacuation of the site in response to the Emergency Signal and accountability of all personnel during such an evacuation.

### 2.0 RESPONSIBILITY

- 2.1 While construction activities remain in progress, the Field Construction Manager or his designated alternate (Contact GC Security for assigned alternate) have responsibilities and authority over the above personnel, General Construction visitors, and Security Force personnel assigned to construction activities. In this capacity, he or his alternate will be designated as the Construction Force Assembly Coordinator with the following responsibilities:
- 2.1.1 Communicating with the Site Emergency Coordinator to determine the conditions of any Site Emergency. This communication is normally with the Unit I Security Building through the Shift Security Supervisor.
  - 2.1.2 Transmitting information to Contractors and other construction force related personnel.
  - 2.1.3 Construction force assembly and personnel accountability at the site in the event of an emergency and prior to any site evacuation.
  - 2.1.4 Evacuation of construction force personnel from the site as may be directed by the Site Emergency Coordinator in cooperation with the Evacuation Coordinator.

1 AND 2

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REVISION 3

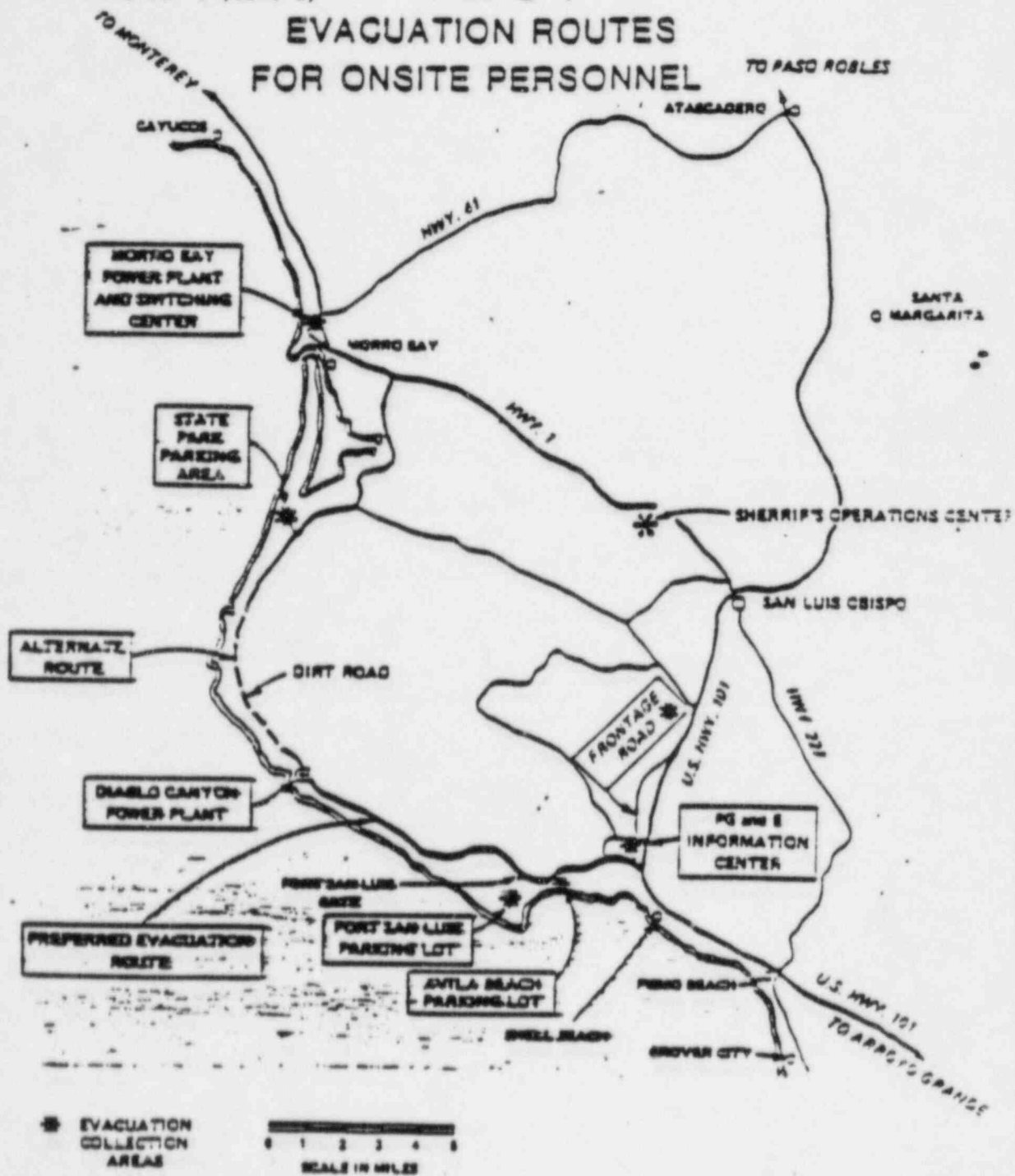
DATE 10/14/85

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EVACUATION OF NONESSENTIAL SITE PERSONNEL

FIGURE 1

## EVACUATION ROUTES FOR ONSITE PERSONNEL



DC0100 13IV



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## 2. Northern Route through Montana de Oro State Park

If radiation levels make the use of the southern evacuation route undesirable, an alternate route to the north is available. The route will involve traveling through private property up this road to the park.

There are two locked gates and one normally unlocked gate which must be passed through on this route. The locks are a combination type and the combination should be available from security. If the combination is not available the chain on the plant boundary gate may be cut and the gate re-secured with a company lock. The combination for the lock at the Montana de Oro State Park boundary can be obtained from people at the ranch or it may be similarly cut and re-secured.

The assembly point may be either the State Park parking area or preferably further north to the Morro Bay Power Plant and Switching Center via South Bay Boulevard to Highway 1, then exit at Main Street and enter the Switching Center gate off Main Street. These areas are also shown on Figure 1.

### CRITERIA FOR SELECTION OF EVACUATION ROUTE

The southern route is the preferred route because the quality of the road is better, the route is shorter, the bulk of the southern route traverses land to which access is controlled by the Company, and because the normal onsite parking lots are located on the southern side of the plant. The southern route shall be utilized under the following circumstances:

1. All evacuations where the dose rate is  $<500$  mR/hr or the M.P.C. concentration is  $<200$  (i.e., all cases where the dose rates were not high enough to require immediate evacuation should be carried out over the southern route).
2. All evacuations carried out when the winds are calm, variable, or from the south.
3. Any time it is raining (the northern road may be impassable under adverse weather conditions).

The northern route shall be used when the above criteria are not met or the southern route is not passable for any reason.



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## APPENDIX 2

### EVACUATION ROUTE DETERMINATION

#### EVACUATION ROUTE DESCRIPTION

There are two basic evacuation routes which may be utilized when an evacuation is required. The specific route to be followed shall be determined by the Site Emergency Coordinator on the basis of wind direction, dose rates, and other pertinent factors existing at the time. These routes are shown on Figure 1.

#### Description of Routes and Assembly Areas

##### 1. Southern Route to Port San Luis Gate

The preferred route if evacuation from the site is required, is south along the access road to the Port San Luis Gate, and then to an appropriate assembly area. The assembly area will depend on the number of vehicles involved, the availability of space at the assembly area, and the extent of decontamination of vehicles anticipated. The suggested assembly areas in order of preference are:

- a. PGandE Visitors' Information Center - room for around 60 cars, can be cleared out on short notice when open. A "corporation key" is required to enter the parking lot at off hours.
- b. Frontage Road along U.S. 101 north of Information Center - room for several hundred cars, seldom used and easily controlled. Decontamination may require movement of vehicles into the Visitors' Center Parking Lot or the PSEA clubhouse parking lot.
- c. Port San Luis Parking Lot - room for around 250 cars, parking lot is crowded on nice days and during summer.
- d. Parking lot behind Avila Beach Post Office - room for around 250 cars, is crowded on pleasant summer days, but is empty most of the time.

The general locations of these areas are shown in Figure 1.

TITLE: EVACUATION OF NONESSENTIAL SITE PERSONNEL

APPENDIX 1 (Cont'd)

The decision to evacuate or not must include the following considerations:

- a. Whether or not the emergency can be mitigated prior to a dose of 500 mrem or 200 MPC-hrs. being reached.
- b. If personnel involved are not immediately essential for handling the emergency, they should be evacuated at levels near the low end of each range to minimize their doses. This will prevent giving unnecessary doses to personnel who may be needed for assistance later in the emergency.
- c. Any time personnel are to be evacuated, the dose expected during evacuation must be weighed against that expected if the person is not evacuated. In some cases, (i.e., personnel assembled in access control, or the security building) evacuation may give personnel a higher dose than remaining in a shielded or protected area.
- d. Depending on conditions, the Site Emergency Coordinator may elect to allow selected personnel to exceed those guidelines to accomplish critical actions.

2. Radiation Workers Not Engaged in Recovery Actions

In general, nonessential radiation workers should be evacuated right along with nonradiation workers in the event of a general site evacuation under the provisions of 1 above. If their assistance is anticipated to be required, these persons should not be allowed to exceed their occupation quarterly or annual exposure limits (3 rem WB or 5 rem thyroid per quarter, 5 rem WB or 15 rem thyroid per year). Since many of these persons will have received some occupational exposure prior to the accident, the maximum exposure which can be permitted may vary depending on the date in the quarter and the exposure history from one person to another. Therefore, the considerations of b and c above must be weighed in the decision.

Essential radiation worker may be authorized to receive exposures in excess of established quarterly and annual limits. The Site Emergency Coordinator has the sole onsite authority to authorize emergency exposure limits. However, if time permits, such authorization should be made by the Corporate Recovery Manager.

TITLE: EVACUATION OF NONESSENTIAL SITE PERSONNEL

APPENDIX 1EVACUATION CRITERIA

The decision to evacuate any, or all, of the personnel covered by this procedure shall be made by the Site Emergency Coordinator. Personnel shall not evacuate an assembly area unless instructed to do so by the person in charge in the area, and this individual shall, in turn, receive his instructions from the Site Evacuation Coordinator<sup>1</sup> who, in turn, receives instructions from the Site Emergency Coordinator.

1. Unit 2 Construction Personnel, Visitors, Clerical Plant Personnel (Nonradiation Workers)

In keeping with "low as reasonably achievable" philosophy, personnel who are not contributing substantially to recovery actions (which generally includes visitors, contractors and clerical personnel) should be evacuated if such action can prevent significant exposure, provided that trained personnel are available to conduct the evacuation and can be spared for this task without jeopardizing accident mitigation activities. However, the following should be considered as upper limit evacuation criteria:

<u>WHOLE BODY DOSE RATE</u>	<u>AIRBORNE ACTIVITY CONCENTRATION<sup>2</sup></u>	<u>CONSIDER EVACUATION WITHIN</u>
2-10 mrem/hour	1-4 x MPC	48 hours
10-50 mrem/hour	4-20 x MPC	10 hours
50-100 mrem/hour	20-40 x MPC	5 hours
100-500 mrem/hour	40-200 x MPC	1 hours
500 mrem/hour	200 x MPC	Immediately

<sup>1</sup>The person in charge in an assembly area may order the movement of personnel from an assembly area to prevent injury to the assembled personnel. This action shall be reported to the Site Emergency Coordinator as soon as practical.

<sup>2</sup>Where MPC is the maximum permissible concentration for areas as defined in Column 1, Table I, Appendix B to 10CFR20. This calculation will allow 200 MPC-hrs. which conservatively limits internal exposure. This criteria is based on personnel not wearing respiratory equipment.

TITLE: EVACUATION OF NONESSENTIAL SITE PERSONNEL

- b. If public parking lots are utilized as evacuee assembly areas, and the lots cannot be completely cleared prior to arrival of evacuees, the owners names and/or vehicle license numbers of cars still in the lot will be recorded and the vehicles will be surveyed before being allowed to leave.
- c. As a minimum, the names and addresses of any evacuees suspected of having received doses in excess of 250 mR and those requiring any decontamination shall be obtained before the persons are allowed to leave the assembly area.
- d. In general, personnel shall be given permission to leave the assembly area only after the following conditions are met:
  - 1) The person and his vehicle have been surveyed or a sufficient number of persons in the group have been surveyed in order to determine that radioactive contamination is not a factor.
  - 2) Self-reading dosimeter results have been recorded and the names of exposed persons recorded.
  - 3) The above results have been reported to the Site Emergency Coordinator for his evaluation.

APPENDICES

- 1. Evacuation Criteria
- 2. Evacuation Route Determination

ATTACHMENTS

- 1. PI-39 Personnel Accountability and Site Evacuation During a Site Emergency
- 2. Form 69-9310, "Post Evacuation Vehicle Monitoring Data"
- 3. Form 69-9311, "Evacuee Monitoring Data"

SUPPORTING PROCEDURES

- G-3, "Notification of Offsite Emergency Organizations"
- G-4, "Personnel Assembly and Accountability"

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

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TITLE EVACUATION OF NONESSENTIAL SITE PERSONNEL

6. Determine from the Site Emergency Coordinator if site assistance is requested by the County to notify members of the general public along the north access road. If assistance is requested, dispatch a second vehicle along the north access road to notify members of the general public of the evacuation and their assembly area as designated by county personnel. If the north road is to be used as the site evacuation route, they should be so informed by the lead vehicle. If conditions warrant, a qualified monitor should be assigned to this vehicle to monitor personnel and their vehicles.

NOTE: There are dwellings occupied along this road between the plant site and Montana de Oro State Park.

7. Inform each evacuation leader of the following:
  - a. Route to follow
  - b. Offsite assembly area
  - c. Onsite traffic pattern (one or two lane egress)
  - d. Sequence of evacuation (generally this will be 1) warehouse area, 2) General Contractor (G.C.) parking lot, 3) Training Building.
  - e. Instructions for personnel evacuating. These generally are:
    - 1) Proceed in caravan fashion along the designated route to the offsite assembly area.
    - 2) Personnel without transportation should obtain a ride with a driver in their assembly area. Arrangements to get home can be made at the offsite assembly area.
    - 3) At the offsite assembly area, each assembly area evacuation leader should assure that personnel are accounted for, and remain to be monitored and cleared before release.
8. Activities at Assembly Area
  - a. Upon arrival at the evacuation area, the monitor(s) shall begin a program of surveying personnel and vehicles for contamination. The results should be recorded on Form 69-9310 and 69-9311, and the overall results should be reported to the Site Emergency Coordinator.



## TITLE EVACUATION OF NONESSENTIAL SITE PERSONNEL

1. Contact the Emergency Radiological Advisor (or Emergency Evaluation and Recovery Coordinator) and assure that qualified monitoring personnel are dispatched to monitor at the offsite assembly area(s) (either from onsite or offsite). Generally one monitor for each major assembly area will be utilized. Monitors should accompany each group if dispatched from onsite. Monitors or the Assembly Area Leader should be equipped with permanent and self-reading dosimeters to determine doses received during evacuation.

NOTE: Operations personnel assembled in the Training Building may be assigned monitoring duties if not otherwise needed onsite.

2. Coordinate with the Designated Assembly Area Supervisor (DAAS) of each Unit 1 assembly area to move personnel to be evacuated to the Training Building. Personnel to remain onsite should generally be located at the Security Building Ready Room.
3. Appoint an evacuation leader for each major assembly area. The Construction Force Assembly Coordinator will assist for areas under his control. The leader should be provided a plant frequency portable radio, if not already equipped. Generally, this will provide a supervisor for 1) the Training Building, 2) the upper parking lot, and 3) the warehouse area if personnel are assembled at all of these areas. Notify the Emergency Liaison Coordinator of the leader assigned to each area.
4. Send one emergency kit or one evacuation kit to each offsite assembly area. These may be dispatched with the vehicles described in steps 5 and 6 or may be sent with the lead evacuation group.

NOTE: Additional emergency kits are located at the Information Center, and Morro Bay Power Plant and SLO Sheriff's Office.

5. Dispatch a vehicle to clear the south access road of any personnel working along the road, or farm workers. If conditions warrant, a qualified monitor should be assigned to this vehicle to monitor these personnel and their vehicles. This vehicle should proceed to the offsite assembly area for traffic control.



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- 5) The anticipated need for decontamination of personnel or vehicles and whether any assistance required for this function (fire trucks or medical assistance) will be involved at the assembly area.
- 6) Any assistance needed to monitor and/or decontaminate farm workers, or other visitors at the assembly area

NOTE: All notifications should be logged on Form 69-9221 "Emergency Notification Record."

5. If the PGandE Information Center is to be used as an assembly area, the Director of this facility should be notified (during hours it is open) so that this person can begin clearing the parking lot. When this facility is closed a corporation key may be used to gain access to the parking lot.
6. Determine the personnel to be retained onsite and personnel to be assigned to offsite emergency response locations or relief shift duty. In general personnel retained onsite will have chemistry and radiation protection, maintenance or clerical assignments for the site emergency organization.
7. Provide evacuation instructions to the Evacuation Coordinator. These instructions should include:
  - a. Evacuation route
  - b. Offsite assembly area
  - c. Anticipated vehicle or personnel monitoring and decontamination requirements.
  - d. Arrangements with offsite response agencies.
  - e. Personnel to remain onsite.

GUIDANCE FOR THE EVACUATION COORDINATOR

The Evacuation Coordinator, after receiving instructions on the evacuation route and assembly location from the Site Emergency Coordinator, shall:

## TITLE: EVACUATION OF NONESSENTIAL SITE PERSONNEL

- 3) Notify guard force to direct traffic on and off of the site to assure that personnel stay on the proper evacuation route and that members of the general public do not get involved unnecessarily.
- e. Communicating with the Emergency Radiological Advisor (or the Emergency Evaluation and Recovery Coordinator) to obtain qualified personnel to direct monitoring and/or decontamination at the offsite evacuation assembly area.
3. The Site Emergency Coordinator will designate the evacuation route and offsite evacuation assembly area. Appendix 2 "Evacuation Route Determination" provides guidance in this determination.

NOTE: If possible, San Luis Obispo County Emergency Organization should be consulted prior to implementation regarding traffic control problems or impediments on the evacuation routes.

4. The Site Emergency Coordinator will direct notification of the San Luis Obispo County Sheriff's Office or San Luis Obispo County Emergency Operations Center (if activated) of the evacuation. This notification should include the following information:

- a. Update on plant emergency status including the information on Form 18-10262 "Radiological Emergency Status Form." (See Emergency Procedure G-3, "Notification of Offsite Emergency Organizations.")

NOTE: The status information should permit determination of the need for protective actions for the general public in the near site area.

- b. Notification of the intent to evacuate personnel including:
  - 1) The intended evacuation route
  - 2) The designated offsite assembly area
  - 3) The need for traffic control or clearing of parking areas
  - 4) The approximate number of personnel and vehicles to be evacuated

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TITLE EVACUATION OF NONESSENTIAL SITE PERSONNEL

GUIDANCE FOR THE SITE EMERGENCY COORDINATOR

1. The Site Emergency Coordinator will assess the need for, or the potential need for, evacuation of nonessential personnel. Appendix 1 "Evacuation Criteria" provides guidance in making this determination for radiological emergencies. Generally evacuation will be conducted for incidents at the Site Area Emergency or General Emergency Classification Levels regardless of whether a release is occurring. The assessment for radiological emergencies may be delegated.
2. The Site Emergency Coordinator will assure an Evacuation Coordinator is available to supervise the evacuation. The person assigned will be one of the following (in order of preference); depending on availability and whether a security event is contributing or the cause of the emergency:
  - a. Security Supervisor
  - b. Senior Security Shift Supervisor
  - c. Security Shift Supervisor
  - d. Senior Power Production Engineer (Emergency Planning)

The responsibilities of the Evacuation Coordinator are as follows:

- a. Communicating with the Site Emergency Coordinator to determine the conditions of the emergency and the evacuation plan.
- b. Providing information on the number of vehicles and personnel involved in the evacuation and any further personnel accountability required at the site prior to the evacuation.
- c. Transmitting information to assembled personnel and coordinating the evacuation with General Construction.
- d. Providing required onsite traffic control measures such as:
  - 1) Notifying Avila Gate of the evacuation.
  - 2) Sequencing the departure of personnel to avoid congestion.

## TITLE EVACUATION OF NONESSENTIAL SITE PERSONNEL

NOTE: This procedure is intended to apply to evacuations where persons may receive abnormal external exposure and/or persons or automobiles may be contaminated (i.e., a release above Technical Specification limits has occurred). It is recognized that in the event of an emergency it may be desirable to send persons home before they are exposed to significant radiation and/or contamination levels. A case of this nature would be handled as an early dismissal from work. The provisions of this procedure for offsite assembly are not required in such a case. (items 2e, 5, portions of 3 and 7 under "Guidance for the Site Emergency Coordinator" and items 1, 3, 4, 7, 8 under "Guidance for the Evaluation Coordinator"). The term "early dismissal" instead of "evacuation" may be used for such a case.

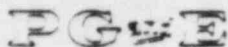
INITIATING CONDITIONS

The Shift Foreman declares that the plant is in an emergency condition (Unusual Event, Alert, Site Area Emergency or General Emergency) or determines that personnel assembly and accountability are desirable, and sounds the site emergency alarm.

Personnel on site will assembly at their designated assembly areas following sounding of the site emergency alarm in accordance with Emergency Procedure G-4, "Personnel Assembly and Accountability." This action will result in essentially all personnel onsite assembling in one of eight locations.

1. Control Room
2. Technical Support Center
3. Cold Machine Shop
4. Radiation Access Control
5. Security Building
6. Training Building
7. Biology Lab
8. Contractor and Site Visitor Assembly Areas

A list of plant staff personnel assembled in, or adjacent to, Unit 1 will be developed as will a list of unaccounted for personnel assembled in the contractor and visitor assembly areas in accordance with Emergency Procedure G-4, "Personnel Assembly and Accountability."



# Pacific Gas and Electric Company

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DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

TITLE EVACUATION OF NONESSENTIAL SITE PERSONNEL

IMPORTANT  
TO  
SAFETY

APPROVED

*R. E. Thompson*  
PLANT MANAGER

10-16-85  
DATE

## SCOPE

This procedure provides guideline information pertinent to evacuation of onsite personnel including Company, contractor, and visitors, who are not engaged in recovery actions following an emergency. This procedure and changes thereto require PSRC review.

## GENERAL

In the event of an emergency situation at Unit 1, it may be desirable to minimize the number of nonessential personnel onsite. If the emergency involves a radiological release or the potential for a release then evacuation of nonessential personnel is desirable, or may be required, to minimize exposure to radioactive material.

The organization of this procedure provides guidance in three distinct areas: 1) Determination of the need for site evacuation, 2) determination of the evacuation route and assembly area, and 3) conducting the evacuation and subsequent assembly, monitoring and release of personnel in an orderly manner. The first two of these areas are provided in the section "Guidance for the Site Emergency Coordinator". The latter is provided in the section "Guidance for the Evacuation Coordinator".

This procedure assumes the emergency occurs during normal working hours when the greatest numbers of nonessential personnel are onsite. It is also applicable however, during off-normal hours, weekends and holidays.



Date: / /

## Part B: Onsite/Offsite Radiological Field Monitoring and PIC Emergency Status Form

Status #

Sheet 1 of 1

Location		Time Data Collected											
Team PIC	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.							
	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.							
	R/hr	R/hr	R/hr	R/hr	R/hr	R/hr							
	cpm	cpm	cpm	cpm	cpm	cpm							
	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$							
Team PIC	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.							
	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.							
	R/hr	R/hr	R/hr	R/hr	R/hr	R/hr							
	cpm	cpm	cpm	cpm	cpm	cpm							
	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$							
Team PIC	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.							
	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.							
	R/hr	R/hr	R/hr	R/hr	R/hr	R/hr							
	cpm	cpm	cpm	cpm	cpm	cpm							
	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$							
Team PIC	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.							
	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.							
	R/hr	R/hr	R/hr	R/hr	R/hr	R/hr							
	cpm	cpm	cpm	cpm	cpm	cpm							
	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$							
Team PIC	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.							
	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.							
	R/hr	R/hr	R/hr	R/hr	R/hr	R/hr							
	cpm	cpm	cpm	cpm	cpm	cpm							
	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$	$\mu\text{Ci}/\text{cm}^3$							

Data Transmitted By:

This Data Sheet Filled Out By:

Date: / / Time: a.m. p.m.

## DISTRIBUTION LIST

TSC Dist. (5)  
 Site Emerg. Coord.  
 Emerg. Rad. Advisor  
 TSC File  
 TSC Status Bd.

EOF Dist. (6)  
 Rec. Mgr.  
 Rad. Emerg. Rec. Mgr.  
 IDAC  
 Adv. To County Emerg. Org.

EOF Status File  
 EOF Emerg. Status Bd.



## TITLE: PLANT STATUS EMERGENCY FORM

## 8. Steam Generators:

- a. Level: 1 \_\_\_\_\_ % 2 \_\_\_\_\_ % 3 \_\_\_\_\_ % 4 \_\_\_\_\_ %
- b. Pressure: 1 \_\_\_\_\_ psig 2 \_\_\_\_\_ psig 3 \_\_\_\_\_ psig 4 \_\_\_\_\_ psig
- c. Auxiliary Feedwater Pumps On: ☐ Turbine ☐ 2 ☐ 3 Total gpm: \_\_\_\_\_
- d. Feedwater Source: ☐ Cond Tk \_\_\_\_\_ % ☐ Raw Water \_\_\_\_\_ %  
☐ Fire Water \_\_\_\_\_ %
- e. Steam Dump: ☐ Atm ☐ Condenser
- f. Safety Valves Closed: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- g. MSIV's Closed: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- h. Est. Primary to Sec. Leakage: \_\_\_\_\_ gpm

## Cooling:

- a. CCW Pumps Flow, gpm: 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_
- b. ASW Pumps On: ☐ 1 ☐ 2

## 10. Electrical:

- a. 4KV Bus Energized: ☐ F ☐ G ☐ H
- b. Offsite Power Available: ☐ YES ☐ NO
- c. Diesel Generators On: ☐ 1 ☐ 2 ☐ 3

11. Other Information: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
-----

Data Received By: \_\_\_\_\_

Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Time \_\_\_\_\_ AM/PM

RETAIN THIS FORM FOR EVENT EVALUATION

## TITLE: PLANT STATUS EMERGENCY FORM

- c. RCP Running: ☐ 1 ☐ 2 ☐ 3 ☐ 4
- d. Incore Thermocouple(s): \_\_\_\_\_ F Hottest, \_\_\_\_\_ F Average
- e. Reactor Vessel Level: \_\_\_\_\_ %
- f. Boron Concentration: \_\_\_\_\_ ppm
- g. Margin to Subcooling: \_\_\_\_\_ degrees F
- h. RCS Activity Sample Available: ☐ YES Activity \_\_\_\_\_ uci/cc ☐ NO
- i. RV Head Temp. F \_\_\_\_\_
5. Pressurizer:
- a. Level: \_\_\_\_\_ %
- b. PORV/Safety Valves: ☐ Open ☐ Closed
6. ECCS:
- a. Operating: ☐ Yes ☐ No Letdown Flow, gpm \_\_\_\_\_  
VCT Level, % \_\_\_\_\_
- b. Actuation \_\_\_\_ Auto \_\_\_\_ Man.
- c. Cent. Chg. Pumps On: ☐ 1 ☐ 2 Total gpm: \_\_\_\_\_
- d. SI Pumps On: ☐ 1 ☐ 2 Total gpm: \_\_\_\_\_
- e. RHR Pumps On: ☐ 1 ☐ 2 Total gpm: \_\_\_\_\_  
RHR Disch. Temp. F. \_\_\_\_\_
- f. Accumulators Discharged: ☐ YES ☐ NO
- g. Mode: ☐ Inject RWST \_\_\_\_\_ % ☐ Recirculation \_\_\_\_\_ % Contmt. Level
7. Containment:
- a. Pressure/Temperature/Humidity: \_\_\_\_\_ psig/\_\_\_\_\_ F/\_\_\_\_\_ dew point
- b. Containment Isolation: ☐ Ph. A ☐ Ph. B
- c. Integrity: \_\_\_\_\_
- d. Containment Spray Pumps On: ☐ 1 ☐ 2
- e. Fan Coolers On: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- f. Rad Monitor: \_\_\_\_\_ R/hr (Hi Range)  
\_\_\_\_\_ mR/hr (Entry/Seal Table)

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2TITLE: PLANT STATUS EMERGENCY FORM

Provide as much information as is available and appropriate at the time of the status report.

Date: \_\_\_/\_\_\_/\_\_\_ Time: \_\_\_\_\_ AM/PM Status Report # \_\_\_\_\_  
(Form Completed) (Number Sequentially)

Person Authorizing Report: \_\_\_\_\_ (DCPP only)  
Site Emergency Coordinator

Person Transmitting Report: \_\_\_\_\_ Location \_\_\_\_\_ (DCPP only)

TSC DIST: 9 COPIES

1. Site Emergency Coordinator
2. Emergency Evaluation & Recovery Coord.
3. Emergency Liaison Coordinator (2)
4. Emergency Maintenance Coord.
5. Emergency Operations Coordinator
6. Emergency Radiological Advisor
7. NRC Office
8. TSC File
9. TSC Status Board

EOF DIST: 10 COPIES

1. Recovery Manager
2. UDAC
3. Advisor To The County
4. Radiological Emerg. R.M.
5. Operations and Analytical M.
6. Engineering and Logistics M.
7. Public Information M.
8. Corporate Law Dept. Coord.
9. EOF Status File
10. EOF Emerg. Status Board

1. Emergency Classification: [ ] Unusual Event [ ] Alert [ ] Site Area Emergency  
[ ] General Emergency

Time Data Collected: \_\_\_\_\_ AM/PM

2. Plant Status - Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Reactor Status: [ ] Unit 1 [ ] Unit 2 (Provide a separate form for the other unit)

a. Power Level: Before \_\_\_\_\_ % Current \_\_\_\_\_ % Power Range  
amp Int. Range  
Source Range

b. Fuel Damage: [ ] None [ ] Minor [ ] Major

4. Reactor Coolant System:

a. Pressure: \_\_\_\_\_ psig Est. RCS Leakage \_\_\_\_\_ gpm. where \_\_\_\_\_

b. Loop Status  
Temp. (hot/cold), F      1      2      3      4  
Flow %      /      /      /      /  
\_\_\_\_\_

## RADIOLOGICAL RELEASE STATUS

PERSON AUTHORIZING REPORT \_\_\_\_\_

PERSON ORIGINATING REPORT AND LOCATION \_\_\_\_\_

DATE \_\_\_\_\_ TIME \_\_\_\_\_ AM \_\_\_\_\_ PM STATUS # \_\_\_\_\_

EMERGENCY CLASSIFICATION ☐ UE ☐ ALERT ☐ SAE ☐ GE ☐  
 RELEASE: OCCURRING \_\_\_\_\_ ANTICIPATED \_\_\_\_\_ NONE \_\_\_\_\_ WHEN \_\_\_\_\_ AM \_\_\_\_\_ PM  
 LOCATION OF RELEASE: PLANT VENT \_\_\_\_\_ STEAM \_\_\_\_\_ SURFACE \_\_\_\_\_ LIQUID DISCHARGE \_\_\_\_\_  
 EST. DURATION OF RELEASE: \_\_\_\_\_ HRS  
 INCIDENT TIME/DESCRIPTION: \_\_\_\_\_

NOBLE GASES: \_\_\_\_\_ Ci \_\_\_\_\_ Ci/Sec  
 IODINES: \_\_\_\_\_ Ci \_\_\_\_\_ Ci/Sec  
 PARTICULATES: \_\_\_\_\_ Ci \_\_\_\_\_ Ci/Sec  
 BASIS FOR RELEASE RATE CALC. \_\_\_\_\_

METEOROLOGICAL DATA (USE 10m ELEVATION ON PRIMARY MET TOWER OR  
 DESIGNATE OTHER SOURCE IF USED):  
 WIND SPEED: \_\_\_\_\_ M/SEC x (2.2) = \_\_\_\_\_ MPH DIRECTION (FROM): \_\_\_\_\_ deg.  
 STABILITY CLASS (VERT.) \_\_\_\_\_ SIGMA A (DEG): \_\_\_\_\_ AT: \_\_\_\_\_ °C/M  
 (HORIZ.) \_\_\_\_\_ x 800m = \_\_\_\_\_ MIXING DEPTH \_\_\_\_\_ M  
 Q

WEATHER CONDITIONS: RAIN/CLEAR/FOG/CLOUDY

CENTER LINE DOSE PROJECTIONS PROJECTION TIME: _____	DOSE RATE		INTEGRATED DOSE		AFFECTED SECTOR/PAZ
	W.B.	THYR.	W.B.	THYR.	
	mR/HR		mR		

SITE BOUNDARY (0.5mi)

2 MILES

5 MILES

10 MILES

15 MILES

- PG&amp;E RECOMMENDED EMERGENCY ACTION/PROTECTIVE MEASURES TO SLO COUNTY:

- EMERGENCY RESPONSE ACTIONS UNDERWAY BY PG&amp;E:

- EMERGENCY RESPONSE ACTIONS UNDERWAY BY SLO COUNTY:

- PROGNOSIS FOR ESCALATION OR TERMINATION OF ACCIDENT:

COMMENTS: \_\_\_\_\_

DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT

EMERGENCY NOTIFICATION RECORD

EMERGENCY IDENTIFICATION

DATE \_\_\_\_\_

SHEET

[illegible]

## TITLE: INITIAL EMERGENCY NOTIFICATION FORM

Message  
(for SLO County/Calif. OES)

- |   |   |
|---|---|
| <p>[C] Site Area Emergency<br/>(Consider protective actions [B] or [C])</p> <p>[D] General Emergency<br/>(Recommend protective action [D] or [E])</p> | <p>Immediate mobilization of emergency response personnel is required. PGandE is activating the EOF.</p> <p>Immediate mobilization of emergency response personnel is required. PGandE is activating the EOF.</p> |
|---|---|

7. Affected sector [check one] - Wind Speed \_\_\_\_\_ mps(x2.2)= \_\_\_\_\_ mph[Complete calculation]

	WIND FROM		WIND TOWARD		AFFECTED
	DEGREES	DIRECTION	AFFECTED SECTOR	PAZ's (Basic EPZ)	
[A]	349-11	N	S		
[B]	12-33	NNE	SSW		
[C]	34-56	NE	SW		
[D]	57-78	ENE	WSW		
[E]	79-101	E	W		
[F]	102-123	ESE	WNW	1,2	
[G]	124-146	SE	NW	1,2	
[H]	147-168	SSE	NNW	1,2,5,9	
[I]	169-191	S	N	1,2,5,9	
[J]	192-213	SSW	NNE	1,2,5,9	
[K]	214-236	SW	NE	1,2,4,8	
[L]	237-258	WSW	ENE	1,2,3,4,8	
[M]	259-281	W	E	1,2,3,4,7,8,11	
[N]	282-303	WNW	ESE	1,2,3,6,7,10,11,12	
[O]	304-326	NW	SE	1,2,12	
[P]	327-348	NNW	SSE		

8. Recommended General Public Protective Actions (Refer to Table 1 and Figure 1 of EP G-3) [Check one]

- [A] None
- [B] Evacuation of the site, and PAZ 1. [Consider notifying U.S. Coast Guard per EP G-3 pg. 3]
- [C] Evacuate transients (Montana de Oro visitors, agriculture workers, etc.) in the low population zone (PAZ's 1 and 2) starting with the affected sector and two adjacent sectors.
- [D] Evacuate the low population zone (PAZ's 1 and 2) starting with the affected sector and two adjacent sectors.  
Alert the public in the basic emergency planning zone using the Early Warning System Sirens and EBS Broadcasts. [Consider notifying U.S. Coast Guard per EP G-3 pg. 3]
- [E] Take actions specified in [D] and shelter personnel in the affected sector and two adjacent sectors in the basic EPZ.

----- RETAIN THIS FORM FOR EVENT EVALUATION -----



PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: INITIAL EMERGENCY NOTIFICATION FORM

Date        /        /        Time        AM/PM Status #         
(Form Completed) (Number Sequentially)

Person Authorizing Report \_\_\_\_\_ (DCPP Only)  
Site Emergency Coordinator

Data Sheet Completed By \_\_\_\_\_ (DCPP Only)

Identify yourself, state the call is to provide notification of an emergency condition at Diablo Canyon Power Plant, and provide the following information:

1. Describe what happened: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Unit Involved [A] 1 [B] 2 [NRC ONLY: Docket# Unit 1(50-275) Unit 2(50-323)]
3. Time emergency declared \_\_\_\_\_ AM/PM
4. Situation Involves [Check one]  
[A] No Release [C] Imminent Release [E] Release has occurred, but is stopped  
[B] Potential Release [D] Release is Occuring
5. Offsite Assistance [Check one]  
Fire (Cal. Dept. of Forestry) [A] Has been requested  
Medical (SLO Ambulance/French Hospital) [B] Has been requested  
Law Enforcement (SLO County Sheriff) [C] Is/has been requested  
[D] None
6. Emergency Classification - Provide standard message or modify as required by the situation. Note any modification made. [Select one]

### Classification

[A] Unusual Event

[B] Alert

Message  
(for SLO County/Calif. OES)

Notification of key emergency organization personnel is required at this level, but no further response is necessary.

Notification of all emergency response organizations and activation of the EOC and other response centers is required. PGandE is activating the EOF.

ATTACHMENT 3  
RECOVERY MANAGER MOBILE PHONE AND PAGER INSTRUCTIONS

1. Mobile Phone Instructions

Recovery Manager's mobile radio telephone number: [REDACTED]

- a. Dial "0" for operator and ask for the Mobile Conference Operator; then give the phone number and general location of automobile. When calling from within General Office, dial [REDACTED] and ask PGandE operator to connect with PT&T operator and repeat as above.

2. Pager Instructions--Nuclear Power Generation

- a. Message to be left with the General Office Communications PBX Operator (short tone):

Call [REDACTED] and request that the particular individual/beeper code be paged. Leave message with operator for the individual you are paging. The Communications PBX Operator will activate the radio pager for that individual by dialing the unique PT&T number (50 mile radius of San Francisco) pager or the extended coverage PT&T number (if in San Luis Obispo area) assigned to that pager.

- b. Message to be left with the Intrastate Radio-Telephone Commercial Message Operator (long tone):

Call [REDACTED] and request that the particular beeper code be paged. Leave message with operator for the individual you are paging.

- c. If you want both short and long tones to be paged for one beeper, you may request the operator in Step 2.a above to pass the message to the operator in Step 2.b above, or vice-versa. Both operators are capable of paging in either tone. The type of tone denotes where the person being paged is to call to receive his message(s).

d.	Name	Beeper Code	Unique	Extended Coverage
			PT&T Number	PT&T Number
	J. D. Shiffer	[REDACTED]		
	J. D. Townsend			
	W. A. Raymond			

TABLE 1  
PG and E Recommended Initial General Public Protective Action Criteria

Page 1 of 1

<u>Emergency Classification</u> <sup>1</sup>	<u>Release Status</u> <sup>2</sup>	<u>Site Boundary Dose</u> <sup>3</sup>	<u>Appropriate Recommended Initial Protective Action</u> <sup>4</sup>
A-Unusual Event	All	NA	None
B-Alert	All	NA	None
C-Site Area Emergency	All	<500 mR (Total W.B.)	None
"	B-Potential Release	>500 mR (Total W.B.)	C-Evacuate transients (Montana de Oro Visitors, agricultural workers, etc.) in the low population zone (PAZ's 1 and 2) starting with the affected sector and two adjacent sectors.
"	C-Imminent Release or D-Release is Occuring	"	B-Evacuation of the Site, and PAZ 1.
"	E-Release has Occurred but stopped	"	None
D-General Emergency	A-No Release or B-Potential Release	NA	D-Evacuate the site and low population zone (PAZ's 1 and 2) starting with the affected sector and two adjacent sectors. Alert the public in the basic emergency planning zone using the Early Warning System Sirens and EBS Broadcasts.
E-General Emergency	C-Imminent Release or D-Release is Occuring or E-Release has Occurred but stopped	NA	D-(as above) and shelter personnel in the affected sector and two adjacent sectors to the boundary of the Basic EPZ. Specify a further distance from the plant if a total dose >500 mR is projected at further distances.

1. Refer to item 6 of Form 69-10581.
2. Refer to item 4 of Form 69-10581.
3. Calculate in accordance with EP R-2.
4. Refer to item 8 of Form 69-10581.

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## TITLE NOTIFICATION OF OFFSITE ORGANIZATIONS

4. Status updates to San Luis Obispo County will be provided by the EOF once it is manned in accordance with Emergency Procedure EF-3 "Activation of the Emergency Operations Facility." Updates to California OES and NRC will continue from the TSC until these organizations establish their own communication channels and no longer need status reports.

NOTE: Changes in emergency classification or information on the estimated potential for time of or extent of a release will be immediately provided to offsite organizations when authorized.

5. Status reports to other organizations on Form 69-10298 are only required as determined necessary by the Site Emergency Coordinator for the organization to provide their support function.

RECORDKEEPING

All records generated by the utilization of this procedure for an exercise or emergency shall be forwarded the next working day to the Assistant Plant Manager/Support Services for review and retention.

1. Records generated from exercises will be categorized as non permanent and retained for a minimum of five years.
2. Records generated from actual emergency events will be categorized as lifetime and placed into lifetime storage in accordance with procedure "Requirements for Retention and Extended Storage of Operation Phase Activity Records (AP E-1S1)."

ATTACHMENTS

1. Table 1 - Initial General Public Protective Action Criteria.
- 1a. Figure 1 "San Luis Obispo County Protective Action Zones and Sectors from Plant"
2. Form 69-10298 "Emergency Offsite Organization Call List"
3. Mobile Phone and Pager Instructions
4. Form 69-10581 "Initial Emergency Notification Form"

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP G-3  
REVISION 7  
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PAGE 6 OF 6

TITLE NOTIFICATION OF OFFSITE ORGANIZATIONS

5. Form 69-9221 "Emergency Notification Record"
6. Form 69-10262 "Radiological Release Status"
7. Form 69-10295 "Plant Status Emergency Form"
8. Form 69-10296 "Onsite/Offsite Radiological Field Monitoring and PIC Emergency Status Form"

SUPPORTING PROCEDURES

1. EP G-1, "Accident Classification and Emergency Plant Activation"
2. EP EF-1, "Activation of the Technical Support Center"
3. EP EF-3, "Activation of the Emergency Operations Facility".
4. EP R-2, "Release of Airborne Radioactive Materials"
5. AP C-11S2, "Supplement 2 to Non-Routine Notification and Reporting to the NRC and Other Governmental Agencies"

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## TITLE NOTIFICATION OF OFFSITE ORGANIZATIONS

In the event a Site Area Emergency (with recommendation for evacuation) or General Emergency is declared,

and

the recommendation for protective action is made within 30 minutes of the initial notification of the emergency condition,

the

Shift Foreman or the Interim Emergency Liaison Coordinator will call the 24-hour USCG (Marine Safety Office) phone [415/437-3073] and alert them to PGandE's recommendations for protection actions. The USCG should also be informed that San Luis Obispo County has been informed of the recommendations and will be calling with a request for assistance with the offshore areas in the vicinity of the plant.

SUBSEQUENT ACTIONS

1. A verbal summary of actions taken to close out an Unusual Event shall be provided each organization notified by the Site Emergency Coordinator or his designated representative.
2. Immediate notification of an increase in emergency classification or increase in the potential for a release shall be made to San Luis Obispo County. Status updates should be provided approximately every 30 minutes to each organization, for an Alert or higher classification, until the EOF and TSC are manned.
3. When personnel are available the TSC will be activated for an Alert or higher classification according to EP EF-1, "Activation of the Technical Support Center." The Emergency Liaison Coordinator shall man his post in the TSC Operations Center and assume responsibility for contact with off-site emergency organizations from the interim Emergency Liaison Coordinator in the Control Room.



## TITLE NOTIFICATION OF OFFSITE ORGANIZATIONS

8. Primary position holders of certain emergency response positions are provided with VHF radio-equipped company vehicles. Because these persons are essentially on-call at all times, use of these vehicles is warranted in off hours to ensure rapid communication and response. These personnel are identified in Attachment 3 and in the call list for on-site personnel in G-2.
9. Per Administrative Procedure AP C-11S2, "Supplement 2 to Non-Routine Notification and Reporting to the NRC and Other Governmental Agencies", use of any emergency procedure which results in declaration of any emergency classification requires an "Immediate Notification" and must be reported to NRC headquarters within one hour.

The Shift Foreman will follow Administrative Procedure AP C-11S2 and its "Significant Event Notification Form" for Unusual Events. The Site Emergency Coordinator will assure that the required reporting is accomplished for Alert or higher conditions.

INITIATING CONDITIONS

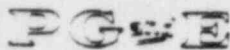
Notification of off-site emergency organizations shall be initiated by the Shift Foreman when he declares an Unusual Event, Alert, Site Area Emergency, or General Emergency in accordance with EP G-1, "Accident Classification and Emergency Plan Activation."

IMMEDIATE ACTIONS

1. Upon declaration of an Unusual Event, the Shift Foreman, or his designated representative, (The interim Emergency Liaison Coordinator), shall man a telephone in the Control Room and proceed to contact off-site organizations.
2. Upon declaration of an Alert, Site Area Emergency, or General Emergency, the Shift Foreman acting as the interim Site Emergency Coordinator shall appoint the interim Emergency Liaison Coordinator to perform the initial notification of off-site organizations.
3. The San Luis Obispo County Emergency Plan provides that the Sheriff will make notifications to the United States Coast Guard (USCG). If the situation at the plant requires immediate protective actions on the part of the general public, and the County Emergency Organization has not had time to be activated, the plant should notify the USCG to place them on standby.

## TITLE NOTIFICATION OF OFFSITE ORGANIZATIONS

3. The initial contact with an off-site agency should provide as much information concerning the state of the emergency as is available at the time the notification is made. Form 69-10581 "Initial Emergency Notification Form" is provided as a guide to be used in providing the initial notification of an emergency. All available information on Form 69-10581 should be provided the organizations.
4. It is important that the initial notification of off-site support organizations be made promptly and with as much pertinent information as is available. It should not be delayed if all the information contained on Form 69-10581 is not immediately available. Complete the required initial notifications even if the information provided is changed during the notification process. Provide the updated information as soon as initial notification is complete.
5. Figure 1 "San Luis Obispo County Protective Action Zones and Sectors from Plant" and Table 1 "PGandE Recommended Initial General Public Protective Action Criteria" are provided to assist in determining appropriate protective actions to recommend for the general public. Refer to EP R-2 "Release of Airborne Radioactive Materials" for additional protective action exposure criteria.
6. Follow-up status reports from the Control Room should also use Form 69-10581. Reports from the TSC should include the information that is appropriate on Form 69-10262 "Radiological Emergency Status Form, Form 69-10295 "Plant Status Emergency Form" and Form 69-10296 Onsite/Offsite Radiological Field Monitoring and PIC Emergency Status Form," where such information is requested and not available to the organization by electronic data transmission.
7. All notifications and contacts with off-site emergency organizations made throughout the course of the emergency should be recorded on Form 69-10298 "Required Offsite Organization Call List" or use Form 69-9221 "Emergency Notification Record" or similar log.



# Pacific Gas and Electric Company

NUMBER EP G-3  
REVISION 7  
DATE 10/8/85  
PAGE 1 OF 6



DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2  
EMERGENCY PROCEDURE  
NOTIFICATION OF OFFSITE ORGANIZATIONS

TITLE:

IMPORTANT  
TO  
SAFETY

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

## SCOPE

This procedure describes the steps to be taken to provide both the initial and follow-up notifications to Federal, State, Local, and Company off-site emergency organizations following the initiation of one of the four classes of Emergency Action Levels as described in EP G-1 "Accident Classification and Emergency Plan Activation."

Notification of off-site organizations which would respond on-site to specific emergency situations, (security threat, personal injury or fire) are discussed in the individual procedures dealing with those specific types of emergencies. If required, requests for this assistance receive priority over notification calls. This procedure and changes thereto requires PSRC review.

## GENERAL

1. Notification of San Luis Obispo County should be made within 15 minutes for the Unusual Event classification and sooner (consistent with the need for other emergency actions) for other classes. This time is measured from the time at which the Shift Foreman recognizes that events have occurred which make declaration of an emergency appropriate.
2. Offsite emergency organizations which require prompt notification in an emergency situation are listed on Form 69-10298 "Required Offsite Organization Call List. The agencies are listed in the order in which the notifications should be performed. Where multiple persons are available to assist in the callout process, the notifications may be done in the order determined by the Site Emergency Coordinator or Liaison Assistant. San Luis Obispo County should be one of the first notifications made.

## EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

EMERGENCY ORGANIZATION POSITION	DATE NOT AVAILABLE	DATE ON-CALL	NAME/NON-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Security Liaison	_____	None	1. R. G. Todaro Security Supervisor			_____	_____
Assigned - TSC	_____		2. J. P. Hubble Sr Security Shift Supvr			_____	_____
	_____		3. L. C. Fisher Sr Security Shift Supvr			_____	_____
	_____		4. D. R. Dysert Security Shift Supvr			_____	_____

NOTE: CALL SECURITY SHIFT SUPERVISOR (EXT. 3333) AND PROVIDE A LIST OF PERSONNEL COMING ONSITE WHEN CALLOUT IS COMPLETE.

## CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)

69-10297 10/85 (100)

EMERGENCY ORGANIZATION CALL LIST

NOT FOR PUBLIC DISCLOSURE

<u>EMERGENCY ORGANIZATION POSITION</u>	<u>DATE NOT AVAILABLE</u>	<u>DATE ON-CALL</u>	<u>NAME/NON-EMERGENCY TITLE</u>	<u>HOME PHONE/ PLANT PHONE</u>	<u>HP FREQ. PAGER CALL # GROUP CALL #</u>	<u>TIME CONTACTED</u>	<u>WILL BE IN YES NO</u>
Records Management	_____	None	1. C. Leon Meyers Records Analyst			_____	____
Assigned - TSC	_____		2. L. Yamaguchi Records Analyst			_____	____
	_____		3. J. M. Neill Document Control Supv			_____	____

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CONTROL ROOM ASSISTANT:

1. Insert date person is not available.
2. Insert Date person assumes "on-call" responsibility.  
(Person on call will possess the pager for this position)



TITLE: POST ACCIDENT SAMPLING SYSTEM

EP RB-15:D -- Gas Chromatographic Analysis

This procedure details the steps required (1) to check the instrument calibration prior to sample analysis and then (2) to load and analyze a gas sample from the RC module of the LSP or from the CASP. Sample gas should be available at RC-V-15 before using this procedure.

EP RB-15:E -- Post-Accident RCS Liquid and Gas Sample Handling

This procedure details the steps required to prepare (1) a diluted liquid sample for boron analysis, (2) a diluted off-gas sample for isotopic analysis (3) a diluted liquid sample for isotopic analysis, and (4) a diluted containment air sample for isotopic analysis.

EP RB-15:F -- Data Analysis

This procedure provides a standard format to record data obtained in the EP RB-15 procedures.

EP RB-15:G -- Ion Chromatographic Chloride Analysis

This procedure details the steps required to measure the chloride concentrations from the sample sources available at the LSP.

EP RB-15:H -- pH/Conductivity/Dissolved Oxygen Analysis

This procedure details the steps required to perform pH/conductivity and dissolved oxygen analysis on a liquid sample.

EP RB-15:I -- Sample Storage and Disposal

This procedure provides a means for disposal of stripped gas samples and storage of liquid samples.



TITLE POST ACCIDENT SAMPLING SYSTEM

EP RB-15:J -- Undiluted Liquid Sampling from Reactor Coolant

This procedure details the steps required to obtain an undiluted liquid sample from reactor coolant.

EP RB-15:K -- Diluted Liquid Sampling From Radwaste

This procedure details the steps required to obtain a diluted sample from radwaste sources.

EP RB-15:L -- Undiluted Liquid Sampling from Radwaste

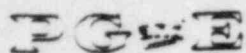
This procedure details the steps required to obtain an undiluted liquid sample from radwaste sources.

EP RB-15:M -- Undiluted Containment Air Sampling

This procedure details the steps required to obtain an undiluted containment air sample in a cart/cask for isotopic analysis.

REFERENCES

1. Sentry High Radiation Sampling System Operations and Maintenance Manual
2. Nureg 0737



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

POST-ACCIDENT SAMPLING SYSTEM

TITLE -- INITIAL ACTIONS

NUMBER EP RB-15:A

REVISION 4

DATE 8/26/85

PAGE 1 OF 23

APPROVED

*R. E. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## PURPOSE

The purpose of this procedure is to define some of the actions taken when a decision is made by the Site Emergency Coordinator to obtain a post accident sample using the Post Accident Sample System (PASS).

This procedure guides, with consideration of plant emergency radiation hazards, the Sentry team to access and make operable the Sentry room. It also guides the team to withdraw from the Sentry room upon sample acquisition. This procedure and changes thereto requires PSRC approval.

## DISCUSSION

This procedure ensures sample recovery with a minimum risk to personnel in a limited time frame.

The movable shield in the 85' penetration area will be closed to block that access route. Therefore ingress and egress will be required across the RCA boundary. Performance of this procedure may require the transfer of radioactive samples to non-RCA's. For these reasons this procedure involves exemptions from certain routine RCA access requirements. Personnel implementing this procedure should be covered by an SWP or RWP during an accident, drill, or drill-like training. Routine use of the Sentry room is covered by the C&RP routine sampling RWP.

Particularly hazardous or unexpected conditions may occur in post accident situations. Direction by appropriate supervision may augment or supercede portions of this procedure because every possibility cannot be anticipated.

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONSPREREQUISITES AND PRECAUTIONS

1. The Site Emergency Coordinator should pre-plan post-accident sampling with the Emergency Radiological Advisor and the Site Chemical and Radiation Protection Coordinator prior to ordering a plant entry (i.e., prior to deciding to collect a post-accident sample) when unusually hazardous radiation or contamination levels are known or suspected to exist.
2. A sufficient number of properly qualified personnel to complete the task should be available prior to making the post accident sample decision. This might include:
  - a. Two people on the Sentry team qualified as C&RP Technicians.
  - b. A sample transporter qualified as an unescorted Radiation Worker.
  - c. A count room qualified person in the TSC lab.
3. The Work Permit will specify protective equipment. Unless conditions warrant less stringent requirements, it is suggested that full PC's, SCBA's and accident dosimetry be worn. Accident dosimetry includes: 0-200 mR PICS, 0-5 R PICS, finger rings (not necessary during drills).
4. The Sentry team will make a post-accident entry to the plant only when directed by supervision and when possessing a high range portable survey meter to permit surveying into areas of unknown radiological conditions. Normal range survey meters may also be carried.
5. The Sentry team should be informed of plant status as it pertains to significant hazards, both radiological and non-radiological, along access routes.
6. Exposure hazards, both airborne and direct radiation, in the Sentry room should be monitored remotely for pre-entry status and locally for tracking while sampling.
  - a. Use the Eberline Control Terminal(s) in either Access Control or the cold machine shop to remotely address the SPING air monitor in the Sentry room, which can be read locally.

TITLE :

POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

- b. Area radiation monitor RE-48, in the Sentry room, can be read in the Control Room or locally.
7. Communications are vital during a plant emergency. Entry teams must be able to communicate with the Control Room and appropriate supervision.
8. C&RP Technicians have the [REDACTED] required for access to areas and equipment related to this procedure and have security key cards to enter door #116 or #197. If the Sentry team does not possess either of these then take the applicable master keys [REDACTED]
9. The containment isolation valves FCV-696, 697, 698, 699 and 700 [REDACTED]
10. It is important to conduct operations in an expeditious manner to provide timely vital plant status information.
11. Any information disseminated at briefing or any information recorded on Sentry Status Board may allow changes in procedure to reflect a current, transient condition of the system.

PROCEDURE

## 1. Access to Sentry Room Area

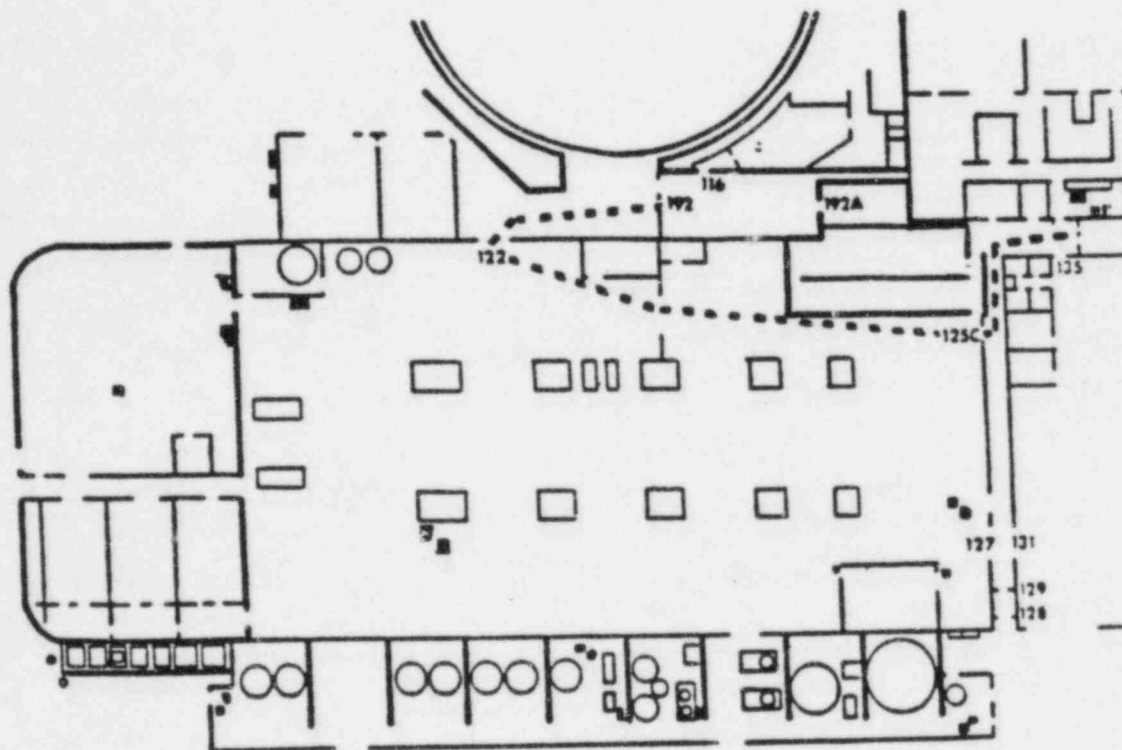
The Diablo Canyon Shielding Review indicates that the following routes might minimize exposures.

- a. Via Turbine Building at 85' Elevation

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## 1) Unit I

Starting at the Cold Machine Shop proceed into the hallway to door #125C, proceed north to door #122 and exit building. From here turn south and enter door #192 to the Motor Repair Shop.

FIGURE 1a

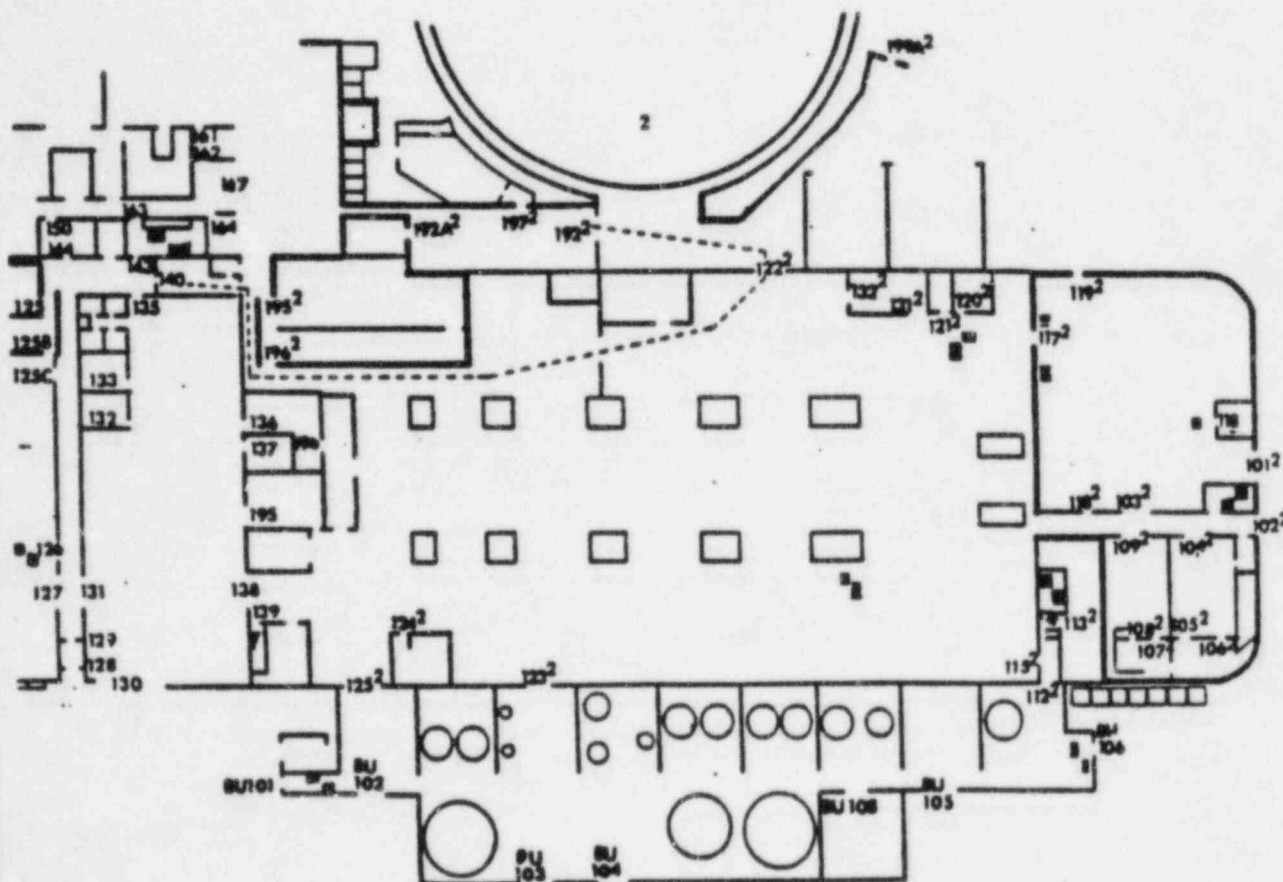


TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## 2) Unit II

Starting at the Cold Machine Shop proceed into the hallway to door #140, proceed south to door #122 and exit building. From here turn north and enter #192 to the Motor Repair Shop.

FIGURE 1b





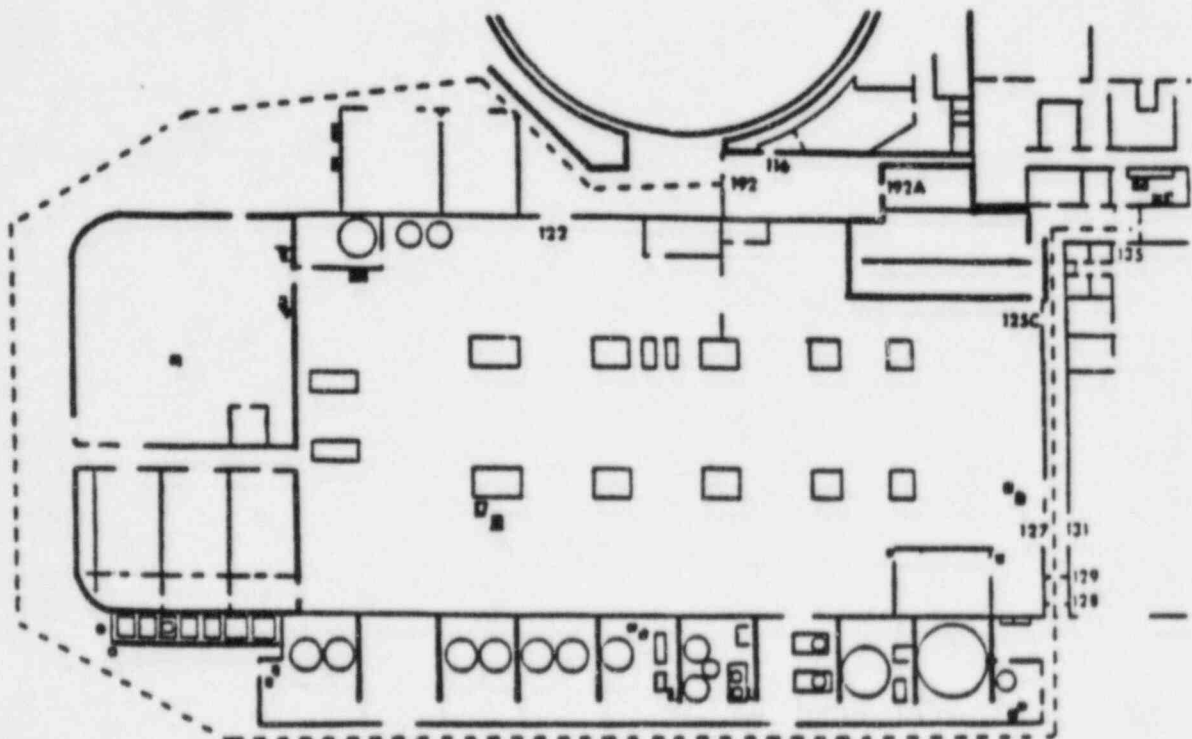
TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

b. Around Turbine Building at 85' Elevation

1) Unit I

Starting at the Cold Machine Shop proceed west to the outside via door #129, turn right and continue north around the Unit 1 Turbine Building looping around the transformers at the north end of the plant. Continue south to door #192 between containment and the Turbine Building. Enter the Motor Repair Shop via door #192.

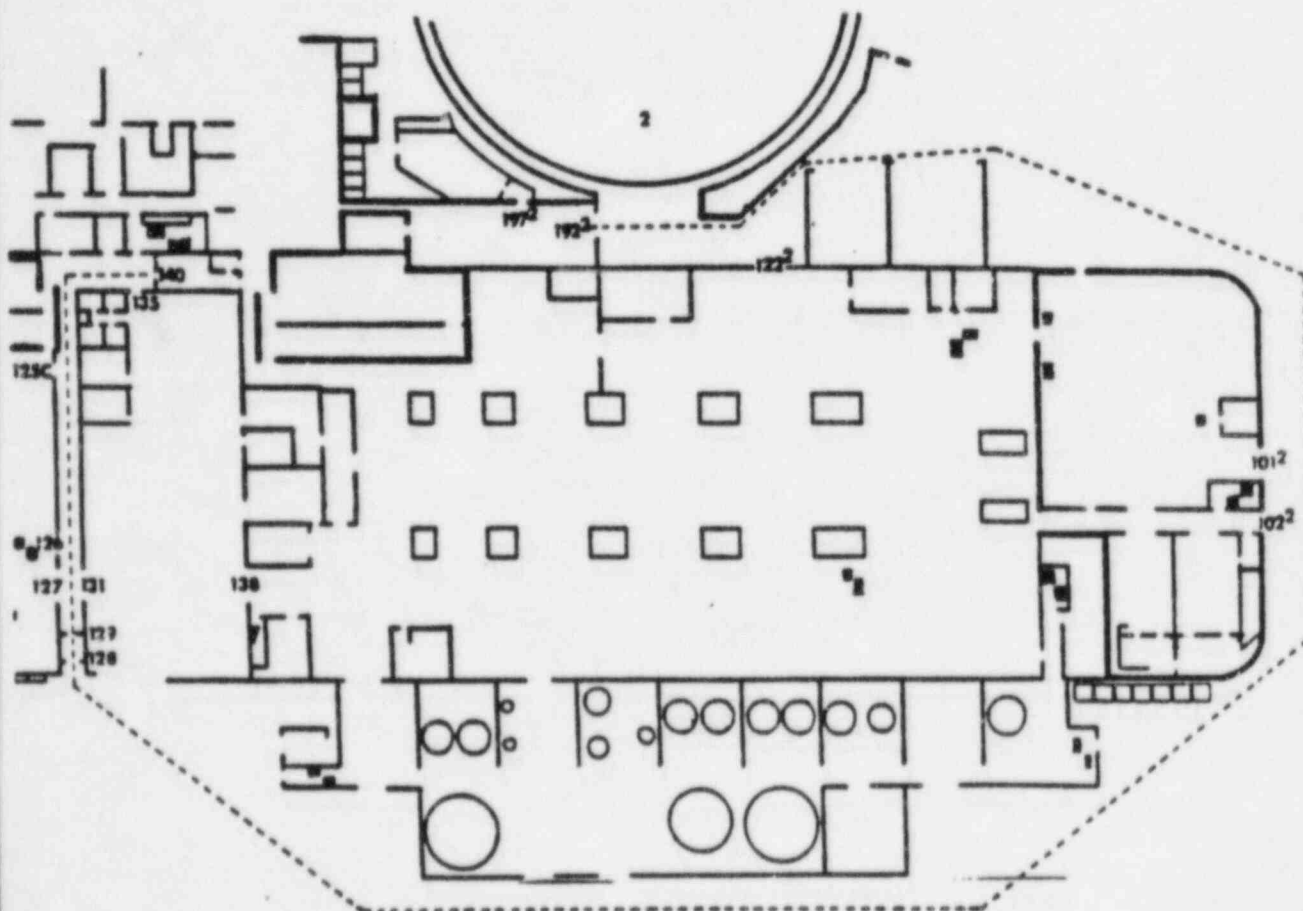
FIGURE 2a



TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## 2) Unit II

Starting at the Cold Machine Shop proceed to the outside via door #129, turn left and continue south around the Unit II Turbine Building looping around the transformers at the south end of the plant. Continue north to door #192 between containment and the Turbine Building. Enter the Motor Repair Shop via door #192.

FIGURE 2b

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## c. Other Access Routes

The Figure 1a or 1b pathway is preferred. However an access route other than those above may be suggested by actual post accident conditions (e.g., fire, high energy line break, etc.). The final route selected should be directed by appropriate supervisory personnel.

## 2. Initial Set-up of Sentry Room Equipment

## a. Gas Supply Cylinders Check

The gas supply cylinders for Sentry Room equipment are located along the east wall of the Motor Repair Shop. Proceed to the gas storage rack and verify the following:

- 1) The cylinder valves are fully open for all three cylinders. ☐
- 2) The manifold valves are fully open for all three cylinders. ☐
- 3) The argon regulator shows tank pressure of approximately 1000 psig and the regulator is set to 100 psig. ☐

If argon tank pressure is much less than 1000 psig, then the cylinder has to be changed with the spare cylinder located at the storage rack.

- 4) The 2000 ppm and 10% H<sub>2</sub> span gas cylinders should have at least 100 psig and both regulators should be set at 10 psig. ☐

- b. Emergency Ventilation System Line-up. (Optional: If proper ventilation is lined up proceed to step 2.c., Steel Shield Door Closure.)

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

- 1) Climb the ladder to the cat walk and cross [ ]  
to enter the ventilation room. (AC4 or  
909 key required).

NOTE: Minimize the time that the vent room doors are  
open.

- 2) Proceed to breaker panel PPHRS, 52-1(12/22)J-35 [ ]  
and check all breakers ON.

- 3) Proceed to the motor controllers for fans [ ]  
and heaters located to the left of the  
breaker panel and push the STOP and RESET  
pushbutton on each one.

- 4) EMER LEAD (IS-150) is the preferred system.

- a) Open its supply and exhaust dampers [ ]  
and the supply and exhaust vent dampers  
(a total of 4 dampers) and close all  
other dampers.

- b) Push the START pushbuttons on the [ ]  
motor controllers for the EMER LEAD  
supply fan, exhaust fan, and heater  
29A, in that order.

- 5) EMER REDUN (IS-151) is to be used as a  
backup if EMER LEAD is inoperable.

- a) Open its supply and exhaust dampers [ ]  
and the supply and exhaust vent dampers  
and close all other dampers.

- b) Push the START pushbutton on the motor [ ]  
controllers for the EMER REDUN supply  
fan, exhaust fan and heater 29B, in  
that order.

- 6) Return to the 85' elevation. [ ]

## TITLE

POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

c. Steel Shield Door Closure. (Optional. If the shield door is closed proceed to step 2.d., Radiological Assessment.)

- 1) Proceed through door #192-A<sup>1</sup> south of the Unit I Motor Repair Shop, or door #192-A<sup>2</sup> north of the Unit II Motor Repair Shop, and visually check the shield door's winch cable. If the marked portion of the cable indicates the shield is closed return to the Motor Repair Shop and proceed with step d., Radiological Assessment below. [ ]
- 2) Operate the winch until the marked portion of the cable visibly indicates the shield door is closed. [ ]
- 3) Return to the 85' elevation. [ ]

d. Radiological Assessment of Sentry Room

- 1) Enter the Sentry room via the RCA boundary (door #116 or #197) and the watertight door. (Key at RP key box) [ ]
- 2) Perform a general area radiation survey
  - a) Note high levels such as might exist at the auxiliary building end of the room due to ECCS piping. [ ]
  - b) Note low level areas for sample screen surveying later. [ ]
- 3) Note the reading of RE-48 on the Process Control Panel (PCP). Recheck it intermittently. [ ]
- 4) If SPING is not alarming, the respirator, if worn, may be removed at this time. It should be donned anytime there is a potential for airborne contamination to be introduced into the room. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

e. Proceed to the Ventilation Control Panel.

1) Check the alarms.

a) Press TEST and note the red alarm indicators flash while the audible alarm sounds. [ ]

b) Press SILENCE to stop the audible alarm. [ ]

c) Press ACK and note the flashing alarm indicators glow steadily.

d) Press RESET and note the red alarm indicators go out.

2) If the NORMAL VENT switch is on, turn it off. [ ]

3) If the EMER LEAD ventilation system is desired and is not operating depress in order the SUPPLY, EXHAUST, and HEATER pushbuttons. [ ]

4) Press reset and observe the appropriate indicating lights for proper operation of the desired ventilation line-up. [ ]

5) If necessary, return to step 2.b., Emergency Ventilation Line-up. [ ]

3. Electrical Line-up

Proceed to the breaker panel PYNM, located next to the Vent Control Panel, and check positions of breakers as follows:

BKR #1 - ON [ ]  
BKR #3 - ON [ ]  
BKR #5 - ON [ ]  
BKR #7 - ON [ ]  
BKR #9 - ON [ ]  
BKR #11 - ON [ ]

BKR #2 - ON [ ]  
BKR #4 - ON [ ]  
BKR #6 - ON [ ]  
BKR #8 - ON [ ]  
BKR #10 - ON [ ]  
BKR #12 - ON [ ]  
MAIN BKR - ON [ ]



TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## 4. The Containment Atmosphere Hydrogen Analyzers

If hydrogen in containment air is to be analyzed by G.C. proceed to step 5. CMP/CAP power up.

## a. Initial Conditions of an Analyzer System

- 1) Main power switch at remote panel in STANDBY. [ ]

NOTE: If the power switch is OFF, then turn it to STANDBY and give the system six hours to warm up. If both systems have not been in STANDBY for at least six hours, or are otherwise inoperable, use the gas chromatograph, step 5, below. Record the time of switching from OFF to STANDBY \_\_\_\_\_.

- 2) Solenoid operated sample line containment isolation valve switches CLOSED. (FCV-235, 236, 237, 238, 239, 240) [ ]

- 3) Oxygen gas tank connected and isolation valve closed. (Tank should be changed at 100 psig.) [ ]

b. H<sub>2</sub> Analyzer System(s) Operation.

CEL: 82 83

- 1) Turn the three sample line switches to the OPEN position. Observe the position indicating lights. [ ] [ ]

- 2) Open the oxygen tank (located next to eyewash) isolation valve and adjust regulator to  $27 \pm 2$  psig. [ ] [ ]

- 3) Turn the main power switch from STANDBY to ANALYZE. [ ] [ ]

- 4) Push the REMOTE SELECTOR pushbutton to gain control at this panel and reset COMMON ALARM, if necessary. [ ] [ ]

- 5) Turn the dual range switch to the 0-10% range. [ ] [ ]

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-15:A  
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POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

CEL: 82 83

6) Adjust the ZERO and SPAN potentiometers until they agree with their respective values indicated on calibration stickers located under each potentiometer. [ ] [ ]

7) Turn the function selector switch to SAMPLE. [ ] [ ]  
TIME(82) \_\_\_\_\_ (83) \_\_\_\_\_

8) Both CEL 82 and 83 are to be used. Repeat steps 4.b.1) to 7) for the second system while waiting for the first system to stabilize, which takes approximately 6 minutes. [ ] [ ]

9) Proceed with step 6., Initial Valve Line Up, while waiting for stabilization. When 6 minutes have elapsed since switching to SAMPLE, continue with step 10) below. [ ] [ ]

10) Record the analyzer meter reading, the time read, and the scale used. [ ] [ ]

Meter Reading (%) \_\_\_\_\_  
Time \_\_\_\_\_  
Scale Used \_\_\_\_\_

If the meter reads greater than 9%, the 0-20% scale should be used. |

11) Inform the Control Room of which scale and CEL is used and ask the Control Room if the analyzer(s) are to remain in ANALYZE or be returned to STANDBY. [ ] [ ]

Advise the Control Room of the reagent gas depletion and the limited lifetime of the sample pumps, which are located in the 100' El. penetration area. |

12) If directed to leave the analyzer(s) in ANALYZE proceed with step 5, CMP/CAP Power Up... [ ] [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

CEL: 82 83

## c. Standby

- 1) Turn the function selector to ZERO and purge the analyzer for 6 minutes. [ ] [ ]
- 2) Turn the main power switch to STANDBY. [ ] [ ]
- 3) Close the reagent tank isolation valve. [ ] [ ]
- 4) Turn the three sample line isolation valve switches to the CLOSED position. [ ] [ ]
- 5) Push Common Alarm to Reset [ ] [ ]

## 5. CMP/CAP Power Up/Gas Chromatograph Startup

- a. At the CAP align V-6 and V-5 to DEMIN WATER. [ ]
- b. Open V-8 and V-2. [ ]
- c. Open CAP V-11, close V-24 and 18. [ ]
- d. Check the three green root valve handles next to the CAP down (open) in the vertical position to allow Argon and the Span gases to the CAP. [ ]
- e. Open or check open CAP-V-10 and adjust instrument air pressure to  $80 \pm 2$  psig. [ ]
- f. Open or check open CAP-V-14 and adjust argon pressure to  $25 \pm 1$  psig. [ ]
- g. At the CMP, turn the POWER switch to ON at the panel front, and check ON the toggle switch(es) at rear of G.C. unit. [ ]
  - 1) Ensure red power light is on. [ ]
  - 2) The red colon at the G.C. display is on. [ ]
  - 3) Full flow lights for conductivity loop and IC loop are lit. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## h. On the G.C. front panel

- 1) Select attenuation factor of 250 (25 x 10). [ ]  
Place all function switches in the OFF  
(out) position.
- 2) Depress MAN and CLEAR switches. [ ]
- 3) Enter "00" initiating G.C. warmup.

Time on \_\_\_\_\_

## 6. Initial Valve Lineup

- a. Valve HCV-21, which is located next to the chemical sink, should be positioned to the TO CONTAINMENT position, except during Training or Drill when it should be positioned to the POST LOCA COLL TANK position. [ ]
- b. Post LOCA sample cooler supply valve, next to HCV-21, should be turned until indicator shows OPEN. [ ]
- c. At the CAP, valves should be positioned as follows:
  - CAP-V-7 (REXNORD OXYGEN ANAL) [ ]
  - CAP-V-6 (OXYGEN CALIB SOL'N) [ ]
  - CAP-V-5 (CLOSED) [ ]
  - CAP-V-1 (open) [ ]
  - CAP-V-29 (12 o'clock) Top of CAL TANKS [ ]
  - CAP-V-28 (12 o'clock) Top of CAL TANKS [ ]
  - CAP-V-27 (12 o'clock) Top of CAL TANKS [ ]
  - CAP-V-15 (closed) Bottom of CAL TANKS [ ]
  - CAP-V-16 (closed) Bottom of CAL TANKS [ ]
  - CAP-V-26 (closed) Bottom of CAL TANKS [ ]
  - CAP-V-30 (9 o'clock) CAL TANK 1/2 Selector [ ]
  - CAP-V-25 (closed) Bottom of CAL TANKS [ ]
  - CAP-V-20 (closed) Bottom of CAL TANKS [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

CAP-V-19 (closed) Bottom of CAL TANKS [ ]  
CAP-V-17 (closed) [ ]  
CAP-V-9 (closed) [ ]  
CAP-V-12 (open) [ ]

Adjust nitrogen regulator until nitrogen  
pressure gauge is  $60 \pm 2$  psig. [ ]

- d. At the Demin Module of the LSP, valves should  
be positioned as follows:

DM-V-1.1 (closed) [ ]  
DM-V-1.2 (closed) [ ]  
DM-V-1.3 (closed) [ ]  
DM-V-3 (closed) [ ]  
DM-VREL-1.1 (closed) [ ]  
DM-VREL-1.2 (closed) [ ]

- e. At the Open Grab Sample panel of the LSP, valves  
should be positioned as follows:

RW-V-6 (closed) [ ]  
DM-V-2.1 (closed) [ ]  
DM-V-2.2 (closed) [ ]  
DM-V-2.3 (closed) [ ]  
RC-V-17 (closed) [ ]  
RC-V-6.1 (closed) [ ]  
RC-V-6.2 (closed) [ ]  
RC-V-5.1 (closed) [ ]  
RC-V-5.2 (closed) [ ]

- f. At the RC Module of the LSP, valves should be  
positioned as follows:

RC-V-12 (12 o'clock) [ ]  
RC-V-15 (CLOSED) [ ]

## TITLE

POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

RC-V-14	(closed)	[ ]
RC-V-13	(9 o'clock)	[ ]
RC-V-10	(9 o'clock)	[ ]
RC-V-11	(CLOSED)	[ ]
RC-DV-2	(9 o'clock)	[ ]
RC-VREL-1	(closed)	[ ]
RC-VREL-2	(closed)	[ ]
RC-V-3	(closed)	[ ]
RC-V-7	(9 o'clock)	[ ]
RC-V-2	(closed)	[ ]
RC-V-1.1	(closed)	[ ]
RC-V-1.2	(closed)	[ ]
RC-V-1.3	(closed)	[ ]
RC-V-1.4	(closed)	[ ]
RC-V-1.5	(closed)	[ ]
RC-V-4	(closed)	[ ]
RC-V-8.1	(closed)	[ ]
RC-V-8.2	(closed)	[ ]
RC-V-16	(closed)	[ ]
RC-V-9	(CLOSED)	[ ]
RC-V-18	(6 o'clock)	[ ]
RC-V-19	(BYPASS)	[ ]
RC-V-20	(closed)	[ ]
RC-V-21	(closed) on graduated cylinder	[ ]
RC-DV-1	(BYPASS)	[ ]
RC-V-22	(TO WASTE)	[ ]

- g. At the RW Module of the LSP, valves should be positioned as follows:

RW-V-9	(closed)	[ ]
--------	----------	-----



TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

RW-V-10 (closed)	[ ]
RW-DV-1 (BYPASS)	[ ]
RW-V-8 (BYPASS)	[ ]
RW-V-7 (BYPASS)	[ ]
RW-V-5 (6 o'clock)	[ ]
RW-V-4 (closed)	[ ]
RW-V-3 (closed)	[ ]
RW-V-1.1 through RW-V-1.10 (12 o'clock)	[ ]
RW-V-2.1 through RW-2.10 (6 o'clock)	[ ]

## h. At the PROCESS CONTROL PANEL (PCP)

Notify the Control Room when any valve alignments are changed during accident.

- 1) Position or check the position of the following switches for valves:

During Drill or Training the next six valves should be left in REMOTE.

FCV-9351A (CLOSE)	[ ]
FCV-9351B (CLOSE)	[ ]
FCV-9350B (CLOSE)	[ ]
FCV-9350A (CLOSE)	[ ]
FCV-9353A (CLOSE)	[ ]
FCV-9353B (CLOSE)	[ ]
FCV-692 (CLOSE)	[ ]
FCV-693 (CLOSE)	[ ]
FCV-694 (CLOSE)	[ ]
FCV-1413 (CLOSE)	[ ]
FCV-1416 (CLOSE)	[ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

- FCV-1417 (CLOSE) [ ]
- FCV-1418 (CLOSE) [ ]
- FCV-1419 (CLOSE) [ ]
- FCV-1412 (CLOSE) [ ]
- FCV-1410 (CLOSE) [ ]
- FCV-1411 (CLOSE) [ ]
- FCV-137 VCT (CLOSE) [ ]
- FCV-1414 (CLOSE) [ ]
- FCV-1415 (CLOSE) [ ]
- FCV-1420 (CLOSE) [ ]
- FCV-1421 (CLOSE) [ ]
- FCV-1422 (CLOSE) [ ]
- FCV-1423 (CLOSE) [ ]
- FCV-1424 (CLOSE) [ ]
- FCV-1425 (CLOSE) [ ]
- FCV-624 (CLOSE) [ ]
- FCV-1428 (POST LOCA SAMPLING) - During Drill  
or Training this valve should be  
left in the RE 11/12 position. [ ]
- 2) Position switches for POST LOCA COLLECTION TANK  
TRANSFER PUMPS 1 and 2 to the STOP position. [ ]
- 3) At the PCP
  - a) Push the TEST button and verify:
    - (1) the alarm sounds [ ]
    - (2) all labeled windows flash [ ]
  - b) Push the ACK button and verify:
    - (1) the alarm is silenced [ ]
    - (2) all labeled windows glow steady [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONSc) Push the RESET button and verify that  
all windows are off. [ ]7. Monitor Startup and O<sub>2</sub> Calibration Tank Recirculation (CAP)a. Dissolved O<sub>2</sub> Calibration Tank Recirculation1) If calibration has been performed within  
one week, proceed to step b. [ ]2) Observe that the level in the oxygen  
calibration tank CAP-CAL-4 is about 1"  
below top of sightglass. If water must be  
added to the tank, open CAP-V-24 and fill  
the tank. Close CAP-V-24. [ ]

3) Open fully CAP-V-17. [ ]

4) Turn the O<sub>2</sub> CALIB. SYSTEM pump to ON position.  
Indicator lights for the pump should light on  
both the CAP and CMP. [ ]

5) Recirculate the water for at least 1 hour. [ ]

Time on \_\_\_\_\_

6) Continue to recirculate until the actual  
calibration is performed. [ ]

## b. pH Monitor (CMP)

1) Check internal S-1 toggle switch to ON (up)  
position. [ ]

2) Check S-3 to the ON position. [ ]

## c. Conductivity Monitor (CMP)

1) Observe that the meter reading is on zero when  
the selector switch is on ZERO. [ ]2) Turn the selector switch to CHECK. The meter  
indicator should move to CHECK on the meter  
scale. (If it does not move to CHECK, consult  
the Site Emergency Coordinator for directions.) [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

3) Switch the selector switch to MEASURE. The monitor is now ready for operation. [ ]

4) Allow to warm up for 30 minutes.

Time on \_\_\_\_\_

## d. Ion Chromatograph Startup

Proceed with this section only if chloride analyses is to be done at this time.

1) Note the level of chloride calibration standard (2000 ppm B as boric acid and 1 ppm chloride) in CAL-3. [ ]

2) Verify that air bubbles are not visible in the sight glass or in tygon capillary tubing. [ ]  
(If air bubbles are present, refer to Procedure CAP G-3.)

3) Verify that the following reagents are available:

E1/E2 Eluent: 2.0 mM NaOH/2.4 mM Na<sub>2</sub>CO<sub>3</sub> [ ]

1N Sulfuric Acid (H<sub>2</sub> SO<sub>4</sub>) [ ]

Deionized Water Rinse [ ]

4) If any of the reagents listed in step 3 is not available or has not been prepared within the last 30 days, refer to Appendix 1 for details of reagent preparation. [ ]

5) At the CMP place the POWER and AIR switches to ON position. [ ]

6) Place LOAD/INJECT switch in the LOAD position. [ ]

7) Place the E-2 switch in the UP position. [ ]

8) Place the SEPARATOR switch in the SEP-1 position. [ ]

9) Place the SUPPRESSOR switch in the SUP-1/RGN-2 position. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

- 10) At the CAP set MODE switch to ZERO and verify needle points to 0. (If not at ZERO, adjust to ZERO with the screw below the meter face.) [ ]
- 11) Set MODE switch to CAL and verify needle swings full scale. (If adjustment is necessary, adjust using the screw at the top of the circuit board labeled METER.) [ ]
- 12) Set MODE switch to zero. [ ]
- 13) Set the  $\mu$ MHO FULL SCALE switch to 30. [ ]
- 14) Check if eluent pump setting is 40 percent. [ ]
- 15) At the CMP turn the eluent pump switch to ON position. [ ]
- 16) Turn GAUGE switch to ON position. If reading on ELUENT PUMP DISCHARGE PRESSURE is very low, check capillary lines for air (CAP G-3). [ ]
- 17) Allow system to warm up and stabilize for 30 minutes.

Time on \_\_\_\_\_

8. Sampling may now commence using specific sampling procedures.

APPENDICES

## 1. Reagent Preparation

TITLE POST-ACCIDENT SAMPLING SYSTEM  
-- INITIAL ACTIONS

## APPENDIX 1

## REAGENT PREPARATION

NOTE: Reagents must be made using demin water with a conductance of less than 1  $\mu$ mho.

1. E1/E2 Eluent - 2mM NaOH/2.4mM Na<sub>2</sub>CO<sub>3</sub>

Add 0.32g NaOH and 1.00g Na<sub>2</sub>CO<sub>3</sub> (anhydrous) to 4.0 liters of demineralized water, dissolve and mix.

2. 1N H<sub>2</sub> SO<sub>4</sub>

Add with stirring 120 ml of concentrated sulfuric acid to 4 liters of demin water and cool. Transfer the solution of a 4 liter collapsible container, remove excess air, and label container with initials and date. Connect it to the line REGEN SYSTEM-1. Open the container valve and vent pump inlet lines.

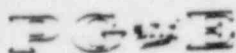
## 3. Demineralized Water Rinse

Fill a four (4) liter collapsible container with demin water. Remove excess air from the bottle and label. Connect it to the water line in the reagent storage facility. Open the container valve and vent pump inlet lines.

## 4. Chloride Standard

Add 2ml of 1000ppm chloride standard and  $22.9 \pm 0.1$ g H<sub>3</sub>BO<sub>3</sub> to two separate 2 liter volumetric flasks. Dilute each flask to the mark, with demin water. The cal tank holds 3.5 liters.





# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2  
EMERGENCY PROCEDURE

TITLE POST-ACCIDENT SAMPLING SYSTEM  
STRIPPED-GAS AND DILUTED RCS

NUMBER EP RB-15:B

REVISION 3

DATE 8/26/85

PAGE 1 OF 13

APPROVED

*R. C. Thornburg*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to detail the steps required to sample liquid and to strip gas from the reactor coolant. This procedure will further detail the steps required to prepare a sample for H<sub>2</sub> analysis. This procedure requires operations at the LSP, CAP, and CMP panels. A complete flush of the modules will be done after the sample has been processed and system will be returned to initial lineup status.

## PREREQUISITES

1. System was initially lined up as described in Procedure EP RB-15:A.
2. Verify that the following annunciator windows are off on the PCP:
  - a. REACTOR COOLANT SAMPLE COOLING WATER LOW FLOW
  - b. REACTOR COOLANT SAMPLE COOLING WATER LOW PRESS
  - c. REACTOR COOLANT SAMPLE COOLING WATER HIGH TEMP
  - d. REACTOR COOLANT PURGE HIGH TEMP
  - e. REACTOR COOLANT SAMPLE WATER HIGH TEMP
  - f. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
  - g. CHEM ANALYSIS PANEL HIGH PLENUM PRESS
3. The following equipment must be available and operational:
  - a. Meter-long reach rod
  - b. Hand operated vacuum pump

TITLE POST-ACCIDENT SAMPLING SYSTEM  
STRIPPED-GAS AND DILUTED RCS

- c. Gas bottle griptong
- d. Sample cart/cask
- e. A pre-labeled 60 ml sample bottle with a new septum and 14 cc gas sample bottle

The labels should have the sample source, date, time of the sample, and the initials of the person taking the sample. †

- 4. The gas chromatograph must be in a standby mode with a valid calibration.

Assign one LSP operator to EP RB-15:D to prepare the G.C.

PRECAUTIONS

- 1. See EP RB-15:A for details.
- 2. This sampling involves processing of water that will be highly radioactive. Precautions should be taken to prevent skin contact or ingestion.
- 3. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush period, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose area.
- 4. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.
- 5. The LSP operator must verify that the gas chromatograph is ready to receive a gas sample before opening valve RC-V-15. Valve RC-V-15 must be closed after filling all G.C. sample loops and prior to performing diluted gas sampling and final flushing operations.

TITLE POST-ACCIDENT SAMPLING SYSTEM  
STRIPPED-GAS AND DILUTED RCSPROCEDURE

1. Verify RC-DV-1 is turned to BYPASS. Fill reservoir RC-R-1 with demin water from squeeze bottle: [ ]
  - a. Open RC-V-20 and RC-V-21. [ ]
  - b. Adjust reservoir RC-R-1 until the water level in graduated cylinder RC-C-1 is over 100 mls. [ ]
  - c. Close RC-V-20. [ ]
  - d. Turn RC-DV-1 to SAMPLE, allowing some water to flow to insure meniscus but maintain level above 100 ml. [ ]
  - e. Return RC-DV-1 to BYPASS. [ ]
  - f. Close RC-V-21. [ ]
2. Verify that the following valves are closed:  
RC-V-1.1 through 1.5 [ ]  
RC-V-4 [ ]
3. At the PCP verify that the sample cooler water flow, temperature, and pressure annunciator lights are off. [ ]
4. Open the following valves:  
RC-V-9 [ ]  
RC-V-8.2 [ ]  
RC-V-10 [ ]
5. Drying Expansion Vessel

---

CAUTION: Adhere to directions for clockwise and counterclockwise movement of valves.

---

- a. Turn RC-V-11 clockwise to 3 o'clock position. [ ]

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b. Pull open RC-VREL-2. When there is a sharp increase in pressure indicated on RC-G-3, release RC-VREL-2. [ ]

c. Adjust RC-VREL-2 until RC-G-3 indicates approximately 20 psig. Dry RC-EV-1 with argon for 1 minute. [ ]

d. Turn RC-V-11 counterclockwise to the 9 o'clock position to permit RC-EV-1 to vent, then close RC-V-9. [ ]

## 6. Gas Extraction and Line Evacuation

a. Install the prelabeled, diluted gas sample bottle on the front panel needle. [ ]

b. Open RC-V-13 and then open RC-V-12 and evacuate until RC-G-2.1 and RC-G-2.2 indicate a minimum of 22" of Hg. [ ]

c. Turn RC-DV-2 to the 6 o'clock position and continue the evacuation until RC-G-2.2 indicates the same reading as RC-G-2.1 or a minimum of 22" of Hg. [ ]

d. Close in order:

RC-V-13  
RC-V-10  
RC-V-12

[ ]  
[ ]  
[ ]

Wait for a minimum 2 minutes to verify vacuum is holding. [ ]

Record the vacuum on RC-G-2.1 \_\_\_\_\_" of Hg. [ ]

e. Turn RC-V-11 clockwise to the CLOSED position. [ ]

f. Turn RC-DV-2 to the 9 o'clock position. [ ]

g. Open RC-V-14 and verify the pressure on RC-G-2.2 is approximately 2 psig. [ ]

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h. Close RC-VREL-2. [ ]

## 7. Reactor Coolant Sample Line Purge

a. Open RC-V-8.1. [ ]

b. Determine which sample source isolation valves will have to be opened from the list below:

<u>SAMPLE SOURCE</u>	<u>CONTAINMENT ISOLATION VALVES</u>
Hot Legs Loops 1 and 4	FCV-9356A and FCV-9356B
Pressurizer Steam Space	FCV-9354A and FCV-9354B
Pressurizer Liquid Space	FCV-9355A and FCV-9355B
RHR Pumps Discharge	N/A
Volume Control Tank	N/A

c. Call the Control Room and have operations block open the appropriate containment isolation valves. [ ]

d. Open the corresponding remote plant isolation valve (RPIV) and remote source isolation valve (RSIV) at the PCP (see Appendix 1 for proper valve). [ ]

e. Close the remote flush isolation valve (RFIV). [ ]

---

Check that LSP shield door has been closed prior to initiating purge.

---

NOTE 1: The sample source valves are labeled RC-V-1.1 through RC-V-1.5. Throughout this procedure, the form RC-V-1.X will be used to indicate the source valve to be operated. The sample source used for sampling will have been given at a briefing by the Site Chem and Rad Protection Coordinator.

NOTE 2: Upon implementation of the next step, sample will be flowing into the back of the LSP. The meter-long reach rod should be used to operate valves and a dose rate survey should be done to monitor radiation levels.



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- f. Open the sample source valve RC-V-1.X (see Appendix 1 for proper valve). [ ]
- g. Open RC-V-3. [ ]
- h. Slowly open RC-VREL-1 until RC-FI-1 indicates 100% flow or 1900 cc/min. Purge for 9 minutes. [ ]
- 8. Cart/cask preparation - while sample is purging.
  - a. Insert the needle of the hand operated vacuum pump into the septum of the prelabeled 60 ml sample bottle: [ ]
    - 1. Evacuate to the maximum vacuum achievable with the hand pump. The vacuum must be at least 15" of Hg. [ ]
    - 2. Keep the pump connected to the bottle for 3 minutes to assure that the bottle retains the vacuum. [ ]
  - b. Turn on the switch to light the diluted bottle fill station. [ ]
  - c. Remove the bottle from the vacuum pump and place bottle on the cart/cask assembly cavity piston. [ ]
    - 1. Turn the direction valve for the hydraulic piston to the down position and lower the bottle into the cask cavity. [ ]
    - 2. Close and open the cask to verify that the cover is working properly. [ ]
    - 3. Position the cart/cask under the diluted reactor coolant fill station needly and set the brake. [ ]
    - 4. Turn the direction valve for the hydraulic piston to the up position but do not raise the bottle onto the needle. [ ]



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## 9. Continued purge.

- a. Slowly close RC-VREL-1 until RC-FI-1 indicates 36% or 700 cc/min. Continue the purge for 1 minute. [ ]
- b. Close RC-V-3. [ ]

## 10. Reactor Coolant Sampling

- a. Align RC-V-22 to CHEM PANEL. [ ]
- b. At CAP align V-6 and V-5 to LIQUID SAMPLE. [ ]
- c. Open RC-V-2. [ ]
- d. Adjust RC-VREL-2 until RC-FI-2 indicates 100% flow or 200 cc/min. Purge for 3 minutes. [ ]
- e. Close RC-V-8.2 and record time \_\_\_\_\_. [ ]
- f. Close RC-V-8.1 [ ]
- g. Open RC-V-7 and continue purge to CAP. [ ]
- h. Raise sample bottle in LSP cart/cask up, onto needle. [ ]
- i. Read initial ml on buret. \_\_\_\_\_ [ ]
- j. Turn RC-DV-1 to SAMPLE. [ ]

## 11. CAP Analyses

- a. One operator can now analyze pH/Conductivity/DO according to EP RB-15:H Step 3. Sample Analyses. Subsequently chloride can be determined according to EP RB-15:G.
- b. One operator can continue with the liquid sampling procedure.

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## 12. Liquid Sample Dilution

- a. Crack open RC-V-21, and add 23 mls of water from the graduated cylinder RC-C-1 to the sample bottle, then close RC-V-21. [ ]
- b. Read final ml \_\_\_\_\_.  
Determine total ml added \_\_\_\_\_. [ ]
- c. Turn the RC-DV-1 to BYPASS. [ ]
- d. Place the direction valve for the hydraulic piston in the down position and lower the sample into the cask. [ ]
- e. Close the cask. [ ]

## 13. Sample Cask/Cart Removal

- a. Release brake and remove the cart/cask from the sample station and place in temporary hold area. [ ]
- b. Perform a radiation and contamination survey on the cart/cask assembly. [ ]
- c. Turn off the diluted fill station light. [ ]
- d. Prepare and analyze sample according to EP RB-15:E. [ ]

## 14. Gas Stripping Operation

- a. Open RC-V-9, wait approximately 5 seconds, and close RC-V-9. [ ]
- b. Open RC-V-16. [ ]
- c. Snap open RC-V-9 and wait for 1 minute. [ ]
- d. Close RC-V-16 and then close RC-V-9. [ ]

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- e. Turn RC-V-11 counterclockwise to the 9 o'clock position. The pressure reading is normally between 5 and 10 psig. Record the reading on RC-G-2.1. [ ]

RC-G-2.1 \_\_\_\_\_ psig

## 15. Diluted Gas Sampling

- a. Turn RC-DV-2 to the 6 o'clock position and wait until the pressure on RC-G-2.2 returns to about 2 psig. [ ]
- b. Turn RC-DV-2 to the 9 o'clock position. [ ]
- c. Close RC-V-14. [ ]
- d. Remove the griptong containing the diluted gas sample double bag, label and store. Inform PASS Supervisor that the diluted offgas sample is available for transfer. [ ]

---

The sample is now ready for analysis in the Gas Chromatograph. The G.C. should be prepared up to Step 4.f. of EP RB-15:D before analysis can proceed.

---

16. Stop here and analyze the sample according to EP RB-15:D. [ ] |
17. Do not proceed to the next step until the offgas sample is complete and all CAP manipulations are verified complete with main LSP operator. |
18. Call the control room and have operations close the containment isolation valves opened earlier if needed. [ ]
19. Final Flushing
- a. Verify RC-V-15 is in the CLOSED position. [ ]
- b. Turn RC-V-11 counterclockwise to the 6 o'clock position. [ ]

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c. Open the following valves:

RC-V-9  
RC-V-7  
RC-V-8.1[ ]  
[ ]  
[ ]d. Adjust RC-VREL-2 until RC-FI-2 indicates 100%  
flow or 200 cc/min. Flush with demin water for  
1 minute.

[ ]

e. Open RC-V-8.2.

[ ]

f. Close RC-V-7.

[ ]

g. Adjust RC-VREL-2 until RC-FI-2 indicates 100%  
flow or 200 cc/min. Flush with demin water for  
3 minutes.

[ ]

h. Close RC-V-8.1.

[ ]

i. Turn RC-V-11 counterclockwise to the 3 o'clock  
position.

[ ]

j. Pull open RC-VREL-2.

[ ]

1) When there is a sharp increase in pressure  
indicated on RC-G-3, release RC-VREL-2.

[ ]

2) Adjust RC-VREL-2 until PI-1103 indicates 20  
psig.

[ ]

3) Flush with argon for 3 minutes.

[ ]

k. Close RC-V-9.

[ ]

l. Open RC-V-10.

[ ]

m. Turn RC-V-11 counterclockwise to the 9 o'clock  
position and allow RC-EV-1 to vent.

[ ]

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- n. Close RC-V-10. [ ]
- o. Turn RC-V-11 clockwise to CLOSED. [ ]
- p. Open RC-V-8.1, V-2 and V-4. [ ]
- q. Adjust RC-VREL-2 until RC-FI-2 indicates  
 100% flow or 200 cc/min. [ ]  
 Flush with demin water for 1 minute. [ ]
- r. Close RC-V-2. [ ]
- s. Terminate flushing by closing the following valves. [ ]
  - RC-V-8.1 [ ]
  - RC-V-8.2 [ ]
  - RC-VREL-2 [ ]
  - RC-V-4 [ ]
- 20. Securing system
  - a. Close sample cooler water. [ ]
  - b. Turn off any fill station lights. [ ]
  - c. Turn off emergency ventilation. [ ]
  - d. Process the data according to Procedure EP RB-15:F. [ ]
  - e. Check with OSC for any changes in conditions  
 then exit Post Loca Room with the same precautions  
 as access. [ ]
  - f. When exiting through Motor Repair Shop close the  
 bottle Isolation Valves for the Sentry gas supplies. [ ]

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g. Note the pressures of the gas supply bottles.

Argon \_\_\_\_\_ psig Cal Gas 2 \_\_\_\_\_ psig  
Cal Gas 1 \_\_\_\_\_ psigh. If this procedure has been used for a drill or training  
the following steps should also be included as appropriate:

- 1) Reopen LSP shield door by attaching come-a-long [ ]  
and strap to other end and open.
- 2) Release brake on wench next to motor repair shop. [ ]
- 3) Take come-a-long and strap to penetration shield [ ]  
door, attach to door and eye ball in floor and  
open door. Return come-a-long to Sentry Room.
- 4) Restock Emergency Locker on 85' Elevation with [ ]  
any clothing, dosimetry or respirator/facemasks  
used during the drill.
- 5) Return keys to Rad Foreman's office. [ ]

REFERENCES

1. Sentry Equipment Corp. High Radiation Sampling System Operating  
and Maintenance Manual.

APPENDICES

1. Valves for Obtaining Samples from Reactor Coolant.



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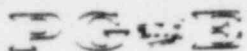
NUMBER EP RB-15:8  
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# APPENDIX 1

## VALVES FOR OBTAINING SAMPLES FROM REACTOR COOLANT

<u>SAMPLE SOURCE</u>	<u>REMOTE PLANT ISOLATION VALVE (RPIV)</u>	<u>REMOTE SOURCE ISOLATION VALVE (RSIV)</u>	<u>REMOTE FLUSH ISOLATION VALVE (RFIV)</u>	<u>LSP SAMPLE SOURCE VALVE (SSV)</u>
RC Hot Leg 1	FCV-9351 A	FCV-692	FCV-1416	RC-V-1.1
RC Hot Leg 4	FCV-9351 B	FCV-692	FCV-1416	RC-V-1.1
PZR Liquid	FCV-9350 B	FCV-693	FCV-1417	RC-V-1.2
PZR Steam	FCV-9350 A	FCV-694	FCV-1418	RC-V-1.3
RHR Pump 1-1 Discharge	FCV-9353 A	FCV-1413	FCV-1419	RC-V-1.4
RHR Pump 1-2 Discharge	FCV-9353 B	FCV-1413	FCV-1419	RC-V-1.4
VCT Liquid	FCV-137	FCV-1412	FCV-1420	RC-V-1.5



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2  
EMERGENCY PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
TITLE CONTAINMENT AIR SAMPLING

NUMBER EP RB-15:C

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APPROVED

*R. E. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to detail the steps required to make containment air available for gas chromatography and to dilute a containment air sample for isotopic analysis of noble gases, particulates, and radionuclides. This procedure will also detail the steps for a complete system flush and return to the initial valve line up.

After purging containment air through the G.C. and loading the diluter valve, this procedure will direct sampling personnel to EP RB-15:D, for gas analysis and to procedure EP RB-15:E, for preparation of the diluted containment air sample for isotopic analysis.

The containment isolation valves FCV-698, FCV-699 and FCV-700 are controlled from the Containment Isolation Valve Panel in the Sentry Room only. These switches require redundant keys to operate. Copies of the keys are located in the Control Room and in the Sentry Room.

## PREREQUISITES

1. System was initially lined up as described in procedure EP RB-15:A.
2. Verify that the following annunciator windows are off on the PCP:
  - a. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
  - b. CHEMICAL ANALYSIS PANEL HIGH PLENUM PRESS
  - c. CONTAINMENT AIR SAMPLE PANEL HIGH PLENUM PRESS

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3. The following equipment must be available and operational:
  - a. Meter-long reach rod
  - b. A gas tight 5cc locking syringe
  - c. A 14cc gas vial with a new septum installed
  - d. Bags, tape, and labels
  - e. Four channel MBIS Pressure Monitor (CASP-PI-1109)
  - f. Two crescent wrenches
  - g. Spare filter assemblies
4. Prior to initiating this analyses procedure the G.C. must be prepared according to EP RB-15:D, and needed Calibration Verifications must be completed.

#### PRECAUTIONS

1. This sampling involves processing of containment air that may be highly radioactive. Precautions should be taken to prevent releases to the sampling environment.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose rate area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

#### PROCEDURE

1. Valve Lineup
  - a. Containment Atmosphere Sample Line Heating
    - 1) Proceed to the CCP and position the FUNCTION SELECT from OFF to SF1-3/GGD. [ ]
    - 2) Observe the following:
      - a) The POWER on indicator lights. [ ]

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b) The flow monitor 20% and 100% flow lights turn on for approximately 25 seconds. [ ]

3) Press the PILOT LIGHT TEST pushbutton and note which lights are not functional. [ ]

4) Turn the HEAT TRACE POWER SWITCH to the ON position. [ ]

5) Place the temperature select switches for EHT 196 and EHT 197 to the down position marked 260°. [ ]

b. Rear Panel Access Rolling Shield Closure

If the panel rolling shield is closed proceed to Step c.

1) Perform this valve line-up check in the rear of the shielded panels or verify on lamacoid:

CAP-V-13 CLOSED (above the G.C.) [ ]

CAP-V-31 OPEN (adjacent to the G.C.) [ ]

CAP-V-32 OPEN (adjacent to the G.C.) [ ]

CASP-V-1 OPEN (overhead on cont. atmos. supply line) [ ]

CASP-V-2 OPEN (lower right part of CASP) [ ]

CASP-V-3 OPEN (lower right part of CASP) [ ]

2) Get the come-a-long from the cabinet and attach one end to the pad eye on the east wall and the other to the pad eye on the door. [ ]

3) Operate the come-a-long until the rolling shield door is blocking the doorway. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
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c. Unlock the cabinet door and the drawer lock bar under the counter, if locked. [ ]

1) Locate a loaded filter assembly for the containment air sample. [ ]

2) Locate wrenches, labels, and bags. [ ]

d. At the CASP

1) Install a loaded filter assembly into the containment air dilution system. [ ]

The tubing end with the blue dab of paint on it should be on the bottom. Tighten but do not damage the fittings. Retighten if leakage is noted later.

2) CASP cart/cask connection for pressure indication.

a) Engage and lock a cart/cask on its quick-disconnects. [ ]

b) OPEN the INLET and OUTLET valves and CLOSE the BYPASS valve on the engaged cart/cask. [ ]

c) Connect PI-1109 (an MBIS pressure monitor) to the engaged cart/cask. Plug it in and turn the selector switch to the proper cart/cask. [ ]

3) Check that PI-1116 is plugged in and turn it on. [ ]

4) Close or check closed CASP-V-17. [ ]

5) Align CASP-V-16 to the CASP-DV-1 position. [ ]

6) Align CASP-DV-1 to CASP-SF-5 position. [ ]

7) Install a new septum on CASP-SF-5. [ ]

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CONTAINMENT AIR SAMPLING

## e. At the CCP:

- 1) Adjust N<sub>2</sub> pressure regulator to 100 psig as indicated on CCP-G1. [ ]

NOTE: This pressure will drop to 80 psig when the eductor is on and Low N<sub>2</sub> PRESS alarm will sound.

- 2) All 11 of the CCP 3 position valve switches should be CLOSED:

AV-1	[ ]	SV-4.1	[ ]
SV-1.2	[ ]	SV-4.2	[ ]
SV-2.1	[ ]	SV-5	[ ]
SV-2.2	[ ]	AV-2	[ ]
SV-3.1	[ ]	SV-10	[ ]
SV-3.2	[ ]		

- 3) The EXERCISE STOP button should be in the IN position. Verify red light in knob is on. [ ]

## 4) Annunciator Test

- a) Push RESET [ ]
- b) Push and hold the TEST button and verify:
- (1) The alarm sounds. [ ]
- (2) All labeled windows flash except ISOLATE SAMPLE FLASK window which glows steady. [ ]
- c) Release the TEST button and verify that the ISOLATE SAMPLE FLASK window goes off. [ ]
- d) Push the ACK button and verify the alarm is silenced. [ ]
- e) Push the RESET button and verify that all windows are off. [ ]

- f. At the POST LOCA CNT ISOLATION PANEL all five key operated valve switches should be CLOSED. [ ]



TITLE: SENTRY POST-ACCIDENT SAMPLING SYSTEM  
CONTAINMENT AIR SAMPLING

## 2. Sample Flask Evacuation

- a. Close outlet valve of the engaged cart/cask. [ ]
- b. Verify that any unused CASP ports located at the base of the CASP have been capped on Unit 1 or that other cart/cas s are engaged on Unit 2. [ ]
- c. At the CCP, place the switch for CCP-AV-1 to OPEN. (This allows containment pressure to be monitored on CASP-PI-1109.) [ ]
- d. Change the positions of the following valves:
- CASP-DV-1 to Containment Supply [ ]
- CASP-V-16 to CASP-SF-5 [ ]
- e. Contact the Control Room and request permission to open FCV-700, the sample return containment isolation valve. In succeeding steps FCV-698 and 699 and will be operated also. Inquire whether the Control Room wants to be notified every time each valve is operated or only when sampling is completed and containment isolation valves are closed. Also obtain and record containment temperature and pressure from the Control Room.
- \_\_\_\_\_ °F
- \_\_\_\_\_ psig
- f. Evacuate CASP-SF-5 by opening the following valves:
- FCV-700 (key operated - keys located in drawer by sink) [ ]
- CASP-V-17 [ ]
- CCP-AV-2 [ ]
- CCP-SV-10 [ ]
- g. When CASP-SF-5 pressure is as low as apparently achievable as indicated on CASP-PI-1116, align CASP-V-16 to CASP-DV-1. If vacuum is not held, replace the filter assembly or septum and repeat Steps c. through f. [ ]

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## 3. Sample Purge

- a. Open containment isolation valves FCV-699 and FCV-698 at the Containment Isolation Valve Panel and notify the Control Room, if requested. [ ]
- b. Containment air is now being purged through the sample panel back to containment. Purge for 5 minutes. [ ]
- c. At the CCP, close CCP-SV-10 and record containment air pressure as indicated on CASP-PI-1109 and sample time. [ ]
- CASP-PI-1109 \_\_\_\_\_ psig
- Sample Time \_\_\_\_\_
- d. Close FCV-698, 699 and 700. [ ]
- e. Record the temperature indicated on THT 196.
- \_\_\_\_\_ °C
- f. The G.C. should be prepared to accept a sample at point EP RB-15:D Section 4.F.
- g. Continue with Sample Analyses, using EP RB-15:D; then return to this point.

## 4. Sample Dilution

- a. Align CASP-DV-1 to CASP-SF-5. N<sub>2</sub> will flush the sample aliquot into CASP-SF-5 through the removable filter assembly. [ ]
- b. When the pressure in CASP-SF-5 as indicated on CASP-PI-1116 is 14.70 psia, or as high as achievable, whichever is first, close CASP-V-17. [ ]

## 5. Initial G.C. Flushing - after verifying with other operator that all G.C. analyses are complete

- a. If the G.C. was used for containment atmosphere analysis then perform the following steps, otherwise skip to Step b.
- 1) Open FCV-698, 699 and 700. [ ]

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- 2) At the LSP, align RC-V-15 to CASP TO GAS CHROMAT position. [ ] |
- 3) At the G.C. control panel depress SAMP switch and enter "13" to start argon flush of sample line back to CASP. Flush for 2 minutes. [ ]
- 4) Terminate argon flush by entering "14" at the G.C. control panel then release SAMP switch. [ ]
- 5) At the LSP, align RC-V-15 to CLOSED position. [ ]
- b. Align CASP-V-16 to CASP-SF-5. [ ]
- c. Open CCP-SV-10 and flush removable filter assembly for 1 minute. [ ]
- d. Close containment isolation valve FCV-699. [ ]
- e. Open CCP SV-5. [ ]
- f. Change the positions of the following valves:
  - Align CASP-DV-1 to Containment Supply [ ]
  - Align CASP-V-16 to CASP-DV-1 [ ]
- g. At the CCP, close CCP-AV-2 and CCP-SV-5.
- h. Open containment isolation valve FCV-699 and flush line with nitrogen for 2 minutes. [ ]
- i. Close CCP-SV-10 and CCP-AV-1. [ ]
6. Sample Handling
  - a. Survey the removable filter assembly and CASP-SF-5 to determine contact dose rates. [ ]
 

[Under worst case conditions, the contact dose rate of the filter, using a teletector, will be about 165 mR/hr. The contact dose rate at centerline of CASP-SF-5 will be about 44 mR/hr.]
  - b. Position the exhaust duct as close as possible to the removable filter assembly. [ ]

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- c. Using the crescent wrenches, disconnect the filter assembly from the system, then separate the assembly into two halves and place the two halves in a double bag, seal, and survey. [ ]
  - 1) Place a prewritten label on the bag. The label should have the name of the sample, dose rate, time, containment air pressure, and the initials of the sampler. [ ]
  - 2) Store the sample to minimize exposure from it. [ ]
  - 3) Inform PASS Supervisor that CA sample is ready for transport. [ ]
- d. Install a new filter assembly into the system making sure the connections are tight. [ ]
- e. Partially evacuate a septum sealed 14cc gas vial by withdrawing 2cc from it using a syringe. [ ]
- f. Flush a 5 ml gas tight syringe by inserting its needle into the septum of CASP-SF-5, withdrawing 1cc and injecting it again. [ ]
- g. Using the flushed syringe withdraw a 2cc sample aliquot from CASP-SF-5. [ ]
- h. Inject the syringe contents into the evacuated 14cc gas vial. [ ]
- i. Place the gas vial into a bag, seal and survey it. [ ]
- j. Place a prewritten label on the bag. The label shall have the name of the sample, dose rate, time, cont. air pressure, volume of 1 ml and the initials of the sampler. [ ]
- k. Store the sample to minimize exposure from it. [ ]
- 7. Final G.C. Flushing |
- a. Align CASP-V-16 to CASP-SF-5. [ ]

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CONTAINMENT AIR SAMPLING

- b. Open the following valves:
- CCP-AV-2 [ ]
- CCP-SV-10 [ ]
- CASP-V-17 [ ]
- c. Evacuate CASP-SF-5 until vacuum is as low as achievable as indicated on CASP-PI-1116 [ ]
- d. Close CCP-AV-2 and allow N<sub>2</sub> to fill CASP-SF-5. [ ]
- e. Repeat Steps 6.b. through d. above once more. [ ]
- f. Close CCP-SV-10. [ ]
- g. Open the OUTLET valve on the engaged cart/cask. [ ]
- h. Open CCP-SV-10. [ ]
- i. Open CCP-SV-1.2 and allow N<sub>2</sub> to flush the line for 2 minutes. [ ]
8. Terminate flushing by closing the following valves:
- CCP-SV-10 [ ]
- CCP-SV-1.2 [ ]
9. Change the positions of the following valves:
- CASP-V-16 to CASP-DV-1 [ ]
- CASP-DV-1 to CASP-SF-5 [ ]
10. Turn OFF the CASP PI-1116 and CASP-PI-1109. [ ]
11. At the Containment Isolation Valve Panel CLOSE the following valves and notify the Control Room that they are closed and return the keys to the drawer:
- FCV-698 [ ]
- FCV-699 [ ]
- FCV-700 [ ]

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-15:C  
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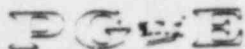
TITLE: SENTRY POST-ACCIDENT SAMPLING SYSTEM  
CONTAINMENT AIR SAMPLING

12. At the CCP turn the FUNCTION SELECT switch to OFF and deenergize the heat tracing. [ ]
13. If all CAP manipulations are finished check with LSP operator then turn CMP power switch to OFF. [ ]
14. Process the data according to procedure EP RB-15:F. [ ]

REFERENCES

1. NUREG 0737
2. Diablo Canyon Shielding Review.





# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

POST-ACCIDENT SAMPLING SYSTEM --

TITLE GAS CHROMATOGRAPHIC ANALYSIS

NUMBER EP RB-15:D

REVISION 3

DATE 8/27/85

PAGE 1 OF 11

APPROVED

*R. L. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to detail the steps required to determine the dissolved hydrogen concentration in reactor coolant, the percent hydrogen concentration and oxygen concentration in containment air by gas chromatography. This procedure will detail gas analysis from RC-V-15 on the LSP to the Gas Chromatograph. The sample gas for analysis should be prepared according to any of the following procedures:

EP RB-15:B  
EP RB-15:C

## PREREQUISITES

1. The Gas Chromatograph (G.C.) should be in the ON or STANDBY condition for a minimum of 30 minutes before sample analysis.
2. Carrier gas (Ar) should be available with cylinder outlet pressure 1000 psig.

## PRECAUTIONS

1. Monitoring with a dose rate instrument should be done during the transfer of sample to the G.C.

TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSISPROCEDURE

## 1. Analysis Program

- a. Release all pushbuttons and depress the CLEAR button. [ ]
- b. Check that the following program is in memory by entering the two digit STEP number and verify that the TIME and CODE numbers are as shown below. Do this for each STEP. If the memory is correct, proceed to Step 2, Platen Stabilization. [ ]

<u>STEP</u>	<u>TIME</u>	<u>CODE</u>
01	00:01	03
02	00:02	25
03	00:10	01
04	04:00	00

- c. If the program is not correct, enter the program as follows:
- 1) Depress ENTER and CLEAR [ ]
- 2) Enter the above program into memory, by entering the two digit pairs in the sequence shown above, for one line. [ ]

NOTE: If an entry error is made, depress CLEAR to blank display and re-enter the entire line.

- 3) Release ENTER, depress CLEAR and repeat Step 1.b. [ ]
- 4) Repeat Steps 1) through 3) for remainder of lines as necessary. [ ]
- d. If technician deems it necessary to change programming times to accommodate peaks, they may be varied with identification on trace as to actual program used.

## 2. Platen Stabilization

- a. Depress MAN and CLEAR [ ]

TITLE

POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

- b. Check to see if the G.C. has stabilized by doing the following:

- 1) Select attenuation factor of 250 (25 x 10) [ ]
- 2) Enter "01" and then "35" to display set point of platen temp and record for a minimum of 30 seconds. [ ]
- 3) Enter "45" to display actual platen temperature and record for a minimum of 30 seconds. [ ]

NOTE: Stabilization is complete when platen set-point and actual temperature are within 1/2 grid marking of each other as indicated on the G.C. chart recorder only.

- 4) Enter "00" and mark chart recorder on the G.C. with date, time, and initials. [ ]

### 3. Calibration Verification

If G.C. Calibration Verifications have been done within the last 7 days, proceed to Step 4. Sample Analyses.

- a. Hydrogen Verification - only verification needed when analyzing offgas

- 1) Select loop No. 1. [ ]
- 2) Enter "23" to evacuate the G.C. until the red HI VACUUM light is on. [ ]
  - a) Cycle loop selector through loops 2, 3, and 4, pausing at each loop and evacuating until the HI VACUUM light is on. [ ]
  - b) Cycle a minimum of 3 times through loops 1, 2, 3, and 4, pausing at each loop. [ ]
  - c) Select loop No. 1. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

- 3) Enter "24" to terminate evacuation of the G.C. [ ]
- 4) Select attenuation factor of 500 (5 x 100) for the 10% H<sub>2</sub> source or 5 (5 x 10) for the 2000 ppm H<sub>2</sub> source. [ ]
- 5) Depress CAL-1 switch for 10% H<sub>2</sub> source, or CAL-2 switch for 2000 ppm H<sub>2</sub> source, and wait 10 seconds after amber<sup>2</sup> LOW VACUUM light is on. Cycle through loops three times. [ ]
- 6) Release CAL-1 or CAL-2 switch and wait 10 seconds. [ ]
- 7) Start the L&N recorder. [ ]
- 8) Depress AUTO switch to on (in) and press CLEAR. Wait until the G.C. program has completed. During this time interval, identify the L&N recorder trace with the date/time, gas used, loop number, attenuation factor and operator initials. [ ]
- 9) Release AUTO switch to off (out) position. Press CLEAR and enter "00". [ ]
- 10) Repeat Steps 8) and 9) for subsequent loops. [ ]
- 11) Stop the L&N recorder. [ ]
- 12) Calculate the hydrogen peak height on data sheet as follows:  
$$\text{peak height} = \frac{(\text{Trace peak height} - \text{baseline}) \times \text{attenuation}}{100}$$
- 13) Compare the peak height calculated against the value shown on the concentration versus peak height curve for the same attenuation factor and calibration gas. The values should be within  $\pm 10$  percent of each other. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

## b. Oxygen Verification

- 1) Ensure that a loaded filter assembly is installed. [ ]
- 2) Change the positions of the following valves:  
CASP-DV-1 to Containment Supply [ ]  
CASP-V-16 to CASP-SF-5 [ ]
- 3) Contact the Shift Foreman and request permission to open FCV-700, the sample return containment isolation valve. [ ] |
- 4) Evacuate CASP-SF-5 by opening the following valves:  
FCV-700 (key operated) [ ]  
CASP-V-17 [ ]  
CCP-AV-2 [ ]  
CCP-SV-10 [ ]
- 5) Evacuate CASP-SF-5 until pressure is as low as apparently achievable as indicated on CASP-PI-1116. [ ]
- 6) Remove fitting and septum from the end of SF-5 to allow ambient air to purge through sample panel and into containment. Purge for 2 minutes. [ ]
- 7) Close CCP-SV-10 and FCV-700. [ ] |
- 8) Depress SAMP switch and verify red sample light is on. [ ]
- 9) Align RC-V-15 to CASP TO GAS CHROMAT. [ ] |
- 10) Select loop No. 1. [ ]

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TITLE POST-ACCIDENT SAMPLING SYSTEMS -- GAS CHROMATOGRAPHIC ANALYSIS		

11)	Enter "23" to evacuate the G.C. until the read HI VACUUM light is on.	[ ]
a)	Cycle loop selector through loops 2, 3, and 4, pausing at each loop and evacuating until the HI VACUUM light is on.	[ ]
b)	Cycle a minimum of 3 times through loops 1, 2, 3, and 4, pausing at each loop.	[ ]
c)	Select loop No. 1.	[ ]
12)	Enter "24" to terminate evacuation.	[ ]
13)	Select attenuation factor of 100 (1 x 100).	[ ]
14)	Cycle loop selector through loops 1, 2, 3, and 4, pausing at each loop. Cycle 3 times.	[ ]
a)	Select loop No. 1.	[ ]
15)	Align RC-V-15 to the CLOSED position and release SAMP switch.	[ ]
16)	Start the L&N recorder, wait 5 seconds.	[ ]
17)	Depress AUTO to on (in) position and press CLEAR.	[ ]
a)	Wait until the G.C. program has completed. During this time interval identify the recorder trace with sample name, date/time, loop number, attenuation factor and operator initials.	
18)	Release AUTO switch to off (out) position. Press CLEAR and enter "00".	[ ]
19)	Select next loop and repeat steps 17 and 18 for all four loops.	[ ]
20)	Stop the L&N recorder.	[ ]

DC0109 6X



TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

- 21) Calculate the net peak height and determine the oxygen concentration from the appropriate calibration curve, on the data sheet. [ ]
- 22) Record the net peak height on the recorder trace. [ ]
- 23) Replace septum at end of SF-5. [ ]
- c. Null Verification
- 1) Depress SAMP switch and enter "23" to evacuate the G.C. until the red HI VACUUM light is on. [ ]
- 2) Cycle through each loop and evacuate until the red HI VACUUM light is on. [ ]
- 3) Enter "13" to initiate argon purge. [ ]
- 4) Cycle loop selector through loops 1, 2, 3, and 4, pausing at each loop. Cycle 3 times. Select loop No. 1. [ ]
- 5) Enter "14" to terminate the purge. [ ]
- 6) Enter "24" to terminate the evacuation. [ ]
- 7) Enter "00". [ ]
- 8) Depress AUTO to on (in) position and press CLEAR. [ ]
- a) Wait until the G.C. program has completed. During this time interval identify the recorder trace with sample time name, date/time, loop number, attenuation factor and operator initials. [ ]
- b) Select subsequent loop. [ ]
- c) Adjust attenuation, if necessary. [ ]
- d) Depress CLEAR to reinitiate G.C. program. [ ]
- e) Repeat 8) for loops 2-4. [ ]

## TITLE

POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

- 9) Release AUTO switch to off (out) position. [ ]  
Press CLEAR and enter "00".
- 10) If greater than 10% of sampled air oxygen [ ]  
concentration is recorded on trace, the  
system is not thoroughly purged. Repeat  
Steps 1) through 9) one time.
- 11) If greater than 10% of sampled air oxygen is [ ]  
still present contact C&RP supervision  
while continuing with analyses.
- 12) Release SAMP switch to off position. [ ]
- 13) Stop the L&N recorder. [ ]

## 4. Sample Analysis

- a. Depress SAMP switch and verify red sample light [ ]  
is on. Check AUTO released (out).
- b. For CA sample align RC-V-15 CASP TO GAS CHROMAT. [ ]  
For offgas V-15 remains CLOSED.
- c. Select loop No. 1. [ ]
- d. Depress CLEAR and enter "23" to evacuate the G.C. [ ]  
until the red HI VACUUM light is on.
- 1) Cycle loop selector through loops 2, 3, and [ ]  
4, pausing at each loop and evacuating  
until the HI VACUUM light is on.
- 2) Cycle a minimum of 3 times through loops 1, [ ]  
2, 3, and 4, pausing at each loop.
- 3) Select loop No. 1. [ ]
- e. Enter "24" to terminate evacuation. [ ]
- f. Select attenuation factor of 500 (5 x 100) or [ ]  
current attenuation for sample.

TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

- g. When the offgas sample is available at RC-V-15 align RC-V-15 to LSP TO GAS CHROMAT. [ ]
- h. Cycle loop selector through loops 1, 2, 3, and 4, pausing at each loop. [ ]
- 1) Cycle 3 times. [ ]
- 2) Select loop No. 1. [ ]
- i. Release SAMP switch and align RC-V-15 to the CLOSED position and inform other operator it is closed. [ ]
- j. For offgas analyses record the pressure on RC-G-2.1. Reading: \_\_\_\_\_psig [ ]
- k. Start the L&N recorder, wait 5 seconds. [ ]
- l. Depress AUTO to on (in) position and press CLEAR. [ ]
- 1) Wait until the G.C. program has completed. During this time interval identify the recorder trace with sample name, date/time, loop number, attenuation factor and operator initials. [ ]
- 2) Select subsequent loop. [ ]
- 3) Adjust attenuation, if necessary. [ ]
- 4) Depress CLEAR to reinitiate G.C. program. [ ]
- 5) Repeat 1. for loops 2-4. [ ]
- m. Release AUTO switch to off (out) position. Press CLEAR and enter "00". [ ]
- n. Stop the L&N recorder. [ ]
- o. Calculate the net peak heights on worksheets and determine the hydrogen concentration and oxygen concentration from the appropriate calibration curve. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEMS --  
GAS CHROMATOGRAPHIC ANALYSIS

p. Record the net peak height on the recorder trace. [ ]

If another sample still needs to be analyzed return to referencing procedure and complete purging when other analyses is finished.

q. Purge the G.C. residual gas as follows:

- 1) Depress SAMP and enter "23" and evacuate the G.C. until the red HI VACUUM light is on. [ ]
- 2) Cycle through each loop and evacuate until the red HI VACUUM light is on. [ ]
- 3) Enter "13" to initiate argon purge. [ ]
- 4) Cycle loop selector through loops 1, 2, 3, and 4, pausing at each loop. Cycle 3 times. [ ]
- 5) Enter "14" to terminate the purge. [ ]
- 6) Enter "24" to terminate the evacuation. [ ]
- 7) Enter "00". [ ]
- 8) Release SAMP switch to off position. [ ]

r. After final use and flush of G.C. by both operators:

- 1) Shutdown the instrument by turning off the power to the TCD. [ ]
- 2) Secure the gas supplies for the G.C.
  - a) CLOSE the 3 root valves next to the CAP. [ ]
  - b) CLOSE CAP-V-14. [ ]

s. Return to the referencing procedure.

For stripped-gas, this is EP RB-15:B. For Containment Air, this is EP RB-15:C.

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DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

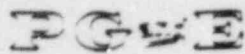
NUMBER EP RB-15:D  
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GAS CHROMATOGRAPHIC ANALYSIS

REFERENCES

1. Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual.





# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2  
EMERGENCY PROCEDURE

POST-ACCIDENT SAMPLING SYSTEM  
TITLE LIQUID AND GAS SAMPLE HANDLING

NUMBER EP RB-15:E

REVISION 3

DATE 8/27/85

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APPROVED

*R. L. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## SCOPE

This procedure provides guidance for safely handling post accident liquid samples obtained from the Reactor Coolant System (RCS) using the SENTRY PASS. The diluted liquid sample from the RCS is aliquotted. The aliquot may be used for boron or for  $\gamma$ -assay. Further dilutions for  $\gamma$ -assay are done in the hot cell. Likewise, steps for preparation of diluted containment air samples for counting are also detailed. This procedure and changes thereto require PSRC review.

## DISCUSSION

Based on worst-case post accident assumptions regarding sample radioactivity content, special precautions may be required for handling RCS and containment air samples acquired using the Sentry PASS. Sample aliquots are transferred by precision pipets to a dilution vial for radiological counting or an appropriate reaction flask for chemical analysis. These flasks may be kept inside the hot cell throughout the procedure to minimize personnel exposures and also to contain the airborne radioactivity generated within the hot cell area. Control of airborne activity is accomplished by use of an overhead ventilation duct which creates a slightly negative pressure inside the enclosure. After all sample manipulations are completed, the radioactive waste solutions may be flushed down the Sentry Room sink via the receiver funnel drain valve and, if necessary, the inside surfaces of the hot cell may be sprayed down to reduce the contamination levels within the sample handling area.

## PREREQUISITES AND PRECAUTIONS

1. Personnel assigned to conduct this procedure should be familiar with the considerations of handling highly radioactive liquid and gas samples and shall be experienced with the analytical chemistry techniques employed in this procedure. Also, any individual performing this procedure should be capable of:



TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

- a. Making doses rate measurements with portable survey instruments.
  - b. Assessing response and basic trends of continuous air monitoring equipment.
  - c. Taking actions based on items 1.a and 1.b.
2. Unless conditions are known to warrant less stringent precautions, complete protective clothing and accident dosimetry (including high range and extremity dosimeters) will be required. Lapel air samplers are also recommended. Full respiratory protection equipment (SCBA) may also be necessary.
  3. To minimize time spent in hot sample handling, ensure availability of the required equipment for performing applicable portions of this procedure. This includes sample vessels, pipets, handling tools, reagents, etc. A comprehensive listing of these supplies is provided in a check list format in Appendix 1 to this procedure to facilitate the review.
  4. When the liquid sample is handled, there is a possibility that local radiation levels and airborne radioactivity could increase. Since the sample is to be contained within the hot cell, the increases should not be too high; however, as precautionary measure, all individuals within the Sentry Room should have functioning respirators. Monitoring should be performed using survey instruments (for dose rates) and any available CAM system (for airborne) for early identification of potential problems.
  5. This procedure is designed to permit all sample handling to be performed by the use of tongs or other remote handling devices. Unless the samples are surveyed and known not to present a significant source of exposure to the fingers, hands or other extremities, no sample manipulations involving direct hand contact should be attempted.

## TITLE

POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLINGPROCEDURE

## 1. Preparation of Sample Enclosure and Sink Area

This section covers the preliminary steps required before performing actual liquid sample manipulations. It is important that all required handling equipment and reagents to be employed are available prior to handling the liquid sample in order to minimize time spent working around hot samples within the hot cell.

- a. Turn on spectrophotometer and allow it to warm up. [ ]  
Note the time \_\_\_\_\_.

## b. Initial Survey of Sample Enclosure and Sink Area

- 1) Perform a radiation survey of the hot cell [ ]  
area to verify that no highly radioactive sample material remains inside or around the enclosure from a previous use. If an indication of radioactive sample materials is found, these materials should be promptly removed as set forth below under "Clean-Up" in Section 6 of this procedure.
- 2) Visually inspect the inside of the hot cell [ ]  
for unwanted material and for cleanliness.  
If material remains, remove and store or discard it, whichever is appropriate.

## c. Acquisition of Required Supplies

Assemble the necessary supplies, equipment, etc. to perform the required steps. A listing of these supplies is presented in Appendix 1 to this procedure for the following preparation and analysis categories.

- 1) General Sample Handling and Manipulations [ ]
- 2) Radioactive Sample Dilution Supplies [ ]
- 3) Boron Sample Analysis Supplies [ ]  
All glassware needs to be clean and dry prior to use.  
If necessary to clean, rinse with acetone and dry with instrument air.

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

- 4) Dilution of offgas for isotopic analysis [ ]
- c. Preparation of Hot Cell Area for Use
- 1) Open the access door to the hot cell. [ ]
- 2) Carefully position shielded sample holder brick for use in conjunction with pipet operations. [ ]
- 3) Install an uncapped, clean 20 cc liquid scintillation vial into its appropriate sample port within the sample holder brick. Leave the cap and sealing tape outside the hot cell for later use. [ ] }
- 4) Install two 50 ml Erlenmeyer flasks into their appropriate sample ports within the sample holder brick. Leave rubber stopper caps (one for each 50 ml flask) outside the hot cell for later use. [ ] }
- 5) Install two clean, uncapped, prewiped 1 cm path length photocells into the appropriate sample port within the sample holder brick. Keep the cap plugs available outside the hot cell for later use. [ ] }
- [Be careful not to scratch the transmission surfaces nor to deposit extraneous material (e.g. - powder or lint) especially from gloves.]
- 6) Verify air flow (a piece of paper is suggested) into the elephant trunk vent shroud. [ ]
- 7) Connect ventilation shroud to top of hot cell. [ ] }
- 8) Prepare remaining equipment, materials, reagents, etc. required for the planned sample manipulations and analyses. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

## 2. Obtaining a Liquid Sample from the cart/cask

- a. Place an RO-2A over the hot cell and determine the ambient background response of the RO-2A. Note the reading and then remove the RO-2A.

RO-2A Reading: \_\_\_\_\_ mR/hr (ambient background)

- b. Move the cart/cask to the sink area and set the brake. [ ]

- c. Uncover the sample vial by rolling the radiation shield away from the sample cavity. [ ]

- 1) Transfer the bottle containing the diluted reactor coolant to the hot cell and remove the lid. [ ]

- 2) Close the cask and move it away. [ ]

- 3) Close the access door to the hot cell. [ ]

- d. Measure the radiation level with the teletector one foot above sample and record the reading. |

\_\_\_\_\_ mR/hr (ambient background plus sample)

- e. Calculate the net sample reading by subtracting the value of Step 2.a. from the value of Step 2.d.

\_\_\_\_\_ mR/hr (Step 2.d.)

\_\_\_\_\_ mR/hr (Step 2.a.)

\_\_\_\_\_ mR/hr (net sample reading)

## 3. Analysis of Liquid Sample for Boron |

Do not use glass pipets for following analyses.

- a. Pipet 2 ml each of the 2 and 10 ppm boron standard solution into separate 50 ml Erlenmeyer flasks. [ ]  
Pipet 2 ml of demin water into a third 50 ml Erlenmeyer flask. (These flasks should be outside the hot cell.)

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

- b. Open the access door on top of the hot cell. [ ]
- c. Pipet a 2 ml aliquot of the RCS liquid sample solution from the sample bottle into each of the 50 ml Erlenmeyer flasks within the hot cell. [ ]
- d. Pipet 10  $\mu$ l of concentrated HCl to each flask, stopper and swirl. Allow flasks to cool ( $\sim$  2 minutes). [ ]
- e. Add 10 ml of concentrated  $H_2SO_4$  into each flask, stopper and swirl. Allow flasks to cool to room temperature ( $\sim$  15 minutes). [ ]
- f. Add 10 ml of carminic acid solution into each flask. [ ]
- g. Stopper again and, using tongs, swirl to mix well. [ ]
- h. Between approximately 40 and 55 minutes after the carminic acid addition, transfer solutions to clean, prewiped 1 cm cuvettes and carefully cap them. This may be accomplished using a 5 ml pipet set for 4 ml, and, in the case of the "hot" sample the capping and cuvette transfer must be performed using tongs. [ ]

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While color is developing perform liquid isotopic dilution.

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- i. Set the spectrophotometer to a wavelength of 585 nm and adjust the blank for 0% absorbance. Absorbance should be read 45 to 60 minutes after carminic acid is added. [ ]
- j. Read the boron standard to verify agreement with calibration graph within  $\pm 5\%$ . If this agreement is not obtained continue the analysis but inform supervision immediately. [ ]



TITLE POST-ACCIDENT SAMPLING SYSTEM  
 LIQUID AND GAS SAMPLE HANDLING

- k. Read the absorbance of the sample(s). Record results and return the sample(s) to the hot cell. [ ]

\_\_\_\_\_ (Absorbance RCS)

Calibration Graph (Standard Curve)

ppm Boron RCS (diluted) = \_\_\_\_\_ ppm

Record this information on the data sheet in EP RB-15:F.

- l. Notify the PASS Supervisor of results of sample analysis. [ ]

- m. Turn the spectrophotometer off. [ ]

4. Dilution and Preparation of Liquid Sample for Radioassay

This step involves selection and dilution of a sample aliquot to obtain a counting geometry of 10 mls liquid in a 20 ml vial. The sample volume is based on the exposure rate recorded in Step 2.e.

- a. Select the appropriate pipet tip size and pipet volume as follows:

Pipet	Approx. Step 2.g. Reading	Check
5 ml	< 1.6 mR/hr	[ ]
1 ml	> 1.6 mR/hr but < 16 mR/hr	[ ]
100 $\mu$ l	> 16 mR/hr but < 160 mR/hr	[ ]
10 $\mu$ l	> 160 mR/hr	[ ]

- b. Open the access door on top of shielded sample enclosure. [ ]

- c. Using the pipet volume setting chosen in Step 4.a. above, obtain this volume of RCS liquid sample from the sample bottle, keeping hands as far away as possible from the "hot" sample liquid. [ ]



TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

- d. Slowly discharge the aliquot into the empty 20 cc liquid scintillation vial previously placed within the shield brick. Discard the pipet tip. [ ]

[Dispose of materials that have contacted highly contaminated mediums separately from those that have not.]

- e. Using the appropriate pipet and tip, add sufficient demin water to the 20 cc vial to bring the total liquid volume to 10 ml. Add 10 mls to the 10 $\mu$ l or 100 $\mu$ l aliquot. [ ]

- f. Remove the diluted sample from the hot cell with tongs. [ ]

- g. Cap the vial. Wipe it and seal it with tape. [ ]

- h. Screen survey the vial to verify countability ( $\leq$  5 mR/hr contact). [ ]

- i. Label and double bag the vial noting the dilution, the aliquot volume used, and the radiation level measured. Place radioactive sticker on bag. [ ]

- j. Set the sample aside and inform PASS Supervisor sample is ready for transport to the TSC or counting room. [ ]

5. Dilution and Preparation of Off-gas for Isotopic Analysis

Perform steps below only if sample vial dose rate is  $>5$  mR/hr.

- a. Obtain a clean 14 cc gas sample vial with a septum installed and using a 5 ml gas tight syringe, withdraw 1 cc of air from the vial and discharge the air from the syringe. [ ]

- b. Insert the syringe into the off-gas sample vial and remove 1cc. Shut the valve on the syringe before removing the vial. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

- c. Insert the syringe into the counting vial; open the valve on the syringe and inject the contents into the vial. [ ]
- d. Survey the newly prepared vial; if the dose rate is  $>5$  mR/hr, repeat Steps a. through e. above, diluting into new clean 14 cc gas sample vials until the sample vial is less than 5 mR/hr, keeping track of the number of dilutions. [ ]
- e. Place a label on the counting vial repeating the information as found on the original vial. Calculate the new dilution factor by multiplying all dilutions together. Each dilution 15:1. Record this information on the data sheet. [ ]
- f. Inquire from supervision whether the original sample vials should be discarded or stored for future use and perform as directed. [ ]
6. Cleaning and Securing the Hot Cell
- a. Cleaning
- 1) Disposal of Radioactive Sample Residues
- During these actions, the radiation levels in the sink area and airborne concentrations within the Sentry Room may become higher since the sample materials are being discharged via the sink.
- a) Turn on sink drain faucet to provide a slow, steady stream. [ ]
- b) Open the access port on top of the hot cell. Remove sample caps using tongs and empty out the contents of the flasks remaining in the enclosure down the sink drain. [ ]
- c) Flush out the sample flasks and wash off all contaminated handling tools with demin water, caustic or acid wash solutions (as appropriate), followed by a demin water rinse. [ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

d) Perform a general washdown of the hot cell to remove contamination. Close the access port when finished inside the hot cell. [ ]

e) Store sample flasks, vessels, etc. as "dirty" materials -- not to be used again unless thoroughly cleaned and inspected. [ ]

2) Disposal or Storage of Chemicals, etc.

a) Dispose of waste chemicals, materials, etc. in a similar fashion as above. [ ]

b) Chemicals, reagents and other supplies not consumed or compromised during the sample analyses may be stored for later use. These may be stored in the cabinet space adjacent to the sink area. [ ]

b. Securing Equipment

Return to EP RB-15:B.

APPENDICES

1. Checklist of Required Equipment and Supplies

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP RB-15:E  
REVISION 3  
DATE 8/27/85  
PAGE 11 OF 12

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

APPENDIX 1

CHECKLIST OF REQUIRED EQUIPMENT AND SUPPLIES

GENERAL SAMPLE HANDLING AND MANIPULATIONS

	<u>CHECK</u>
Fully operable hot cell (located in Sentry Room)	[ ]
Sample shield brick (with pre-bored holes)	[ ]
Long extension tongs: 14-16" in length, (2 pairs)	[ ]
Demin water jug (5 gallons)	[ ]
Paper towels or equivalent (1 box)	[ ]

RADIOACTIVE SAMPLE DILUTION SUPPLIES

	<u>CHECK</u>
20 ml liquid scintillation vial w/cap (1)	[ ]
Sealing tape for 20 ml liquid scintillation vial (1 roll)	[ ]
Labels for 20 ml liquid scintillation vial (1 box)	[ ]
Small plastic bags; sealable (1 dozen)	[ ]
10 $\mu$ l pipet w/tip	[ ]
1 ml pipet w/tip	[ ]
Adjustable 0-5 ml pipet w/tip	[ ]

TITLE POST-ACCIDENT SAMPLING SYSTEM  
LIQUID AND GAS SAMPLE HANDLING

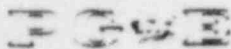
## APPENDIX 1 (Continued)

BORON SAMPLE ANALYSIS SUPPLIESCHECK

50 ml Erlenmeyer flasks w/rubber stoppers (5 sets)	[ ]
1 cm path length spectrophotometer cells w/caps (5 sets)	[ ]
Dri-wipes for spectrophotometer cells (1 box)	[ ]
Adjustable 0-5 ml pipets w/7 tips	[ ]
10 µl pipet w/4 tips	[ ]
Spectrophotometer unit	[ ]
Dilute nitric acid, $\text{HNO}_3$	[ ]
Carminic acid solution, Stability: 1 week	[ ]
Hydrochloric acid, $\text{HCl}$ , concentrated	[ ]
Sulfuric acid, $\text{H}_2\text{SO}_4$ , concentrated	[ ]
Standard boric acid, two of the following standards: <u>10 ppm</u> , 6 ppm, 4 ppm, <u>2 ppm</u> , 1 ppm	[ ]

DILUTION OF OFF-GAS FOR ISOTOPIC ANALYSIS

14 cc gas sample vials w/septums installed (2)	[ ]
<u>≥</u> 5 cc gas tight syringe/needle	[ ]
Labels for 14 cc gas vials	[ ]
Small plastic bags; sealable	[ ]
Sealing tape	[ ]



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE -- DATA ANALYSIS

NUMBER EP RB-15-F

REVISION 2

DATE 8/5/85

PAGE 1 OF 1

IMPORTANT  
TO  
SAFETY

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

## DISCUSSION

The purpose of this procedure is to provide a means to assemble the data generated from the various EP RB-15 sub-procedures into a concise form. Each section has a worksheet where data generated throughout the procedure is recorded. The back side records calculations and analyses results. The data summary sheet gathers all analysis results onto one sheet.

## PROCEDURE

1. Process data on appropriate sections of form 69-9393.
2. Attach all pertinent chemistry and radiochemistry data to this form.
3. Deliver the completed form to the Chemistry and Radiation Protection Supervisor for approval and disposition.

## ATTACHMENTS

1. Post Accident RCS and Containment Air Sample Data Sheet, Form 69-9393
2. Specific Activity Determination in Reactor Coolant Analysis Data Sheet, Form 69-10548



TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

## DATA SUMMARY SHEET

UNIT NO. 1 [ ]  
2 [ ]

PARAMETER	PASS READING	COMMENTS	DATE	INITIAL
LIQUID	BORON diluted	ppm		
	CONDUCTIVITY	umhos/cm		
	CHLORIDE	ppm		
	DO <sub>2</sub>	ppm		
	pH			
OFFGAS	ACTIVITY	uCi/ml		
	HYDROGEN	cc/kg		
	ACTIVITY	uCi/ml		
CONTAINMENT ATMOSPHERE	OXYGEN	%		
	HYDROGEN	%		
	NOBLE GAS ACTIVITY	uCi/ml		
	RADIOIODINES & PARTICULATES	uCi/ml		

REVIEWED BY \_\_\_\_\_  
C&RP Supervisor

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

## SECTION B: WORKSHEET - STRIPPED GAS LIQUID

Sample Source:	Hot Legs	[ ]	Reactor Cavity Sump	[ ]
	Pzr Steam	[ ]	Equipment Drain Rcvr	[ ]
	Pzr Liquid	[ ]	Floor Drain Rcvr	[ ]
	RHR Pump	[ ]		
	VCT	[ ]		

Step 9.d Vacuum on RC-G-2.1 \_\_\_\_\_ "inches of Hg" = Pv

Step 11.c Sample Time \_\_\_\_\_

Step 13.a Initial ml \_\_\_\_\_

Final ml \_\_\_\_\_

Total ml added \_\_\_\_\_

Step 15.e Pressure on RC-G-2.1 \_\_\_\_\_ psig = Pa

---

 TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)
 

---

## SECTION B: DATA SHEET

The volume of original sample in the 14 ml serum vial is calculated in the same manner as gases within steel sampling bombs, Procedure CAP D-12, equation (4).

$V_{14}$  = Volume of original sample in the 14 ml serum vial, ml

$V_b$  = Volume of expansion vessel (EV-1) = 300 ml

$V_g$  = Volume of lines from EV-1 to RC-V-15 = 60 ml

$P_a = P_f$  = Pressure after expansion

$$= \left( \text{_____ psig} + 14.7 \right) \left( \frac{30 \text{ in Hg}}{14.7 \text{ psia}} \right) = \text{_____ inches of Hg}$$

$P_v$  = Pressure evacuated system = \_\_\_\_\_ inches of Hg

$V_s$  = Volume of the gas aliquot transferred by diluter value (RC-DV-2)

= 0.024 ml

$$V_{14} = \frac{(V_s)(V_b)(P_f - P_v)(V_g)}{(V_b + V_g)(P_f)(V_g + V_s)} = 0.02 \left( \frac{P_f - P_v}{P_f} \right)$$

The volume of the original sample in the 14 ml serum vial,  $V_{14}$ , is to be used in the radionuclide analysis programs.

Transfer results from counting printout to specific Activity Determination in Reactor Coolant Analysis Data Sheet prior to Data Summary Sheet.

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

## SECTION C: WORKSHEET - CONTAINMENT AIR SAMPLING

DATE \_\_\_\_\_

ANALYST \_\_\_\_\_

## Step 2.e

Containment temperature = ( \_\_\_\_\_ °F + 460) x 5/9 = \_\_\_\_\_ °K =  $T_c$ 

Containment pressure = \_\_\_\_\_ psig + 14.7 = \_\_\_\_\_ psia

## Step 3.c

Sample Pressure: containment air pressure CASP-PI-1109 \_\_\_\_\_ psig

Sample Time \_\_\_\_\_

## Step 3.e

THT 196 = \_\_\_\_\_ °C + 273 = \_\_\_\_\_ °K =  $T_s$ 

## SECTION C: DATA SHEET - CONTAINMENT AIR ISOTOPIC ANALYSIS

Sampling Technician \_\_\_\_\_

## Containment Noble Gas

Fractional Yield =  $T_c / (43,400 \times T_s)$  = \_\_\_\_\_  $Y_{NG}$ Noble Gas Activity = \_\_\_\_\_  $\mu\text{Ci/cc}$ 

Counted By \_\_\_\_\_

## Containment Air Iodine and Particulates

Fractional Yield =  $T_c / T_s$  = \_\_\_\_\_  $Y_{IP}$ Iodine and Particulate Activity = \_\_\_\_\_  $\mu\text{Ci/cc}$ 

Counted By \_\_\_\_\_

Where:  $Y_{IP}$  and  $Y_{NG}$  are fractional yields entered into the analysis program.

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

SECTION D: OFFGAS ANALYSIS BY G.C.

DATE \_\_\_\_\_

ANALYST'S INITIALS \_\_\_\_\_

4. Sample Analysis

j. Off gas sample pressure RC-G-2.1 \_\_\_\_\_ psig + 14.7 = \_\_\_\_\_ psia

n. Peak Height Average - Hydrogen

(trace peak height avg \_\_\_\_\_ mm baseline \_\_\_\_\_ mm) + attenuation \_\_\_\_\_/100

peak height SP = \_\_\_\_\_ mm

Peak height-CP = Peak height-SP x (Calibration Pressure: recorded on cal. graph)  
 (at calibration pressure (from trace at sample pressure) \_\_\_\_\_ (Sample Pressure)

Peak height-CP = \_\_\_\_\_ mm x ( \_\_\_\_\_ psia ) = \_\_\_\_\_ mm  
 ( \_\_\_\_\_ psia )

$H_2$   
 (from calibration curve) = \_\_\_\_\_ cc/kg  $H_2$  in offgas

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

## SECTION D:

WORKSHEET G.C. - ANALYSIS (CONT'D)

DATE \_\_\_\_\_

## 4. Sample Analysis (Continued)

ANALYST'S INITIALS \_\_\_\_\_

CA

## n. Peak Height Average - Hydrogen

(trace peak height avg \_\_\_\_\_ mm baseline \_\_\_\_\_ mm) + attenuation \_\_\_\_\_/100

peak height SP = \_\_\_\_\_ mm

$$\begin{array}{l} \text{Peak height-CP} = \text{Peak height-SP} \times \frac{(\text{Calibration Pressure:})}{(\text{Containment Pressure})} \times \frac{(T_s)}{(C_a \text{ Temp})} \\ \text{(at calibration (from trace) pressure)} \end{array}$$

$$\text{Peak height-CP} = \text{_____ mm} \times \left( \frac{\text{_____ psia}}{\text{_____ psia}} \right) \left( \frac{\text{_____ } ^\circ\text{K}}{\text{_____ } ^\circ\text{K}} \right)$$

$$\begin{array}{l} \text{H}_2 \\ \text{(from calibration curve)} \end{array} = \text{_____ \% H}_2 \text{ in CA}$$

## Peak Height Average - Oxygen

(trace peak height avg \_\_\_\_\_ mm baseline \_\_\_\_\_ mm) + attenuation \_\_\_\_\_/100

peak height SP = \_\_\_\_\_ mm

$$\begin{array}{l} \text{Peak height-CP} = \text{Peak height-SP} \times \frac{(\text{Calibration Pressure})}{(\text{Containment Pressure})} \times \frac{(T_s)}{(C_a \text{ Temp})} \\ \text{(at calibration (from trace) pressure)} \end{array}$$

$$\text{Peak height-CP} = \text{_____ mm} \times \left( \frac{\text{_____ psia}}{\text{_____ psia}} \right) \left( \frac{\text{_____ } ^\circ\text{K}}{\text{_____ } ^\circ\text{K}} \right)$$

$$\begin{array}{l} \text{O}_2 \\ \text{(from calibration curve)} \end{array} = \text{_____ \% in CA}$$



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 TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)
 

---

## SECTION E: WORKSHEET - RCS LIQUID SAMPLE HANDLING

 2.a. RO-2 ambient background - hot cell \_\_\_\_\_ mR/hr  
 teletector

e. Teletector sample plus background \_\_\_\_\_ mR/hr

f. net reading sample \_\_\_\_\_ mR/hr

3.a. Volume RCS pipetted for isotopic analysis

 5 ml [ ]  
 1 ml [ ]  
 100  $\mu$ l [ ]  
 10  $\mu$ l [ ]

## 4. Boron Analysis

	Standard		Sample	
	_____ ppm	_____ ppm	1	2
absorbance				
Calculated ppm B in sample				

## SECTION E: DATA SHEET

$$\frac{\text{total ml water added to sample}}{\text{sample size (UI=0.023ml) or (UII=0.027ml)}} = \text{dilution factor}$$
Boron Analyses

$$[B] \text{ in RCS} = [B] \text{ in sample} \times \text{dilution factor}$$

 Sample 1  $[B] \text{ in RCS} = \text{_____} \times \text{_____} = \text{_____} \text{ ppm Boron}$ 

 Sample 2  $[B] \text{ in RCS} = \text{_____} \times \text{_____} = \text{_____} \text{ ppm Boron}$ 
Isotopic Analysis

$$\text{Fractional Yield} = \frac{1}{\text{dilution factor}} = \frac{1}{\text{_____}} = \text{_____}$$

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-1C.F)

## SECTION E: RCS GAS SAMPLE HANDLING

5. Use only if off gas sample vial dose rate  $\geq$  mR/hr

Dilutions: 1 15:1 [ ]  
2 225:1 [ ]  
3 3375:1 [ ]  
4 50,625:1 [ ]  
5 76,000:1 [ ]

Final Dilution = \_\_\_\_\_:1

## SECTION G: WORKSHEET - ION CHROMATOGRAPHIC CHLORIDE ANALYSES

## 3. Sample Analysis

(trace peak height \_\_\_\_\_ - baseline \_\_\_\_\_) x attenuation \_\_\_\_\_/100

peak height = \_\_\_\_\_ mm

ppm Chloride \_\_\_\_\_

## SECTION H: WORKSHEET - pH/CONDUCTIVITY/DISSOLVED OXYGEN

## 2. Sample Analysis

conductivity of sample stream from CMP \_\_\_\_\_  $\mu$ mhotemperature of sample stream from CMP \_\_\_\_\_  $^{\circ}$ Coxygen concentration reading \_\_\_\_\_ ppm  $O_2$ \_\_\_\_\_ ppb  $O_2$ 

pH reading \_\_\_\_\_

temperature \_\_\_\_\_  $^{\circ}$ C

PACIFIC GAS AND ELECTRIC COMPANY  
DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NOS. 1 AND 2

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

SECTION A: WORKSHEET - INITIAL ACTIONS

DATE \_\_\_\_\_

REMOTE CONTAINMENT HYDROGEN MONITORS

	<u>CEL-82</u>	<u>CEL-83</u>
Time switched from OFF to STANDBY (N/A if in STANDBY prior to this step)	_____	_____
Scale used (Step 10)	10% [ ]	[ ]
	20% [ ]	[ ]
Meter Reading - % (Step 10)	_____	_____
Time (Step 10)	_____	_____
Analyst's Initials	_____	_____

TITLE: POST ACCIDENT RCS AND CONTAINMENT AIR SAMPLE DATA SHEET (EP RB-15:F)

## SECTION D: WORKSHEET - G.C. ANALYSIS (CONT'D)

## 3. Null Verification

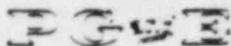
c.11) (trace peak height avg \_\_\_\_\_ - baseline \_\_\_\_\_) x attenuation \_\_\_\_\_/100

peak height = \_\_\_\_\_ oxygen concentration \_\_\_\_\_

Less than 10% oxygen value calculated

\_\_\_\_\_ Yes, proceed

\_\_\_\_\_ No, proceed  
but contact  
C&RP Supervisor



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS  
DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2  
EMERGENCY OPERATING PROCEDURE  
SENTRY POST-ACCIDENT SAMPLING SYSTEM  
TITLE --ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

NUMBER EP RB-15:G  
REVISION 2  
DATE 6/25/85  
PAGE 1 OF 8

IMPORTANT  
TO  
SAFETY

APPROVED R. E. Thibault 10-25-85  
PLANT MANAGER DATE

## DISCUSSION

The purpose of this procedure is to detail the steps required to measure chloride concentrations of reactor coolant. Included are steps to complete flushing of both the LSP reactor coolant module and CAP lines. This procedure requires operator actions at the LSP, CAP, and CMP.

## PREREQUISITES

1. The Ion Chromatograph (I.C.) was turned on according to Procedure EP RB-15:A and has warmed up for 30 minutes.
2. CAP, CMP, and LSP systems lined up as detailed in Procedure EP RB-15:A.
3. Verify that the following annunciator windows are off on the PCP:
  - a. REACTOR COOLANT SAMPLE COOLING WATER LOW FLOW
  - b. REACTOR COOLANT SAMPLE COOLING WATER LOW PRESS
  - c. REACTOR COOLANT SAMPLE COOLING WATER HIGH TEMP
  - d. REACTOR COOLANT PURGE HIGH TEMP
  - e. REACTOR COOLANT SAMPLE HIGH TEMP
  - f. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
  - g. CHEM ANALYSIS PANEL HIGH PLENUM PRESS
4. The following equipment should be available:
  - a. Meter-long reach rod

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSISPRECAUTIONS

1. This sampling involves processing of water that may be highly radioactive. Precautions should be taken to prevent skin contact or ingestion.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.
4. For the Ion Chromatograph (I.C.):
  - a. The calibration curve should be checked once every 4 samples by analyzing a chloride standard.
  - b. Calibration should be checked when first using a new eluent.
  - c. Regeneration is required about once every 6-8 hours of continuous operation. Refer to the troubleshooting and surveillance and maintenance procedure.
  - d. During continuous operation, the separator column must be cleaned on a daily basis or every other regeneration by pumping eluent through the column for a minimum of 10 minutes, followed by a 20 minute demineralized water rinse. This may be coincident with regeneration of the suppressor column. Refer to the troubleshooting and surveillance and maintenance procedure CAP G-3.

PROCEDURE

1. Instrument Calibration
  - a. Set the OFFSET range switch to left. [ ]
  - b. Set MODE to LIN. [ ]
  - c. Adjust the COARSE vernier switch to zero the meter. It may be necessary to adjust the FINE pot to zero the meter. [ ]



TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

- d. Operate the system until the baseline is stabilized with the  $\mu$ mho FULL SCALE switch in the 1 position adjusting the FINE pot as necessary to zero the meter. [ ]

## 2. Chloride Standard Check

- a. If Standard Check has been performed within the last week proceed to step 3. [ ]
- b. Close or check closed CAP-V-15. [ ]
- c. Verify CAP-CAL-3 is at least half full. (CAP G-3, directs filling). [ ]
- d. Align CAP-V-5 to CHLORIDE CALIB. SOL'N. [ ]
- e. Open CAP-V-15. [ ]
- f. Turn on the L&N recorder. [ ]
- g. After 1 minute, place the LOAD/INJECT switch at the CMP to INJECT and mark the recorder trace with date, time, injection point, analyst's initials, sample type, and conductivity meter setting. [ ]
- h. After 1 minute, place the LOAD/INJECT switch in LOAD position. [ ]

NOTE: The  $\text{Cl}^-$  peak will elute about 5 min. after injection.

- i. Close CAP-V-15. [ ]
- j. Align CAP-V-5 Counterclockwise to CLOSED. [ ]
- k. Align CAP-V-29 to vent (6 o'clock) [ ]
- l. After the  $\text{Cl}^-$  peak has eluted, wait 5 minutes then shut off the L&N recorder. [ ]

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

m. Align CAP-V-5 to RCS sample (9 o'clock). [ ]

n. Determine the peak height:

$$\text{Peak height} = \frac{(\text{Trace Peak Height} - \text{Baseline}) \times \text{Attenuation}}{100}$$

$$\text{Peak Height} = \text{_____ mm}$$

Corresponding ppm  $\text{Cl}^-$  from CAL. Curve \_\_\_\_\_ ppm (A)o. Compare the  $\text{Cl}^-$  standard peak with the calibration curve.  
For the same  $\mu\text{mho}$  setting, the values should be within  $\pm 10\%$ .

$$\frac{(A) - 1.0}{1.0} \times 100 = \text{_____ \% Difference (B)}$$

Is (B) within  $\pm 10\%$ ? \_\_\_\_\_ (YES/NO)

## 3. Sample Analysis

a. At the CMP, activate the L&amp;N recorder. [ ]

b. Place the I.C. LOAD/INJECT switch in the INJECT position and mark the inject position on the chart paper. [ ]

c. On the chart paper, record the date/time, sample source used,  $\mu\text{mho}$  setting, and analyst's initials. [ ]

d. After approximately 1 minute from sample injection, place the LOAD/INJECT switch in the LOAD position. [ ]

[The chloride peak will appear approximately 5 minutes after injection at the same retention time observed for the standard.]

e. Examine the L&N recorder. If the chloride peak goes off-scale, repeat steps 3.b. to 3.d. using a larger  $\mu\text{mho}$  setting (i.e. 3  $\mu\text{mho}$ ). [ ]

f. Turn CAP-V-5 to the DEMIN WATER position. [ ]

g. Flush with demin water for 2 minutes. [ ]

h. After the  $\text{Cl}^-$  peak has eluted, wait 5 minutes then turn off the L&N recorder. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

- i. Determine the peak height

$$\text{Peak height} = \frac{(\text{Trace peak height} - \text{baseline}) \times \text{Attenuation}}{100}$$

$$\text{Peak height} = \text{mm}$$

- j. Determine the ppm chloride from the calibration curve and record on the data sheet (EP RB-15:F).

- k. If pH/conductivity/DO are to be analyzed proceed to EP RB-15:H. [ ]

## 4. Flushing

- a. At the PCP, perform the following:

1) Close the remote plant and source isolation valves. [ ]

2) Open the remote flush isolation valve. [ ]

- b. At the LSP, close RC-V-1.X. [ ]

- c. At the CAP, align CAP-V-5 and CAP-V-6 to LIQUID SAMPLE. [ ]

- d. At the LSP, open RC-V-4. [ ]

- e. Open RC-VREL-2 until RC-FI-2 indicates maximum flow. Flush with demin water for 3 minutes. [ ]

- f. Close RC-V-7. [ ]

- g. Open RC-V-3. [ ]

- h. Adjust RC-VREL-1 until RC-FI-1 indicates maximum flow. Flush with demin water for 1 minute. [ ]

- i. Close RC-V-3. [ ]

- j. Open RC-V-1.X and flush with demin water for 5 minutes. [ ]

- k. Close RC-V-1.X. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

1. Open RC-V-7. [ ]
- m. Adjust RC-VREL-2 until RC-FI-2 indicates maximum flow. Flush with demin water for 3 minutes. [ ]
- n. At the CMP, cycle the LOAD/INJECT switch at least 3 times. Return it to the LOAD position. [ ]
- o. At the CAP, align CAP-V-5 to CLOSED. [ ]
- p. Turn CAP-V-6 to OXYGEN CALIB SOLUTION. [ ]
- q. Close CAP-V-11. [ ]
- r. Terminate flushing by closing the following valves:  
RC-V-7 [ ]  
RC-V-2 [ ]  
RC-V-4 [ ]  
RC-VREL-1 [ ]  
RC-VREL-2 [ ]
- s. Align RC-V-22 to WASTE. [ ]
- t. At the PCP, close the remote flush isolation valve. [ ]
- u. Call the control room and have operations close the containment isolation valves opened earlier. [ ]
5. Flushing the Separator and Suppressor Columns  
If the I.C. is not needed for further sampling in an 8 hour period then the following steps should be performed before system shutdown can be started.
  - a. Perform the following I.C. valve alignments to wash the iodine and other cations from the suppressor column:
    - 1) Check that the conductivity meter mode switch is set to ZERO. [ ]

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

- 2) In the eluent/pump enclosure of the CAP, check the following:
- a) Check the levels of eluent, water, and regenerants are at least half full. [ ]
  - b) Check that the I.C. pumps and vent if air is visible in the sightglass or tubing. [ ]
  - c) Check that the pump stroke settings are set at 40% for both pumps. [ ]
- 3) At the CMP, check the following:
- a) Check that the regeneration time thumbwheels are set at 15 min for REG and 45 min for RIN. [ ]
  - b) Align the following air toggle switches to the indicated positions:
- | <u>SWITCH</u>         | <u>POSITION</u> |     |
|-----------------------|-----------------|-----|
| E <sub>1</sub> /Water | E <sub>1</sub>  | [ ] |
| E <sub>2</sub>        | DOWN            | [ ] |
| SEP-1/SEP-2           | SEP-1           | [ ] |
| SUP-1/RGN-2           | SUP-2/RGN-1     | [ ] |
| INJECT/LOAD           | LOAD            | [ ] |
- 4) Depress regeneration START button and the suppressor column will automatically be regenerated. [ ]
- 5) Flush the separator column for 20 min. After 20 min., turn the E<sub>1</sub> switch to DOWN and rinse the separator column with demin. water for 10 min. [ ]

## 6. System Shutdown

- a. After completion of column regeneration, perform the following:
  - 1) Turn I.C. POWER switch to OFF. [ ]

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-15:G  
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TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
--ION CHROMATOGRAPHIC CHLORIDE ANALYSIS

- 2) Turn AIR switch to OFF. [ ]
- 3) Turn GAUGE switch to OFF. [ ]
- 4) Turn ELUENT pump switch to OFF. [ ]
- 5) Turn conductivity meter MODE switch to ZERO. [ ]
- b. If pH/conductivity/DO are to be done, proceed to section H. [ ]
- c. If finished with all CMP/CAP analyses, turn CMP power at front of panel to OFF and turn off two switches at back of G.C. unit. [ ]
- 8. Data Analysis  
Proceed to EP RB-15:F for data analysis. [ ]
- 9. If finished with all sampling/analysis go to 15:B, Final Flushing. [ ]

#### REFERENCES

Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual.





# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE -- PH/CONDUCTIVITY/DISSOLVED OXYGEN

NUMBER EP RB-15:H

REVISION 2

DATE 6/25/85

PAGE 1 OF 9

APPROVED

*R. E. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to detail the steps required to measure pH, conductivity, and dissolved oxygen concentrations of reactor coolant. Included are steps to complete flushing of both the LSP reactor coolant module and CAP lines. This procedure requires operator actions at the LSP, CAP, and CMP.

## PREREQUISITES

1. Monitors are turned on according to procedure EP RB-15:A:
  - a. and have warmed up for 1 hour if oxygen analyzer has not been calibrated within 1 week;
  - b. or, have warmed up for 30 minutes if oxygen analyzer does not need calibration.
2. CAP, CMP, and LSP systems lined up as detailed in procedure EP RB-15:A.
3. Verify that the following annunciator windows are off on the PCP:
  - a. REACTOR COOLANT SAMPLE COOLING WATER LOW FLOW
  - b. REACTOR COOLANT SAMPLE COOLING WATER LOW PRESS
  - c. REACTOR COOLANT SAMPLE COOLING WATER HIGH TEMP
  - d. REACTOR COOLANT PURGE HIGH TEMP
  - e. REACTOR COOLANT SAMPLE HIGH TEMP
  - f. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
  - g. CHEM ANALYSIS PANEL HIGH PLENUM PRESS

TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

4. The following equipment must be available:
  - a. Meter-long reach rod
  - b. Small screwdriver
5. The conductivity meter should have been calibrated within the last 3 months.

PRECAUTIONS

1. This sampling involves processing of water that will be highly radioactive. Precautions should be taken to prevent skin contact or ingestion.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

PROCEDURE

## 1. Monitor Calibration

## a. pH Calibration

If pH meter has been calibrated within the last week, proceed to Step 1.b., Dissolved Oxygen analyses.

- 1) Make sure the pH buffer tanks are over half full with pH 7 and pH 4 or 10 buffers at the CAP. [ ]

[To fill, vent tank pressure, remove pipe cap on top of sight glass and fill with appropriate buffer. Be sure to install pipe cap and then repressurize tank.]

- 2) Align CAP-V-6 to pH CALIB SOLUTION. [ ]

DIABLO CANYON POWER PLANT UNIT NO(S)		1 AND 2	NUMBER	EP RB-15:R
			REVISION	2
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3)

Adjust CAP-V-26 until sufficient flow is indicated by red flow indicator light. Flow for 2 minutes. During this time cycle CAP-V-7 between Rexnord and Orbisphere Oxygen Analyzer position.

[ ]

4)

Turn CAP-V-6 counterclockwise to OXYGEN CALIB. SOLUTION to terminate flow, then align CAP-V-27 to vent position.

[ ]

5)

Observe and record the temperature of the buffer solution as indicated on the CMP.

Temp. \_\_\_\_\_ °C

[Correct the buffer pH value for the recorded temp. from the pH Temperature Correction Table (Appendix 1).]

[ ]

6)

Adjust the pH monitor R-3 until the meter indicates the temperature corrected pH value.

[ ]

7)

Observe the pH monitor reading for 2 minutes and adjust if drift exceeds ±0.1 pH units.

pH \_\_\_\_\_

8)

Align CAP-V-6 to DEMIN WATER and flush for 2 minutes. Cycle V-7 between Orbisphere to Rexnord to flush DO deadleg.

[ ]

9)

Align CAP-V-30 to pH calibration tank CAL-2.

[ ]

10)

Align CAP-V-28 to the nitrogen supply line.

[ ]

11)

Align CAP-V-6 to the pH CALIB SOLUTION.

[ ]

12)

Open CAP-V-16 until the red flow indicator is lit. Flow for 2 minutes. Cycle CAP-V-7 between Rexnord and Orbisphere Oxygen Analyzer.

[ ]

13)

Turn CAP-V-6 counterclockwise to the OXYGEN CALIB SOLUTION to terminate flow.

[ ]

DC0416 3VII

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

14) Align CAP-V-28 to vent position. [ ]

15) Observe and record the temperature of the buffer solution as indicated on the CMP.

Temp. \_\_\_\_\_ °C

[Correct the buffer pH value for the recorded temp. from the pH Temperature Correction Table (Appendix 1).] [ ]

16) After the meter reading has stabilized, record the reading and compare to the temperature corrected pH value. The reading should be within  $\pm 0.5$  pH units of the temperature corrected value.

pH \_\_\_\_\_

17) Align CAP-V-6 to DEMIN WATER and flush for 2 minutes. During this time cycle V-7 from Orbisphere to Rexnord. [ ]

## b. Dissolved Oxygen Analyzer Calibration

## 1) Rexnord

a) Adjust mechanical zero with power switch behind meter face of unit to OFF. [ ]

b) With power switch ON, and function selector switch on ZERO, adjust ZERO ADJ. to get zero reading on the instrument. [ ]

c) Turn function selection switch to 20 mg/l. [ ]

## 2) Orbisphere

Turn knob on Orbisphere from "off" to "O<sub>2</sub>".

3) Align V-7 to Rexnord or Orbisphere depending on directions given by supervision. [ ]

If calibration has been performed within 1 week skip remaining portions of this step.

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

- 4) Open CAP-V-9. [ ]
- 5) Align CAP-V-6 to OXYGEN CALIB SOLUTION. [ ]
- 6) Close CAP-V-17 until the red flow indicator is lit. [ ]
- 7) Purge for 15 minutes then read and record the temperature of the water in CAL-4 at the CMP.
- Temp. \_\_\_\_\_ °C
- 8) Determine the dissolved oxygen concentration from the Solubility of Oxygen in Air Saturated Water table (Appendix 2) and record the value.
- 9) Adjustment: \_\_\_\_\_ ppm dissolved oxygen
- a) Rexnord
- While flowing, adjust the CAL ADJ to indicate the dissolved oxygen concentration in ppm previously recorded in Step 1.b.9). (This may involve changing the scale switch position). [ ]
- b) Orbisphere
- While flowing push "cal" knob and adjust as above. [ ]
- 10) Turn the oxygen calibration pump to OFF. [ ]
- 11) Close CAP-V-9. [ ]
- 12) Align CAP-V-6 to LIQUID SAMPLE. (9 o'clock) [ ]

## 2. Sample Analysis

- a. Flow for 5 minutes or until meter reading stabilizes. Cycle CAP-V-7 between Orbisphere and Rexnord. [ ]

TITLE:

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

- b. Observe and record conductivity meter reading and temperature of the sample stream from the CMP.

Cond. \_\_\_\_\_  $\mu\text{mho}$   
Temp. \_\_\_\_\_  $^{\circ}\text{C}$ 

c.

- 1) Rexnord:

Observe the Rexnord dissolved oxygen meter reading and turn to a lower scale position as the meter reading decreases. Purge 15 minutes.

[ ]

- 2) Orbisphere

Read display noting whether ppb or ppm is indicated.

ppm [ ]  
ppb [ ]

- d. Read the  $\text{O}_2$  concentration. \_\_\_\_\_  $\text{ppmO}_2$

- e. Turn CAP-V-6 counterclockwise to OXYGEN CALIB SOLUTION to terminate sample flow and permit pH reading to stabilize.

[ ]

- f. Observe the pH meter for 1 minute to ensure the reading has stabilized. Record the pH reading.

pH \_\_\_\_\_  
Temp. \_\_\_\_\_  $^{\circ}\text{C}$ 

- g. If I.C. analyses is to be performed proceed to EP RB-15:G.

[ ]

3. Sample Calculations.

- a. Correct the recorded sample pH for temperature from the pH Temperature Correction Table (Appendix 1).

[ ]

- b. Transfer all data to data sheets EP RB-15:F.

[ ]



DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

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TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

## APPENDIX 1

## pH TEMPERATURE CORRECTION TABLES

SAMPLE pH TEMPERATURE CORRECTION TABLE

<u>TEMP °C</u>	<u>CORR</u>	<u>TEMP °C</u>	<u>CORR</u>
16	-.31	31	+.20
17	-.27	32	+.24
18	-.24	33	+.26
19	-.20	34	+.29
20	-.16	35	+.32
21	-.13	36	+.36
22	-.10	37	+.40
23	-.07	38	+.43
24	-.03	39	+.46
25	.00	40	+.50
26	+.04	41	+.53
27	+.07	42	+.56
28	+.10	43	+.59
29	+.14	44	+.63
30	+.17	45	+.66

BUFFER pH TEMPERATURE CORRECTION TABLE

<u>TEMP</u>	<u>RED pH4</u>	<u>GREEN pH7</u>	<u>BLUE pH10</u>
10°C	4.00	7.06	10.18
15°C	--	--	10.12
20°C	4.00	7.02	10.06
25°C	4.00	7.00	10.01
30°C	4.01	6.99	9.97
35°C	--	--	9.93
40°C	4.03	6.98	9.89
45°C	--	--	9.86
50°C	4.06	6.97	9.83
60°C	4.09	6.98	--
70°C	4.12	6.99	--
80°C	4.16	7.00	--
90°C	4.19	7.02	--
95°C	4.21	7.03	--

\*TAKEN FROM LABELS ON BECKMAN BUFFERS

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP RB-15:H  
REVISION 2  
DATE 6/25/85  
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SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

4. CMP Shutdown

- a. pH Monitor - Turn switches S-3 and S-1 to the OFF position. [ ]
- b. Conductivity Monitor - Turn function select switch to ZERO position. [ ]
- c. Orbisphere - return knob to "off" position. [ ]

5. Continue with flushing using EP RB-15:G, Step 5.

REFERENCES

- 1. Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual.

APPENDICES

- 1. pH Temperature Correction Table
- 2. Solubility of Oxygen in Air Saturated Water

DIABLO CANYON POWER PLANT UNIT NO(S)

1 AND 2

NUMBER EP R5-15:H  
REVISION 2  
DATE 6/25/85  
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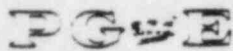
TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- PH/CONDUCTIVITY/DISSOLVED OXYGEN

## APPENDIX 2

SOLUBILITY OF OXYGEN IN AIR SATURATED WATER  
(For Oxygen in Air at 1 atm.)

TEMP °C	PPM DISSOLVED OXYGEN	TEMP °C	PPM DISSOLVED OXYGEN
16	9.9	31	7.5
17	9.7	32	7.4
18	9.5	33	7.3
19	9.3	34	7.2
20	9.2	35	7.1
21	9.0	36	7.0
22	8.8	37	6.8
23	8.7	38	6.7
24	8.5	39	6.6
25	8.4	40	6.5
26	8.2	41	6.4
27	8.1	42	6.3
28	7.9	43	6.2
29	7.8	44	6.1
30	7.7	5	6.0



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE: -- SAMPLE STORAGE AND DISPOSAL

NUMBER EP RB-15:1

REVISION 1

DATE 9/24/85

PAGE 1 OF 3

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to provide a means for disposal of stripped-gas samples and storage of RCS liquid samples.

## PRECAUTIONS

1. Same as EP RB-15:A.

## PREREQUISITES

1. PGandE Post Accident Sampling Shipping Packaging.
2. Gas bottle Griptong.
3. 14 cc gas sample bottle.

## PROCEDURE

1. Disposal of Reactor Coolant Stripped-Gas Samples

### a. At the LSP

- 1) Close or check closed valves  
RC-V-1.1 through RC-V-1.5 [ ]
- 2) Verify that RC-G-4 indicates  
approximately 100 psig Ar. [ ]

### b. At the PCP

- 1) Close or check closed  
FCV-9351A, FCV-9351-B [ ]  
FCV-9350A, FCV-9350-B [ ]  
FCV-9353A [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- SAMPLE STORAGE AND DISPOSALFCV-692, FCV-693, FCV-694  
FCV-1412, FCV-1413  
FCV-1416, FCV-1417, FCV-1418  
FCV-1419, FCV-1420[ ]  
[ ]  
[ ]  
[ ]

## c. Align the following valves, as described:

RC-V-10 (closed)  
RC-V-15 (closed)  
RC-V-14 (closed)  
RC-V-11 (CLOSED)  
RC-V-13 (closed)  
RC-V-12 (closed)  
RC-DV-2 (9 o'clock)[ ]  
[ ]  
[ ]  
[ ]  
[ ]  
[ ]  
[ ]

## d. Bottle Evacuation

- 1) With the griptong, install the diluted gas sample bottle on the front panel needle. [ ]
- 2) Open RC-V-13. [ ]
- 3) Open RC-V-12 and evacuate until RC-G-2.2 indicates a minimum vacuum of 22 inches of mercury. [ ]
- 4) Turn RC-DV-2 to the 6 o'clock position and continue the evacuation until a minimum vacuum of 22 inches of mercury is indicated on RC-G-2.2. [ ]
- 5) Close in order RC-V-13 and RC-V-12. [ ]
- 6) Open RC-V-14 and allow the bottle to pressurize to approximately 1 psig as indicated on RC-G-2.2. [ ]
- 7) Close RC-V-14. [ ]
- 8) Open RC-V-13 and RC-V-12 and evacuate until RC-G-2.2 indicates a minimum vacuum of 22 inches of mercury. [ ]

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP RB-15:1  
REVISION 1  
DATE 9/24/85  
PAGE 3 OF 3

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- SAMPLE STORAGE AND DISPOSAL

9) Close in order RC-V-13 and RC-V-12. [ ]

10) Open RC-V-14 and allow the bottle to  
pressurize to approximately 1 psig as  
indicated on RC-G-2.2. [ ]

11) Close RC-V-14. [ ]

12) Repeat steps 8 through 11 three times to  
remove all radioactive gases. [ ]

e. Bottle Disposal

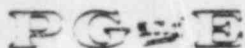
1) Remove the griptong from the panel. [ ]

2) Perform a radioactive survey of the bottle  
and dispose accordingly. [ ]

2. Access and Removal of Diluted RCS Liquid Sample Bottle

Refer to RCP-RW-10 for removal of bottle from cart/cask and  
preparation for transport.





# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM --

TITLE: UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANT

NUMBER EP RB-15:J

REVISION 0

DATE 6/25/85

PAGE 1 OF 7

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of this procedure is to detail the steps required to obtain an undiluted liquid sample during accident conditions and complete module flushing.

## PREREQUISITES

1. System was initially lined up as described in procedure EP RB-15:A.
2. Verify that the following annunciator windows are off on the PCP:
  - a. REACTOR COOLANT SAMPLE COOLING WATER LOW FLOW
  - b. REACTOR COOLANT SAMPLE COOLING WATER LOW PRESS
  - c. REACTOR COOLANT SAMPLE COOLING WATER HIGH TEMP
  - d. REACTOR COOLANT PURGE HIGH TEMP
  - e. REACTOR COOLANT SAMPLE HIGH TEMP
  - f. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
3. The following equipment must be available and operational:
  - a. Meter-long reach rod
  - b. Needle flush tool with demin water in a sample bottle and a new septum
  - c. Sample cart/cask with the 15 ml lift rod assembly

TITLE: SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANTd. A prelabeled 15 ml sample bottle with a new septum

- 1) The label should have the sample source, date, estimated time of sample, and the initials of the person taking the sample. (From this point estimate 19 minutes.)

#### PRECAUTIONS

1. This sampling involves processing of water that will be highly radioactive. Precautions should be taken to prevent skin contact or ingestion.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods it may not be necessary to stand near the panels and consideration should be given to moving to a low dose rate area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

#### PROCEDURE

1. Turn on the switch to light the undiluted bottle fill station. [ ]
2. Place the bottle on the cart/cask assembly cavity piston. [ ]
  - a. Turn the direction valve for the hydraulic piston in the down position and lower the bottle into the cask cavity. [ ]
  - b. Close and open the cask to verify that the cover is working properly. [ ]
  - c. Position the cart/cask under the undiluted reactor coolant fill station needles and set the brake. [ ]
  - d. Turn the direction valve for the hydraulic piston in the up position and raise the bottle onto the needles. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANT

## 3. Reactor Coolant Sample Line Purge

- a. Open RC-V-8.1. [ ]
- b. Determine which sample source isolation valves will have to be opened from the list below:

<u>SAMPLE SOURCE</u>	<u>CONTAINMENT ISOLATION VALVES</u>
Hot Legs Loops 1 and 4	FCV-9356A and FCV-9356B
Pressurizer Steam Space	FCV-9354A and FCV-9354B
Pressurizer Liquid Space	FCV-9355A and FCV-9355B
RHR Pumps Discharge	N/A
Volume Control Tank	N/A

- c. Call the Control Room and have operations block open the appropriate containment isolation valves. [ ]
- d. Open the corresponding remote plant isolation valve (RPV) and remote source isolation valve (RSIV) at the PCP (see Appendix 1 for proper valve). [ ]
- e. Close remote flush isolation valve (RFIV). [ ]

NOTE 1: The sample source valves are labeled RC-V-1.1 through RC-V-1.5. Throughout this procedure, the form RC-V-1.X will be used to indicate the source valve to be operated. The sample source used for sampling will have been given at a briefing by the Site Chem and Rad Protection Coordinator.

NOTE 2: Upon implementation of the next step, sample will be flowing into the back of the LSP. The meter-long reach rod should be used to operate V-1.X (see Appendix 1 for proper valve).

- g. Open RC-V-3. [ ]
- h. Slowly open RC-VREL-1 until RC-FI-1 indicates 100% flow or 1900 cc/min. Purge for 9 minutes. [ ]
- i. Slowly close RC-VREL-1 until RC-FI-1 indicates 36% or 700 cc/min. Continue the purge for 1 minute. [ ]
- j. Close RC-V-3. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANT

## 4. Sampling

- a. Open RC-V-7 and RCV-2. [ ]
- b. Slowly open RC-VREL-2 until RC-FI-2 indicates 100% flow or 200 cc/min. Purge for 3 minutes. [ ]
- c. Turn RC-V-19 to SAMPLE. [ ]

---

CAUTION: Do not exceed 20 psig on RC-G-3.

---

- d. Adjust RC-VREL-2 until RC-G-3 indicates 20 psig or RC-FI-2 indicates 100% flow or 200 cc/min. Purge for 2 minutes. [ ]
- e. Close RC-V-7 [ ]
- f. Let RC-G-3 return to 0 psig and wait 30 seconds to allow the bottle to depressurize. [ ]
- g. Turn RC-V-19 to BYPASS. [ ]
- h. Close RC-V-1.X. [ ]
- i. Call the control room and have operations close the containment isolation valves opened earlier. [ ]

## 5. Sample Cart/Cask Removal

- a. Turn the direction valve for the cart/cask hydraulic piston to the down position and slowly lower the bottle into the cask. [ ]
- b. Close the cask. Release brake and remove the cart/cask from the sample station and away from the LSP. [ ]
- c. Install and secure the auxiliary shield. [ ]
- d. Install and secure the needle flush tool onto the undiluted reactor coolant fill station needles. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANT

## 6. Initial Flushing

## a. At the PCP, perform the following:

- 1) Close the remote source isolation valve. [ ]
- 2) Close the remote plant isolation valve. [ ]
- 3) Open the remote flush isolation valve (see Appendix 1 for proper valve). [ ]

## b. Open RC-V-7 and RC-V-4. [ ]

## c. Adjust RC-VREL-2 until RC-FI-2 indicates 100% flow. Flush with demin water for 3 minutes. [ ]

## d. Close RC-V-7. [ ]

## e. Open RC-V-3. [ ]

## f. Adjust RC-VREL-1 until RC-FI-1 indicates 80-90% flow. Flush with demin water for 1 minute. [ ]

## g. Close RC-V-3. [ ]

## h. Open RC-V-1.X and flush with demin water for 5 minutes. [ ]

## i. Close RC-V-1.X. [ ]

## 7. Final Flushing

## a. Open RC-V-8.1 and RC-V-8.2. [ ]

## b. Adjust RC-VREL-2 until RC-FI-2 indicates 100% flow. Flush with demin water for 1 minute. [ ]

## c. Turn RC-V-19 to SAMPLE. [ ]

---

CAUTION: Do not exceed 20 psig on RC-G-3.

---

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANT

- d. Adjust RC-VREL-2 until RC-G-3 indicates 20 psig or RC-FI-2 indicates 100% flow. Flush with demin water for 2 minutes. [ ]
- e. Close RC-V-2. [ ]
- f. Let RC-G-3 return to 0 psig and wait 30 seconds to allow bottle to depressurize. [ ]
- g. Turn RC-V-19 to BYPASS. [ ]
- h. Terminate flushing by closing the following valves:
  - RC-V-8.2 [ ]
  - RC-V-8.1 [ ]
  - RC-V-4 [ ]
  - RC-VREL-1 [ ]
  - RC-VREL-2 [ ]
- 8. Turn off the undiluted fill station light. [ ]
- 9. At the PCP, close the remote flush isolation valve. [ ]
- 10. Remove the needle flush tool and survey the bottle for disposal. [ ]
- 11. Perform a radiation and contamination survey on the cart/cask assembly. Handle the sample according to procedure EP RB-15:I. [ ]
- 12. Refer to Procedure RCP RW-10 for Radwaste shipment. [ ]

REFERENCES

1. Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual.

APPENDICES

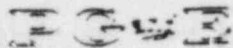
1. Valves for Obtaining Samples from Reactor Coolant.



DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

NUMBER EP RB-15:J  
REVISION 0  
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PAGE 7 OF 7TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM --  
UNDILUTED LIQUID SAMPLING FROM REACTOR COOLANTAPPENDIX 1

<u>SAMPLE SOURCE</u>	<u>REMOTE PLANT ISOLATION VALVE (RPIV)</u>	<u>REMOTE SOURCE ISOLATION VALVE (RSIV)</u>	<u>REMOTE FLUSH ISOLATION VALVE (RFIV)</u>	<u>LSP SAMPLE SOURCE VALVE (SSV)</u>
RC Hot Leg 1	FCV-9351 A	FCV-692	FCV-1416	RC-V-1.1
RC Hot Leg 4	FCV-9351 B	FCV-692	FCV-1416	RC-V-1.1
PZR Liquid	FCV-9350 B	FCV-693	FCV-1417	RC-V-1.2
PZR Steam	FCV-9350 A	FCV-694	FCV-1418	RC-V-1.3
RHR Pump 1-1 Discharge	FCV-9353 A	FCV-1413	FCV-1419	RC-V-1.4
RHR Pump 1-2 Discharge	FCV-9353 B	FCV-1413	FCV-1419	RC-V-1.4
VCT Liquid	FCV-137	FCV-1412	FCV-1420	RC-V-1.5



Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE -- DILUTED LIQUID SAMPLING FROM RADWASTE

NUMBER EP RB-15:K

REVISION 0

DATE 6/25/85

PAGE 1 OF 7

APPROVED

*R. C. Thompson*  
PLANT MANAGER

10-25-85  
DATE

IMPORTANT  
TO  
SAFETY

### DISCUSSION

The purpose of this procedure is to detail the steps required to obtain a diluted liquid sample from the radwaste module during accident conditions and complete module flushing.

Sample sources addressed are Reactor Cavity Sump, Equipment Drain Receiver, Floor Drain Receiver and RHR Pump Room sump.

The containment isolation valves FCV-696 and FCV-697 are controlled from the Containment Isolation Valve Panel in the Sentry Room only. These switches require a key to operate. A copy of the key is located in the Sentry Room. These valves are to be opened only during an emergency or for testing.

### PREREQUISITES

1. System was initially lined up as described in procedure EP RB-15:A.
2. Verify that the following annunciator windows are off on the PCP:
  - a. RADWASTE SAMPLE COOLING WATER LOW FLOW
  - b. RADWASTE SAMPLE COOLING WATER LOW PRESS
  - c. RADWASTE SAMPLE COOLING WATER HIGH TEMP
  - d. RADWASTE HIGH TEMP
  - e. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
3. The following equipment must be available and operational:
  - a. Meter-long reach rod

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- b. Hand operated vacuum pump
- c. Sample cart/cask with 60 ml lift rod assembly
- d. A prelabeled 60 ml sample bottle with a new septum
  - 1) The label should have the sample source, date, estimated time of sample, and the initials of the person taking the sample (from this point estimate 21 minutes).

#### PRECAUTIONS

1. This sampling involves processing of water that will be highly radioactive. Precaution should be taken to prevent skin contact or ingestion.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose rate area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

#### PROCEDURE

1. Verify RW-DV-1 is turned to BYPASS. Fill reservoir RW-R-1 with demin water. [ ]
  - a. Open RW-V-10 and RW-V-9. [ ]
  - b. Adjust reservoir RW-R-1 until the water level in graduated cylinder RW-C-1 is at least 100 ml. [ ]
  - c. Close RW-V-9 and RW-V-10. [ ]
2. Align RW-V-8 to the 9 o'clock position. [ ]
  - Align RW-V-4 to the SAMPLE position. [ ]

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- DILUTED LIQUID SAMPLING FROM RADWASTE

## 3. Sample Purging

Reactor Cavity Sump:

Coordinate with Operations to turn on the reactor cavity sump pumps, then open containment isolation valves FCV 500 and 501 for one minute and then close. Open valves FCV 696 and 697. Containment isolation valves FCV 696 and 697 are key operated valve switches controlled in the Sentry Room at the POST LOCA CNT ISOLATION PANEL.

Equipment Drain Receiver or Floor Drain Receiver:

Coordinate with Operations to have EDR or FDR placed on recirculation for Post Loca Sampling.

RHR Room Sump:

Verify with control room that RHR room high level is indicated. Coordinate with Operations to transfer the entire contents of a FDR to another holding tank or overboard. Manually pump down RHR room sump to the empty FDR and place FDR on recirc for Post Loca Sampling.

- a. Open the corresponding remote plant isolation valve (RPIV), remote source isolation valve (RSIV), at the PCP (see Appendix 1 for proper valve). [ ]
- b. Close the remote flush isolation valve at the PCP. [ ]

NOTE: The sample source valves are labeled RW-V-2.1 thru RW-V-2.3. Throughout this procedure, the form RW-V-2.X will be used to indicate the source valve to be operated. The sample source used for sampling will have been given at the briefing by the Site Chem and Rad Protection Coordinator.

- c. Slowly open Sample source valve RW-V-2.X (see Appendix 1 for proper valve) until RW-FI-1 indicates 100% flow or 200 cc/min. Purge to waste for 7 minutes. [ ]
- d. While sample is purging continue with cart/cask preparation.

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4.	Insert the needle of the hand operated vacuum pump into the septum of the prelabeled 60 ml sample bottle:	[ ]
a.	Evacuate to the maximum vacuum achievable with the pump. The vacuum must be at least 15" of Hg.	[ ]
b.	Keep the pump connected to the bottle for 1 minute to assure that the bottle retains the vacuum.	[ ]
5.	Turn on the switch to light the diluted bottle fill station.	[ ]
6.	Remove the bottle from the vacuum pump and place the bottle on the cart/cask assembly cavity piston.	[ ]
a.	Turn the direction valve for the hydraulic piston to the down position and lower the bottle into the cask cavity.	[ ]
b.	Close and open the cask to verify that the cover is working properly.	[ ]
c.	Position the cart/cask under the diluted radwaste fill station needle and set the brake.	[ ]
d.	Turn the direction valve for the hydraulic piston to the up position do not raise the bottle onto the needle.	[ ]
7.	Sampling - when line has purged for 7 minutes	
a.	Turn RW-V-8 to BYPASS.	[ ]
b.	Close RW-V-2.X.	[ ]
c.	Close FCV-696 and FCV-697 if opened earlier and notify the control room when closed.	[ ]
8.	Initial Flushing	
a.	At the PCP, close the remote source isolation valve if applicable.	[ ]

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SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- DILUTED LIQUID SAMPLING FROM RADWASTE

- b. Slowly open RW-V-3 until RW-FI-1 indicates 30% flow or 60 cc/min. Flush with demin water for 2 minutes. [ ]
  - c. Slowly open RW-V-2.X until RW-FI-1 indicates 30% flow or 60 cc/min. Flush with demin water for 3 minutes. [ ]
  - d. Close RW-V-2.X and RW-V-3. [ ]
  - e. At the PCP, open the remote flush isolation valve (see Appendix 1 for proper valve). Flush with demin water for 6 minutes. [ ]
  - f. Close the remote flush isolation valve at the PCP. [ ]
9. Sample Dilution
- a. Raise sample bottle in LSP cart/cask up, onto needle. [ ]
  - b. Turn RW-DV-1 to SAMPLE. [ ]
  - c. Read initial ml on buret \_\_\_\_\_.  
Crack open RW-V-9 and add 23 mls of water from the buret to the sample bottle, then close RW-V-9.  
Read final ml \_\_\_\_\_.  
Record the volume added. \_\_\_\_\_ mls
  - c. Turn RW-DV-1 to BYPASS. [ ]
  - d. Place the direction valve for the hydraulic piston in the down position and slowly lower the bottle into the cask. [ ]
  - e. Close the cask. [ ]
10. Sample Cask/Cart Removal
- a. Release the brake and remove the cart/cask from the sample station. [ ]



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b. Perform a radiation and contamination survey on the cart/cask assembly and transfer the sample according to the appropriate EP RB-16 Subprocedure. [ ] c. Turn off the diluted fill station light. [ ] 11. If sample is to be analyzed at CAP: a. Turn RW-V-4 to CHEM PANEL. [ ] b. Proceed to EP RB-15:H for pH/conductivity/DO Analysis and EP RB-15:G for I.C. Analyses. [ ] c. After analyses return to this section. 12. Final Flushing a. Turn RW-V-8 to the 9 o'clock position. [ ] b. Slowly open RW-V-3 until RW-FI-1 indicates 100% flow or 200 cc/min. Flush with demin water for 2 minutes. [ ] c. Turn RW-V-8 to BYPASS. [ ] d. Terminate flushing by closing RW-V-3. [ ] 13. Close Sample Cooler Water. [ ] 14. Using procedure EP RB-15:E, aliquot and analyze the diluted liquid sample for boron and specific activity. [ ] 15. Process the data according to EP RB-15:F. [ ] <u>REFERENCES</u> 1. Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual. <u>APPENDICES</u> 1. Valves for Obtaining Samples from Radwaste.		
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DIABLO CANYON POWER PLANT UNIT NO(S)

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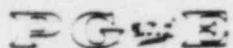
TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- DILUTED LIQUID SAMPLING FROM RADWASTE

## APPENDIX 1

## VALVES FOR OBTAINING SAMPLES FROM RADWASTE

<u>SAMPLE SOURCE</u>	<u>CONTAINMENT ISOLATION VALVES</u>	<u>REMOTE SOURCE ISOLATION VALVE</u>	<u>REMOTE FLUSH ISOLATION VALVE</u>	<u>LSP SAMPLE SOURCE VALVE</u>
Rx Cavity Sump	FCV-696 FCV-697	Not Applicable	FCV-1423	RW-V-2.1
Floor Drn Recvr	Not Applicable	FCV-1415	FCV-1425	RW-V-2.2
Equip Drn Recvr	Not Applicable	FCV-1414	FCV-1424	RW-V-2.3



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE -- UNDILUTED LIQUID SAMPLING FROM RADWASTE

NUMBER EP RB-15:L

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APPROVED

*R. C. Thornburg*  
PLANT MANAGER

*10-25-85*  
DATE

IMPORTANT  
TO  
SAFETY

## DISCUSSION

The purpose of the procedure is to detail the steps required to obtain an undiluted radwaste liquid sample during accident conditions and complete module flushing. Sample sources addressed are Reactor Cavity Sump, Equipment Drain Receiver, Floor Drain Receiver and RHR Pump Room Sump.

## PREREQUISITES

1. System was initially lined up as described in procedure EP RB-15:A.
2. Verify that the following annunciator windows are off on the PCP:
  - a. RADWASTE SAMPLE COOLING WATER LOW FLOW
  - b. RADWASTE SAMPLE COOLING WATER LOW PRESS
  - c. RADWASTE SAMPLE COOLING WATER HIGH TEMP
  - d. RADWASTE HIGH TEMP
  - e. LIQUID SAMPLE PANEL HIGH PLENUM PRESS
3. The following equipment must be available and operational:
  - a. Meter-long reach rod
  - b. Needle flush tool with demin water in a 15 ml sample bottle and a new septum.
  - c. Sample cart/cask with the 15 ml lift rod assembly.

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-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

- d. A prelabeled 15 ml bottle sample source, date, estimated time of sample, and the initials of the person taking the sample (from this point estimate 16 minutes).

PRECAUTIONS

1. This sampling involves processing of water that will be highly radioactive. Precautions should be taken to prevent skin contact or ingestion.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose rate area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

PROCEDURE

1. Turn on the switch to light the undiluted fill station. [ ]
2. Place the bottle on the cart/cask assembly cavity piston. [ ]
  - a. Turn the direction valve for the hydraulic piston in the down position and lower the bottle into the cask cavity. [ ]
  - b. Close and open the cask to verify that the cover is working properly. [ ]
  - c. Position the cart/cask under the undiluted radwaste fill stations needles and set the brake. [ ]
  - d. Turn the direction valve for the hydraulic piston to the up position and raise the bottle onto the needles. [ ]

TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

## 3. Sample purging

Reactor Cavity Sump:

Coordinate with Operations to turn on the reactor cavity sump pumps, then open containment isolation valves FCV 500 and 501 for one minute. Close isolation valves FCV 500 and 501 and open valves FCV 696 and 697. Containment isolation valves FCV 696 and 697 are key operated valve switches controlled in the Sentry Room at the POST LOCA CNT ISOLATION PANEL.

Equipment Drain Receiver or Floor Drain Receiver:

Coordinate with Operations to have EDR or FDR placed on recirculation for Post Loca Sampling.

RHR Room Sump:

Verify with control room that RHR room high level is indicated. Coordinate with Operations to transfer the entire contents of FDR to another holding tank or overboard. Manually pump down RHR room sump to FDR and place FDR on recirc for Post Loca Sampling.

- a. Align RW-V-4 to the SAMPLE position. [ ]
- b. Open the corresponding remote plant isolation valve (RPIV), remote source isolation valve (RSIV), the PCP (see Appendix 1 for proper valve). [ ]
- c. Close the remote flush isolation valve at the PCP (see Appendix 1 for proper valve). [ ]

NOTE: The sample source valves are labeled RW-V-2.1 thru RW-V-2.3. Throughout this procedure, the form RW-V-2.X will be used to indicate the source valve to be operated. The sample source used for sampling will have been given at the briefing by the site Chem and Rad Protection Coordinator.

- d. Slowly open the sample source valve RW-V-2.X (see Appendix 1 for proper valve) until RW-FI-1 indicates 100% flow or 200 cc/min. Purge to waste for 7 minutes. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

## 4. Sampling

- a. Adjust RW-V-2.X until RW-G-1 indicates 20 psig or less. [ ]

CAUTION: Do not exceed 20 psig on RW-G-1 in these steps.

- b. Turn RW-V-7 to SAMPLE. [ ]
- c. Adjust RW-V-2.X until RW-G-1 indicates 20 psig or RW-FI-1 indicates 40% flow or 80 cc/min. Purge for 1 minute. [ ]
- d. Close RW-V-2.X. [ ]
- e. Let RW-G-1 return to 0 psig and wait 30 seconds to allow bottle to depressurize. [ ]
- f. Turn RW-V-7 to BYPASS. [ ]
- g. Close FCV-696 and FCV-697 if opened earlier and notify control room when closed. [ ]

## 5. Sample Cart/Cask Removal

- a. Turn the direction valve for the cart/cask hydraulic piston to the down position and slowly lower the bottle into the cask. [ ]
- b. Close the cask. Release the brake and remove the cart/cask from the sampling station and away from the LSP. [ ]
- c. Install and secure the auxiliary shield. [ ]
- d. Install and secure the needle flush tool containing a 15 ml sample bottle onto the undiluted radwaste fill station needles. [ ]

## 6. Initial flushing

- a. At the PCP, close the sample source isolation valve. (See Appendix 1) [ ]



TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

- b. Slowly open RW-V-3 until RW-FI-1 indicates 30% flow or 60 cc/min. Flush with demin water for 3 minutes. [ ]
  - c. Slowly open RW-V-2.X until RW-FI-1 indicates 30% flow or 60 cc/min. Flush with demin water for 3 minutes. [ ]
  - d. Close RW-V-2.X and RW-V-3. [ ]
  - e. At the PCP, open the remote flush isolation valve (see Appendix 1 for proper valve). Flush with demin water for 6 minutes. [ ]
  - f. Close the remote flush isolation valve at the PCP. [ ]
7. If sample is to be analyzed at CAP:
- a. Turn RW-V-4 to CHEM PANEL. [ ]
  - b. Proceed to EP RB-15:H for pH/conductivity/DO and EP RB-15:G for I.C. analyses. [ ]
  - c. After analyses return to this section. [ ]
8. Final Flushing
- a. Turn RW-V-7 to SAMPLE [ ]

---

CAUTION: Do not exceed 20 psig on RW-G-1 in this step.

---

- b. Slowly open RW-V-3 until RW-G-1 indicates 20 psig or RW-FI-1 indicates 30% flow or 60 cc/min. Purge for 2 minutes. [ ]
- c. Close RW-V-3 and let RW-G-1 return to 0 psig. Wait 30 seconds to allow the bottle to depressurize. [ ]
- d. Turn RW-V-7 to BYPASS. [ ]

TITLE SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

9. Turn off the undiluted fill station light. [ ]
10. Remove the needle flush tool and survey bottle for disposal. [ ]
11. Perform a radiation and contamination survey on the cart/cask assembly and move the sample according to the appropriate EP RB-15 Subprocedure. [ ]
12. Close Sample Cooler Water. [ ]
13. Using Procedure EP RB-15:E, aliquot and analyze the diluted liquid sample for boron and specific activity. [ ]
14. Process the data according to EP RB-15:F.

REFERENCES

1. Sentry Equipment Corp. High Radiation Sampling System Operating and Maintenance Manual.

APPENDICES

1. Valves for Obtaining Samples from Radwaste.

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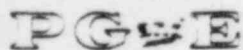
TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED LIQUID SAMPLING FROM RADWASTE

## APPENDIX 1

## VALVES FOR OBTAINING SAMPLES FROM RADWASTE

<u>SAMPLE SOURCE</u>	<u>CONTAINMENT ISOLATION VALVE</u>	<u>REMOTE SOURCE ISOLATION VALVE</u>	<u>REMOTE FLUSH ISOLATION VALVE</u>	<u>LSP SAMPLE SOURCE VALVE</u>
Rx Cavity Sump	FCV-696 FCV-697	Not Applicable	FCV-1423	RW-V-2.1
Floor Drn Recvr	Not Applicable	FCV-1415	FCV-1425	RW-V-2.2
Equip Drn Recvr	Not Applicable	FCV-1414	FCV-1424	RW-V-2.3



# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2

EMERGENCY OPERATING PROCEDURE

SENTRY POST-ACCIDENT SAMPLING SYSTEM

TITLE -- UNDILUTED CONTAINMENT AIR SAMPLING

NUMBER EP RB-15:M

REVISION 0

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IMPORTANT  
TO  
SAFETY

APPROVED

*R. E. Thompson*  
PLANT MANAGER

*10-25-85*  
DATE

## DISCUSSION

The purpose of this procedure is to detail the steps required to obtain an undiluted containment air sample in a cart/cask assembly for gross isotopic analysis.

Complete system flushing will be done at the completion of sampling and the valve line up will be returned to the initial line up.

## PREREQUISITES

1. System was initially lined up as described in procedure EP RB-15:A.
2. Verify that the following annunciator window is off on the PCP and CCP.
  - a. CONTAINMENT AIR SAMPLE PANEL HIGH PLENUM PRESS
3. The following equipment must be available and operational:
  - a. Meter-long reach rod
  - b. 4 Channel MBIS Pressure Monitor (CASP-PI-1109)

## PRECAUTIONS

1. This sampling involves processing of containment air that will be highly radioactive. Precautions should be taken to prevent releases to the sampling environment.
2. Time in a radiation field should be limited to that necessary to perform the required operations. During purge and flush periods, it may not be necessary to stand near the panels and consideration should be given to moving to a low dose rate area.
3. A dose rate instrument should be on and periodic monitoring is suggested during purge and sampling exercises.

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED CONTAINMENT AIR SAMPLINGPROCEDURE1. Automatic Undiluted Sampling of Containment Air Into The  
Cart/Cask

- a. Ensure that a cart/cask is engaged and locked on the quick disconnects in the SAMPLE 1 location and the BYPASS valve is closed and the INLET and OUTLET valves are open. [ ]
- 1) Connect the Pressure Monitor unit to the cart/cask being used. [ ]
- 2) Plug the AC power cord into the outlet near the CASP and turn on the Pressure Monitor to the cell number corresponding to the cart/cask being used. [ ]
- b. Place the following valve switches on the CCP in the AUTO position:
- CCP-AV-1 [ ]  
CCP-SV-1.2 [ ]  
CCP-SV-5 [ ]  
CCP-AV-2 [ ]  
CCP-SV-10 [ ]
- c. Ensure that CASP-V-17 is closed. [ ]
- d. Ensure that the following valves are in the position indicated:
- CASP-V-16 to CASP-DV-1 [ ]  
CASP-DV-1 to CASP-SF-5 [ ]
- e. At the CASP, verify that the green INACTIVE Light is on. If not, push the RESET button directly below the ACTIVE/INACTIVE lights. [ ]
- f. At the CCP, press the SYSTEM RESET pushbutton. [ ]

## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED CONTAINMENT AIR SAMPLING

- g. At the Containment Isolation Valve Panel open the following valves:

FCV-698  
FCV-699  
FCV-700☐  
☐  
☐

- h. Press the EXERCISE START pushbutton.

☐

NOTE: The system will automatically sample containment air through the following sequential operations:

2 minute presample backflush  
3 minute sample capture  
15 second equilibrate flask pressure  
3 minute residual gas removal  
15 second post sample backflush  
15 second post sample backflush

- i. When the ISOLATION SAMPLE FLASK alarm sounds, proceed to the CCP and perform the following:

- 1) Press the EXERCISE STOP pushbutton and verify the red light in the knob is lit.

☐

- a) Note containment pressure as indicated on CASP-PI-1109 and record it on the printer paper at the CCP along with the initials of the person taking the sample.

- 2) Using the meter-long reach rod, close the INLET and OUTLET valves and open the BYPASS valve on the cart/cask.

☐

- 3) At the CCP, release the EXERCISE STOP pushbutton and press the EXERCISE START pushbutton and verify that the SAMPLE LINE FLASK FLUSH timer is on.

☐

NOTE: If the above steps 1) - 3) are not done within 3 minutes, the program sequencer will reset to home position and the sample flask must be manually flushed as detailed in step k.



## TITLE

SENTRY POST-ACCIDENT SAMPLING SYSTEM  
-- UNDILUTED CONTAINMENT AIR SAMPLING

- j. Observe that the SF EXERCISE COMPLETE light is lit for SF-1. If indicator is lit proceed to step 1. ☐

- k. Manual Sample Flask Line Flushing

NOTE: This section is to be done only if the SF EXERCISE COMPLETE light is not on.

- 1) Using the meter-long reach rod, close the INLET and OUTLET valves and open the BYPASS valve on the cart/cask. ☐

- a) Note containment pressure as indicated on CASP-PI-1109 and record it on the printer paper at the CCP along with the initials of the person taking the sample. ☐

- 2) At the CCP, turn all valve switches to the CLOSED position. ☐

- 3) Turn the following valve switches to the OPEN position:

CCP-SV-10 ☐  
CCP-SV-1.2 ☐  
CCP-AV-1 ☐

- 4) Flush the sample flask line for 3 minutes. ☐

- 5) Close the following valves:

CCP-SV-1.2 ☐  
CCP-AV-1 ☐  
CCP-SV-10 ☐

1. Sample Cart/Cask Removal

- 1) Turn off Pressure Monitor and disconnect from cart/cask. ☐

- 2) Unlock the quick disconnects from SF-1, remove the cart/cask assembly and place it in a temporary hold area. ☐

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-- UNDILUTED CONTAINMENT AIR SAMPLING

- 3) Detach the paper with the cart/cask information [ ]  
from the printer on the CCP and attach it to the  
cart/cask.

NOTE: Perform a radiation/contamination survey on  
cart/cask assembly.

- 4) Install a backup cart/cask assembly. [ ]

- 5) Push the RESET button at the CASP to change [ ]  
the sampling flask indicator light from  
ACTIVE to INACTIVE status.

- 6) At the CCP, check closed or close all valve [ ]  
switches.

- m. At the containment isolation valve panel, close the  
following valves:

FCV-698  
FCV-699  
FCV-700

[ ]  
[ ]  
[ ]