

ENCLOSURE 1

Updates Included In This Submittal

DIABLO CANYON EMERGENCY PLAN  
IMPLEMENTING PROCEDURES

Volume 3A

Updated Table of Contents  
EP G-2, Revision 7  
EP G-2S1, Revision 2

Volume 3B

Updated Table of Contents  
EP RB-14, Revision 2

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ENCLOSURE 2

Location of Proprietary Information

Procedure:

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Organization Call List  
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ENCLOSURE 3

Updates to Diablo Canyon  
Emergency Plan Implementing Procedures

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# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

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

TITLE EMERGENCY PROCEDURE  
ESTABLISHMENT OF THE ON-SITE EMERGENCY  
ORGANIZATION

NUMBER EP G-2

REVISION 7

DATE 2/26/85

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APPROVED

*R. C. Thompson*  
PLANT MANAGER

5-23-85

DATE

IMPORTANT  
TO  
SAFETY

## SCOPE

This procedure describes the responsibilities of the positions in the On-site Emergency Organization and the actions required by plant personnel for establishing the On-site Emergency Organization.

This procedure and changes thereto require PSRC review.

## GENERAL

1. The transition from a normal operating organization to an On-site Emergency Organization involves the following three basic steps:
  - a. Filling appropriate On-site Emergency Organization positions on an interim basis with personnel who are immediately available on-site at the time of the emergency. See Figure 1 for the description of the "Suggested Interim Emergency Organization."
  - b. Notifying plant personnel off-site and on-site that their assistance is required (refer to EP G-2 Supplement 1 for instructions).
  - c. Filling positions in the long-term emergency organization, as described in Figure 2, "Long-Term Emergency Organization," with appropriate plant personnel as they arrive at the Control Room, Operational Support Center, Technical Support Center, or the Emergency Operations Facility.
2. Plant personnel are assigned to the long-term emergency organization positions on an interim or long-term basis and are ranked in order of preference in Supplement 1, "Emergency Organization Call List." All position-holders are responsible for performing the duties of their position as described in Table 1, "On-site Emergency Organizations' Responsibilities," or as specified by the Site Emergency Coordinator.

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All position holders are responsible for performing the duties of their position until 1) duly relieved with permission received from the Site Emergency Coordinator, or 2) the Site Emergency Coordinator determines that the emergency organization position is no longer required. Form 69-9370, "Site Emergency Organization Assignments" may be used to record emergency assignments and shift rotations.

3. The Shift Foreman shall remain in the Control room where he is responsible for overall command and control of the emergency. He shall assume the position of the interim Site Emergency Coordinator. He shall not become totally involved in any single operation but shall maintain a broad perspective of operational conditions affecting the safety of the plant, in compliance with Nuclear Plant Administrative Procedure, NPAP A-102.
4. When an emergency is declared and notification of plant staff and offsite response organizations is in process, incoming phone calls on the plant emergency number shall be answered, and the plant emergency number shall be provided to offsite personnel needing to contact the plant. Calls on the normal plant number will be answered to the extent possible without interfering with the emergency response.
5. All notifications shall be recorded. A hard copy of all transactions will be generated by the Rapid Alert Notification System data terminal. Manual notifications are normally recorded on Form 69-10297 "Emergency Organization Call List." Form 69-9221, "Emergency Notification Record" or a log is used to record incoming calls or calls to persons not on Form 69-10297.
6. 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.
  - a. Records generated from exercises will be categorized as non permanent and retained for a minimum of five years.
  - b. 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)."

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INITIATING CONDITIONS

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

IMMEDIATE ACTIONS

1. The Shift Foreman shall assume the position of the interim Site Emergency Coordinator, assess the situation, and appoint members of the on-site operating staff to assume the positions shown in Figure 1, "Interim Site Emergency Organization," as he deems necessary to terminate or mitigate the emergency.

NOTIFICATIONS

The Rapid Alert Notification is the preferred notification method during off-normal hours, except for the Unusual Event Classification. It is programmed with the same positions, names, and numbers included in Form 69-10297, "Emergency Organization Call List." It can be activated on site by push button control or remotely by telephone. Once the system dials the programmed number and the call is answered, a synthesized human-like voice delivers the appropriate message. The call recipient acknowledges the call by using a response number on the telephone keypad or a device provided for that purpose. If no acknowledgement occurs, the machine continues to call other emergency personnel on the list. A hard copy of all transactions is generated by the Rapid Alert Notification data terminal.

Form 69-10297, "Emergency Organization Call List" can be used if sounding the Site Emergency Signal is not desirable, for paging key people and individuals designated "On Call," encoding UHF radio equipped cars, for Unusual Events, or if the Rapid Alert Notification System is inoperable.

NOTIFICATION OF AN UNUSUAL EVENT

1. The interim Site Emergency Coordinator shall contact, as a minimum, position holders for the long-term emergency organization positions indicated by the Unusual Event Stop Callout Point on the "Emergency Organization Call List" in Supplement 1. Personnel contacted should inform the caller as to whether they will proceed to their emergency response location or remain on standby status.

NOTE: Notify personnel contacted of event termination.

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2. Additional plant personnel may be called out as deemed necessary by any of the above personnel.

NOTIFICATION OF AN ALERT, SITE AREA EMERGENCY, OR GENERAL EMERGENCY

1. The interim Site Emergency Coordinator shall contact position-holders to fill positions in the long-term emergency organization using the Rapid Alert Notification System or if unable, per Form 69-10297, "Emergency Organization Call List."

NOTE: During normal working hours, sounding of the Site Emergency Signal may be used as a means of establishing the emergency organization. During off-normal hours or if sounding the Site Emergency Signal is not desirable, the interim Site Emergency Coordinator should appoint a Liaison Assistant who assists the Liaison Coordinator and notifies plant personnel per Supplement 1 to this procedure. The Liaison Assistant may perform the callout from the Control Room area or may be dispatched to the Technical Support Center (TSC) to activate the TSC telephone switchboard to receive incoming emergency calls and complete plant staff notification.

2. If long-term emergency position holders and support staff are already on station, notify them of the escalation or reduction of the emergency classification. Particular care should be given to notifying personnel at the following locations:
  - a. TSC or Control Room (depending on location of the Site Emergency Coordinator)
  - b. EOF, and monitoring teams under the control of EOF.
  - c. OSC
  - d. Security Building
  - e. Personnel who may be performing emergency actions in various areas of the plant site (other than at emergency facilities).
3. Additional Liaison Assistants may be assigned to assist in notifications or coordinate message dissemination between the Site Emergency Coordinator and the Emergency Liaison Coordinator.



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4. Support staff called on-site (who are not given a predesignated response location) should be directed to report to the Security Building lunchroom (Readyroom). Upon arrival, they will call the TSC or Control Room to receive further direction.

SUPPORTING PROCEDURES

EP G-1, "Accident Classification and Emergency Plant Activation"

EP G-2, Supplement 1

EP G-3, "Notification of Off-site Organizations"

EP G-4, "Personnel Assembly and Accountability"

AP E-151, "Requirements for Retention And Extended Storage Of  
Operation Phase Activity Records"

AP A3, Supplement 1, "On Call System and Personnel Availability"

NPAP A-102, "General Authorities And Responsibilities Of The Shift  
Foreman"

TABLES

1. On-site Emergency Operating Organization - Responsibilities

FIGURES

1. Typical On-Shift Emergency Organization And Assignments
2. Long-term Emergency Organization
3. Interim EOF Organization

ATTACHMENTS

1. Form 69-9370, "Site Emergency Organization Assignments."
2. Form 69-9221, "Emergency Notification Record."

## TITLE ESTABLISHMENT OF THE ON-SITE EMERGENCY ORGANIZATION

TABLE 1  
ON-SITE EMERGENCY ORGANIZATION RESPONSIBILITIESA. Site Emergency Coordinator

1. Prior to being relieved by the Site Emergency Coordinator, the Interim Site Emergency Coordinator is responsible for the following in addition to the duties and responsibilities of the Shift Foreman:
  - \*a. Make the initial evaluation and classification of the situation.
  - \*b. Assign plant staff personnel to positions in the Site Emergency Organization.
  - c. Notify, or direct the notification of:
    - 1) Plant staff personnel
    - 2) Company off-site emergency organizations
    - 3) Local noncompany emergency support groups
    - 4) San Luis Obispo County, California Office of Emergency Services and the Nuclear Regulatory Commission
  - \*d. Authorize the sounding of the site emergency signal.
  - \*e. Authorize the evacuation of the plant site and specify the appropriate evacuation route.
  - \*f. Authorize overtime and other expenses associated with establishing and maintaining an appropriate site emergency organization.
  - \*g. Provide direction for all emergency response operations performed by Company personnel in the San Luis Obispo County Area.
  - \*h. Maintain liaison with off-site emergency support groups.
  - \*i. Make protective action recommendations regarding evacuation, sheltering, confiscation of food, or other emergency measures to local government agencies.

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\*Responsibility that may not be delegated.

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- \*j. Authorize any extraordinary emergency measures, such as the use of company emergency personnel exposure limits.
- 2. The Site Emergency Coordinator will establish the emergency response organization in the TSC and then relieve the interim Site Emergency Coordinator (normally the Shift Foreman). He will assume the following duties.
  - a. Prior to the time that the corporate Recovery Manager assumes his position at the Emergency Operation Facility, the Site Emergency Coordinator is responsible to:
    - \*1) Provide direction for all emergency response operations performed by Company personnel in the San Luis Obispo County Area.
    - \*2) Authorize any recommendations of the Company regarding evacuation, confiscation of food, or other emergency measures, to noncompany emergency support groups.
    - \*3) Authorize changes in the Emergency Action Level classification to off-site authorities.
    - \*4) Authorize any extraordinary emergency measures, such as the use of company emergency personnel exposure limits.
    - 5) Request assistance as necessary for on-site or off-site radiation monitoring from federal agencies, either through the county/state emergency response organization once established, or directly.
  - b. Coordinate and direct all on-site activities.
  - c. Maintain liaison with off-site emergency support groups providing on-site assistance and support the corporate Recovery Manager in the development of a coordinated recovery action plan for on-site.
  - d. Recommend changes in Emergency Action Level Classification to the Recovery Manager.

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\*Responsibility that may not be delegated.



## TITLE ESTABLISHMENT OF THE ON-SITE EMERGENCY ORGANIZATION

- e. Manage TSC Operations. This includes collecting and analyzing the technical information necessary for assessment of plant operational aspects, providing technical counsel in support of the Control Room (CR), assessment of radiological release potential, determination of actual or potential release rates, on-site exposure monitoring and contamination control, repair of plant components or systems as required by the emergency and/or consequences, and on-site personnel accountability. †
- f. Provide management direction to the Control Room (CR) through the Emergency Operations Coordinator.
- g. Provide management direction to the Operational Support Center (OSC) through the Emergency Maintenance Coordinator.
- h. Assign plant staff personnel to positions in the On-site Emergency Organization as appropriate.
- \*i. Authorize overtime and other expenses associated with maintaining an appropriate On-site Emergency Organization throughout the recovery period.
- j. Establish and maintain on-site personnel accountability.
- \*k. Authorize the evacuation of the plant site and specify the appropriate evacuation route.
- \*l. Obtain the Recovery Managers approval prior to authorizing any extraordinary emergency measures such as the use of Company emergency personnel exposure limits.

B. Emergency Liaison Coordinator

This position (both interim and permanent) provides control of verbal and written communications to and from the site with the following duties and responsibilities: †

1. Handle communications to and from the site and between site emergency response groups.
2. As directed by the Site Emergency Coordinator, notify plant staff and other affected individuals and organizations of the emergency and their assignments.

\*Responsibility that may not be delegated.

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3. Maintain contact with on-site and off-site emergency support groups, regulatory agencies, and monitoring teams and transmit instructions and information to and from the Site Emergency Coordinator.
4. Maintain records of incoming and outgoing messages. Operate communications equipment and develop message content as required to support the above.
5. Provide general assistance to the Site Emergency Coordinator.

C. Liaison Assistant (Interim and permanent)

1. Assist the Emergency Liaison Coordinator in communications and recording messages and carrying out his assigned duties.

D. Emergency Maintenance Coordinator

This position provides coordination of maintenance, repair and material deployment in response to the emergency situation with the following duties and responsibilities:

1. At the direction of the Site Emergency Coordinator fabricate and set up any special equipment necessary for recovery operations.
2. Provide management direction to the Operational Support Center Supervisor and maintenance organizations.
3. Coordinate the movement and accountability of support personnel brought to the site.
4. Provide general advice and assistance in these matters to the Site Emergency Coordinator and other evaluations personnel.

E. Maintenance Organizations

Electrical, mechanical and instrument coordinators are assigned to plan and supervise maintenance, repair or installation of special equipment required to respond or recover from the emergency at the direction of the Emergency Maintenance Coordinator. These coordinators are generally involved with activities at the OSC.

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Advisors are also assigned, when required, to provide technical advice in their areas of specialty to the evaluation personnel in the TSC.

F. Operational Support Center Supervisor

This position provides communication and coordination of emergency response activities in areas of the plant potentially affected by the emergency situation, with the following duties and responsibilities:

1. Determine that personnel entering a potentially hazardous plant area are informed of the plant status, potential hazards in the area, safety and radiation protection provisions, and are appropriately equipped and familiar with the requirements for their work.
2. Assists the functional coordinators in assignment of personnel to tasks designated by the Emergency Maintenance Coordinator.
3. Maintains accountability of personnel dispatched from the OSC, and maintains the capability of communicating with personnel engaged in operations, maintenance or chemistry and radiation protection emergency response activities.
4. Briefs response teams on plant status, and changes in emergency classification or plant conditions.
5. Assists the Control Room and TSC in communicating with response personnel.
6. Maintains appropriate records of activities at the OSC.

G. Emergency Evaluations and Recovery Coordinator

This position provides overall technical coordination of the plant response activities with the following duties and responsibilities:

1. Evaluate the safety consequences of the occurrence and advise the Site Emergency Coordinator accordingly of appropriate response actions and on-site and off-site recommended protective measures.

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2. Advise the Site Emergency Coordinator on technical matters relating to nuclear and radiological safety.
3. Provide coordination and supervision of all company support teams operating at or in the vicinity of the site.
4. Provide coordination and supervision of all company technical support work as part of the overall recovery program developed by the Site Emergency Coordinator and Recovery Manager.
5. Advise the Site Emergency Coordinator of actions and findings of company support groups.
6. Assist the Site Emergency Coordinator in determining personnel deployment to emergency support assignments.
7. Provide operation and control of emergency data transmission systems, and review and evaluate plant data.

The interim Emergency Evaluation and Recovery Coordinator is responsible for the above as applicable to the initial emergency response.

H. Emergency Radiological Advisor

This position provides overall coordination of radiological aspects of the emergency with the following duties and responsibilities:

1. Advise the Site Emergency Coordinator and/or Emergency Evaluations and Recovery Coordinator on matters relating to radiological safety.
2. Coordinate and supervise radiological surveys and investigations, both in plant and near site. Work with the Radiological Emergency Recovery Manager in making an overall assessment of radiological conditions.
3. Coordinate and supervise all on-site radiological surveys and investigations, and manage the on-site radiation protection program.

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4. Assist the Emergency Evaluation and Recovery Coordinator in operation and control of radiological emergency data transmission systems, review and evaluation of data from these systems, and development of data and status updates for transmission off-site

I. Site Chemistry and Radiation Protection Coordinator

This position assists the Emergency Radiological Advisor in coordinating on-site radiological protection and chemical and radiological surveys and investigations. These duties include the following:

1. Personnel exposure monitoring and record keeping.
2. Radiological and chemical analysis of in-plant samples.
3. In-plant surveys and establishment of radiation and/or contamination control area boundaries.
4. Determine radiation protection access requirements for entry to controlled areas.
5. Maintain proper records and logs.
6. Keep the Emergency Radiological Advisor and/or the Emergency Evaluation and Recovery Coordinator informed of actions and findings. Coordinate dispatch of personnel into affected plant areas with the OSC Coordinator.

J. In-plant Chemistry and Radiation Protection Technicians

These personnel perform their normal job functions in chemical sampling and analysis or radiation protection or provide sample data for radiological or chemical assessment.

K. Radiological Data Processor (TSC)

This position assists the Emergency Radiological Advisor in processing and evaluating radiological data, documenting the results of such evaluations and communicating approved results to TSC and EOF personnel.



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L. EARS Operator - TSC

This position assists the Emergency Radiological Advisor in developing radiological data using computerized models.

M. Emergency Radiological Monitoring Teams

Emergency radiological teams will be 2-man teams established for near site and off-site monitoring in the event of a radiological release emergency. They have the following duties and responsibilities:

## On-Site Team(s):

1. Perform radiation surveys in and around the plant site and obtain appropriate samples for analysis.
2. Maintain communications with the Control Room or Technical Support Center for reporting monitoring results and maintaining cognizance of the emergency situation.
3. Establish controlled access areas to contain or limit the spread of radioactive contamination, as appropriate.
4. Issue personnel protective equipment and clothing.
5. Establish and post radiation and/or contamination area boundaries.
6. Monitor personnel and evaluate their exposure, if required.
7. Maintain proper records and logs.
8. Keep the Emergency Radiological Advisor and/or the Emergency Evaluation and Recovery Coordinator informed of their actions and findings.

## Off-Site Team(s):

1. Perform radiation surveys at off-site locations as designated by the Radiological Emergency Recovery Manager and obtain appropriate samples for analysis.

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2. Maintain communications with the Emergency Operations Facility and Mobile Environmental Monitoring Laboratory for reporting results and maintaining cognizance of the emergency situation.
3. Coordinate monitoring activities and reporting of results with the county personnel assigned to the monitoring team.
4. Provide recommendations regarding establishing controlled access areas and determining the boundaries of such areas in cooperation with county personnel assigned to the monitoring team.
5. Assist in monitoring personnel and evaluating their exposure as required.
6. Maintain proper logs and records.
7. Keep the Radiological Emergency Recovery Manager informed of their actions and findings.

N. Emergency Operations Coordinator

This position provides senior plant management representation in the control room.

1. Manage Operational Activities.
2. Supervise the Shift Foreman in the operational control of the plant.
3. Advise the Site Emergency Coordinator on operational matters.

The interim Emergency Operations Coordinator is responsible for item 1 above.

O. Emergency Operations Advisor

This is a position filled by an individual knowledgeable in operational matters to provide general operational advice and assistance to the Site Emergency Coordinator and other evaluations personnel in the TSC. This position may be assigned other operational duties such as radwaste management as required by the situation.

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P. Shift Foreman

This is a position in the normal operating organization which fills the emergency position of interim Site Emergency Coordinator and which reverts back to normal job duties under the direction of the Emergency Operations Coordinator when relieved by the long term Site Emergency Coordinator.

Q. Operators

These are positions in the normal plant organization which continues to perform plant operational manipulations in the emergency organization when not otherwise assigned.

R. Shift Technical Advisor

This is a position in the normal operating organization which remains filled throughout the emergency recovery period. The initial function of this individual is to assume the position of interim Emergency Evaluation and Recovery Coordinator and assist the Shift Foreman in the evaluation of the occurrence, possible consequences, and possible courses of action. In the long term, this position may assist in the Control Room or TSC on plant evaluation or radiological evaluation, as required by the occurrence.

S. Fire Brigades

These teams are responsible for on-site fire suppression activities.

T. Security Liaison

This is a position in the TSC, or Control Room, to coordinate security activities in support of the emergency response and to advise the Site Emergency Coordinator on security matters.

U. Evacuation Coordinator

This is a temporary position to coordinate evacuation of non-essential personnel from the site if warranted by the situation. It would normally be assigned to a member of the security staff, such as the Security Liaison, but may be assigned to a member of the emergency planning staff.



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V. Evacuation Team

These are temporary positions consisting of a group leader (the senior person at an assembly area) and an out-of-plant monitoring technician who will accompany the evacuees in the event a site evacuation is necessary. The basic functions of this team are to:

1. Assure that the evacuees stay together and take the correct route.
2. Assist in personnel accountability at the evacuation off-site assembly area.
3. Secure radiation survey equipment and survey personnel and vehicles at the collection area and arrange for decontamination as required.

W. First-Aid and Medical

The importance of providing prompt first-aid is well recognized. First aid training is provided for plant staff personnel and includes certification for Cardio-pulmonary resuscitation. An onsite medical facility is available during normal working hours to provide basic life support capabilities as well as routine medical examinations.

Emergency safety personnel are E.M.T. certified. Personnel in the immediate area of the injured personnel, or as dispatched by the Site Emergency Coordinator, will provide care until off-site assistance arrives.

X. Evaluation Data Processors

These positions provide engineering assistance to the Emergency Evaluation and Recovery Coordinator in performing those duties relating to evaluation of plant core/thermal hydraulics, electrical and mechanical data, coordination of technical support work, operation of computer systems and other on-site emergency response activities.

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Y. Advisor to the County Emergency Organization

The function of this position is to activate and provide interim management of the Emergency Operations Facility (EOF) and be available to advise the County Emergency Organization on the meaning and significance of information being transmitted from the site. Basic duties and responsibilities include:

1. Prior to the arrival of the Recovery Manager and until relieved, act as the EOF Director to activate the utility portion of the Emergency Operation Facility/Emergency Operations Center. In this capacity, specific functions include:
  - a) Direct the activation of the utility portion of the building by appropriately establishing communications.
  - b) Provide administrative and management direction of the EOF interim staff in carrying out the duties of the Radiological Emergency Recovery Manager, the Public Information Recovery Manager and the Operations and Analytical Recovery Manager.
  - c) Keep the Site Emergency Coordinator informed and serve as his contact at the EOF.
2. Keep the senior county response staff members advised of plant conditions and recommended protective actions.
3. Coordinate security of the EOF and UDAC portion of the building with the Sheriff's Watch Commander.

Z. Interim Radiological Emergency Recovery Manager

This position assists the Advisor to the County Emergency Organization in coordination and direction of off-site radiological assessment activities and development of radiological status information, until relieved by the corporate Radiological Emergency Recovery Manager. Basic duties and responsibilities include:

1. Develop radiological data and status information for evaluation by UDAC personnel and distribution to EOF and EOC personnel.

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2. Direct the activities of off-site monitoring teams and the mobile environmental monitoring laboratory in coordination with the UDAC Director, maintain records, and provide findings in status reports.
3. Perform dose projections and provide radiological assessment information for the determination of protective action recommendations.

AA. Interim EARS Operator--EOF

This position assists the Radiological Emergency Recovery Manager in the performance of his duties, including activation and operation of the EARS computer system, activation and operation of the health physics radio system and communication with off-site monitoring teams, maintenance of logs and records and preparation of status reports as directed, until relieved by the corporate EOF EARS operator.

BB. Interim Operations and Analytical Recovery Manager

This position assists the Advisor to the County Emergency Organization in providing plant status information and coordination of local off-site emergency response activities, as directed, until relieved by the Corporate Operations and Analytical Recovery Manager. Basic duties and responsibilities include:

1. Activation and operation of plant data computer systems for obtaining plant data.
2. Preparation of plant status updates for approval and distribution to EOF, UDAC and EOC personnel.
3. Coordination and direction of off-site response activities involving local support, including activation and operation of radio and telephone systems and maintaining proper records of communications.

CC. Interim Public Information Recovery Manager

This position assists the Advisor to the County Emergency Organization in formulating news releases concerning the emergency condition, obtaining approval of the release, and coordinating the news release with county and corporate public

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information personnel. It is staffed by a local public information representative until relieved by the Corporate Public Information Recovery Manager.

DD. Technical Advisor to the Public Information Recovery Manager

This position assists the Public Information Recovery Manager by providing technical assistance in the preparation of news releases and participation in news media briefings.

EE. Radiological Data Processor (EOF)

This interim position assists the Interim Radiological Emergency Recovery Manager in developing and evaluating radiological data. This may include serving as Monitoring Team Liaison Coordinator when offsite monitoring is required.

FF. Monitoring Team Liaison Coordinator

This optional, interim position assists the Radiological Emergency Recovery Manager in communications with monitoring teams, the mobile van, and other emergency response locations when offsite monitoring activities are required. The position is relieved by the Radiological Monitoring Director.

GG. County Liaison

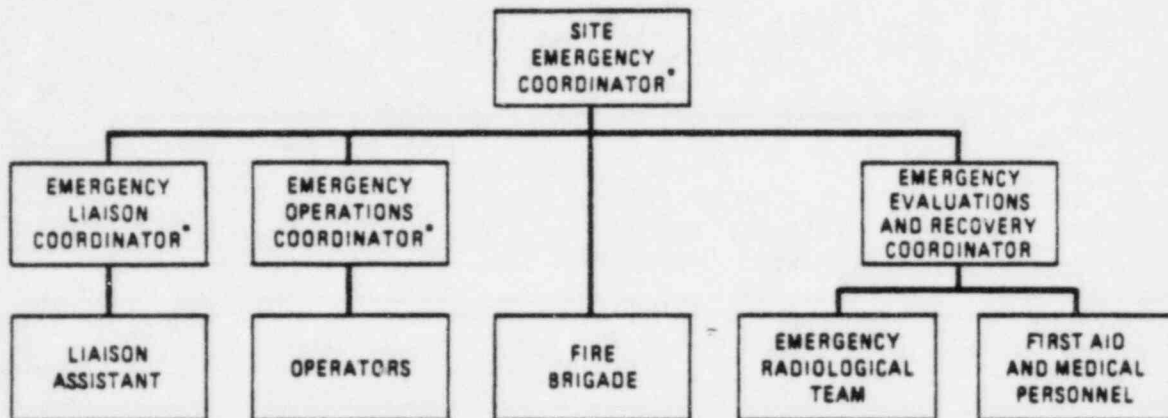
This optional, interim position assists the Advisor to the County Emergency Organization by facilitating the flow of information between the EOF and EOC portions of the EOF/EOC building.

HH. Mobile Environmental Monitoring Laboratory Operator

This position supports the offsite radiological monitoring program by providing isotopic analysis of samples obtained by monitoring teams using the mobile van or other laboratory facilities. The results of analysis are communicated to the EOF and appropriate records are kept.

## TITLE ESTABLISHMENT OF THE ON-SITE EMERGENCY ORGANIZATION

**FIGURE 1**  
**TYPICAL ON-SHIFT EMERGENCY ORGANIZATION**  
**AND ASSIGNMENTS**

POSITIONTYPICAL ASSIGNMENT

Interim Site Emergency Coordinator\*  
 See Table 1 for responsibilities)

Shift Foreman (Shift Technical Advisor if  
 not available)

Interim Emergency Liaison Coordinator\*  
 (develops notification messages and  
 performs off-site notifications)

Auxiliary Operator or Shift Control  
 Technician

Interim Emergency Operations  
 Coordinator\* (Provides operational  
 control of the plant)

Sr. Control Operator or Control Operator

Interim Emergency Evaluations and  
 Recovery Coordinator  
 (Plant and Radiological Assessment)

Shift Technical Advisor (STA) (Assisted by Shift  
 C&RP Technician and/or Control Operators  
 if necessary)

Liaison Assistants  
 (Notifies plant staff, coordinates  
 message dissemination among liaison  
 personnel)

Shift Clerk, Auxiliary Operator or  
 Shift Control Technician

Operators

Assignments per the Interim Site  
 Emergency Coordinator

Fire Brigade

See Emergency Procedure M-6 or R-6

Emergency Radiological Team

Shift C&RP Technician and Auxiliary  
 Operator (if required)

First Aid and Medical

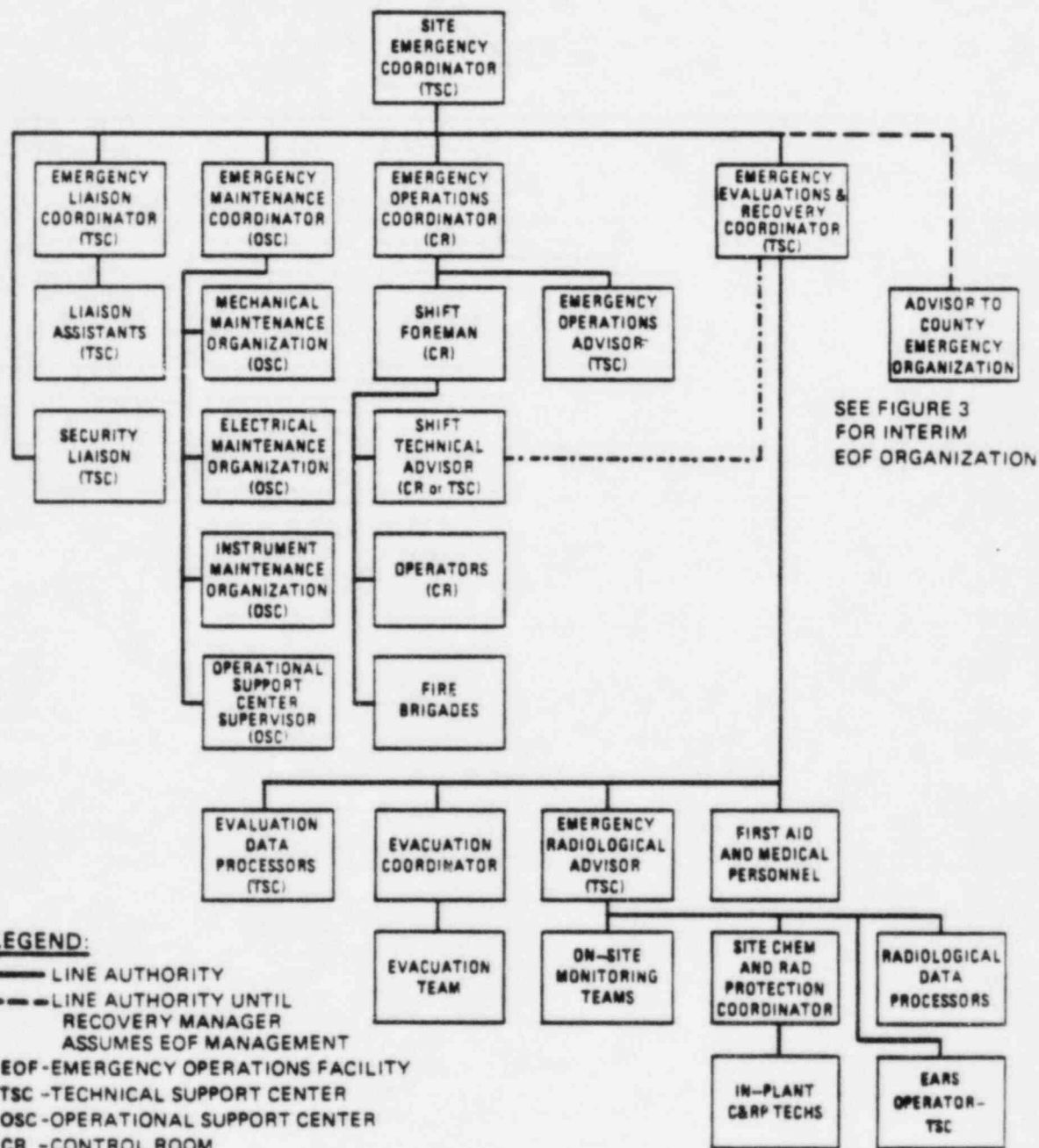
Employees at the scene

\*Required Assignments



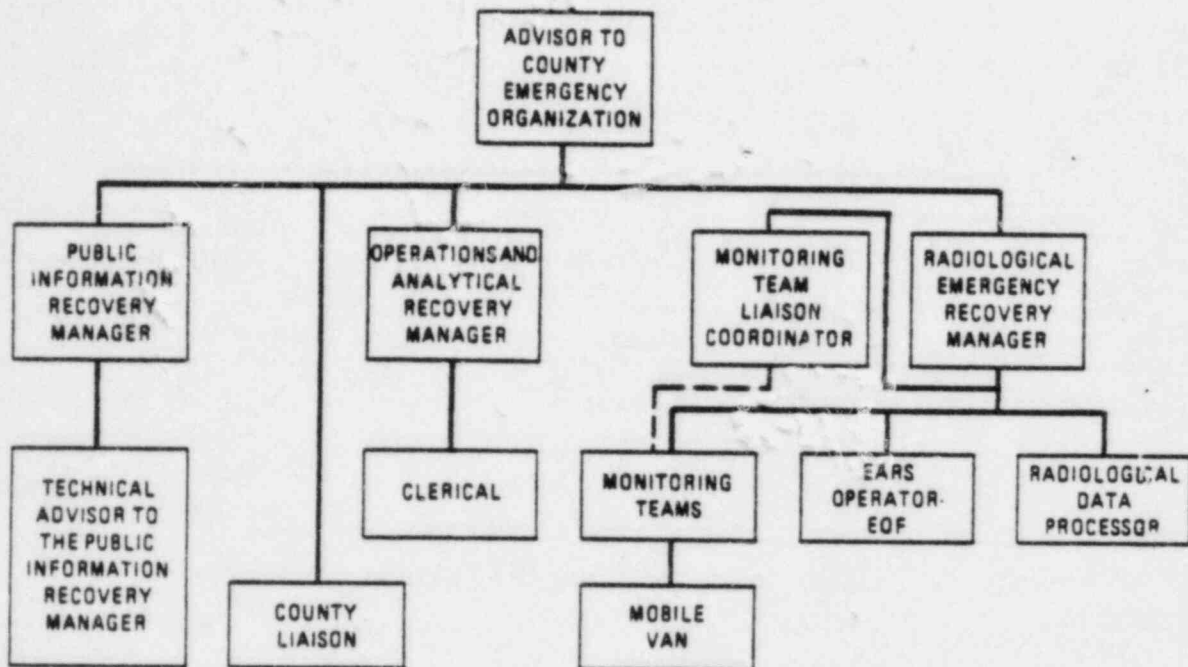
## TITLE ESTABLISHMENT OF THE ON-SITE EMERGENCY ORGANIZATION

**FIGURE 2**  
**LONG-TERM EMERGENCY ORGANIZATION**



## TITLE ESTABLISHMENT OF THE ON-SITE EMERGENCY ORGANIZATION

**FIGURE 3**  
**INTERIM EOF ORGANIZATION**



--- Indicates Communication Channel

JEL

# DIABLO CANYON SITE EMERGENCY ORGANIZATION

COUNTY ADVISOR	
	x
INTERIM OPERATIONS AND ANALYSIS RECOVERY MGR	
	x
OF - CLERICAL PERSONNEL	
	x
	x
	x
	x
	x
	x

Also Available On  
Aperture Card

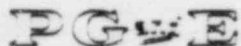
TI  
APERTURE  
CARD

SHIFT	EMERGENCY MAINTENANCE COORDINATOR	EMERGENCY OPERATIONS COORDINATOR
SHIFT	MECHANICAL MAINTENANCE COORDINATOR	EMERGENCY OPERATIONS ADVISOR
SHIFT	ELECTRICAL MAINTENANCE COORDINATOR	SHIFT FORMAN
SHIFT	I. AND C. MAINTENANCE COORDINATOR	SHIFT TECHNICAL ADVISOR
SHIFT	MAINTENANCE ADVISORS	TSC - EARS OPERATOR
	S. C.	
	ELEC.	
	MECH.	
	I. C.	
	ELEC.	
	MECH.	
SHIFT	OPERATIONAL SUPPORT CENTER SUPERVISOR	RADIOLOGICAL DATA PROCESSORS

8506250293 - 01







# Pacific Gas and Electric Company



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

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

TITLE EMERGENCY PROCEDURE  
NOTIFICATION OF THE ON-SITE EMERGENCY ORGANIZATION

NUMBER EP G-2S1

REVISION 2

DATE 5/15/85

PAGE 1 OF 2

APPROVED

*R. C. Hawley*  
PLANT MANAGER

*5-23-85*  
DATE

IMPORTANT  
TO  
SAFETY

## 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.

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 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.

DIABLO CANYON POWER PLANT UNIT NO(S)	1 AND 2	NUMBER	EP G-2S1
		REVISION	2
		DATE	5/15/85
		PAGE	2 OF 2
TITLE	EMERGENCY ORGANIZATION CALL LIST FORM 69-10297		

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, separated by commas, 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.

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/NO. - 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. Gisclon Tech Services Mgr			_____	_____
	_____	_____	*3. W. B. McLane Materials & Project Coordination Manager			_____	_____
	_____	_____	*4. J. A. Sexton Operations Manager			_____	_____

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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 assess 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 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)			_____	_____

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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
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			_____	_____

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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 must 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 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			_____	_____

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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

<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 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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8V11

## 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>
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)			_____	_____

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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
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)			_____	____

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10V11

## 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 Coordi- nator	_____	_____	*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)			_____	_____

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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

<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.			_____	_____
	_____		3. Don Hanes News Services Director San Francisco, G.O.			_____	_____
	_____		4. Jim Kilpatrick News Services Director San Francisco, G.O.			_____	_____

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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 assess the pager for this position)

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:

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
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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## 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
TSC/EOF		None	1. C. D. Lampert				
Clerical			Office Supervisor				
Assistance			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.

## 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
Interim Radiological Emergency Recovery Manager	_____	None	1. W. A. O'Hara Sr Chem & Rad Prot Eng			_____	_____	_____
	_____		2. S. J. Fahey-Benson Chem & Rad Prot Eng			_____	_____	_____
Assigned - EOF								

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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

<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</u>	
							<u>YES</u>	<u>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:

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
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:

1. Insert date person is not available.
2. Insert Date person assumes "control" 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>
Interim Public Information Recovery Manager	_____	None	1. Ron Weinberg Public Information			_____	____
	_____		2. Missie P. Hobsom Public Information			_____	____
Assigned - EOF	_____		3. Pam Zweifel Manager, Information Center			_____	____

## 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/NGN-EMERGENCY TITLE	HOME PHONE/ PLANT PHONE	HP FREQ. PAGER CALL # GROUP CALL #	TIME CONTACTED	WILL BE IN YES NO
Technical Advisor to the Public Information Recovery Manager	_____	None	1. W. J. Keyworth Sr Power Prod Engr (Emergency Planning)			_____	_____
Assigned - EOF	_____		2. W. J. Kelly Power Prod Eng (Reg Compliance)			_____	_____
	_____		3. B. A. Loconte Nuclear Gen Engr			_____	_____

DC0234  
21VII

## 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
Mobil Environmental Monitoring Laboratory Operator	_____	(Personnel rotate pager as required)	1. Roland Richardson Dept of Engr Research			_____	_____	_____
	_____		2. Mike Kunde Dept of Engr Research			_____	_____	_____

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)

## 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
EARS Operator	_____	_____	*1. R. H. Garacci			_____	_____
TSC			Sr C&RP Analyst				
Assigned - TSC	_____	_____	*2. J. N. Johnson			_____	_____
			C&RP Analyst				
	_____	_____	*3. E. R. Psoter			_____	_____
			C&RP Analyst				

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)

## 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			_____	____
Assigned - TSC	_____	_____	*2. R. F. Sargent Sr Training Instructor			_____	____
	_____	_____	*3. J. P. Northness Training Instructor			_____	____
	_____	_____	*4. B. E. Terrell Training Instructor			_____	____
	_____	_____	*5. W. E. Weems Training Instructor			_____	____
	_____	_____	*6. G. W. Hamann Training Instructor			_____	____
	_____	_____	*7. J. M. Welsch Training Instructor			_____	____

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 assess 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 #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. G. E. Somers Training Instructor			_____	____
	_____	_____	*6. C. J. Leach Training Instructor			_____	____
	_____	_____	*7. N. M. Bennett Training Instructor			_____	____

NOTE: Contact THREE people from this list.

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

DC0234  
25V11

## 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. 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			_____	_____	_____

DC0234  
26VII

## 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	_____	_____	*1. P. W. Baum			_____	_____
No. 2 & No. 3	_____	_____	*2. W. A. Ginter			_____	_____
Assigned - TSC	_____	_____	*3. P. E. Rigney			_____	_____
	_____	_____	*4. R. D. Thurston			_____	_____
	_____	_____	*5. K. Wallace			_____	_____
	_____	_____	*6. W. H. Yip			_____	_____
	_____	_____	*7. C. Pendleton			_____	_____
	_____	_____	*8. J. Hjalmarson			_____	_____
	_____	_____	*9. P. Sarafian			_____	_____
	_____	_____	*10. D. Efron			_____	_____
	_____	_____	*11. C. Beall			_____	_____
	_____	_____	*12. J. Nolan			_____	_____

NOTE: Contact TWO people from this list.

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

DC0234  
27VII

## 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
Instrument Maintenance Coordinator	_____	_____	*1. M. Hanrahan Sr I&C Supervisor			_____	_____	_____
Assigned - OSC	_____	_____	*2 D. D. Malone Sr. I&C Supervisor			_____	_____	_____
	_____	_____	*3. N. A. Regoli I&C Supervisor			_____	_____	_____

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)

## 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
Electrical Maintenance Coordinator	_____	_____	*1. G. M. Zocher Gen Elec Foreman			_____	_____
Assigned - OSC	_____	_____	*2. J. M. Rappa Elec Foreman			_____	_____
	_____	_____	*3. Clay Beck Electrical Foreman			_____	_____

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)

## 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
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			_____	_____

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 assess 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
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			_____	____

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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
Radiological Data Processor	_____	None	1. K. R. Bieze Sr Trng Instructor			_____	_____
Assigned - EOF	_____		2. G. P. Monk Trng Instructor			_____	_____

NOTE: Contact TWO people from this list.

## 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
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)

## 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. [3330]) 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 times "on-call" responsibility.  
(Person on call will possess the pager for this position)

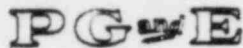


CURRENT  
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IMPLEMENTING PROCEDURES  
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RB-16B3	SPASS Reactor Coolant Stripped Gas Sampling (Not Intended to Meet The 3-Hour Time Limit)	1
RB-16B4	SPASS Diluted Liquid Sampling From Radwaste (Not Intended to Meet The 3-Hour Time Limit)	2
RB-16B5	SPASS Undiluted Liquid Sampling From Radwaste (Not Intended to Meet The 3-Hour Time Limit)	2
RB-16C	SPASS Containment Air Sampling (Not Intended to Meet the 3-Hour Time Limit)	1
RB-16D	SPASS Gas Chromatographic Hydrogen Analysis (Not Intended to Meet the 3-Hour Time Limit)	1
RB-16E	SPASS Liquid and Gas Sample Handling (Not Intended to Meet The 3-Hour Time Limit)	1
RB-16F	SPASS Data Analysis (Not Intended to Meet The 3-Hour Time Limit)	0
RB-16G	SPASS Ion Chromatographic Chloride Analysis (Not Intended to Meet The 3-Hour Time Limit)	1
RB-16H	SPASS Ph/Conductivity Dissolved Oxygen (Not Intended to Meet The 3-Hour Time Limit)	1
RB-16I	SPASS Undiluted Containment Air Sampling (Not Intended to Meet The 3-Hour Time Limit)	0
RB-16J	SPASS Sample Storage and Disposal (Not Intended to Meet The 3-Hour Time Limit)	0



Pacific Gas and Electric Company

NUMBER EP RB-14

REVISION 2

DATE 1/18/85

PAGE 1 OF 13



DEPARTMENT OF NUCLEAR PLANT OPERATIONS

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

EMERGENCY PROCEDURE  
TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

**IMPORTANT  
TO  
SAFETY**

APPROVED:

*R. C. Thompson*  
PLANT MANAGER

*6-4-85*

DATE

### SCOPE

This procedure describes the evaluation of the extent of core damage following an accident that can lead to inadequate core cooling.

This procedure and revision thereto requires PSRC review.

### DISCUSSION

Fuel damage resulting in the release of radioactive material can occur following a loss of coolant accident (LOCA) or following the loss of available heat sinks. These events, if uncorrected, can lead to localized or widespread overheating of reactor fuel and eventually to fuel rod cladding failure, and/or fuel melt. The description of plant parameters indicative of conditions that can lead to fuel failure or melt are provided in the Emergency Equipment Operation Procedures (OP Series).

This procedure supplements other emergency procedures by providing a methodology to determine the extent of core damage that may have resulted from an accident. This procedure does not replace procedures that are used to provide instructions regarding accident identification and/or mitigation or dose assessment although similar data and assessment is utilized in this procedure to determine the type and extent of fuel damage.

The objective of this procedure is the classification of fuel damage into one of four broad categories: (1) no fuel damage, (2) fuel cladding damage, (3) fuel overheat, and (4) fuel melt. Within the latter three categories, the procedure permits a rough estimate of damage as a proportion of core radionuclide inventories that have been released to the reactor coolant and/or containment atmosphere.

It provides a preliminary and a long term methodology for assessing core damage. The preliminary assessment utilizes rough evaluations of plant parameters such as reactor vessel level and reactor coolant temperatures to confirm that conditions exist which can lead to core damage, and quantifies the damage through the use of containment hydrogen levels and containment radiation levels. The long-term methodology requires that reactor coolant and containment air samples be obtained and analyzed for radiochemical and chemical parameters. These results are then used, along with other plant parameters, to determine the extent of core damage. The preliminary assessment can yield quick initial results (within approximately 10 minutes).

## TITLE CORE DAMAGE ASSESSMENT PROCEDURE

The long-term assessment could require up to three (3) hours to obtain sample analyses and further time for computation and evaluation of the results, but yields additional information necessary to distinguish between cladding failures, fuel overheat, and fuel melt.

PROCEDURE1. Preliminary Assessment

It should be noted that the results obtained in step b and c of this section are indicators of the various categories of fuel damage. Therefore, when completing the long term assessment for core damage (Section 2), these results should be used as confirmation.

- a. If personnel in the TSC have indicated that conditions exist that could lead to inadequate core cooling, or ineffective ESF functioning under LOCA conditions (per EP OP-1, Appendix H), skip this section and proceed to Step 1b. Otherwise, determine the potential for fuel damage by completing Attachment 1.
- b. Complete Attachment 2, "Containment Radiation Monitors".
- c. Complete Attachment 3, "Containment Hydrogen Levels".

2. Long-Term Assessmenta. Request Sample Collection

Request that the Emergency Radiological Advisor (ERA) assign a sampling team to collect samples from the Post Accident Sampling System (PASS). Recommended sampling locations are shown in Table 1.

b. Request Isotopic Analysis on:

- (1) Liquid sample from the Liquid Sampling Panel (LSP).
- (2) Containment air sample from the Containment Air Sampling Panel (CASP).

c. Request Chemical Analysis for:

- (1) Hydrogen concentration on stripped gas from the liquid sample from the LSP.
- (2) Hydrogen concentration on containment air sample from the CASP.

- d. Request that the sample analysis be decay corrected back to the time of sampling.

## TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

e. Await sample analyses. This may take up to 3 hours. In the interim, continue to assess core damage via the techniques provided in Section 1 of this procedure. When sample analyses are available, proceed to Step 2.f.

f. Analysis of Sample Results

- 1) Complete Attachment 4, "Water Inventory Worksheet."
- 2) Complete Attachment 5, "Airborne Inventory Worksheet."
- 3) If reactor power for the 30 days prior to shutdown remained relatively constant (within the range of  $\pm 10$  percent) proceed to Attachment 6 and determine the power corrected source inventories. Otherwise, complete Attachment 7 to correct source inventories for a variable power history.
- 4) Complete Attachment 8 to determine percentage of fuel or GAP activity released.
- 5) Refer to Attachment 9 to determine what type of failure (no damage, clad, overheat, melt) is occurring (if any).
- 6) Report results determined by this procedure to the individual making the request for a core damage assessment.
- 7) Continue to monitor the situation by utilizing this procedure as necessary.



## TITLE CORE DAMAGE ASSESSMENT PROCEDURE

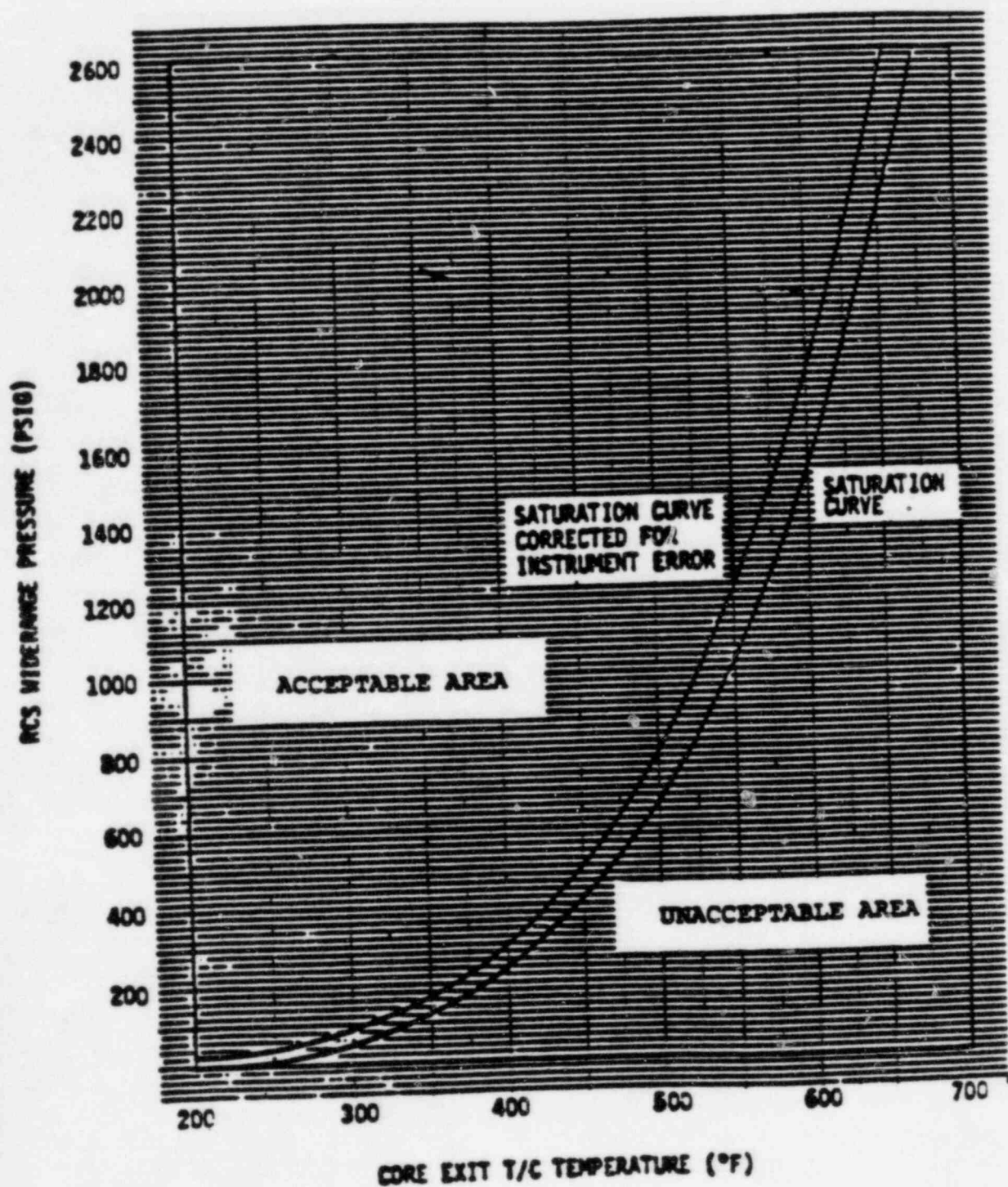
Table 1

## Recommended Sample Locations

Plant Parameters	Sampling Location
- Small break LOCA Reactor Power > 1%	RC Hot Leg 1 or 4 (LSP) Containment air (CASP)
Reactor Power < 1%	RC Hot Leg 1 or 4 (LSP)
- Large break LOCA Reactor Power > 1%	Reactor Cavity Sump (LSP) Containment air (CASP) RC Hot Leg 1 or 4
Reactor Power < 1%	Reactor Cavity Sump (LSP) Containment air (CASP)
- Steam Line break	RC Hot Leg 1 or 4 (LSP) Containment air (CASP)
- Steam Generator tube rupture	RC Hot Leg 1 or 4 (LSP) Containment air (CASP)
- Indication of significant Containment Sump Inventory	Reactor Cavity Sump (LSP) Containment air (CASP)
- Containment building Radiation Monitor Alarm	Reactor Cavity Sump (LSP) Containment air (CASP)
- Safety injection actuated	RC Hot Leg 1 or 4 (LSP)
- Indication of High Radiation Level in RCS	RC Hot Leg 1 or 4 (LSP)

TITLE CORE DAMAGE ASSESSMENT PROCEDURE

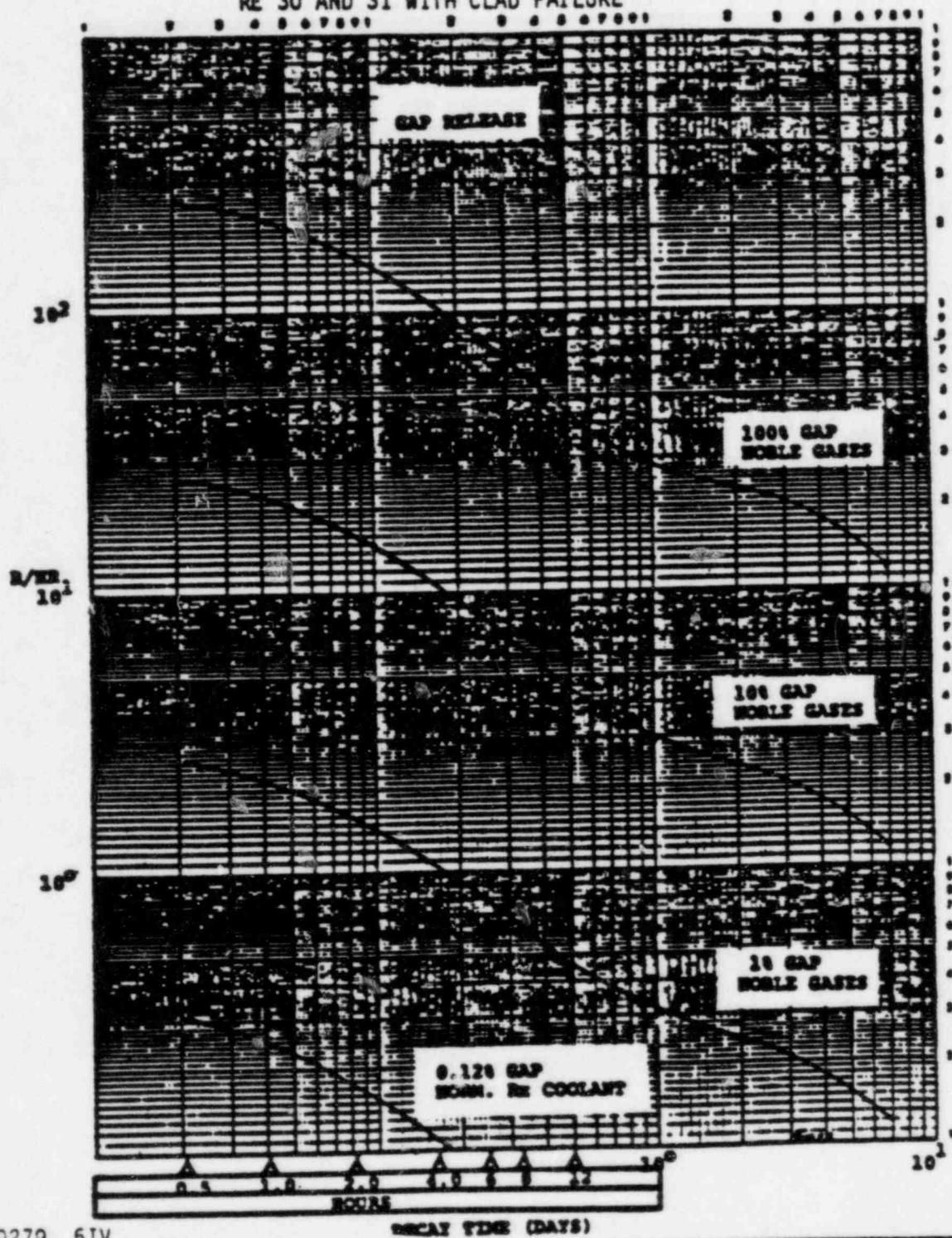
FIGURE 1  
Saturation Curve





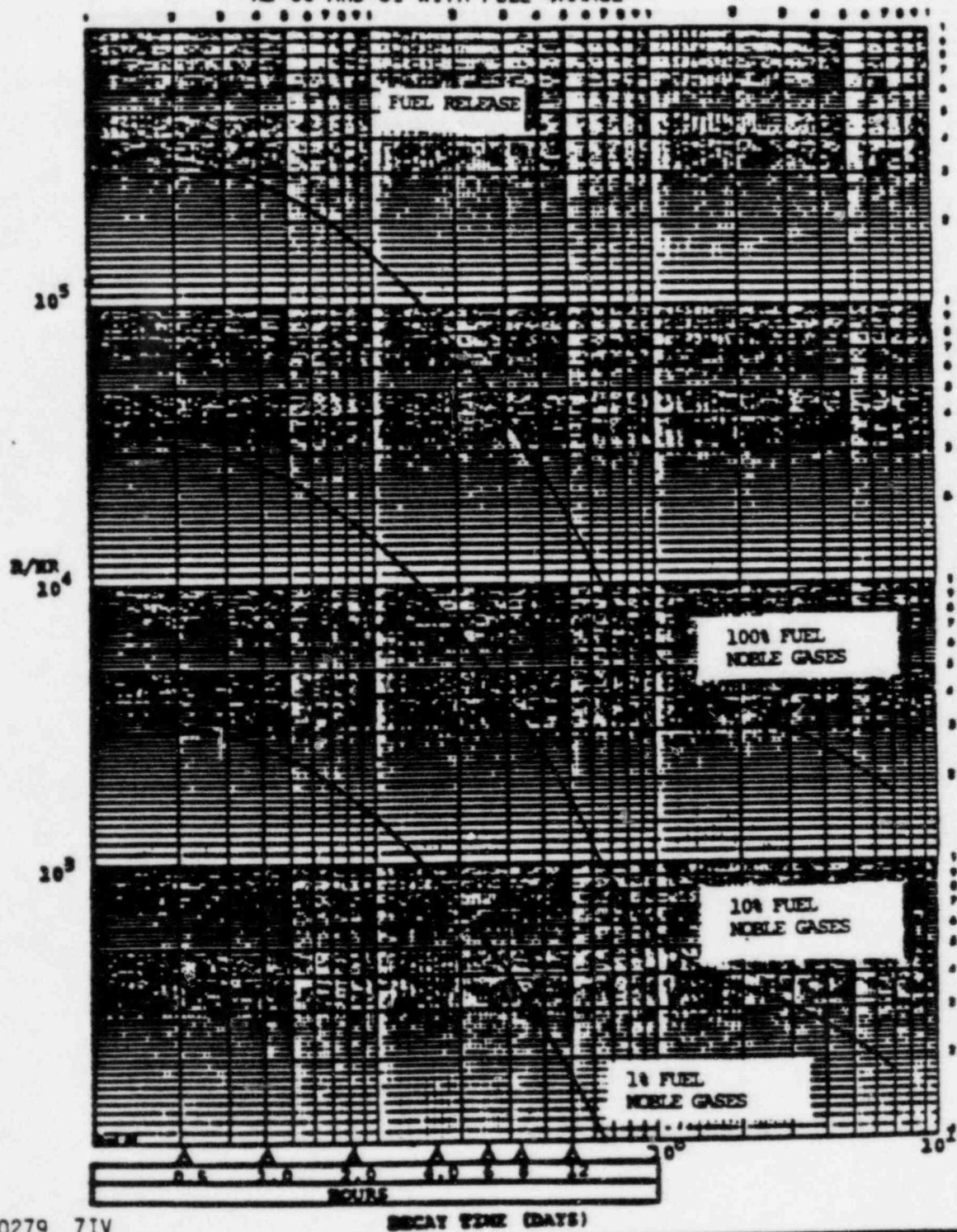
TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

FIGURE 2  
 EXPOSURE RATE VS POST ACCIDENT DECAY TIME  
 RE 30 AND 31 WITH CLAD FAILURE



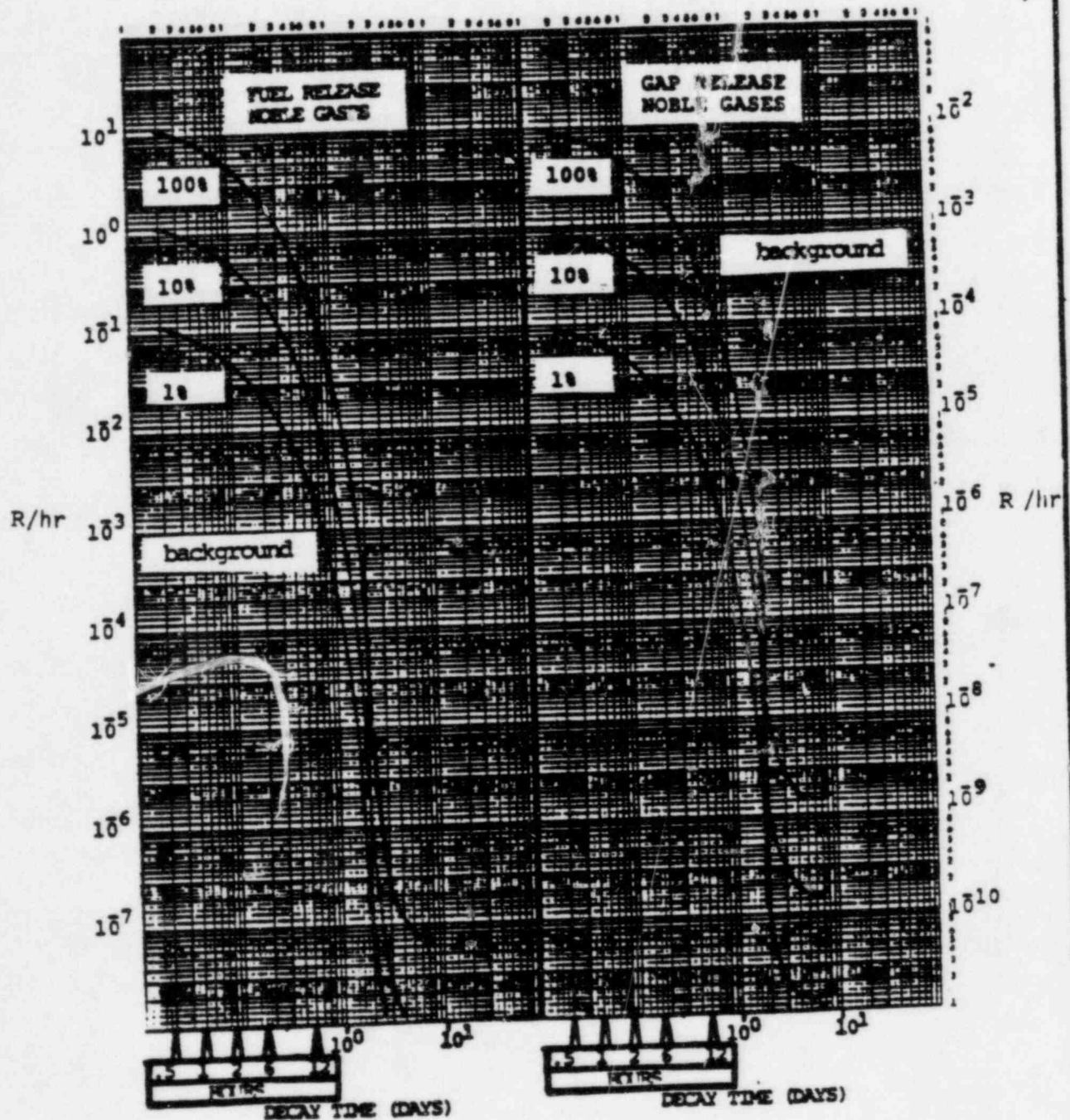
TITLE CORE DAMAGE ASSESSMENT PROCEDURE

FIGURE 3  
 EXPOSURE RATE VS POST ACCIDENT DECAY TIME  
 RE 30 AND 31 WITH FUEL DAMAGE



TITLE CORE DAMAGE ASSESSMENT PROCEDURE

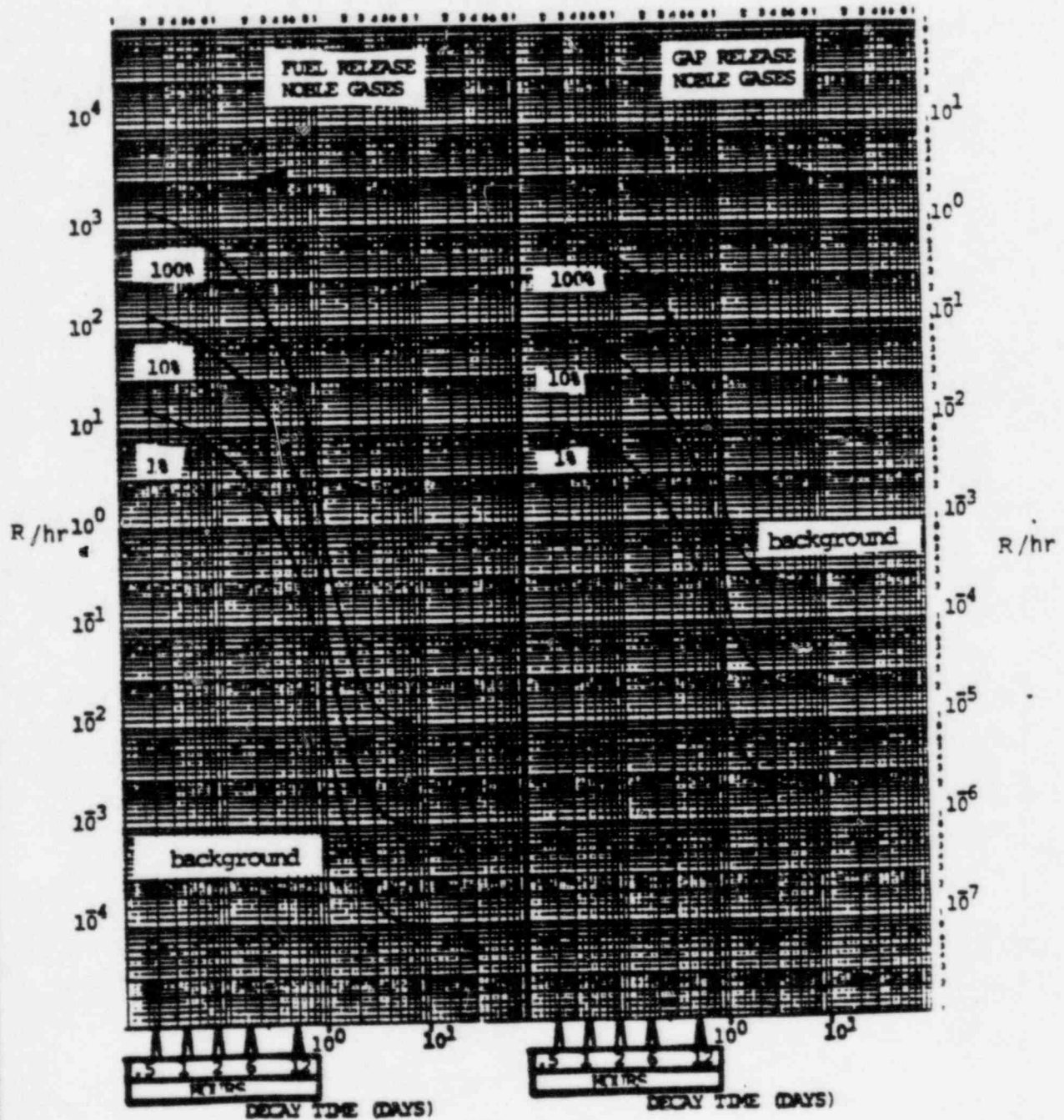
FIGURE 4  
 DOSE RATE OUTSIDE OF EQUIPMENT HATCH CONCRETE  
 SHIELD FOLLOWING LOCA





TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

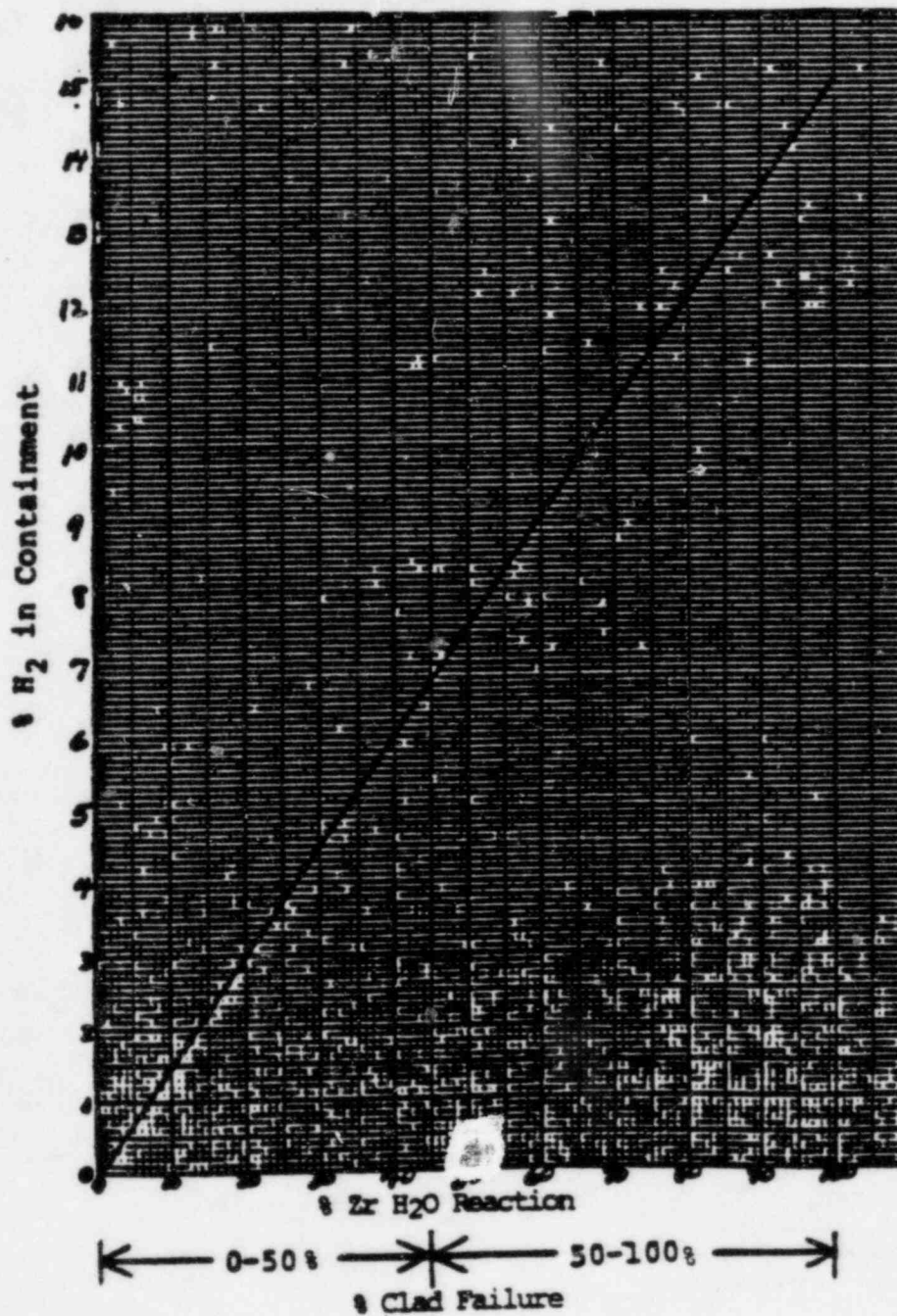
FIGURE 5  
 DOSE RATE OUTSIDE OF PERSONNEL MATCH STEEL DOOR  
 FOLLOWING LOCA



TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

FIGURE 6

Expected  $H_2$  Concentration Versus Percent  
Clad Failure



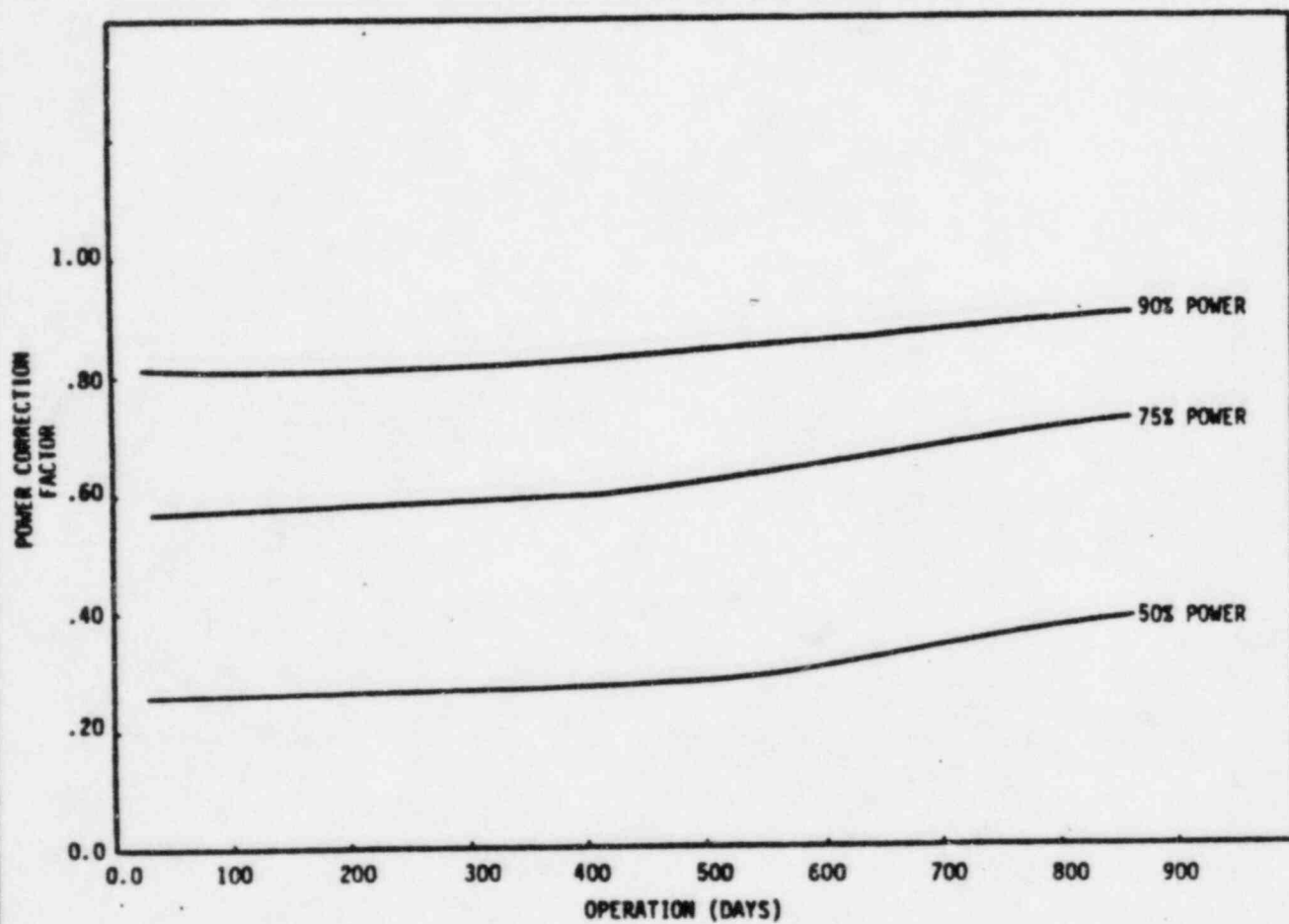
TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

FIGURE 7

Density Correction Factor



FIGURE 8  
Power Correction Factor for Cs-134





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

NUMBER EP RB-14  
REVISION 2  
DATE 1/18/85  
PAGE 13 OF 13

TITLE: CORE DAMAGE ASSESSMENT PROCEDURE

ATTACHMENTS

1. Corroborating Evidence of Core Damage
2. Containment Radiation Monitors
3. Containment Hydrogen Levels
4. Water Inventory Worksheet
5. Airborne Inventory Worksheet
6. Calculation of Power-Corrected Source Inventories for Constant Power Levels
7. Source Inventory Power Correction for Variable Power History
8. Comparison of Expected and Actual Source Inventories
9. Qualitative Assessment

TITLE: CORROBORATING EVIDENCE FOR CORE DAMAGE

ATTACHMENT 1

Check the Appropriate Answer

- |   | <u>YES</u> | <u>NO</u> |
|---|------------|-----------|
| 1) Are five or more core exit thermocouples temperatures greater than 1,200°F?  | [ ]        | ___       |
| 2) Can SI and/or charging flow to the RCS be verified?  | ___        | [ ]       |
| 3) Can AFW flow to the steam generators and CCW and ASW flow be verified?   | ___        | [ ]       |
| 4) Are RCS pressure and core exit T/C temperature (T hottest) within the "Acceptable Area" of subcooling as determined using Figure 1?  | ___        | [ ]       |
| 5) Are containment rad. monitors (RE-30 and 31) reading greater than 1R/hr.?  | [ ]        | ___       |
| 6) Is containment pressure greater than 1.3 psig?   | [ ]        | ___       |
| 7) Is containment temperature greater than 120°F?   | [ ]        | ___       |
| 8) Is containment hydrogen level as indicated by monitors CEL-82 and CEL-83 up scale?   | [ ]        | ___       |
| 9) If any of the boxes (as opposed to line spaces) for the previous questions were checked then those conditions are potentially indicative of inadequate core cooling or a LOCA* therefore, proceed to step 1.b. |            |           |
| 10) If none of the boxes were checked, continue monitoring the situation in accordance with applicable procedures.  |            |           |

\*NOTE: In general, the more boxes that are checked, the greater the potential for inadequate core cooling. However, evaluation is necessary to determine the significance of this information. For conservatism, continue with this procedure if a full evaluation cannot be performed.

TITLE: CONTAINMENT RADIATION MONITORS

ATTACHMENT 2

If loss of reactor coolant to the containment is not occurring, skip this section and proceed to Section 2.

- \*1) Record time since reactor trip (hrs). \_\_\_\_\_ hrs (A)
- 2) Record reading of containment area monitor (RE-30) (R/hr). \_\_\_\_\_ R/hr (B)
- 3) Record reading of containment area monitor (RE-31) (R/hr). \_\_\_\_\_ R/hr (C)
- 4) If both monitors are operable determine average area monitor reading as follows:  
$$[(B + C)/2](R/hr). \text{ _____ R/hr (D)}$$

Otherwise use the operable monitor for Item (D).
- 5) Clad failure or fuel melt is indicated if the value of Item (D) is greater than 1R/hr. To estimate the level of either damage complete steps 6 through 8.
- 6) Compare Item (D) determined in step 4 with the average response curves found in figures 2 and 3. Determine the type and degree of core damage by using the following interpolation technique:  
$$((D \times 100)/[100\% \text{ exposure rate in figure 2 or 3 at time (A)}]).$$
- 7) \*\*Check the applicable type of damage:  
No Damage \_\_\_\_\_  
Clad Failure \_\_\_\_\_, Percent Failure \_\_\_\_\_%  
Fuel Melt \_\_\_\_\_, Percent Damage \_\_\_\_\_%
- 8) Proceed to section 2 of this procedure if fuel melt is indicated, otherwise proceed to step 1.c.

\* NOTE: In case of RE30 and RE31 monitor failure, have chemical and radiation protection personnel take exposure rate readings at the equipment hatch shield and/or personnel hatch steel door with an ionization chamber and use figures 4 and 5 for this step of the procedure. The interpolation technique in step 6 can be used in this case.

\*\*In general, values below the 100% gap release curve (figure 2) are indicative of clad failure, while values below the 100% fuel release curve (figure 3) are indicative of fuel damage.

TITLE: CONTAINMENT HYDROGEN LEVEL

ATTACHMENT 3

To provide a quantitative verification of the degree of clad damage complete steps 1 through 6.

- 1) Record reading of containment hydrogen monitor CEL-82(%). \_\_\_\_\_ % (E)
- 2) Record reading of containment hydrogen monitor CEL-83(%). \_\_\_\_\_ % (F)
- 3) Determine average hydrogen monitor reading as follows:  
$$[(E + F) / 2](\%).$$
 \_\_\_\_\_ % (G)
- 4) Compare item (G) determined in step 4 with the curve of "Expected H<sub>2</sub> concentration versus percent clad failure" found as figure 6.
- 5) \*Estimate and record the percent clad failure.  
No clad failure \_\_\_\_\_  
Clad failure \_\_\_\_\_, \_\_\_\_\_ %
- 6) Proceed to Section 2.

\* NOTE: Hydrogen levels in containment are a valid indicator of damage only within the first 24 hours of the accident, assuming that the hydrogen recombiners are not operating. Since complex mechanisms dictate the amount of H<sub>2</sub> and radioactive materials released to containment it is not possible to predict which assessment of clad damage is more accurate. If results of damage assessment using the rad. monitors and the H<sub>2</sub> monitors differ, try to utilize corroborating data from RVLIS, etc., to select the most representative assessment of damage. If resolution cannot be obtained, use the highest estimated level of clad failure.

TITLE: WATER INVENTORY WORKSHEET

ATTACHMENT 4

1. Check the appropriate sample type:

Hot Leg 1 \_\_\_\_\_  
Hot Leg 4 \_\_\_\_\_  
Reactor Cavity Sump \_\_\_\_\_

(A)

2. Convert the elapsed time from the reactor trip and the sample collection to hours:

\_\_\_\_\_ hr (B)

3. If the sample is a Hot Leg sample, record the following information:

Temperature (Tave) \_\_\_\_\_ °F (C)  
Pressure \_\_\_\_\_ psia (D)  
Density Correction Factor (Figure 7) \_\_\_\_\_ (E)

4. Last RWST volume prior to accident \_\_\_\_\_ gal (F)

5. Current RWST volume \_\_\_\_\_ gal (G)

6. Volume of RWST injected ( (F) - (G) ) = \_\_\_\_\_ gal (H)

7. Determine which ECCS volumes have been released into the RCS or containment, and determine the total volume in the Containment Sump:

Total Volume	Actual Used in RCS
(1) RWST Volume = $H \times 3,785 \frac{\text{cc}}{\text{Gal}} =$	_____ cc (I)
(2) Each Accumulator = $4.28 \times 10^7$ cc (there are four accumulators)	_____ cc (J)
(3) RCS = $3.56 \times 10^8$ cc	$3.56 \times 10^8$ cc (K)
(4) Total Volume ( (I) + (J) + (K) )	_____ cc (L)

8. Enter the values of (E) and (L) on the next page and calculate the total water inventory as indicated.

## TITLE: WATER INVENTORY WORKSHEET

## ATTACHMENT 4 (Continued)

	A	B <sup>[a]</sup>	C <sup>[b]</sup>
Isotope	Measured Liquid <sup>†</sup> Sample Activity ( $\mu\text{Ci/cc}$ )	Activity at RCS Conditions ( $\mu\text{Ci/cc}$ )	Total Water Entrained Inventory (Ci)
Kr-87			
Xe-13			
I-131			
I-133			
Te-132			
Cs-134			
Ba-140			
La-140			

$$\textcircled{E} = \underline{\hspace{2cm}}$$

$$[a] \text{ Column B} = \text{Column A} \times \textcircled{E}$$

$$\textcircled{L} = \underline{\hspace{2cm}}$$

$$[b] \text{ Column C} = \text{Column B} \times \textcircled{L} \times 1 \times 10^{-6}$$

9. Proceed to step 2.f.2 of this procedure.

<sup>†</sup>Liquid is defined as the total activity from the Liquid sample, including any off gases.



TITLE: AIRBORNE INVENTORY WORKSHEET

ATTACHMENT 5

1. Record the elapsed decay time since reactor trip and the collections of the containment air sample in hours: \_\_\_\_\_ hr (A)

2. Record the following information:

Containment Atmosphere Temperature \_\_\_\_\_ °F (B)  
Containment Atmosphere Pressure \_\_\_\_\_ psia (C)  
Sample Temperature \_\_\_\_\_ °F (D)  
Sample Pressure \_\_\_\_\_ psia (E)

3. Calculate the Containment atmosphere Pressure and Temperature (P-T) correction factor using the following formula:

$$\text{P-T Correction Factor} = \frac{(C)}{(E)} \cdot \frac{((D) + 460)}{((B) + 460)}$$

P-T Correction Factor \_\_\_\_\_ (F)

4. Record the containment airborne sample activities in Column A on page 2 of this attachment. (NOTE: The containment activities reported by the sampling teams are at room temperature and pressure).
5. Adjust the reported activities to the conditions of temperature and pressure found in the containment by multiplying the values in Column A by the P-T correction factor, (F), and recording the result in Column B.
6. Calculate the total airborne inventory of the nuclides of interest by multiplying all the values in Column B by  $7.36E+04$ . (This is the Containment volume of  $7.36E+10$ cc and the conversion factor of  $10^{-6}$  Ci/ $\mu$ Ci.) The results should be recorded in Column C.



## TITLE: AIRBORNE INVENTORY WORKSHEET

## ATTACHMENT 5 (Continued)

	A	B <sup>[a]</sup>	C <sup>[b]</sup>
Nuclide	Measured Sample Activity ( $\mu\text{Ci/cc}$ )	Activity at Containment Conditions ( $\mu\text{Ci/cc}$ )	Total Airborne Inventory (Ci)
Kr-87			
Xe-13			
I-131			
I-133			

$$\textcircled{F} = \underline{\hspace{2cm}}$$

$$[a] \text{ Column B} = \text{Column A} \times \textcircled{F}$$

$$[b] \text{ Column C} = \text{Column B} \times 7.36\text{E}+04$$

7. Proceed to Step 2.f.3.

TITLE: CALCULATION OF POWER-CORRECTED SOURCE INVENTORIES FOR CONSTANT  
POWER LEVELS

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ATTACHMENT 6

This form is only to be used when the power level has remained relatively constant within the range of  $\pm 10$  percent, in the last 30 days. If the power level has not been relatively constant, use Attachment 7.

1. Estimate and record the steady state power percentage for prior 30 days. \_\_\_\_\_ % (A)
2. Estimate and record the steady state power percentage for prior 4 days. \_\_\_\_\_ % (B)
3. Calculate the Power Correction Factors as follows:
  - 1) For Isotopes with Half-life > 1 day  
Power Correction Factor =  $\frac{(A)}{100}$
  - 2) For Isotopes with Half-life < 1 day  
Power Correction Factor =  $\frac{(B)}{100}$
- 4) Calculate Corrected Source Inventory, Column 2, as follows:  
Corrected Source Inventory = Column 1 x Corresponding Power Correction Factor
- 5) Enter corrected values in Column 2.

TITLE: CALCULATION OF POWER-CORRECTED SOURCE INVENTORIES FOR CONSTANT  
POWER LEVELS

## ATTACHMENT 6 (Continued)

<u>NUCLIDE</u>	<u>HALF LIFE (DAYS)</u>	<u>1 EQUILIBRIUM SOURCE INVENTORY (Ci)</u>	<u>2 CORRECTED SOURCE INVENTORY (Ci)</u>
<u>GAP INVENTORY</u>			
Kr-87	5.28E-2	3.9E+4	
Xe-133	5.4E0	1.3E+6	
I-131	8.0E0	8.0E+5	
I-133	8.75E-1	5.1E+5	
<u>FUEL PELLET INVENTORY</u>			
Kr-87	5.28E-2	5.9E+7	
Xe-133	5.4E0	1.9E+8	
Te-132	3.24E0	1.4E+8	
Cs-134	7.3E2	3.1E+6	
Ba-140	1.28E1	1.8E+8	
La-140	1.66E0	1.8E+8	
I-131	8.0E0	9.7E+7	
I-133	8.75E-1	1.88E+8	

4. Proceed to step 2.f.4.

TITLE: SOURCE INVENTORY POWER CORRECTION FOR VARIABLE POWER HISTORY

ATTACHMENT 7

When the power level has not been relatively constant for the last 30 days, nuclides of interest have not had enough time to build up to equilibrium levels.

Due to the production characteristics of Cs-134, a special consideration is used to determine its Power Correction Factor.

- 1) The effects of each significant power change must be taken into account for each isotope, except for Cs-134, by using Equation I.

$$PF_i = \frac{\sum_j P_j (1 - e^{-\lambda_i t_{1j}}) e^{-\lambda_i t_{2j}}}{RP} \quad \text{Eq. I}$$

Where:

$PF_i$  = 30-day power correction factor for Nuclide i

$P_j$  = average power level (Mwt) for time Period j

RP = Rated Power level of core (Mwt)

RP = 3338 Mwt Unit 1

RP = 3411 Mwt Unit 2

$\lambda_i$  = nuclear decay constant for Nuclide i

$t_{1j}$  = length of time Period j

$t_{2j}$  = time from end of time Period j to end of 30-day period.

- 2) For Cs-134 Figure 8 is used to determine the Power Correction Factor. To use Figure 8, the average power during the entire operating period is required.
- 3) To determine Corrected Source Inventory the following steps should be completed:
  - a) For Cs-134
    1. Determine average power during the entire operating period.
    2. Determine operation time in days.
    3. Use Figure 8 to determine Power Correction Factor.
    4. Record the results in Column B of this form.
  - b) For the remaining isotopes
    1. Determine power correction factor for each nuclide using Eq. I. See the sample provided.
    2. Record the result for each nuclide in column B of this form.

---

 TITLE: SOURCE INVENTORY POWER CORRECTION FOR VARIABLE POWER HISTORY
 

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## ATTACHMENT 7 (Continued)

- c) Corrected Source Inventory for each nuclide in column D can be determined as follows:

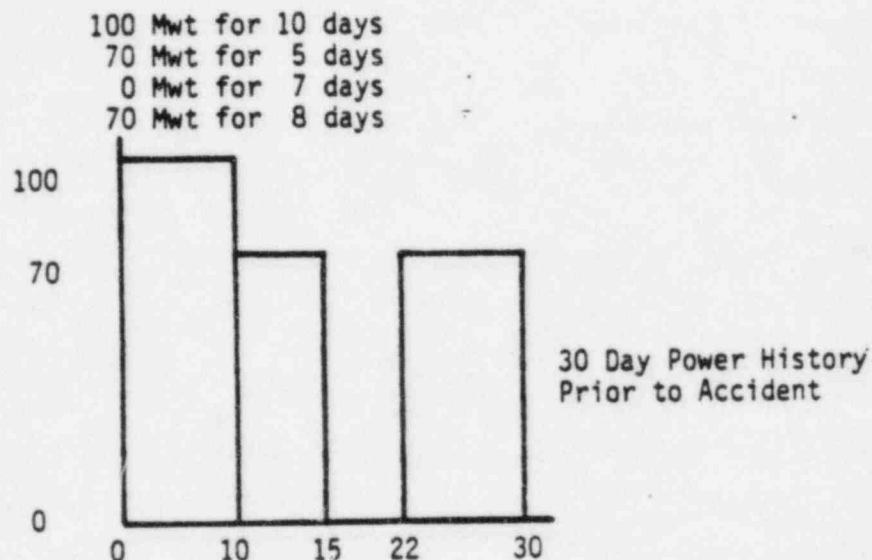
Corrected Source Inventory = Column B x Column C.

1. Record the results for each nuclide in column D.

- d) Proceed to step 2.f.4.

Sample power correction factor calculation:

The Plant has operated for the 30 days prior to the accident with the following power history:



For time Period 1,

$$P_1 = 100, t_{11} = 10 \text{ days}, t_{21} = 20 \text{ days}$$

For time Period 2,

$$P_2 = 70, t_{12} = 5 \text{ days}, t_{22} = 15 \text{ days}$$

For time Period 3,

$$P_3 = 0.0, t_{13} = 7 \text{ days}, t_{23} = 8 \text{ days}$$

For time Period 4,

$$P_4 = 70, t_{14} = 8 \text{ days}, t_{24} = 0 \text{ days}$$

---

 TITLE: SOURCE INVENTORY POWER CORRECTION FOR VARIABLE POWER HISTORY
 

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## ATTACHMENT 7 (Continued)

The equation for Nuclide i would be:

$$\begin{aligned}
 PF_i = & ([100 (1-e^{-\lambda_i (10 \text{ days})}) e^{-\lambda_i (20 \text{ days})}] \\
 & + [70 (1-e^{-\lambda_i (5 \text{ days})}) e^{-\lambda_i (15 \text{ days})}] \\
 & + [0.0 (1-e^{-\lambda_i (7 \text{ days})}) e^{-\lambda_i (8 \text{ days})}] \\
 & + [70 (1-e^{-\lambda_i (8 \text{ days})}) e^{-\lambda_i (0 \text{ days})}]) / RP \text{ (Mwt)}
 \end{aligned}$$



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 TITLE: SOURCE INVENTORY POWER CORRECTION FOR VARIABLE POWER HISTORY
 

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## ATTACHMENT 7 (Continued)

## CORRECTION FOR VARIABLE POWER LEVEL

	A	B	C	D
NUCLIDE	Decay Constant (day <sup>-1</sup> )	Power Correction Factor (PF <sub>i</sub> )	Equilibrium Source Inventory (Ci)	Corrected Source Inventory (Ci)
<u>Gap Inventory</u>				
Kr-87	13.10		3.9E+4	
Xe-133	0.13		1.3E+6	
I-131	8.62X10 <sup>-2</sup>		8.0E+5	
I-133	7.92x10 <sup>-2</sup>		5.1E+5	
<u>Fuel Pellet Inventory</u>				
Kr-87	13.10		5.9E+7	
Xe-133	0.13		1.9E+8	
Te-132	2.13X10 <sup>-1</sup>		1.4E+8	
Cs-134	9.21X10 <sup>-4</sup>		3.1E+6	
Ba-140	5.42X10 <sup>-2</sup>		1.6E+8	
La-140	4.15X10 <sup>-1</sup>		1.8E+8	
I-131	8.62X10 <sup>-2</sup>		9.7E+7	
I-133	7.92x10 <sup>-2</sup>		1.88E+8	

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

Page 1 of 2

TITLE: COMPARISON OF EXPECTED AND ACTUAL SOURCE INVENTORIES

ATTACHMENT 8

1. Copy both the total water and airborne inventories into Columns 1 and 2 of the attached Form.
2. Total Release Inventory for each nuclide, Column 3, can be determined as follows:

$$\text{Total Release Inventory} = \text{Column 1} + \text{Column 2}.$$

3. Record the results of step 2 in Column 3.
4. Copy the expected source inventory into Column 4 from Attachment 6 or 7.
5. The percent of each nuclide released, Column 5, can be determined as follows:

$$\text{Percent Released} = \frac{\text{Column 3}}{\text{Column 4}}$$

6. Record the results of step 5 in Column 5.
7. Determine and record iodine and noble gas ratios by using the respective totals in Column 3.

$$\text{Iodine Ratio} = \frac{\text{I-133}}{\text{I-131}} \text{ _____ } \textcircled{\text{A}}$$

$$\text{Noble Gas Ratio} = \frac{\text{Kr-87}}{\text{Xe-133}} \text{ _____ } \textcircled{\text{B}}$$

8. Proceed to step 2.f.5.

## TITLE: COMPARISON OF EXPECTED AND ACTUAL SOURCE INVENTORIES

## ATTACHMENT 8

	1	2	3	4	5
Isotope	Total Water Inventory (Attachment 1)	Total Airborne Inventory (Attachment 2)	Total Released Inventory (Ci)	Expected Source Inventory (Ci) (Attachment 3 or 4)	Percent Released
<u>Gas Gap Inventory</u>					
Kr-87					
Xe-133					
I-131					
I-133					
				Average %	
<u>Fuel Pellet Inventory</u>					
Kr-87					
Xe-133					
I-131					*
I-133					*
Cs-134					*
Te-132					*
Ba-140					
La-140					
				Average %	

\*Do not use for calculating "average percent". Use only for qualitative assessment on Attachment 6.

Check One:  
☐ No damage  
☐ GAP release  
☐ Fuel melt

TITLE: QUALITATIVE ASSESSMENT

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ATTACHMENT 9

1. For each nuclide listed on the attached worksheet, check the box which corresponds to the inventory percentage found on attachment 8. Circle the applicable iodine and noble gas ratio determined in Attachment 8, step 7.
2. To best determine the category of damage, concentrate on the presence or absence of key nuclides (e.g., Te, Cs, Ba, La).
3. The general location of the marks should give an indication of the type of core damage.
4. Enter the type of damage that has been determined on Attachment 8, and proceed to step 2.f.6.

NOTE: If Ag-110m was found in any of the samples, it is a good indicator of fuel melt (Ag is from the control rods).

